















NEW GAMES AND AMUSE-  
MENTS







A ROSE IN A SOAP BUBBLE

34

# NEW GAMES AND AMUSEMENTS

For young and old alike. Consisting of original  
games and ideas invented by the author  
and VICTOR J. SMEDLEY

BY  
MEREDITH NUGENT

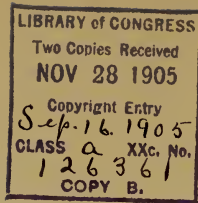
11

*Fully illustrated by the inventors*



3  
3  
3  
3  
3

New York  
Doubleday, Page & Company  
1905



GV 1201  
.N95

Copyright, 1901, 1902, by  
The Century Company  
Copyright, 1902, 1903, by  
The Crowell Publishing Company  
Copyright, 1901, 1902, 1905, by  
The Curtis Publishing Company  
Copyright, 1905, by  
Doubleday, Page & Company  
Published, November, 1905

*All rights reserved,  
including that of translation into foreign languages,  
including the Scandinavian*





## CONTENTS

CHAPTER	PAGE
I. A SOAP-BUBBLE MAGICIAN (Story) . . .	3
A rose inside of a soap bubble . . .	11
A spinning top inside of a bubble . . .	11
How to place three bubbles inside of one another . . . . .	12
How to place a lighted candle inside of a bubble . . . . .	13
How to freeze a bubble . . . . .	13
How to thrust a knife through a bubble without breaking the bubble . . .	14
How the "salute to the flag" was pre- pared . . . . .	14
How to drop objects through bubbles . . .	15
II. PHIL'S SECOND BUBBLE SHOW (Story) . . .	19
How three persons or more may blow a giant bubble . . . . .	28
Gas bubble reservoir . . . . .	28
How to balance a bubble on a goblet . . .	29
How to place a bubble upon a spinning top . . . . .	29
How to break a large bubble into a num- ber of smaller ones . . . . .	30
Frying a soap bubble . . . . .	31
Soap-bubble lantern display . . . . .	31
The "steamed bubble" . . . . .	31
The fairy fleet . . . . .	32

CONTENTS—Continued

CHAPTER	PAGE
III. A PERFECT SOAP-BUBBLE SOLUTION . . .	35
Another soap-bubble solution . . .	36
A word of caution to bubble blowers . . .	37
How to blow a bubble . . . . .	38
How to make a cornucopia . . . . .	39
IV. A SOAP-BUBBLE PARTY (Story) . . .	43
How to blow a pinwheel around inside of a bubble . . . . .	45
Bubbles and noise . . . . .	45
Bubble resting upon a flower . . . . .	46
How to place a little bubble inside of a large one . . . . .	46
Bubbles dangling from finger tips . . . . .	47
V THE "SOAP-BUBBLERS'" FIRST RECEP- TION (Story) . . . . .	51
Some soap-bubble tricks for experts . . . . .	51
How to throw bubbles from a wire ring . . . . .	61
Kittens inside of a soap bubble . . . . .	62
Two bubbles from same film going in opposite directions . . . . .	63
The giant letter "S" . . . . .	63
Large bubble enveloped within a larger one . . . . .	63
The long twisting bubble . . . . .	64
The shower of bubbles . . . . .	64
The boy in the soap-film house . . . . .	64
Twelve bubbles, one inside of the other . . . . .	64
VI. A YACHT RACE IN THE CLOUDS (Story) . . .	67
How to make kite yachts . . . . .	71
VII. A CIRCUS ON A KITE STRING (Story) . . .	79
Sailing a flag to the skies . . . . .	84

*CONTENTS—Continued*

CHAPTER	PAGE
Parachutes . . . . .	85
The giant whirler . . . . .	85
The paper Chinaman . . . . .	85
Sending an umbrella up a kite string . . . . .	86
VIII. SPIN! WHIZ! WHIRL! (Story) . . . . .	89
How to make the plate top . . . . .	97
Sailing boats . . . . .	98
Revolving disk . . . . .	98
Pagoda top . . . . .	99
Circle of pinwheels . . . . .	100
Two tops, one spinning on top of the other . . . . .	100
Boat run by plate-top engine . . . . .	100
Travelling disk . . . . .	101
IX. SEASIDE TOYS AND HOW TO MAKE THEM . . . . .	105
An inclined railway . . . . .	105
Sand-power engine . . . . .	106
Seesaw run by sand power . . . . .	107
Boat run by sand power . . . . .	109
X. FROLIC AND FUN WITH EGG SHELLS . . . . .	113
Blossoming egg shells . . . . .	116
Egg-shell night lilies . . . . .	116
An egg-shell candlestick . . . . .	117
An egg-shell rooster . . . . .	117
An egg-shell swan . . . . .	118
The "Dewey Arch" . . . . .	118
An egg-shell yacht . . . . .	119
Egg-shell fairy lamp . . . . .	120
XI. SUNSHINE TOYS AND HOW TO MAKE THEM . . . . .	123
The floating pinwheel . . . . .	125
The Ferris wheel . . . . .	125
Sunlight yachts . . . . .	126
XII. TOM'S SUNSHINE ENGINE (Story) . . . . .	131

*CONTENTS—Continued*

CHAPTER		PAGE
XIII.	HOW TO HAVE FUN WITH OLD NEWS- PAPERS . . . . .	141
	A newspaper table . . . . .	143
	A newspaper "Brooklyn Bridge" . . . . .	143
	"Greek temple" made from newspapers . . . . .	145
	A newspaper chair . . . . .	145
XIV.	HOW TO MAKE A PAPER YACHT THAT WILL SAIL . . . . .	151
XV.	KITES WITHOUT STICKS (Story) . . . . .	161
	A six-sided kite . . . . .	166
	A bow kite . . . . .	167
	A kite without a tail . . . . .	168
XVI.	A BOY AND AN OLD UMBRELLA (Story) . . . . .	173
	How to make the umbrella windmill . . . . .	178
	Umbrella trolley line . . . . .	179
	Indoor kites . . . . .	180
XVII.	"RIGHT IN THE WIND'S EYE" (Story) . . . . .	185
	How to make the boat . . . . .	187
XVIII.	A BATHTUB REGATTA (Story) . . . . .	193
	The baking-powder-can boat . . . . .	194
	Water-power catamaran . . . . .	195
	The candle boat . . . . .	195
	Air-propeller steamboat . . . . .	196
XIX.	TOYS THAT RUN UP HILL . . . . .	199
	How to arrange the running gear which will make all these toys travel . . . . .	200
	How to make the air-line steamboat . . . . .	202
	"Cat on the fence" . . . . .	203
	Organ-grinder and monkey . . . . .	204
XX.	HOME-MADE ARTILLERY . . . . .	209
	How to make the house gun . . . . .	210
	How to make the field gun . . . . .	214

*CONTENTS—Continued*

CHAPTER	PAGE
XXI. SHIPS THAT SAIL ON THE SNOW . . .	217
XXII. FUN WITH CANDLE LIGHT . . .	226
A pretty illustration of an old idea . . .	225
The revolving tower . . . . .	226
The candle-light engine . . . . .	226
Paper merry-go-round . . . . .	229
The circling arch . . . . .	229
The simply made lighthouse . . . . .	230
XXIII. SOME NEW PAPER TRICKS (Story) . . .	237
XXIV. HOME-MADE CHRISTMAS TOYS . . .	245
Building the subway . . . . .	245
The butterfly circus . . . . .	249
Holly-branch merry-go-round . . . . .	250
The feathered ballet dancer . . . . .	250
XXV. ELASTIC TOYS AND HOW TO MAKE THEM . . . . .	253
How to make a tin-can locomotive . . . . .	253
How to make a trolley car . . . . .	255
XXVI. SCULPTURE FOR EVERYBODY . . .	261
Dogwood blossoms . . . . .	262
A soap candelabrum . . . . .	263
The flowery chariot . . . . .	265



## LIST OF ILLUSTRATIONS

	<i>Frontispiece</i>
	FACING PAGE
A Rose in a Soap Bubble . . . . .	8 ✓
Fig. 1. Blowing a Bubble over a Rose . . . . .	8 ✓
Fig. 2. Gradually Lift the Funnel . . . . .	8 ✓
Fig. 3. Releasing the Bubble from the Funnel . . . . .	8 ✓
A Spinning Top Inclosed Within a Bubble . . . . .	8 ✓
A Salute to the Flag . . . . .	10 ✓
A Frozen Bubble . . . . .	10 ✓
Cutting Through a Bubble with a Knife . . . . .	12 ✓
Three Bubbles, One Inside Another, and the Smallest Filled with Smoke . . . . .	12 ✓
Dropping Objects Through a Bubble Without Breaking It . . . . .	14 ✓
A Candle with a Bubble for a Globe . . . . .	14 ✓
A Bubble Full of Illuminating Gas . . . . .	26 ✓
Frying a Bubble . . . . .	26 ✓
How a Big Bubble Breaks into Four Little Ones . . . . .	28 ✓
Bubble Balanced on a Glass . . . . .	28 ✓
Blowing a Little Smoke Bubble . . . . .	28 ✓
A Fairy Fleet Afloat on a Sea of Bubble-film . . . . .	30 ✓
A Three-cornered Bubble . . . . .	30 ✓
Steaming a Bubble . . . . .	32 ✓
The Bubble-topped Top . . . . .	32 ✓
Making Bubbles and Noise . . . . .	46 ✓
Resting Upon a Flower . . . . .	46 ✓
Blowing a Pin-wheel in a Bubble . . . . .	46 ✓

LIST OF ILLUSTRATIONS—Continued

	FACING PAGE
Bubbles Dangling from the Finger Tips . . . . .	46 ✓
“First kittens ever inside of a soap bubble!” . . . . .	54
Twelve Bubbles, One Inside of the Other . . . . .	54
Two large Bubbles Springing from the Same Film and Travelling in Opposite Directions . . . . .	56 ✓
“The giant letter S” . . . . .	56 ✓
A Shower of Bubbles . . . . .	58
“An ever-moving, ever-lengthening, ever-varying, twisting, writhing shape” . . . . .	58 ✓
Two Large Round Bubbles, One Inside Another . . . . .	60 ✓
A Boy in a Soap-film House . . . . .	60 ✓
Large Bubbles Thrown from a Soaped Wire Ring . . . . .	62 ✓
The Flyaway, Under Full Sail, Moving Upward on the Kite-string . . . . .	70
The Flyaway, with Sail Down, Descending the Kite-string . . . . .	70 ✓
The Chinaman Sails up the Kite-string . . . . .	84 ✓
“Up with ‘Old Glory.’” . . . . .	84 ✓
“A flight of paper parachutes” . . . . .	86 ✓
“The ascent of a black umbrella” . . . . .	86 ✓
“Coloured windmill more than four feet in height” . . . . .	86
A Plate-top Boat . . . . .	96
A Whirling Garland . . . . .	96 ✓
A Tin-pan Regatta . . . . .	98
The Circle of Pinwheels . . . . .	98 ✓
The Travelling Disk . . . . .	100
A Two-storied Spinner . . . . .	100
An Inclined Railway . . . . .	106
Sand-Power Boat and Power Wheel . . . . .	106
Seesaw Run by Sand-power . . . . .	108
Sand-power Engine . . . . .	108



LIST OF ILLUSTRATIONS—Continued

	FACING PAGE
A White Swan . . . . .	114 ✓
Egg-shell Rooster . . . . .	114
Race for the Egg-cup . . . . .	114
"Coco" Looking for the Boy Who Made Him . . . . .	116 ✓
Real Mother Goose . . . . .	116 ✓
An Egg-shell Knight on an Egg-shell Horse . . . . .	116 ✓
"Mrs. Fuzzy-Wuzzy" Going to Market . . . . .	116 ✓
Blossoms . . . . .	118 ✓
An Easter Chicken at Breakfast . . . . .	118 ✓
Hull of Yacht . . . . .	118 ✓
Purest of Night Lilies . . . . .	118 ✓
Exquisite Fairy Lamps . . . . .	120 ✓
Dewey Arch . . . . .	120 ✓
Candlestick . . . . .	120 ✓
Sunlight Yachts . . . . .	124 ✓
The Floating Pinwheel . . . . .	124
The Ferris Wheel . . . . .	124
The "Engine," Showing Fly-wheel and Flanged Driving-wheel . . . . .	136
The Sunshine Engine Complete . . . . .	136
Greek Temple . . . . .	142 ✓
Perspective View of Paper Bridge . . . . .	142 ✓
The Brooklyn Bridge . . . . .	142 ✓
Table and Cloth . . . . .	144 ✓
A Newspaper Chair . . . . .	144 ✓
Kites Flown in the House by the "Umbrella Wind- mill" . . . . .	178 ✓
The "Umbrella Trolley-line" . . . . .	178 ✓
"The obstinate little fellows just pushed into the breeze at greater speed" . . . . .	188 ✓
The "Old-Umbrella Motor" . . . . .	188 ✓
Air-propeller Boats . . . . .	194 ✓

LIST OF ILLUSTRATIONS—Continued

	FACING PAGE
A Baking-powder Can Steamboat . . . . .	194
A Fleet Run by Water Power . . . . .	196
Boats Run by Candle-light Power . . . . .	196
The "Climber" in Dry-dock . . . . .	202
Organ-grinder and Monkey . . . . .	202
Launching of the Steamboat "Climber" . . . . .	202
Game of "Cat on the Fence" . . . . .	204
A Paper Yacht . . . . .	204
A Fight with Field Guns . . . . .	212
A Fierce Battle Indoors . . . . .	212
An "Ice-Schooner" . . . . .	218
"Flying over the snow" . . . . .	218
An Ice-ship Race Up Hill . . . . .	220
Sails Reefed—Going Down Hill . . . . .	220
A Pretty Illustration of an Old-time Trick . . . . .	226
A Revolving Tower . . . . .	226
Wrapping-paper Lighthouse . . . . .	226
Circling Arch . . . . .	228
Candle-light Merry-go-round . . . . .	228
The Paper Tower . . . . .	230
A Top Spinning on Floating Paper . . . . .	230
A Sheet of Wrapping Paper Bearing a Cat . . . . .	230
Bonfire on Floating Paper . . . . .	238
The Merry-go-round . . . . .	238
What a Sheet of Writing Paper Will Carry . . . . .	238
Natty Feather Ballet Dancer . . . . .	246
The Subway in Complete Working Order . . . . .	246
Paper Butterfly Circus . . . . .	246
Holly-branch Merry-go-round . . . . .	246
The Train . . . . .	254
The Locomotive . . . . .	254
Trolley Car . . . . .	256

*LIST OF ILLUSTRATIONS—Continued*

	FACING PAGE
A Bicycle Race . . . . .	256
Soap Candelabrum . . . . .	262
Dogwood Blossoms . . . . .	262
The Flowery Chariot . . . . .	262



## LIST OF TEXT FIGURES

FIGURE	PAGE
I . . . . .	38
2 . . . . .	72
3 . . . . .	73
4 . . . . .	86
5 . . . . .	86
Bowl and Disks Forming a "Pagoda Top" . . . . .	89
6 . . . . .	97
7 . . . . .	97
Egg Shells . . . . .	113
8 . . . . .	132
Girders, Steps and Columns . . . . .	142
9 . . . . .	151
10 . . . . .	152
11 . . . . .	153
12 . . . . .	153
13 . . . . .	153
14 . . . . .	153
15 . . . . .	154
16 . . . . .	156
17 . . . . .	166
18 . . . . .	167
19 . . . . .	168
20 . . . . .	169
21 . . . . .	169
22 . . . . .	170
23 . . . . .	178

*LIST OF TEXT FIGURES—Continued*

FIGURE	PAGE
24 . . . . .	179
25 . . . . .	188
26 . . . . .	189
27 . . . . .	201
28 . . . . .	202
29 . . . . .	211
30 . . . . .	220
31 . . . . .	227
32 . . . . .	228
Floating Ferris Wheel . . . . .	230
A Toy Ferry Boat . . . . .	231
33 . . . . .	232
34 . . . . .	247
35 . . . . .	261
36 . . . . .	263
37 . . . . .	264
38 . . . . .	265

A SOAP-BUBBLE MAGICIAN





## CHAPTER I

### A SOAP-BUBBLE MAGICIAN

IT HAD been an evening of continual surprises; and when Philip entered the room carrying a bowl, two long clay pipes, a bottle filled with a light-greyish fluid mixture, three cornucopias, and a mysterious-looking pasteboard box, not even the wisest among the children could imagine what this part of the programme was to be. Neither were they any nearer a solution after Phil had taken from the box a rose, two dinner plates, a humming top, a table knife, two door keys, several marbles, and a number of nails.

Phil would have been overwhelmed with questions had he not at once eased the minds of his astonished audience by announcing that he was going to show them some new tricks with soap bubbles.

“Now watch me!” he continued, after he had about half filled the bowl with the greyish mixture. “I will just blow you some bubbles with one of these long pipes.”

## NEW GAMES AND AMUSEMENTS

Soon it seemed that the air was full of the shining globes. Satisfied with the result of this trial—for the object in blowing these bubbles had been to test the strength of the solution—Philip took one of the cornucopias and blew a bubble so large that the children clapped their hands for joy. He tossed a bubble into the air, and as it slowly descended caught it upon the cornucopia. The next he caught upon the palm of his hand. The next he balanced upon the tip of his forefinger. Still another was caught upon a broad wad of cotton. He held one in graceful poise upon the end of a knitting needle, and proceeded to play battledore and shuttlecock with it. Ten times he tossed this bubble into the air, and ten times he caught it, before the beauty burst. With a cornucopia larger than the one he just used he blew a bubble upon a dinner plate, completely covering it; then he blew another on top of the first, but in such a manner that the two united, forming one immense sphere.

Philip thereafter directed his attention to the more striking part of his exhibition, and from this time on his performances were simply amazing. "See that white rose!" he exclaimed, pointing to a beautiful one resting upon a lacquered tray. "Well, I am going to put it

## A SOAP-BUBBLE MAGICIAN

inside of a soap bubble"; and in a very few moments the flower was sphered over by a bubble so large and perfect that it seemed as if made of purest glass. Cries of admiration came from all sides on beholding this beautiful sight. The bubble was a gem in colour, and of great size. Carefully timed by a watch, it lasted just twelve minutes and a half!

Following this, Phil set the humming top to spinning, and amazed his audience by placing a bubble over that also.

While the top still hummed under its many-hued canopy, Philip blew another bubble, and called the attention of those present to the fact that an old adage said that a bubble would burst as soon as pricked. "But here is a case," he exclaimed triumphantly, "where this old adage, like so many others, is proved to be false." Casting the bubble into the air, Philip passed a knitting needle completely through it. To add force to his opinion concerning the old adage, the young magician blew a bubble upon a plate, and then dropped a needle through the top of the iridescent sphere without injuring it in the least.

Before the childish exclamations caused by this feat ceased, Philip dropped a pen through the film; there it lay in the plate, sure enough.

## NEW GAMES AND AMUSEMENTS

Then he dropped another pen through; then a small key; then a larger key; then two nails; and then concluded the remarkable exhibition by pouring some solution through, after which the bubble broke. It had stood up under this rough ordeal for a little more than three minutes. Certainly the solution was never in better condition, but the unusually long duration of the bubbles was due also, as Philip explained, to the temperature of the room.

“All put on your hats and coats,” was Philip’s next direction, “and I’ll show you something about bubbles in a room where the temperature is below the freezing point.”

It was late in November. As soon as the little ones were assembled in this room, dressed as if for a sleigh ride, Phil blew a bubble very carefully upon a small looking-glass lying on the table. Twenty pairs of eyes were eagerly fixed upon this glistening sphere, in anxious expectation of—almost anything!

At the expiration of thirty seconds its brilliancy was seen to be greatly dimmed, and by the time fifty seconds had elapsed all transparency had gone.

“There,” cried Phil, “is a soap bubble which will last a year, provided the room is kept cold enough, for that soap bubble is frozen!”

## A SOAP-BUBBLE MAGICIAN

This performance so delighted the children that Phil covered the glass with a whole array of frozen bubbles; then he broke some with a pencil, and fanned the light pieces of ice, which were like tissue paper, all about the room!

Our young magician now resumed his wonderful entertainment in the warmer apartment. He began by blowing a large bubble upon the lacquered tray; then he blew another bubble inside of this first one. "Two," he called out; and next, as if to amaze his audience completely, he blew another bubble inside of this second one, filling it, as he did so, with smoke.

"Three!" shouted the children in unison.

It would be hard to imagine anything more lovely than these three beautiful bubbles, perfect in form, and glistening with all the colours of the rainbow.

Philip was certainly outdoing himself. He had given his friends many pretty surprises, but none of them had ever come near equalling this one. For a while, after this feat, he just simply tossed bubbles into the air, as if thinking of what he should show next. Even this "intermission," as he called it, was not without some strikingly original features; for as one of the

## NEW GAMES AND AMUSEMENTS

bubbles came sailing down the performer pierced it through with a large table knife, without inflicting the least injury upon it. He was evidently thinking of the old adage again, for as the next bubble came near to him he pierced it not only with a knife, but with a fork also. Then, holding another bubble upon the cornucopia, he cut through it in all directions; yet still the bubble remained unbroken.

Phil then, apparently having decided on the next feat, requested that the lights be turned out. When the room was in total darkness, he took a candle from the pasteboard box and lighted it.

"I am about to show you what I think is the prettiest experiment of all," he said, and began to blow a large bubble upon the plate. The interest, however, was immediately awakened when he placed the lighted candle within a lamp chimney; and there was a burst of genuine enthusiasm as he slowly thrust the chimney that held the candle down into the middle of the great bubble.

This made a wonderfully pretty sight, and as the rays of the candle light came glinting through the chimney, Philip's face was seen by all to be wreathed in smiles.

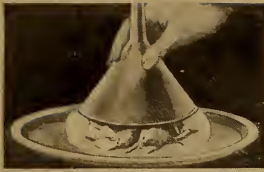


FIG. 1. BLOWING A BUBBLE  
OVER A ROSE



FIG. 2. GRADUALLY LIFT  
THE FUNNEL



FIG. 3. RELEASING THE BUBBLE  
FROM THE FUNNEL



A SPINNING TOP INCLOSED WITHIN A BUBBLE





## A SOAP-BUBBLE MAGICIAN

"I must confess," he modestly said, "this performance is all very simple—so simple that any child here may perform all the pretty experiments I have shown you this evening. Some other time I will take pleasure in explaining to you exactly how it is all done."

Although Philip had told the children that the candle-light effect was probably the best of his experiments, his crowning triumph was yet to come.

Amid a hushed excitement, he took a tumbler and half filled it with the solution; then he drew from the pasteboard box a small American flag, which he fastened on a stick supported by a bit of wire so that it floated over the tumbler. Then, putting a long clay pipe into the glass, he called to his uncle, who had been asked in especially for this purpose, to blow plenty of smoke through the pipe.

The moment Phil's uncle blew into the pipe there issued from the tumbler an opal stream of wondrous beauty. It consisted of hundreds and hundreds of pure white bubbles, which poured down the sides of the tumbler and upon the looking-glass on which it had been placed. Faster and faster the bubbles rushed out, and higher too they mounted now, until, suddenly,

## NEW GAMES AND AMUSEMENTS

it seemed, there burst into view an arch of the most exquisite loveliness.

When the pipe was withdrawn the children went into raptures over the fairy-like scene; but the prettiest feature was to come.

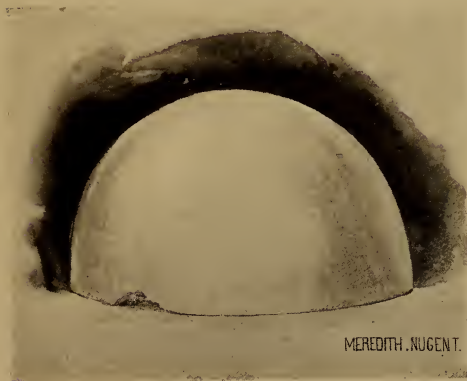
In a few moments one of the little bubbles broke. A puff of smoke shot forth, forming as it did so a dainty, tiny ring; then another bubble broke, and another ring appeared; then the bubbles began to explode in such rapid succession that it became impossible to count the tiny wreaths. This was the crown of the evening's entertainment. "Hurrah for the United States!" shouted Philip. "This is our salute to the flag. Let us all sing 'America,'" And as the little ones raised their voices in joyous chorus, they one and all felt that this was the most surprising evening entertainment they had ever seen.

A few days afterward Philip sent me the following account of how he performed his soap-bubble tricks:

Before attempting to perform any of these tricks though, read carefully "How to Blow a Soap Bubble," page 38; "How to Make a Cornucopia," page 39; and how to make the perfect solution which enabled Phil to perform his marvellous tricks, page 35.



A SALUTE TO THE FLAG



A FROZEN BUBBLE



## A SOAP-BUBBLE MAGICIAN

### A ROSE INSIDE OF A SOAP BUBBLE

First pour some of the solution into a plate or tin dish until the bottom of it is covered to the depth of one-eighth of an inch. Then with your fingers thoroughly wet the rim of the plate with the same mixture. Place a rich coloured rose in the centre of the plate and cover it with a small tin funnel. Then begin to blow very gently through the funnel, and at the same time slowly lift it (see Fig. 1, page 38). Continue blowing while gradually lifting the funnel higher, until you have made a fine large film (see Fig. 2). Then, still blowing carefully, turn the funnel at right angles, and release it from the film with a quick upward movement (see Fig. 3).

This beautiful trick is so easy to perform that I have seen any number of children succeed at the very first attempt.

### A SPINNING TOP INSIDE OF A BUBBLE

Pour the solution into a plate, and thoroughly wet the rim of this as in the rose trick. Then in the centre of the plate invert a small butter plate. Spin your humming top on this inverted butter plate, lower a funnel over it, and then proceed to sphere the "hummer" over with a bubble in the same manner as in the rose

## NEW GAMES AND AMUSEMENTS

trick. The larger and noisier the humming top used the more strikingly effective will be the trick.

### HOW TO PLACE THREE BUBBLES INSIDE OF ONE ANOTHER

Invert a dinner plate upon the table, and wet the surface of it well with the solution. Then dip a cornucopia into the mixture and blow a bubble upon the inverted plate. After this, take a straw, dip it well into the solution so that it will be thoroughly wet for half its length, and then thrust this through into the bubble until it rests on the centre of the plate. Then blow through the straw very carefully, and you will have made a second bubble. Withdraw the straw, quickly dip it into the solution again, and this time thrust it through both bubbles. As soon as it rests on the centre of the plate once more, gently blow, and you will have three bubbles inside of one another.

By blowing smoke through the straw as the last bubble is being made, the effect of this trick is greatly heightened. Five, six and seven bubbles may be easily placed inside of one another, and practice will enable you to perform the beautiful trick pictured on page 54, which contains just one dozen bubbles.



CUTTING THROUGH A BUBBLE WITH A KNIFE



THREE BUBBLES, ONE INSIDE ANOTHER, AND THE SMALLEST FILLED WITH SMOKE





## A SOAP-BUBBLE MAGICIAN

### HOW TO PLACE A LIGHTED CANDLE INSIDE OF A BUBBLE

Wet a short, straight lamp chimney in the mixture, and after a bubble has been blown on a dinner plate in the same manner as in the rose trick, press the chimney slowly down through the sphere until the bottom of it rests in the solution. Keep the palm of your hand tightly pressed over the top of the chimney while lowering it through the bubble. When the chimney is in position place a piece of lighted candle inside.

### HOW TO FREEZE A BUBBLE

This trick is performed in a room where the temperature is below the freezing point (32° F.). The more intense the cold is the better. The bubble is blown with a cornucopia upon an inverted plate or sheet of glass (glass is preferable) which has been well wetted with the solution. If the temperature is low enough and the air perfectly still, the bubble will in a very few seconds begin to lose its brilliancy, and within a few seconds more will become perfectly opaque. Then you may enjoy the absurd nonsense of breaking a soap bubble into pieces and fanning the tissue-like pieces of bubble about the room with a fan. Great care must

## NEW GAMES AND AMUSEMENTS

be taken not to jar the bubble in the least until it is frozen. The plate, too, should be allowed to get icy cold before it is wetted with the solution. Use the No. 2 solution for this trick.

### HOW TO THRUST A KNIFE THROUGH A BUBBLE WITHOUT BREAKING THE BUBBLE

This very surprising trick is exceedingly easy to perform, and never fails to arouse the enthusiasm of the onlookers.

First dip the knife blade well into the solution—a long narrow-bladed knife is preferable and then slowly pierce the bubble right through as shown in the picture on page 12. The most effective manner of exhibiting this trick is to first toss a bubble into the air from a cornucopia, and then as the beauty slowly descends to catch it on the blade's tip as though you were performing some marvellous feat of magic.

### HOW "THE SALUTE TO THE FLAG" WAS PREPARED

A tumbler was half filled with the solution, and the little flagstaff fastened in place with a piece of wire. Then the stem end of a clay pipe was placed in the tumbler, and Phil's uncle blew smoke through the bowl end. The result of this was that hundreds of pretty smoke



DROPPING OBJECTS THROUGH A BUBBLE WITHOUT  
BREAKING IT



A CANDLE WITH A BUBBLE FOR A GLOBE



## A SOAP-BUBBLE MAGICIAN

bubbles poured out over the sides of the tumbler, and down on to the looking-glass upon which it was standing. In a few minutes the bubbles began to burst, and as each did so it shot forth a perfect wreath of smoke.

### HOW TO DROP OBJECTS THROUGH BUBBLES

Any small object after it has been well wetted with the solution may be dropped through a bubble, as shown in the picture.



PHIL'S SECOND BUBBLE SHOW





## CHAPTER II

### PHIL'S SECOND BUBBLE SHOW

THE story of Phil's wonderful soap bubbles spread all over the little New England village; and when he consented to give another exhibition for the benefit of the Lawton Athletic Club, only Masonic Hall was found large enough to furnish the necessary seating accommodations.

The bubble show opened with much enthusiasm. Bubbles were tossed up, were caught again, were pierced, were thrown in all directions. Little bubbles, big bubbles—some twice the size of Phil's head—medium-sized bubbles, all sorts of bubbles, were blown with wonderful rapidity. Bubbles were exchanged, were balanced, were twirled around, were treated so harshly, it appeared at times, that one well might have doubted whether these were made from ordinary soap and water. Why, in the game of "exchange" one bubble was tossed and caught twenty-eight times!

Then Phil made the audience roar with

## NEW GAMES AND AMUSEMENTS

laughter by comically striking a bubble with his felt hat, so that it bounded toward Harry, his assistant, who in turn bounded it back again. Back and forth this bubble was bounded, until the counting children shouted out in unison, "Seventy-three!" when it burst. Now our magician arranged twenty-four pretty goblets, while Harry blew bubbles from a sea shell, into the small end of which a hole had been bored.

"See," he exclaimed, "how much finer and larger these bubbles are than those blown from pipes; and they are more easily blown, too."

Then followed plenty of fun, as the boys endeavoured to place a bubble upon each of the twenty-four goblets. Again and again they managed to cover nineteen or twenty of the glasses; but a bubble seemed always to burst before the twenty-fourth was covered. Finally, by wonderful quickness, they succeeded in achieving this feat.

Each now took a large funnel, dipped it into the mixture, placed the small end in his mouth, approached the other until the bowls of the funnels were not more than six inches apart, and started to blow. The bubbles slowly swelled out, touched, and on contact united in an instant into one large sphere. Steadily and

## PHIL'S SECOND BUBBLE SHOW

carefully the blowing was continued, both boys cautiously backing, meanwhile, until a great quivering shape sixteen inches in length had been made.

Resting for a short breathing spell, Phil asked one of his friends in the audience to come and help him make a three-cornered bubble. The spectators laughed at this, and they were amused again when the boys, assuming purposely comical attitudes, began to blow. Their laughter, however, was changed to wonderment when a great triangular bubble, like that shown in the picture, page 30, made its appearance. Before the loud applause that greeted this gigantic bubble ceased, Phil blew a bubble upon a large tray, then he blew another on top of the first; both united. Then he added a third, making the bubble still larger, and fairly electrified his audience by adding a fourth bubble, which joined just as the others had done. Here was a great bubble, indeed, for careful measurement showed it to be four feet around!

After a few moments' intermission, Harry took a large yellow humming top and set it spinning upon a shining tray. Suddenly, without any announcement whatever, Phil placed a bubble right on the whizzing toy. Round and round the top angrily hummed, surmounted

## NEW GAMES AND AMUSEMENTS

by its dome of iridescent brilliancy. How the bubble retained its position was a mystery; but there it clung, not only until the top ceased spinning, but for some moments afterward. Phil followed up this success by making a bubble whirl around ever so rapidly upon an inverted tumbler.

All eyes were now fixed upon our young wizard as he approached the steaming kettle which had been a cause of so much wonderment during the entire evening.

"I want you to see how long this bubble will last," he said, after having blown one so that it hung from a cornucopia ingeniously fastened over the steaming spout. "You will notice it is thoroughly immersed in steam," he continued. "We shall have time to show you some other interesting experiments before it bursts, I feel certain."

This remark caused much merriment, the audience wondering how long a time Phil really expected this bubble to remain. Our magician, however, was quite composed. He walked slowly to the table, chose a clay pipe, dipped its bowl into the solution, thrust the stem into one end of a piece of rubber tubing, the other end of which was attached to a gas burner, and turned on the gas. As soon as a bubble the

## PHIL'S SECOND BUBBLE SHOW

size of an orange formed, Phil hurriedly turned off the gas and withdrew the pipe from the tubing, Harry touched its stem with a lighted match, and the result was the pretty effect shown on page 26. The gas bubble reservoir exhausted, Phil fastened the pipe in the tubing again, and almost immediately there arose from its bowl a whole string of bubbles, preceded by one large one (see page 28).

Putting the pipe and tubing aside, Phil jokingly informed the open-mouthed young people for the third time that the steamed bubble was still in existence—just as if that fact was not uppermost in every mind! The boys then had a merry time throwing up bubbles and catching them. Phil caught upon his hand four in succession. He deftly balanced some upon the end of his forefinger, and in many instances poked his finger into the middle of one.

“Ten minutes!” the audience almost shouted, when that amount of time had elapsed since the bubble had been placed in the steam.

Their excitement was only amusing Phil, but he pretended to be perfectly oblivious to it all. He thrust the bowl of a clay pipe well into a large bubble which Harry held on a cornucopia, and then blew a bubble inside of

## NEW GAMES AND AMUSEMENTS

this large one; next he dropped objects through a bubble resting upon a plate, as he had done at the previous show; only this time, instead of picking them out again with his fingers, he simply held the plate upside down, and they all came tumbling out without injuring the sphere in the least. He played all sorts of bubble pranks; but, do his best, he could no longer keep the attention of his audience from the bubble in the steam.

“Thirteen minutes!” they cried. “Thirteen minutes and a half!” “Fourteen minutes!” “Fourteen minutes and a half!” “Fifteen minutes!” “Fifteen minutes and a——” Ah! The bubble had burst after lasting exactly fifteen minutes and a half, while swaying to and fro in the jet of steam.

Before quiet was restored Phil secretly dipped a wire ring into the basin of water. As soon as he withdrew it Harry placed four little ships within the circle, and hastily seizing a putty blower, blew the tiny craft about. To the spectators these ships looked as though sailing in the air; and they were not helped to a solution of the mystery when the craft suddenly dropped to the floor.

For once Phil gratified their curiosity with an encore, the only one he had given so far,

## PHIL'S SECOND BUBBLE SHOW

and this time, after taking the ring from the fluid, he held it at such an angle that all could see it was covered by a soapy film. Harry then placed the ships in position as before, and away the fairy fleet scudded again.

Following this, the boys with wonderful rapidity hung up a row of twenty-five bubbles. The effect was marvellously beautiful, suggesting as it did a Japanese-lantern display.

From a spectacular point of view this row of bubbles was the most brilliant performance of the evening, and was loudly applauded.

"Now," Phil announced to the audience, "we will play a game of soap-bubble football."

Ridiculous as this sounded, it did not surprise the onlookers in the least, for they were prepared to expect almost anything. Two upright posts were hurriedly placed in position at each side of the stage, each boy took a fan, Phil launched a large bubble into the air, and the fun began. In the opening, luck favoured Harry, and he almost succeeded in fanning the great sphere between the two posts on Phil's side of the stage at the very outset of the game. By quick work, however, Phil sent the ball toward the middle of the stage again, and then fanned it so near to Harry's goal that the latter only by the most desperate efforts saved him-

## NEW GAMES AND AMUSEMENTS

self from immediate defeat. Back and forth was the globe blown for a little while, until suddenly it mounted nearly to the ceiling. This gave a decided advantage to Phil, who was much taller than Harry, and by a few well-directed strokes of the fan he soon put the iridescent sphere straight through the latter's goal.

"Yale wins!" he cried, pointing to his dark-blue necktie.

When the wild applause aroused by this novel struggle at football had calmed, Phil's uncle came from behind the scenes and blew a great smoke bubble. As soon as this was launched Harry started fanning again, only a little more vigorously than in the football game. Never did a soap bubble twist and turn as this one did. Suddenly there was a queer flash of light, and the great bubble disappeared. Yes, disappeared, but only as a large bubble; for floating high above the heads of the boys were to be seen four small smoke bubbles. The great bubble had broken into four smaller ones, and that, too, without a particle of smoke escaping!

When the uproar which followed this exhibition ceased, Phil drove everybody into convulsions of laughter by rolling up his sleeves and placing a large frying pan upon the gas stove.





A BUBBLE FULL OF ILLUMINATING GAS



FRYING A BUBBLE



*PHIL'S SECOND BUBBLE SHOW*

Harry assisted by half filling the pan with the solution, and the hissing noise made in consequence was the cause of a shower of funny comments. "Now," Phil began, doing his best to make himself heard, "I am going to fry you a soap bubble." This was altogether too much for the young people. They had been willing to believe anything Phil might say, but when it came to frying a soap bubble—no; that was going too far.

True to his word, however, Phil blew a bubble from the cornucopia, and at once placed it right in the middle of the steaming pan. The laughter, bravos and ringing cheers which greeted this performance cannot be described. The people crowded upon the platform and so overwhelmed Phil with congratulations that it seemed as if our magician would have no opportunity properly to exhibit this feature of the programme. When at last he did get a chance again, it was seen that, while the liquid within the half sphere was boiling quite vigorously, it only simmered outside.

Among the bubbles which Phil afterward placed in the pan was one which lasted for fully three minutes; and he was enthusiastically beginning to explain how, by means of a safety valve, he hoped to make one last an hour, when,

## NEW GAMES AND AMUSEMENTS

with a great shout, the boys of the Lawton Athletic Club rushed upon our victorious magician, lifted him to their shoulders, and carried him from the hall in triumph.

### HOW THREE PERSONS OR MORE MAY BLOW A GIANT BUBBLE

All who take part in this trick should be provided with a tin funnel; and after having dipped this into the solution and secured a film (see diagram, "How to Cover a Funnel, Cornucopia, etc., with a Film," page 38), start to gently blow. When beginning to blow, the bowls of the funnels should not be more than six inches apart. If the bubbles unite into one as soon as they come in contact with one another, continue blowing; taking care, however, to gradually draw the funnels further apart as the bubble grows. Use the second solution given for this trick.

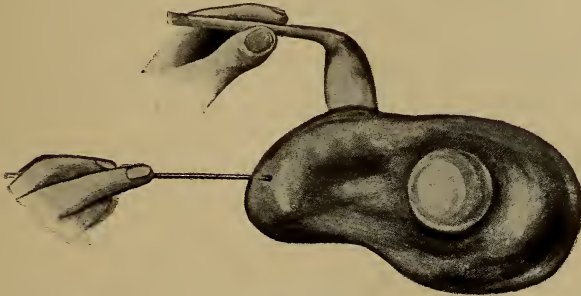
### ✓ GAS-BUBBLE RESERVOIR

Connect a clay pipe with the gas burner by means of rubber tubing. Then dip the bowl of the pipe into the mixture, and after this is covered with a film turn on the gas. When a bubble the size of an orange has swelled out, turn off the gas, withdraw the pipe from the



HOW A BIG BUBBLE BREAKS  
INTO FOUR LITTLE ONES

BUBBLE BALANCED  
ON A GLASS



BLOWING A LITTLE SMOKE BUBBLE



## PHIL'S SECOND BUBBLE SHOW

tubing, and quickly apply a lighted match to its stem. This is a very pretty as well as a very effective trick.

### HOW TO BALANCE A BUBBLE ON A GOBLET

Cover the opening of a goblet with a film (see diagram, "How to Cover a Funnel, Cornucopia, etc., with a Film," page 38). Then swell out a fair-sized bubble from a cornucopia, and lower this until it rests on the film over the goblet. Continue blowing until your bubble has reached large proportions, and finally withdraw the cornucopia with a quick upward movement. Great care must be taken in removing the cornucopia not to throw the bubble off its balance. Giant bubbles may be balanced upon an ordinary goblet, when their glorious colourings may be studied to perfection.

### HOW TO PLACE A BUBBLE UPON A SPINNING TOP

Any humming top with a large flat surface will answer for this purpose. After spinning the top pour a little of the solution upon it, then swell out a bubble from the cornucopia; and lower this until the film touches the surface of the whizzing toy. You will probably be unable to place the first, the second, and even

## NEW GAMES AND AMUSEMENTS

the third or fourth bubble upon the "hummer"; however, keep on trying so long as the top remains spinning, and between each trial drop the solution on the top's surface. A little practice will enable you to do this trick perfectly. After you have become somewhat of an expert at this performance, thrust a wet straw into the whirling bubble and fill the beauty with tobacco smoke. This trick never fails to arouse a storm of applause from the onlookers, and deservedly, for it is one of the most beautiful of all the bubble tricks.

### HOW TO BREAK A LARGE BUBBLE INTO A NUMBER OF SMALLER ONES

Launch a large bubble into the air from a cornucopia, and fan it up high above your head. Then, as in slowly descending the sphere drops to within about four inches of your fan again, move the latter to right and left with sharp, quick jerks. If this is properly done the large sphere will break into two, three or four smaller ones.

The effect of this trick may be greatly enhanced by filling the large bubble with smoke; then this breaks into three or four smaller ones, without a particle of smoke escaping.





A FAIRY FLEET AFLOAT ON A SEA OF BUBBLE-FILM



A THREE-CORNERED BUBBLE



## PHIL'S SECOND BUBBLE SHOW

### FRYING A SOAP BUBBLE

Cover the bottom of a frying pan with the mixture, and when it begins to simmer place a bubble upon the liquid. In a few moments the water within the bubble may be seen to boil vigorously, while the water outside of the bubble film will be still gently simmering.

### SOAP-BUBBLE LANTERN DISPLAY

From a piece of cardboard cut a number of disks about two inches in diameter. Pierce centre of each disk with a short piece of wire. Bend one end of the wire so that the disk cannot slip off; form the other end into a large hook. Wet disk thoroughly in the mixture, place a bubble upon it, and hang up.

### THE "STEAMED BUBBLE"

Fasten a cornucopia above the steaming spout of a kettle. Then turn the spout aside and hold a basin of the solution to the cornucopia so that the opening of this may be covered with a film. Blow slowly until a bubble measuring about four inches in diameter has swelled out from the cornucopia, and then quickly plug up the smaller opening of the cornucopia to prevent the bubble from decreasing in size. Now turn

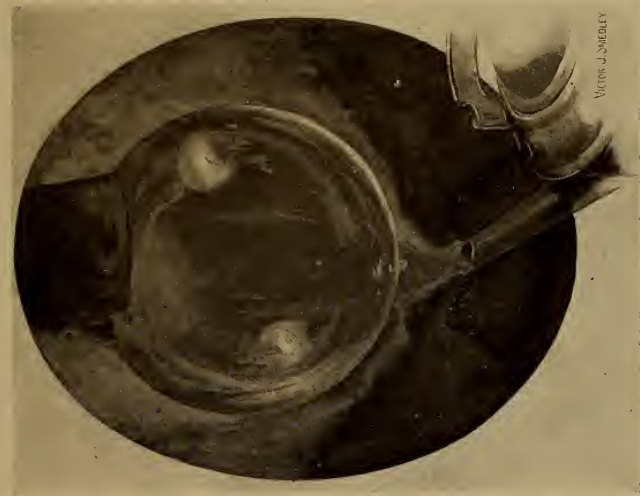
## NEW GAMES AND AMUSEMENTS

the kettles spout so that the issuing steam will completely envelop the hanging sphere.

Bubbles immersed in steam will last for a very long time, much longer indeed than Phil's "fifteen-minute bubble."

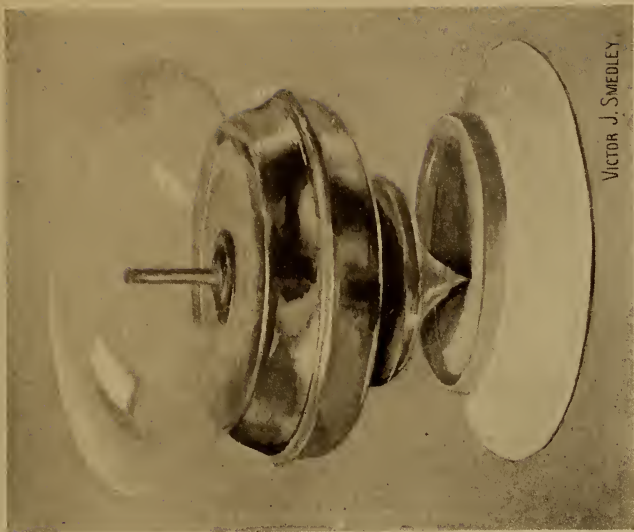
### THE FAIRY FLEET

Make a stand of copper wire, as shown in picture, page 30. Cover this with a film (see diagram showing how to cover a funnel cornucopia, etc., with a film, page 38). Make tiny ships of wood shavings with tissue-paper sails; place them carefully on the film and blow about with a putty blower.



VICTOR J. SMEDLEY

STEAMING A BUBBLE



VICTOR J. SMEDLEY

THE BUBBLE-TOPPED TOP



HOW TO MAKE A PERFECT SOAP-  
BUBBLE SOLUTION





### CHAPTER III

## HOW TO MAKE A PERFECT SOAP-BUBBLE SOLUTION

FOR the especial benefit of my readers I will now give the recipe for making this solution, which I invented originally for Mr. David Belasco to be used in his dramatisation of "Du Barry." However, on account of the length of that play, the intended bubble scene had to be abandoned at the last moment.

Fill a quart bottle half full of distilled or soft water, and sift into it four-fifths of an ounce of pure Castile-soap powder. Allow the powder to thoroughly dissolve, then add one-third of a pint of pure glycerin, mix thoroughly and let stand until all bubbles have disappeared. Use the solution in a temperature of 65° or 70°.

After the solution has been used a few times, or if it fails to produce satisfactory bubbles, it may be freshened up by adding a little more glycerin. With this solution gorgeous bubbles

## NEW GAMES AND AMUSEMENTS

can be made which will last from five to thirteen minutes. By heating the water in the first place, the solution can be made in a very short time.

### ANOTHER SOAP-BUBBLE SOLUTION

Here is another and more quickly made solution. Rub ordinary soap into a bowl of water until a heavy lather has formed on the surface. Then remove this lather, as well as all tiny bubbles, and proceed to test if the solution be satisfactory as follows: Blow a bubble four or five inches in diameter with the cornucopia, but don't release it. Of course if a bubble this size cannot at once be blown, the solution is much too weak, and more soap must be added immediately. However, if a bubble at once makes its appearance, hastily dip your forefinger into the solution, and then proceed to slowly thrust the wet finger through and into the bubble hanging from the cornucopia. If the bubble breaks as soon as your well-wet finger touches it, add more soap to the solution. If the bubble does not break when you thrust your wetted finger right into the middle of it, the solution is in perfect condition and ready for use.

The first solution is by far the more satisfac-

## A PERFECT SOAP-BUBBLE SOLUTION

tory, as this produces bubbles which will last for a surprisingly long time.

### A WORD OF CAUTION TO BUBBLE BLOWERS

Now let me state, once for all, and as emphatically as I can, that the presence of bubbles—no matter how tiny—either on the surface of the solution or clinging to the opening of the cornucopia or other instrument chosen for the blowing of bubbles, is always preventive of successful results. The reason so many bubbles burst before being launched into the air is because of the presence of tiny bubbles either on the surface of the solution or clinging to the cornucopia itself. Once a suitable solution is made, don't on any account irritate it. However, most people will insist on stirring it up, no matter how frequently warned not to do so. For some reason or other, probably because of tiny bubbles adhering to the cornucopia, a bubble will burst before being launched into the air, and then the careless one will take a sort of revenge, as it were, on the solution itself, and stir it into froth. Then you may be sure his bubbles will keep on bursting right along, especially as his steadily growing impatience leads him to stir more viciously after each failure. Remember that under no cir-

## NEW GAMES AND AMUSEMENTS

cumstances can the solution be benefited by stirring; on the contrary, such action is always disastrous.

### HOW TO BLOW A BUBBLE

Dip the opening of the cornucopia or funnel lightly into the solution, and on withdrawing it slowly turn it at right angles (see diagram, Fig. 1).



FIG. 1. HOW TO COVER A FUNNEL, CORNUCOPIA, ETC., WITH A FILM

If you look you will see that the opening is covered over with a shiny film. Then start to blow gently through the smaller end of the cornucopia. However, be sure that you blow, and not draw in breath. Ninety-nine beginners out of a hundred will draw in breath instead of blowing, which at once destroys the film. It is a good scheme to start blowing very gently before the cornucopia touches the lips. After you have carefully blown the first breath into the bubble, place your tongue firmly over the small opening, of the cornucopia, draw in a long breath, and then blow again into the bubble. Continue blowing into the film until you have produced a fine large bubble, and then release this from

## A PERFECT SOAP-BUBBLE SOLUTION

the cornucopia by jerking the latter away from it with a short, quick movement. A very few trials will enable you to make enormous bubbles in a surprisingly few moments. It is a good idea before beginning this fun to rub soap on the large opening of the cornucopia, both inside and outside.

### ✓ HOW TO MAKE A CORNUCOPIA

Take a piece of stiff wrapping paper of the desired size and paste it thoroughly on both sides. Then roll it up into the shape of a cornucopia. Wind thread around it to prevent unrolling, and remove this when the cornucopia is thoroughly dry and hard. As cornucopias made in this way last for many months, it pays to make them very solid and carefully. Be sure, however, not to use them until thoroughly dry and hard. These cornucopias may be made of various sizes. A very convenient cornucopia for all-round use is one that measures ten inches in length, two inches across the larger opening, and slightly less than a quarter of an inch across its smaller opening.



A SOAP-BUBBLE PARTY





## CHAPTER IV

### A SOAP-BUBBLE PARTY

**I**F YOU boys and girls want an evening of real fun just give a soap-bubble party. The beauty of such parties is that they can be given at any time of the year, and are as provocative of jollity on a warm evening in September, when you may blow bubbles on the piazza, as on a cold winter night, when you can assemble your guests in the house.

In giving a soap-bubble party every effort should be made to provide appropriate settings for the bubbles. The more elegant and beautiful the settings the more jewel-like the bubbles will appear. They look perfectly exquisite on delicate glassware and against rich-coloured backgrounds. Avoid, as far as possible, the use of white tablecloths, white plates, etc, as these reduce the beauty of the bubbles to a minimum. The table or tables should be decorated tastefully though brilliantly, and a chair provided for each guest. In front of each chair should be

## NEW GAMES AND AMUSEMENTS

placed a shallow dish or plate of the solution, some straws, a funnel, a cornucopia and other necessaries for the evening. Then, too, it is a good idea for any one intending to give a soap-bubble party to practise the soap-bubble tricks previous to the night on which the entertainment is to be given, so as to be in a position to amuse the invited guests.

The chief bubble blower should occupy a seat at the centre of the table with a programme before her, while the other participants should follow her lead and do just as she does. In this way a lively competition is induced by the endeavours of each bubble blower to outdo the others.

A good programme for a soap-bubble entertainment is the following list of tricks:

Rose inside of bubble.

Spinning a top inside of bubble.

Large bubbles balanced on goblets.

Four or five bubbles inside of one another.

Piercing a bubble with a knife.

Hanging up a row of bubbles.

Bubble resting upon a flower.

Bubbles and noise.

A little bubble inside of a large one.

Blowing a pinwheel in a bubble.

Bubbles hanging from finger tips.

Placing bubble on spinning top.

## A SOAP-BUBBLE PARTY

Competition to see who can blow the largest bubble.

It always adds to the fun and interest if prizes are offered for the most skilful handling of the bubbles.

The pinwheel inside of the bubble, bubble resting upon a flower, bubbles and noise, a little bubble inside of a large one, and bubbles hanging from finger tips, are some new bubble tricks Phil invented after he had given his first exhibitions, so I will print directions for doing these, as follows:

### HOW TO BLOW A PINWHEEL AROUND INSIDE OF A BUBBLE.

Fasten a paper pinwheel to a short stick of wood, and attach this to the centre of a dinner plate with sealing-wax; then, after covering the bottom of the plate with the solution, proceed to place a bubble over the pinwheel as in the rose trick. As soon as the funnel is withdrawn, quickly dip a straw into the solution, gently thrust it through the bubble and then blow upon the paper wheel, when it will rapidly revolve.

### BUBBLES AND NOISE

To make bubbles and noise, dip the end of an ordinary tin horn well into the solution and

## NEW GAMES AND AMUSEMENTS

after withdrawing it blow gently until quite a large bubble has been formed. Then four or five loud blasts may be sounded on the horn without injuring the bubble in the least. This is a very funny trick, which never fails to arouse roars of laughter. A large fish horn may be used for this purpose with splendid effect.

### BUBBLE RESTING UPON A FLOWER

Dip a dahlia or other stiff-petalled flower—an aster of a brilliant colour, for instance—into the solution and then with a cornucopia blow a bubble upon the top of it. This is one of the simplest and prettiest of all the soap-bubble tricks.

### HOW TO PLACE A LITTLE BUBBLE INSIDE OF A LARGE ONE

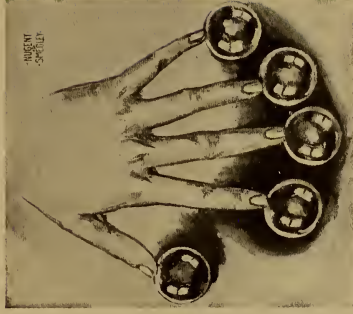
A little bubble may be made to appear within a large bubble by blowing a fair-sized bubble from a cornucopia so that it will hang suspended. Then dip a straw into the soapy water, push the wet end of it through into the hanging bubble and blow very gently. Almost immediately a small bubble will fall from the straw, and as soon as this happens blow with slightly increased force, when the little bubble will whirl around and around inside of the larger bubble, as shown



MAKING BUBBLES AND NOISE



RESTING UPON A FLOWER



BUBBLES DANGLING FROM  
THE FINGER TIPS



BLOWING A PINWHEEL IN  
A BUBBLE



## A SOAP-BUBBLE PARTY

in the illustration (page 60). By blowing smoke through the straw a little smoke bubble may be made which will add a great deal to the effectiveness of this trick.

### ✓ BUBBLES DANGLING FROM FINGER TIPS

Dip all five fingers into the solution, so that from each finger there hangs a drop of the mixture. Take a straw, which has been dipped into the solution, place the wet end of it against each finger tip in turn, and gently blow, and so form a bubble on each finger tip.





THE "SOAP-BUBBLERS'" FIRST  
RECEPTION



## CHAPTER V

### THE "SOAP-BUBBLERS'" FIRST RECEPTION

#### SOME SOAP-BUBBLE TRICKS FOR EXPERTS

THE "Soap-Bubblers'" reception was a success from the start.

The Soap-Bubblers—but recently organized, with our old friend Phil as Head Bubbler, Harry Baker as Chief Cornucopia, the minor Bubblers occupying minor odd-titled positions, as well as all Bubblers occupying no positions at all—had resolved that the ancient and honourable amusement of blowing soap bubbles was sadly in need of reformation; and, further, that it was their mission to reform it.

Thus it came to pass that on this blustery late November evening the interior of Masonic Hall presented such a scene of brilliancy as had rarely been equalled within its historic walls.

Never shall I forget the fairy-like transformation which followed the signal for all Bubblers to begin "bubbling." The magician's wand had

## NEW GAMES AND AMUSEMENTS

hardly fallen when there arose forty-seven large bubbles from forty-seven golden cornucopias, held in the hands of forty-seven rosy-cheeked boys and girls standing by twenty-four little oblong tables. A cry of delight swept round the hall, and forty-seven more bubbles arose, and still another shower of the iridescent spheres glittered in the surrounding brilliancy before the Bubblers settled down to the business of the evening.

For this occasion every member had promised to perform at least one bubble trick, and to perform it well; so that when Eddie Stark showed a top spinning within a bubble, and Minnie Sargent—seated opposite—a beautiful rose within another, it was only an indication of the wonderful success which was to characterise the entire performance. Freddie Wilder did fully as well at the table allotted to him, while “Little Victor” cleverly dropped all sorts of objects through some beautiful bubbles blown by Frank Burt. Charley Tefft had a table all to himself, and by his funny tricks with the solution kept the onlookers in a constant roar of laughter. At another table Arthur Taylor joyfully fried bubbles to order; and near by was a delighted crowd looking at the “bubble-topped top.”

## THE "SOAP-BUBBLERS'" RECEPTION

I cannot tell you of all the many things I saw during the first hour—which seemed scarcely ten minutes—of this marvellous entertainment, except to refer to George Wingate's attempt to beat his own record of nine bubbles inside of one another. This achievement, from a Bubbler's standpoint, was the most important event of the early evening, and just before the intermission they crowded themselves into George's immediate neighbourhood just as he had succeeded in raising his record to eleven. He now had one eleven, three tens, and any number of nines and figures below that number to his credit, yet he determined to do better. He started off again by placing six bubbles with wonderful rapidity, but in putting in the ninth some broke. His next trial was still more unfortunate, as he failed on the fifth. The next attempt opened splendidly, and bubble inside of bubble was blown until eight had been scored quickly enough; then, with remarkable precision, he placed in three more, equalling his own best record of eleven; and finally, amid tumultuous applause, succeeded in putting in the twelfth bubble.

There was much rejoicing and hearty congratulation during the twenty minutes' intermission, and then Bubbles and spectators

## NEW GAMES AND AMUSEMENTS

seated themselves in readiness for the principal part of the performance, which was to be given by Phil.

The idea had spread, somehow, that the Head Bubbler would treat them to another surprise, although what the nature of this would be not any of the Bubblers knew, excepting Harry Baker and a few assistants.

Promptly at nine Phil stepped on the platform, and was greeted most cordially. I failed to hear his opening remarks, as I was seated in the rear of the hall; but, whatever they were, every Bubbler boy jumped to his feet and shouted for joy, and every Bubbler girl jumped to her feet and waved her handkerchief. Amid the uproar, I learned that Phil had announced that he would show the Bubblers how to make large bubbles without blowing them! The pandemonium increased when six Bubblers, with Harry Baker leading, formed in procession and walked on to the platform, carrying between them two large galvanised-iron pans (each measuring nine feet in circumference), five children's wooden hoops, a number of copper and brass rings, two shining pails full of soap and water already mixed, and—think of it—not a pipe, tube or cornucopia of any kind! No wonder the audience shouted; no wonder the Bubblers waved aloft their gilded



'FIRST KITTENS EVER INSIDE OF A SOAP BUBBLE!'



TWELVE BUBBLES, ONE INSIDE OF THE OTHER





## THE "SOAP-BUBBLERS'" RECEPTION

cornucopias. If Phil was not going to do something wonderful, what were all those pans, hoops, and copper and brass rings for? Why did he appear without a single cornucopia?

After a few words explanatory of the evolution of the soap bubble from the clay-pipe stage to its present one, Phil dipped a wire ring into the solution, and, gently sweeping it before him, cast off a bubble fully twice the size of his head. Every Bubbler boy gave a cry of satisfaction at this, and it looked as though all the Bubblers might fling their golden cornucopias on to the stage, when the master of the soap and water tossed off five large bubbles in succession, not only from the same ring, but from the same film!

Almost immediately Phil's assistants—there were five of them—followed his example, and from that time on the stage was continually aglow with the brilliant spheres.

Harry Baker now came forward with the club's two kittens, and set them on a dry block of wood resting in the centre of one of the large nine-foot pans—now filled with soapy water. Before the animals could move, Phil quickly lifted a hoop from the pan, and in a twinkling covered both kittens over with a glorious bubble. "First kittens ever inside of a soap bubble!"

## NEW GAMES AND AMUSEMENTS

Harry Baker announced, just as the little kits started to wade about within the iridescent dome. Phil sphered them over a second and even a third time, when the pussies, excited by their uproarious surroundings, offered decided objections to being imprisoned any more. Then Bubbblers and audience were treated to an exhibition of what were perhaps the largest bubbles that have ever been made. Harry Baker was especially fortunate, and, at the end of a very exciting contest with Phil, succeeded in sphering the pan over from brim to brim! Realise, if you please, that this bubble measured over nine feet in circumference! Phil followed up this feat of Harry's by launching from the large hoop a round bubble measuring fully six feet in circumference! Compare this giant in size with the bubbles you have been used to blowing from clay pipes. As one Bubbler hilariously remarked, this was "more like a balloon show than a bubble show." Not the least noticeable fact was that the bubbles often measured twice the diameter of the rings from which they were thrown. Remarkable, too, was the ease with which both boys picked up the films with their hoops. These hoops, measuring from thirty to thirty-four inches in diameter when thus filmed over, flashed like disks of



TWO LARGE BUBBLES SPRINGING FROM THE SAME FILM  
AND TRAVELLING IN OPPOSITE DIRECTIONS



"THE GIANT LETTER S"



## THE "SOAP-BUBBLERS'" RECEPTION

waving gold. Phil slowly revolved one of these golden disks upon the tips of his fingers, and a moment later the audience were enthusiastically applauding another of our magician's startling surprises. Here were two large elongated bubbles, springing from the same film, attached to each other in the centre, and yet travelling in opposite directions, as shown in the illustration (page 56).

There seemed to be no limit to Phil's storehouse of wonders, and the spectators, who up to this time had been so very vociferous, settled down to a state of mute astonishment. "What will he do next?" was on everybody's lips. Though somewhat fatigued, the wizard of the soap and water adhered strictly to business, and now requested the audience to give their closest attention to his next performance. With a small ring in his left hand, and one twice the diameter of this in his right, Phil slowly advanced to the edge of the stage, where he covered both of the wire circles with a film. Then, from the smaller ring, he tossed a bubble high up above his head, and as the sphere slowly descended, he made a sweeping movement with the ring in his right hand in such a manner that he completely enveloped the small bubble within a second and much larger one. For a moment

## NEW GAMES AND AMUSEMENTS

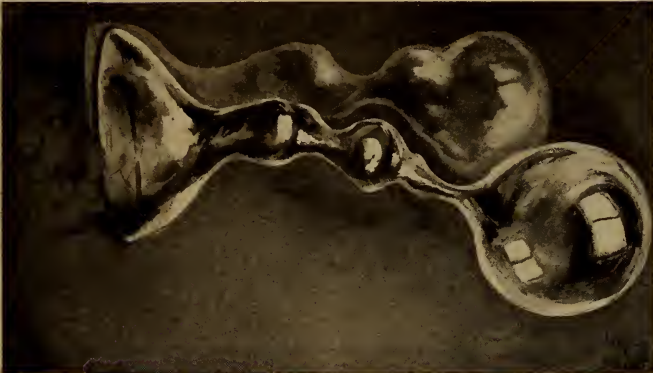
the Bubblers looked at each other in perfect amazement, and then broke forth into heartiest applause. Phil responded with an encore, and again a bubble, imprisoned within another, swept its way across the stage. As I fixed my eyes upon these glittering spheres, I noticed the imprisoned bubble strike upon the bottom of the larger one and bound up again. This it did a number of times. Phil might have spent the remainder of the evening in repetition of this beautiful achievement; but, as Harry enthusiastically announced to the audience, there were more tricks to come. More tricks? What else could be done?

Fairly beaming with satisfaction at the success of his double-bubble trick, Phil took a large hoop and, dipping it in one of the great pans, withdrew it covered by a film. Then he held the lustrous disk well up in front of him and started to blow. Had our magician been in league with the spirits of the mythical North, he could hardly have produced a result more weird and fantastic.

Starting from the hoop, first slowly and then almost shooting forth, was an ever-moving, ever-lengthening, ever-varying, twisting, writhing shape—such a form, in fact, as might have found existence in the imagination of Edgar



A SHOWER OF BUBBLES



"AN EVER-MOVING, EVER-LENGTHENING, EVER-VARYING,  
TWISTING, WRITHING SHAPE."







## THE "SOAP-BUBBLERS'" RECEPTION

Allan Poe. When Phil and Harry, together with their assistants, gave themselves up fully to this exhibition of monsters, the stage looked as though peopled by one of the hobgoblin races. Sometimes great bubbles, five feet in circumference, would snap off the end of these soap-bubble dragons, and sometimes a number of very small ones. In length they varied from two to eight feet—that is, measurement in a straight line. Could all the windings and twistings have been taken into consideration, they would have been found far longer.

Phil now turned his attention to the hoops and rings again, and drew forth storms of applause by some wonderful "film tricks." One in particular, the giant letter S, was especially brilliant. It looked like a serpentine tongue of flame, and the manner in which Phil whirled the flashing light above his head fairly thrilled the audience.

Placing the ring aside, he picked up a curiously made wood and wire framework, and, after covering it with film, swished it through the air with a long, sweeping movement. The result was a whole shower of bubbles—single, double, and triple bubbles! This display was very effective, and had to be repeated ever so many times before the Bubblers were satisfied.

NEW GAMES AND AMUSEMENTS

"Leroy Kimball!" now shouted out Harry Baker. "Leroy Kimball!" And a minute later there walked on to the stage the youngest, shortest, and jolliest Bubbler in the club. Everybody knew Roy, and as the little fellow blushing stepped on to the square block of wood set fast in the middle of the big pan, he was greeted with loud cheers and cries of "What are you going to do there, Roy?"

Phil promptly began to answer this volley of questions by lowering a hoop over the little Bubbler until it lay immersed in the pan of soapy mixture. "Oh!" cried the Bubblers in unison, "Phil's going to put Roy in a soap bubble!" And the excited audience rose to their tiptoes.

Amid a profound silence Phil started to lift the hoop; but after raising it a short distance, the film broke with a peculiar noise, sounding like "w-h-e-e-p." "W-h-e-e-p" went the film again, "w-h-e-e-p, w-h-e-e-p."

Suddenly there was a swish, a flashing gleam of silvery light, and Leroy Kimball, the jolliest of the Bubblers, looked smilingly upon the audience from within a soap-film house!

All of the bubble tricks performed by Phil on this occasion, with the exception of the first one, the throwing of bubbles from a wire ring, require



TWO LARGE ROUND BUBBLES, ONE INSIDE ANOTHER



A BOY IN A SOAP-FILM HOUSE



## THE "SOAP-BUBBLERS'" RECEPTION

expert manipulation; and beginners should not attempt to do them until after they have become very proficient in performing all of the bubble tricks referred to in the previous articles.

The solution Phil used in making these wonderful bubbles, is the second solution given on page 36—the solution without glycerin.

However, in producing the giant bubbles pictured, this solution has to be in just a certain condition, a condition which is almost elusive. For instance, the same solution which will produce such marvellous results at one time may fail when used a little earlier or later. The solution from which Phil made his great bubbles lost all of its marvellous qualities for producing such splendid results after it had been used for thirty minutes.

However, after one has become thoroughly familiar with the making of soap-bubble films, the condition necessitated may almost be "felt," as it were, by placing a small hoop in the solution and repeatedly lifting it for a foot or more.

### HOW TO THROW BUBBLES FROM A WIRE RING

Make a ring of wire five inches in diameter, allowing the twisted ends of the wire to form a convenient handle, and bind the whole circumference with strips of old muslin. Then, after rub-

## NEW GAMES AND AMUSEMENTS

bing it thoroughly with soap, dip the bound ring well into the solution so as to cover it with a film. Now, with a firm grasp on the wire handle, swish the ring through the air from right to left, or vice versa, starting it slowly and gradually increasing to considerable speed. As the ring progresses the film will belly out; and after this has attained a goodly size, deftly turn the ring over at right angles, without once stopping the sweeping movement of your arm, and a bubble will fall from the ring, just as is shown in the picture on page 62. Anybody can perform this trick after a little practice.

Wire rings very much larger than the one referred to may be used after you have become an expert at this performance. The five-inch ring, though, is a very good size for beginners.

### KITTENS INSIDE OF A SOAP BUBBLE

A large shallow pan, nine feet in circumference, was filled with solution to the depth of two inches. After this a child's wooden hoop, of slightly less circumference than the pan, was lowered into the solution. Then in the centre of the pan a block of wood was placed, and on top of this the kittens. As soon as the kittens were in position, Phil grasped the hoop with his wet fingers and lifted it with fair quickness, horizontally, high over the animals' heads, and



LARGE BUBBLES THROWN FROM A SOAPED  
WIRE RING





## THE "SOAP-BUBBLERS'" RECEPTION

then suddenly turned it to a perpendicular position, when the bubble dropped, as it were, from the hoop. Before beginning this trick Phil bound the hoop around its entire circumference with strips of muslin so that not a particle of the wood could be seen. Then he thoroughly soaped this with a large cake of soap.

### TWO BUBBLES FROM SAME FILM GOING IN OPPOSITE DIRECTIONS

A hoop bound with muslin was covered across with a film and then slowly revolved between the finger tips of both hands, as shown in picture page 56.

### "THE GIANT LETTER S"

A wire ring bound with strips of muslin was dipped into the solution, and when covered with a film was swished through the air, as illustrated in the picture on page 56.

### LARGE BUBBLE ENVELOPED WITHIN A LARGER ONE

Phil used two wire rings bound with strips of muslin for this trick, one much larger than the other. He covered both with a film; then, holding a ring in each hand, he first tossed a bubble from the smaller ring, and with the larger ring caught the smaller bubble, as it were, within the

## NEW GAMES AND AMUSEMENTS

larger film. The smaller bubble was caught just as one catches a little fish in a scoop net.

### THE LONG TWISTING BUBBLE

Phil covered the hoop with a film, then, holding it up in front of him, blew right into the centre of the shiny disc. The blowing was started very gently, but as the film increased in length Phil blew with all his might.

### THE SHOWER OF BUBBLES

Phil used a framework of wood and string for this purpose. He dipped the framework into the solution and, after it was covered with a film, swished it through the air, with the result as shown in the picture on page 58.

### THE BOY IN THE SOAP-FILM HOUSE

Roy stood on a block of wood in the centre of the pan of solution, and Phil lowered a hoop over the little Bubbler until it lay immersed in the mixture. Then Phil suddenly lifted the hoop high above Roy's head, and the little fellow "looked smilingly upon the audience from within a soap-film house!"

### TWELVE BUBBLES, ONE INSIDE OF THE OTHER

To do this trick, see "How to Place Three Bubbles Inside of One Another," page 12.

A YACHT RACE IN THE CLOUDS



## CHAPTER VI

### A YACHT RACE IN THE CLOUDS

The fifth race to the sky and return will be sailed this afternoon at three o'clock, wind permitting.

By order HARRY BARNES,  
FRED MOORE,  
Regatta Committee.

A WILD cheer greeted the posting of this announcement. The rains of a week had given way to sunshine, the breeze was fresh at ten knots an hour, and every boy in the Green Hemlock Hotel just danced with excitement. "Hurrah! *Flyaway* will win sure!" "No; *Ærolite*!" "It's *Whirlwind's* race easily!" and "How about *Lightning?*" were the ecstatic exclamations which now noisily swept through the quiet mountain retreat.

The actual "first cause" of all this commotion was a case of malaria. "Yes," the doctor had said; "Will Dyer must give up his boats and live for a while in the mountains, far away from ponds and waters of every sort." A pretty sentence to pass upon an enthusiastic yachtsman,

## NEW GAMES AND AMUSEMENTS

and commodore of the Junior Bay Yacht Club at that! You should have heard Will's account of his first week's experiences in this land of promise: How, with a boat under his arm, he climbed uphill, slid downhill, scrambled over boulders, plodded across pasture lots, and crawled under fences in search of a greater sea than a watering trough and something less of a landlubber than a farm hand. "That's a pretty ocean!" he would scornfully conclude pointing to a wild vista of old stumps, stunted spruce trees, and gray rocks. "A fine course to sail a boat over!" A sea gull in a gilded bird cage would have been hardly more out of place, yet what was our commodore to do? He cared nothing at all for baseball, said croquet was tame enough for girls, and that kite flying hadn't any "go" to it. Something, however, he must find more exciting than breathing still mountain air; and the chance accident of witnessing a "messenger" sail up a kite string furnished a clue to all he could desire, for the circular bit of paper had not reached its destination before Will bounded to his room like a deer, where, excepting for meals, he stayed the remainder of the day.

The next morning Commodore Dyer was actually flying a kite, and just as the other boys

## A YACHT RACE IN THE CLOUDS

were wondering at this unusual performance, something was seen to shoot up the kite string for a few feet and swiftly descend again. What this something was could not be made out from the broad piazza, beyond the fact that it carried a sail; and by the time the boys—who ran tumbling over each other—reached Will's side the mysterious craft had ceased its journeyings and lay in a heap on the ground. Early next morning Will was kite flying again, and those boys fortunate enough to be about had the pleasure of seeing a beautiful little yacht sail up the kite string the whole length of it, and then lower its sails and return to its owner again.

Six weeks later the notice mentioned at the beginning of this article was posted in the corridors of the Green Hemlock Hotel. Meanwhile practically nothing had been talked of but kite yachts. It was the theme for all day and half of the night, for girls as well as for boys, and the old mail driver was so loaded with orders for cardboard, copper wire, string, etc., that he would gladly have sought refuge in a distant clime. Nor did the older people escape the yachting fever; for, besides organizing the Green Hemlock Yacht Club, with a list of fifteen yachts in commission, they had purchased a beautiful silver cup to be awarded the winner of a series

## NEW GAMES AND AMUSEMENTS

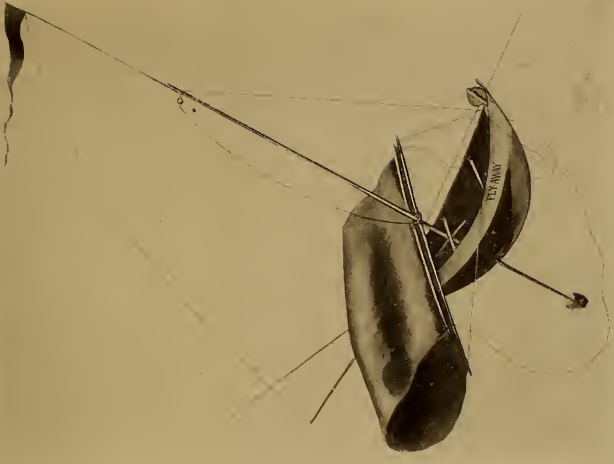
of races, and it was the fifth race for that trophy which was to be sailed this very afternoon. *Flyaway*, Will's boat, had already placed two victories to her credit, *Ærolite* two, and *Whirlwind* one. The other boats, although having plenty of adherents, could hardly be classed with these for speed.

It is just five minutes of three. Everybody is at the starting point, and every available yachting cap and blouse is donned for the occasion. Bang! goes the gun. Instantly fifteen yachts fly before the wind amid a wild pandemonium of fish horns and cheers, and waving of flags and handkerchiefs. *Ærolite*, with her immense sail, quickly takes the lead, but *Flyaway* is a good second. On they all speed before the freshening breeze, with their sails of every hue. Higher and higher they mount, too, until so far away that it is impossible to tell which is leading. "*Ærolite!*" "*Flyaway!*" "*Whirlwind!*" "*Lightning!*" are the cries; but no one can surely name the leader until the outer stake is reached. "*Ærolite!*" scream the boys and girls around Jack Barnard, whose hand suddenly jerks forward as his yacht strikes the stake. The sails of this boat fall almost immediately, and she is returning on the downward trip. Another yell.





THE FLYAWAY, UNDER FULL SAIL, MOVING UPWARD ON THE KITE-STRING



THE FLYAWAY, WITH SAIL DOWN, DESCENDING THE KITE-STRING



## A YACHT RACE IN THE CLOUDS

*Flyaway's* sail has dropped like a flash. The leaders are racing for home! Every boy and girl is jumping excitedly; the old people are waving handkerchiefs and shouting. "It's *Ærolite!*" "It's *Flyaway!*" are the cries from every side. Onward they come with ever-increasing speed. *Flyaway* is gaining, and no mistake. Her sails are more compactly folded, thus offering less resistance to the wind than *Ærolite's*. Still the latter appears to lead. Now they come in plainer sight. If *Ærolite* is leading it is only by a few inches. "*Ærolite!*" "*Flyaway!*" "*Ærolite!*" "*Flyaway!*"

"*Flyaway!*" "*Flyaway!*" And amid a deafening roar of cheers and fish horns the swift little boat wins the cup.

### HOW TO MAKE KITE YACHTS

Cut out two pieces of stout cardboard, each twenty-three inches in length, in shape as shown in Fig. 2, A, and sew their outer curves together with very strong thread. Then tack two strips of wood, one five and the other five and one-half inches in length, crosswise inside of the boat. The longer one of these strips fasten in position about eight inches from the bow, and the shorter one six inches from the stern of the boat (see diagram, Fig. 2). Now cut out two circular

## NEW GAMES AND AMUSEMENTS

pieces of wood each three-eighths of an inch in thickness, and attach to both sides of these, with sealing-wax, a stiff cardboard disk one and one-half inches in diameter (Fig. 2, B). After this

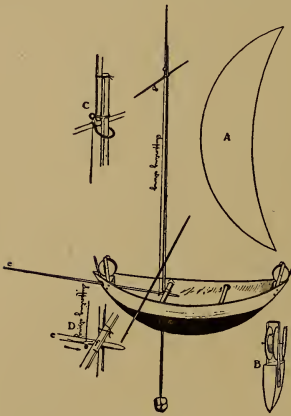


FIG. 2

take two strips of tin, half an inch wide and six inches in length, and punch six holes in each of them, one near the ends, the next half an inch higher up, and the next one and three-quarter inches from the ends. Afterward bend these tin strips into shape, as shown in Fig. 2, B,

and fasten wheels in position with small wire nails. Now cut out two blocks of wood, each three inches square and one inch thick, and shape them with a penknife so that they fit snugly into the ends of the boat. Then affix these blocks to the ends of the strips of tin, as shown in Fig. 2, B, and at the pointed ends of the blocks fasten stout wire loops so as to prevent the kite string from slipping off the wheels. Fasten these blocks in the boat with tacks, as shown in

## A YACHT RACE IN THE CLOUDS

diagram, Fig. 2, and cut a hole in the cardboard bow for bowsprit to pass through.

Make a stout mast forty inches in length and pass it through the bottom of the boat until one foot of it projects below the keel, then fasten it with string to crosspiece one inch from the centre. Tie the slender topmast in position and place a small wire ring at its base (Fig. 2, C).

In a slender bowsprit twenty inches long make an incision as shown in Fig. 2, D, then pass the bowsprit (*e*) through the hole in the bow of the boat until the end rests under the crosspiece (*f*, Fig. 2, D). For the yard-arms two sticks, one twenty-eight, the other twenty-four inches in length, are required. To the centre of the shorter one (*g*, Fig. 2) fasten a circle of wire large enough to slide up and down the mast easily (see Fig. 2, C). Tie the lower yard-arm to the mast about two inches above the body of the boat. Place the upper yard (*g*) in position, and tie a long piece of thread to it, which should pass

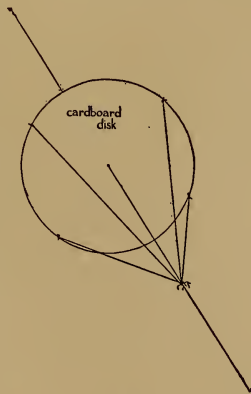


FIG. 3

## NEW GAMES AND AMUSEMENTS

through the ring on the mast. Make a tissue-paper sail twenty-five inches in height, twenty-eight inches in width at the bottom, and tapering to twenty-four inches in width at the top. Paste the edges of the paper over a light string, leaving a few inches of this hanging free at the corners so as to fasten the sail in place. Then tie the sail to the ends of the yard-arms, haul it up, and make a knot in the lower end of the hoisting string. Now slip this string with the knot underneath and into the excision in the bowsprit (Fig. 2, D), and the sail will remain standing. Fasten guy-ropes from the ends of the yards to wire loops in the stem of the boat (as shown in the picture of the boat sailing up the string). Stones tied to the lower end of the mast will serve as ballast. Stout wire fastened to the base of the mast and curved backward will give greater power to weight. The amount of ballast necessary can be ascertained only by trial. The bowsprit should move back and forth at the gentlest touch, and the thread which holds up the sail should fit the incision in the bowsprit so lightly that it will be released the instant the bowsprit strikes the cardboard disk. This disk of cardboard, about fifteen inches in diameter, should be fastened, in the manner shown in the diagram (Fig. 3), about thirty feet from the kite.

*A YACHT RACE IN THE CLOUDS*

When the yacht sails up the string the bowsprit (*e*) will strike the cardboard disk so that the hoisting thread will be instantly released by being pushed against the crosspiece (*f*). As soon as the thread is released the sail lowers itself at once and the boat returns downward upon the string.





A CIRCUS ON A KITE STRING



## CHAPTER VII

### A CIRCUS ON A KITE STRING

NO wonder all faces were upturned upon that memorable afternoon. What American boy wouldn't turn his face upward on seeing a whole troop of Chinamen careering wildly across the blue sky, especially when that bit of blue sky happened to be hovering above our beloved Pine-tree State? Was this a Boxer invasion, and were those great whirlers some new diabolical means of annihilation? Those showers of parachutes, and weird umbrellas, and flags, sweeping through the heavens—what did it all mean?

Well, the newspapers explained it fully the next morning, and then, for the first time, the inhabitants of one of the largest cities in Maine learned that right in their midst was a real "up-to-date" club of Yankee boys with Yankee ideas and a Yankee way of doing things. Singularly enough, I had frequently observed these very boys when walking through State Street, and

## NEW GAMES AND AMUSEMENTS

had often stopped as a flood of light streamed through the open doorway of their club house, in hopes of catching a glimpse of the "goings on" in the "sanctum"; but, beyond the silhouetted figure of a member hastily entering, my glimpses were always fruitless.

Fortunately, however, I happened to stroll down State Street upon the very day the circus was to be given, and when opposite the club house I found the sidewalk there blocked by boys in all stages of excitement. Some were dancing and wildly tossing up packages of bright tissue paper; others were hilariously waving flags and yelling at the top of their voices. Curious-looking frameworks were bobbing out of the club-house doors like so many giant-legged spiders, and, oh, such a number of umbrellas followed after—which was puzzling indeed, as the weather was exceedingly fine. Kites there were of all kinds, and funny-looking windmills, and disks, and great paper Chinamen, and bunting—everywhere.

After every club member was so enveloped with packages as to be hardly discoverable, the multitude swarmed up Charles Street and into the fields beyond, where the boys set to work so vigorously that in a surprisingly few minutes kites seemed suddenly to spring up in

## A CIRCUS ON A KITE STRING

every direction. What a bewildering time then there was for a while! The little kites zig-zagged all through the air, as if so glad to be out that they just couldn't help bumping into everybody and everything. The four- and five-foot kites tugged frantically at their strings, as though begging to be anywhere out of reach of their entangling little brothers, while the tailless kites, big fellows some thirteen feet in height, rose majestically, like great eagles, and as though wholly oblivious of the flying rabble all about them. On they all sped, big kites, little kites, bow kites, coffin kites, tandem kites, tailless kites, stickless kites, paper kites, muslin kites—all sorts of kites—until the heavens seemed to tremble with the fluttering mob. When finally chaos gave place to some sort of order, and the little kites had ceased to harass their more dignified relatives, a chorus of "ah's" swept over the fields, and on looking up to the right I saw twenty pretty parachutes sailing high in the sky straight to the city beyond the Penobscot. A hearty cheer greeted the next flight of parachutes, which were released a moment later, and the din became almost deafening as shower after shower of the tissue-paper balloons burst into the sunshine like glittering jewels. Many of these were so exquisitely

## NEW GAMES AND AMUSEMENTS

poised that in place of falling they steadily soared higher, and must have travelled long distances indeed ere reaching Mother Earth. Before the last shower of parachutes had faded in the distance, the boys set to work busily on the mysterious-looking windmills, and five minutes later a most gorgeous spectacle broke into view. Just think of twenty-two brilliantly coloured windmills, more than four feet in height, decked out with long streamers of bright bunting, revolving up a kite string! Just imagine twenty-two great catharine wheels whizzing up into the heavens, and you may form some idea of the glorious sight which blazed through the skies on this fine afternoon. Faster and faster the great whirlers whirled as they rushed into the perspective, until when arrested by the "stopping-knot" they whirled faster than ever. The joy of the excited crowds now knew no bounds, and it seemed as if the boys would go frantic when two and even three whirlers went whizzing up the same string at the same time.

After a brief lull in the excitement, occasioned by drawing the kites in so as to free the strings from the great whirlers, the fun started in livelier than ever; for the kites had hardly reached the sky again when a loud roar of

*A CIRCUS ON A KITE STRING*

laughter announced the ascent of a whole cloud of black umbrellas. There was something so irresistibly comical about these umbrellas that one could not help laughing, and when they fled to the heavens as though more scared than scared witches, pandemonium reigned complete.

Now there was a scurrying to and fro and a scene of intense animation as the multitude speedily resolved itself into excited little groups, where they kept bobbing up and down like corks in a fish pond. In the centre of each group was an extravagant paper Chinaman, flapping his long sleeves and behaving as ridiculously as other folks. Unbelievable as it may seem, these gorgeously tricked out fellows were being put in readiness for a trip to the sky. But, oh, how slow they were in starting! At last the signal was given which sent the Celestials off, and then what a lot of bowing and scraping there was! They bowed to the right, they bowed to the left, and then they bowed backward and forward. They shook their large sleeves and flung out their long queues, and glided up into space with all the elegance born of their Eastern civilisation, so many dim and dusty centuries old.

When an altitude of such height had been

## NEW GAMES AND AMUSEMENTS

reached that one might easily imagine the Chinamen to be looking into their own beautiful Flowery Kingdom, there was a thrilling scene which made every patriot's heart jump for joy and pride.

How or why or where none knew, but before any one realised what was happening, an army of American flags rose through the heavens as if in pursuit of the barbarian horde. In an instant all was babel and confusion. The children danced and shouted. They seized banners and bunting and umbrellas and windmills, and waved them like mad. Strains of "My Country" arose on the air, and as the shadows of evening crept o'er the cool earth it but heightened the brilliancy of a magnificent sky ablaze with the hues of "Old Glory."

Every bright Yankee boy may have a circus of his own by carefully studying the illustrations printed with this article and the directions given.

### SAILING A FLAG TO THE SKIES

The disks are of cardboard, in the centre of which is inserted a spool. The light stick from which the flag is suspended is fastened to the ends of the spools where these project inwardly beyond the disks.





THE CHINAMAN SAILS UP THE KITE-STRING



• " UP WITH ' OLD GLORY ' "



## A CIRCUS ON A KITE STRING

### PARACHUTES

The parachutes are made of square pieces of coloured tissue paper, and to each a small card-board figure is attached. A small twist is taken in the top of the parachute, to which is attached a thread. To the other end of the thread a pin bent at right angles is fastened. Make a number of loops in the kite string about six feet apart, and to each loop suspend a parachute. Parachutes are released by shaking the kite string vigorously.

### THE GIANT WHIRLER

This is made of light sticks, wrapping paper and string. The picture (page 86) shows exactly how these are put together. Decorate with long streamers and varicoloured tissue papers, so as to present a brilliant appearance as it revolves high in the air.

### THE PAPER CHINAMAN

In making the Chinaman pictured on page 84, sticks half an inch square were used—four sixty-two, one twenty-eight, and one fifteen inches in length. These were bent and then fastened in position with stout string, as shown in the diagrams (Figs. 4 and 5). Then the framework was covered with paper, and on top of this were

## NEW GAMES AND AMUSEMENTS

pasted loosely large sheets of coloured tissue paper, blue for trunk and sleeves, and red for legs; the head was of cardboard fourteen inches high, with features marked on with black paint. This was fastened to the backbone with

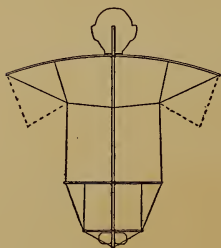


FIG. 4

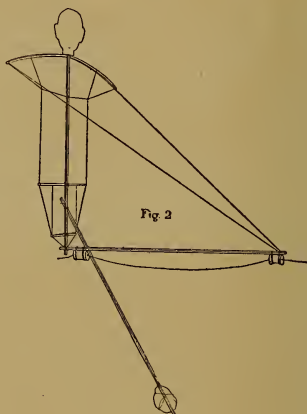


FIG. 5

tacks. The feet were of cardboard and the "pig-tail" of dark cloth. The flags were of yellow tissue paper, decorated. A ballast of stones sufficient to balance the figure was used. A series of tandem kites were used for this large figure to sail up on.

### SENDING AN UMBRELLA UP A KITE STRING

Wires are fastened to the handle and the ferule of the umbrella and hooked over the kite string as shown in the illustration (page 86).



"COLORED WINDMILL MORE THAN FOUR FEET IN HEIGHT"



"THE ASCENT OF A BLACK UMBRELLA"



"A FLIGHT OF PAPER PARACHUTES"



SPIN! WHIZ! WHIRL!





## CHAPTER VIII

### SPIN! WHIZ! WHIRL!

**I**T seemed as though everything was spinning, and, indeed, I might almost add, everybody! Why, for some moments after entering the room it was impossible to retain our wits in anything like proper order. In the rear of us, all around us as concerned the boys, very nearly all over us—were a rollicking set of young people, dancing, rushing here and there, as if excitement had taken complete possession of them.



BOWL AND DISKS  
FORMING A "PAGO-  
DA TOP"

was well-nigh impossible to retain our wits like proper order in front of us, in all around us as concerned nearly all over us—were a rollicking set of young people, dancing, rushing here and there, as if excitement had taken complete possession of them.

Of course it was apparent something unusual had happened, and happened, too, in the immense round tub of which we caught fleeting glimpses; but what that something was we could not im-

## NEW GAMES AND AMUSEMENTS

agine, any more than we could account for the assembling of this jubilant band.

“Oh,” suddenly cried a bright boy, who had noticed our wondering looks and thought to enlighten us, “don’t you see? It’s a top party!” and then, sure enough, the whole situation dawned on us instantly. Had we glanced from the merry faces to the many tables standing about, we might easily have guessed as much, but the clamour had been so bewildering that we scarcely saw, much less heeded, the trays, pans and plates of all kinds spinning round and round as if they never would stop.

Ed Hooper had conceived the idea of a top party the morning following his discovery that out of a dinner plate could be made a top which would spin longer than any store top ever sold. Ed had a reputation for making things hum. Indeed, he had positive genius in that direction.

Whiz-z-z! went the tops again before we had fairly regained our senses. Whir-r-r, bing-g-g, hum-m-m. Sw-i-s-h! went a combination of disks and bowl right in front of my nose. Bang! went the shiny pan top to the floor, where it had a jolly time rolling its separate parts under everybody’s feet. Up to the ceiling whirled the flashing tins, and such a dizzy, whizzing time came after that we old folks of the nineteenth century

*SPIN! WHIZ! WHIRL!*

felt like old fogies amid this sample of the more bustling twentieth.

Through the buzzing maze of jollity and tops Ed led us—dragged us, rather—to where a bright boy was spinning a big top in glorious delight.

“There,” he said, grasping this boy’s top in his hands when it had stopped spinning, “see how simple!” Simple! Why, it was just two dinner plates fastened together with sealing-wax, with a spool above, and one below with a peg in it. Could anything be simpler? “Go it!” Edward shouted, as George started the spinner off again; and watch in hand, he began counting time: “One minute, two minutes, three minutes, four minutes, four minutes and a half, five minutes, five and a half, five minutes and fifty-five seconds. Oh, that’s not long!”

“That’s not long!” we both muttered in amazement, wondering just how long such a top was expected to spin. But our thoughts were quickly driven from this channel by our attention being called to two tops, one spinning on top of the other.

“Bravo, Will! Do it again!” shouted the boys as we approached, and the little chap repeated the trick. What a pretty one it was you can judge for yourselves by the picture of it on page 100.

## NEW GAMES AND AMUSEMENTS

I could have watched this double-top performance the rest of the evening had not Ed nudged me in the ribs, which signal I obeyed by squeezing after him to the table opposite.

Here was another surprising exhibition. In a large pan of water, sailing round and round, were three beautiful yachts running gracefully before the zephyrs of a plate-top breeze. At first sight it did not seem possible the central top could furnish such a wind, but as it slowed down we discovered that it had a wind-maker in the shape of a bit of cardboard attached to its outer edge. On this same table, but farther along, was the amusing top merry-go-round, with its travelling disk, which made the circuit of the top seventeen times, thereby covering a measured distance of 119 feet. Now we came to a table around which a large crowd of little folks were joyously clapping hands and chuckling their delight right merrily. No wonder their exultant shouts pealed shrilly above the surrounding din, for what child wouldn't go into raptures on seeing the "Circle of Pinwheels" for the first time! Even before the top was set spinning the scene was one to delight any child's heart; but when brown-eyed Paul started the top which made the varicoloured wheels go round it did seem as if children couldn't be happier. Almost as

*SPIN! WHIZ! WHIRL!*

many tots were assembled in front of the gaily coloured disk, which whirled round and round whenever the top at its base was set in motion. This top had the unique feature of a lighted candle on its summit, which added very greatly to the effect. The children said they were not allowed to show this unless a grown person was present.

After we had completed the circuit of the room, and watched the twistings of the hair-raising giant whirler until we felt like whirlers ourselves, the boys and girls formed a large circle, with Ed and the mysterious tub in the middle. Ah, now we were going to learn the cause of the racket which greeted our entrance, It was evidently a boat trick of some kind, for we could see the floating piece of wood. The eagerness of every one was intense, and all eyes were riveted upon Ed when, with top in hand, he leaned over the brimming tub. A sweeping movement of his right arm, and all was roar and confusion as when we entered. What! No, it couldn't be possible; but somehow a momentary glance through the now jostling crowd gave me the impression that the boat was in motion.

"Room, please, room!" pleaded Ed, as he drew us through the maze of scrambling children. No, I was not mistaken; the little boat

*NEW GAMES AND AMUSEMENTS*

really was going around, and, think of it! propelled around, for it had a screw, and the engine that made the little screw whiz was a spinning top.

No wonder pandemonium reigned! No wonder the children broke ranks and thronged to the tub! It was as pretty a piece of mechanism as a boy could wish for, and so simple in construction that one like it can easily be made by anybody. Ed had tried it on the river, he said, where it travelled ever so much better than in the tub.

Of course the topic of conversation during the serving of refreshments was tops. Ed was especially ecstatic over the length of time his plate tops could spin.

"Why," he exclaimed with enthusiasm, "one would remain spinning while we went to Hayden's drug store and back again."

"Let's try it, then," said slim Charley Hicks, quite unexpectedly. Charles was a wee bit sceptical.

"All right, let's try it," responded Ed, taking up the half-veiled challenge, and while six of the boys donned their overcoats, he drew on his own, and all prepared for the spin. "Are you ready?" he cried, as the boys, hat in hand, stood by the open door, and, in response to the chorus

*SPIN! WHIZ! WHIRL!*

of affirmatives, pulled the string from the top with all his might.

Now, Hayden's drug store was fully a quarter of a mile distant, and as the boys rushed down the steps Ed suggested that they walk there and run back. Bright fellow that he was, he knew what he was about, and one could almost hear him chuckle beneath the collar of his overcoat as he thought of the eight-minutes' record made in secret only the day before. Past the lighted stores the boys rapidly walked, dexterously threading their way through the knots of pedestrians intently hastening their steps on this frosty evening. A fire engine with its three white horses dashed through a cross-street ahead, and the hose cart and hook-and-ladder truck which followed delayed them for a few moments. However, it was only for a few moments, and they continued their way, zig-zagging through the fire-bound crowds until they reached the dazzlingly illuminated drug store.

"Now let 's run back the other way," shouted Ed. It was the longer way.

This made the boys laugh, and they geyed him about his faith in the tops. Nevertheless, they willingly obeyed his order to run. Down the dark side street they ran, turned to the right, when lo! straight ahead of them they

NEW GAMES AND AMUSEMENTS

descried the blurred outlines of a mob of people, flying sparks, and a dense black smoke which overhung everything.

"Oh, we can never get through there. Come around this way!" Ed exclaimed at the top of his voice, and the boys hurried back again over two lines of hose, past a snorting fire engine, and out of the way of the swarming crowd.

"Isn't this a good joke on me, though?" Ed cried; and then he added, "That top will be through spinning long before we get even within sight of the house."

On they all flew, however, past the jeweller's window with its illuminated clock announcing that nine minutes had already elapsed, down another street, and finally into view of the crowded stoop where the boys and girls were awaiting their arrival.

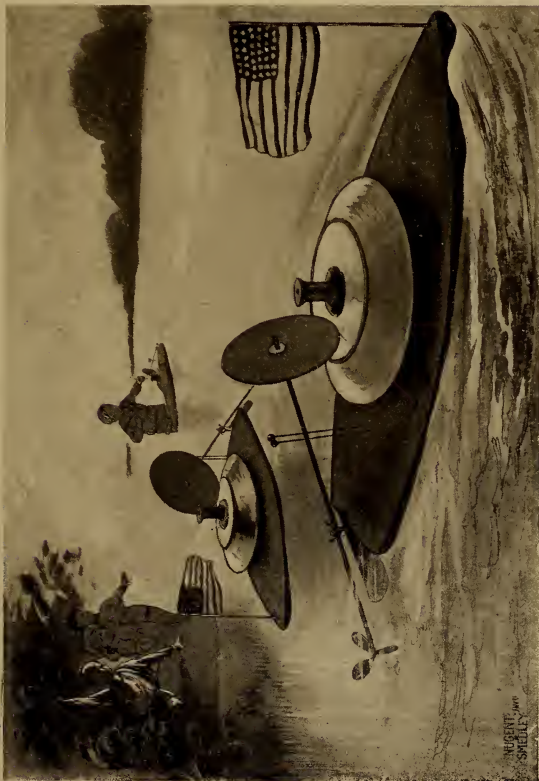
"Hurrah! I know I'm whipped!" shouted Ed, so as to be ahead of the expected gibes. "I'm beaten. I'm-m——"

"Quick, quick!" came back a chorus of voices. "It's still spinning, still spinning!"

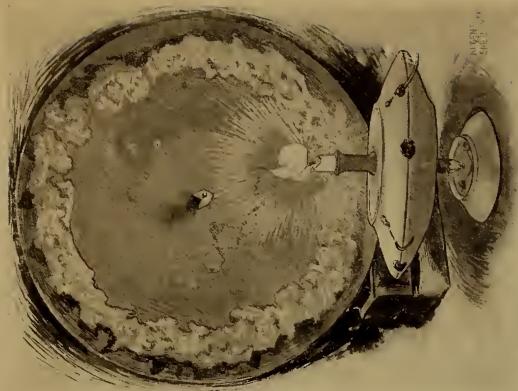
"Still spinning?" gasped Ed. "Hurry, boys, hurry!" And leaping the steps two at a time, the madcaps rushed through into the dining room.

"Honestly, now honestly," panted Ed, ex-





A PLATE-TOP BOAT



A WHIRLING GARLAND



## SPIN! WHIZ! WHIRL!

citedly, as soon as he could recover breath enough to speak, "isn't this a joke you're playing us?"

"No!" exclaimed everybody in unison. "We thought you would never come."

"Why," Ed announced in triumph, "that top has been spinning for twelve minutes! Wow!"

And amid a perfect bedlam of merriment and cheers the wonderful top continued its slow revolutions until it had spun for twelve minutes and forty-five seconds!

### HOW TO MAKE THE PLATE TOP

Fasten two heavy china plates together with sealing-wax, as seen in pictures (page 96). The heavier the plates the better. Make a cardboard

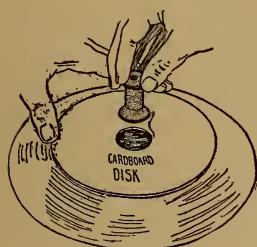


FIG. 6

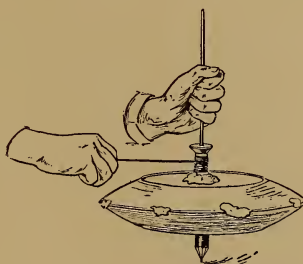


FIG. 7

disk, exact size of bottom of plate, and in centre of this cut a hole just large enough for a spool to pass through. Use this disk as a guide in placing

## NEW GAMES AND AMUSEMENTS

spools in centre of plates (see diagram, Fig. 6). Fasten spools to plate with plenty of sealing-wax. Before fastening lower spool in position, plug it with a round piece of wood, and then cut off one end of spool. Insert for peg a wire nail, or stout wire, and file end of it to a point. Be sure to heat over a candle the part of plate where sealing-wax is to be applied, and be sure always to place spools in exact centre of plates. A lead-pencil may be used to spin top with. Hold the pencil upright, with its end in the spool, but not touching the plate (see drawing Fig. 7, for an illustration of the method of spinning).

### SAILING BOATS

Boats four inches long, with keel an inch deep; pennies fastened to keel for ballast; masts and spars very delicate; sails of tissue paper; inverted tumbler on which top spins attached to bottom of pan. Top same as that used in pinwheel trick. Rudder prevents boats from touching pan. Set sails at angle shown in picture. All fastenings made with sealing-wax.

### REVOLVING DISK

Stiff cardboard disk, fifteen inches in diameter, ornamented with scraps of coloured tissue papers.



A TIN-PAN REGATTA



THE CIRCLE OF PINWHEELS



### *SPIN! WHIZ! WHIRL!*

In centre is a three-inch strip of cardboard, bent V-shape (see picture). Long hat pin passes through this and disk into the leaves of one of a pile of books placed behind for support. Four pieces of stout string are fastened to top so as to project two inches beyond edges of plates. Place top one inch from disk, and on exact level with bottom of it. Piece of match stuck into small bit of candle will hold it in position on spool. When projecting strings on top strike lower edge of disk, the latter revolves rapidly. I must warn all my readers that boys and girls should not attempt the whirling garland unless a grown person is present, because of the risk that the tissue paper may take fire.

### PAGODA TOP

To the bottom of a heavy crockery bowl fasten small silk spool with peg in it. In centre of bowl, inside, fasten a large spool. Cut a stick forty inches long, one-half inch thick, and tapering to one-quarter inch, and whittle thick end so as to fit tightly in large spool. Disks are of wrapping paper, varying in diameter from four to eighteen inches. Thrust these over stick into position, as shown in drawing. To spin top, wind string around upper end of stick,

## NEW GAMES AND AMUSEMENTS

place a spool above it, and hold this while spinning.

### CIRCLE OF PINWHEELS

Pinwheels are made from three-inch squares of tissue paper, and pinned to little sticks, and these in turn are attached to platter. In centre of platter is fastened a piece of cardboard with a hole in it. Place peg top in hole before spinning. On opposite edges of top is a bit of cardboard half an inch square. All fastenings made with sealing-wax. Tissue-paper streamer is attached to tapered stick. Top is spun with this stick.

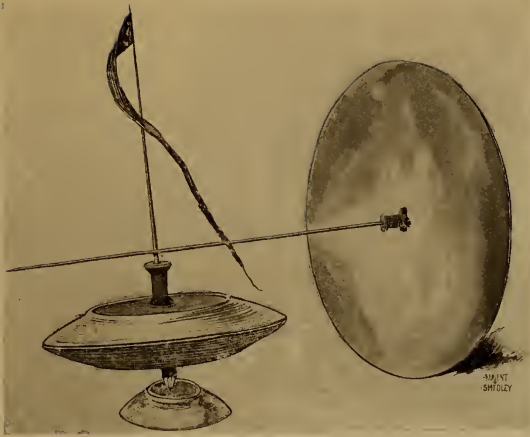
### TWO TOPS, ONE SPINNING ON TOP OF THE OTHER

Lower top is a heavy plate top, the upper one a light saucer. In the top of a two-inch stick make a cup-shaped hollow. Whittle the other end to a point. Spin plate top, place wooden stick in spool, point downward, insert peg of saucer top in hollow, then pull gently and rapidly, but do not press downward.

### BOAT RUN BY PLATE-TOP ENGINE

Boat in drawing was a piece of pine board two feet long, nine inches wide and one inch thick. Butter plate was fastened in centre for





THE TRAVELLING DISK



A TWO-STORIED SPINNER



*SPIN! WHIZ! WHIRL!*

top to spin on. The disk was of cardboard five and one-half inches in diameter, and the propeller blades of wood, each two inches long and one inch at greatest width. Drawing illustrates mechanism of boat so perfectly that further explanation seems unnecessary.

TRAVELLING DISK

Make as shown in drawing (page 100). Disk should be fourteen inches in diameter.



SEASIDE TOYS AND HOW TO MAKE  
THEM



## CHAPTER IX

### SEASIDE TOYS AND HOW TO MAKE THEM

**H**ERE are some simple toys which every bright boy and girl can make easily. The materials used are such as may be procured almost anywhere and at any time, while the motive power for setting the toys in motion is sand.

All that is necessary to insure an abundance of fun is to carefully study the directions and illustrations which are here given. Unless otherwise specified, make all fastenings with sealing-wax.

#### AN INCLINED RAILWAY

To make an inclined railway similar to the one illustrated on page 106, take a stout sheet of cardboard four feet long and a foot and one-half wide, and bend the lower end five inches from the bottom at a steep angle. Rest on books, and fasten two strips of cardboard two feet long and an inch and a half high to its upper end. These will guide the cars directly

## NEW GAMES AND AMUSEMENTS

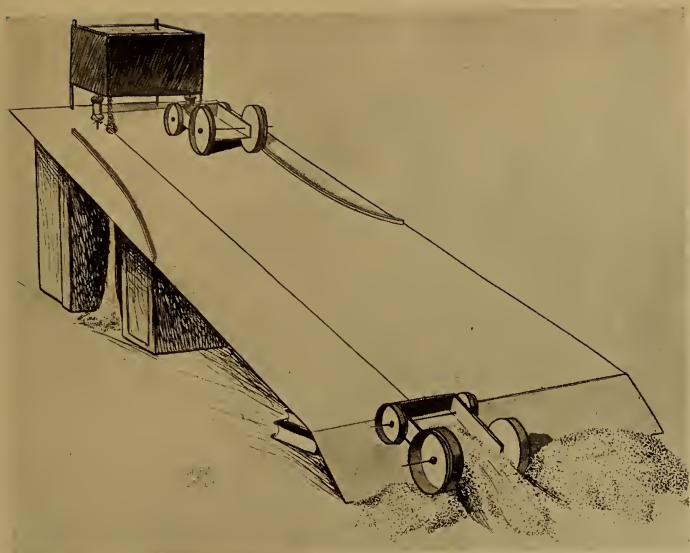
under the sand hole, and enable them to start on their downward journey straight. The sand box is nine inches wide and three inches above the incline, and is held in position by little sticks run through it. Directly under the sand holes cut large holes in the incline. Place spools on the front box supports, as shown in the illustration, and hold in position half an inch above the incline by thrusting pins through supports just under the spools. Make cars of half of a small pasteboard box. The wheels are pill boxes, the back ones larger than the front, and are held on the axle by little gobs of sealing-wax placed on the axle at each side. The back of the car is set higher than the front.

When the cars are finished tie a piece of thread to one of them, pass it around the spools—which should revolve easily—and then tie the other end of thread to the second car, so that when one car rests against the spool at the top the other one will be upon the steep angle at the bottom. When one car is filled with sand it rushes down, and draws up the empty car to the sand box.

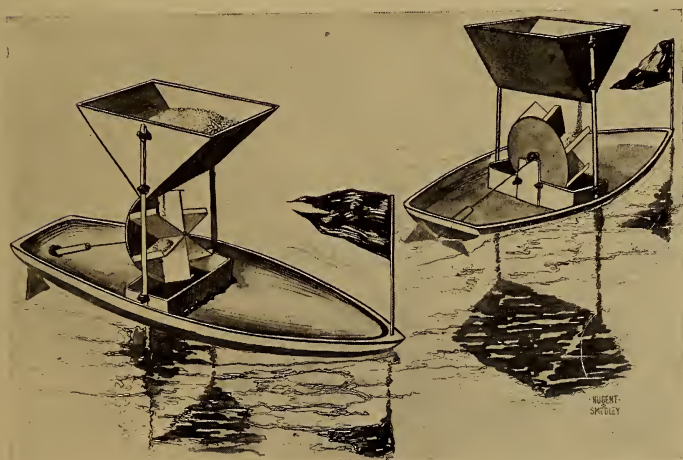
### SAND-POWER ENGINE

With the exception of the large wooden spool cylinder, the sand-power engine illustrated is





AN INCLINED RAILWAY



SAND-POWER BOAT AND POWER WHEEL



## SEASIDE TOYS

made of cardboard. The fly-wheel is six inches in diameter. The support for the walking beam is ten inches high, the walking beam nine inches and a half long, and the piston seven inches and one-quarter long. The base upon which the engine rests is a shoe-box cover. The axle of the fly-wheel is a hat pin which runs through two upright cardboard supports, each three inches and one-half in height, placed three inches and one-half apart. The pins for the different parts to work upon, after being set in position, are held in place by putting little gobs of sealing-wax on the pointed ends. Fasten to the axle between cardboard uprights four pieces of paper, two inches by an inch and one-quarter, and turned about a quarter of an inch from each end, so as to hold the falling sand (see illustration, page 108).

Sand for running the engine may be placed in a baking-powder can fastened to slender sticks so that the bottom of the can will rest about six inches above the base. When complete the sand should fall through a small hole in the can on the paper flanges, just behind the fly-wheel.

### SEESAW RUN BY SAND POWER

To make the seesaw which is illustrated take a strip of cardboard eighteen inches in length and

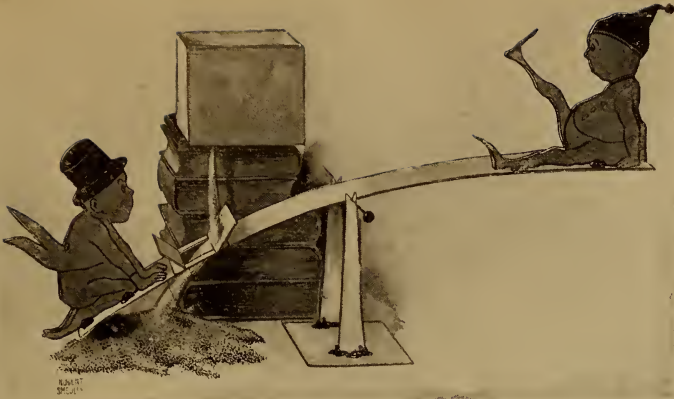
## NEW GAMES AND AMUSEMENTS

two in width; and at three inches and one-half from one end first cut a slit crosswise to within a quarter of an inch of each side, and then from each end of this cut upward an inch and a quarter. Bend the piece of cardboard downward, and at such an angle that sand will slide from it when the seesaw is lowered to the ground at that end.

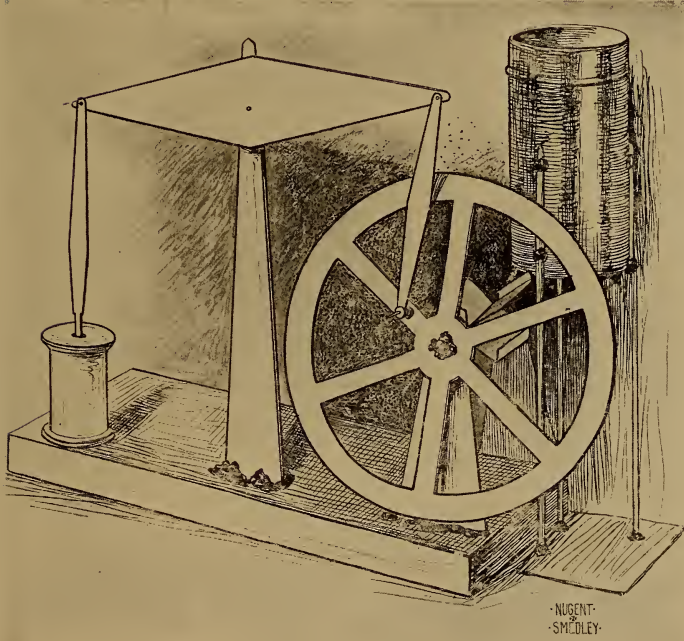
Paste strips of paper one inch in width at each end of the opening in the cardboard and bend backward at an angle, as shown in the illustration on facing page. Thrust a hatpin through the exact centre of the cardboard seesaw, and allow this to rest in the two-notched cardboard supports, which should be five inches high, three inches apart, and fastened to a square of cardboard.

Make cardboard figures—one slightly heavier than the other—and attach these to the seesaw with sealing-wax, taking care to place the heavier figure at the farthest end from the sand box, so that this end will immediately fall when sand spills from the bent strip of cardboard at the other end.

The sand box may be placed upon a pile of books, as shown in the illustration, or upon a pile of wooden blocks, of sufficient height



SEESAW RUN BY SAND-POWER



·NUGENT·  
·SM·DLEY·

SAND-POWER ENGINE



## SEASIDE TOYS

to allow the seesaw full swing. If properly arranged, the sand should fall on the middle of the bent strip of cardboard when that end of the seesaw is up and slide immediately from it when down.

### BOAT RUN BY SAND POWER

The sand-power boat illustrated is made of wood, and is fourteen inches long, five inches wide and one inch deep, and hollowed out. At four inches from the stern cut a hole through the boat three inches and one-half wide and two inches long, and around this fasten a cardboard strip one inch wide. To the back of this strip fasten another piece an inch and three-quarters long, with a notch cut in the top of it for the shaft to rest in.

The power wheel is of cardboard two and one-half inches in diameter, with six pieces of paper one inch by one inch and one-half, bent over at the end, fastened to it. Fasten this wheel to the head of a hatpin. Place a piece of straw two inches long in a hole through the stern; pass the hatpin through it, resting the head of it in the notched cardboard. The propeller blades are two triangular pieces of thin wood one inch by one inch and one-half, and

*NEW GAMES AND AMUSEMENTS*

fastened to the point of the shaft. The sand box of pasteboard is fastened to two light uprights of wood, so that sand will fall on the paper flanges.



FROLIC AND FUN WITH EGG SHELLS



## CHAPTER X

### FROLIC AND FUN WITH EGG SHELLS

THERE is a lot of fun to be had out of egg shells and scraps of egg shells. It is material from which the loveliest objects may be made. Dainty candlesticks, exquisite fairy lamps, purest of night lilies and perfect dogwood blossoms may be fashioned from it with surprising ease. It may be made into funny egg-shell roosters, snowy white swans, glorious "Dewey arches," the most dainty yachts imaginable, besides a whole host of other objects fully as marvellous and quite as interesting.

Big boys, little boys, rich boys, poor boys, may all make the beautiful yacht, or give vent to their patriotism in the erection of a brilliant "Dewey arch." For the girls, nothing could be more interesting than the "blossoming egg



## NEW GAMES AND AMUSEMENTS

shells." The one illustrated was made from fragments of egg shells, taken haphazard from the breakfast table and fastened to a twig with sealing-wax. At a distance of six feet from the spectator these shell blossoms actually looked like real ones, so perfect was the illusion.

The objects here illustrated are not the results of any extraordinarily patient work, nor of any special talent, but are such as may easily be made by any person who carefully studies the models and follows the directions.

Bits of twigs, matches or toothpicks make excellent legs and arms. I prefer twigs because, like the egg shells themselves, they are so very suggestive. The legs of the knight's horse are made of pieces of twigs, and so are the legs and arms of the knight himself. Appropriately enough, chicken feathers are a great feature in this fun. They may be used for ears or wings or plumes or tails. Use any and every material that is at hand—the more absurd it is the better.

"Mrs. Fuzzy-Wuzzy," for instance, wears a crepe-paper bonnet and cloak; she also carries a little twig walking cane. "Coco" has a root for a tail, and two pieces of timothy for antennæ.



A WHITE SWAN



EGG-SHELL ROOSTER



RACE FOR THE EGG-CUP



## FROLIC AND FUN WITH EGG SHELLS

Small scraps of shell fastened to the ends of the arms and legs make excellent hands and feet. Make all fastenings with sealing-wax, and paint features on your animals with ink.

The half shells may be fastened together in various ways—some slipped inside of the other, some fastened together so as to make a whole shell; see illustrations. The body of the knight is made in this latter way. The body of the horse is made by slipping a number of half shells one inside of the other, and fastening with sealing-wax.

Under no circumstances cut the shells into shape with a scissors; just use any and all sorts of shapes and sizes of shell as taken haphazard from the breakfast table. In some cases you may use whole eggs for the bodies of your animals; if these should prove to be too heavy for that purpose, bore a small hole in each end with a sharp penknife and blow out the contents. Egg shells emptied in this manner will serve admirably in a number of instances.

Now, boys and girls, see what you can fashion from egg shells, twigs, etc.; and if a little nonsense now and then is relished by the greatest men, an abundance of it very often will do you young people a world of good.

## NEW GAMES AND AMUSEMENTS

### BLOSSOMING EGG SHELLS

To make the blossoming egg shells, place upon a slender branch a drop of melted sealing-wax, and before this hardens stick in four fragments of egg shell so as to form a flower. Keep on doing this until the branch is well stocked with blossoms. Fragments of egg shell do not require cutting; those taken at random from the breakfast table serve admirably. In placing blossoms in position it is well to follow the arrangement shown in the illustration.

### EGG-SHELL NIGHT LILIES

Night lilies may be made by first soaking a number of "half-shells" in warm water for twenty minutes. Then scallop the edges of these with a pair of sharp scissors. Fasten a small piece of candle in each with sealing-wax, and float upon the water. A most enchanting scene is produced by floating these in an aquarium containing goldfish. All other lights in the room must be turned out.

### AN EGG-SHELL CANDLESTICK

To make the candlestick, place upon a piece of cardboard three eggs, and fasten to cardboard and to each other with sealing-wax. On top of these three fasten another egg, and on this again a stick about five inches in height. Upon the





"COCO" LOOKING FOR THE  
BOY WHO MADE HIM



REAL MO HER GOOSE



AN EGG-SHELL KNIGHT  
ON AN EGG-SHELL HORSE



"MRS. FUZZY-WUZZY" GOING  
TO MARKET



## *FROLIC AND FUN WITH EGG SHELLS*

top of this stick fasten a "half-shell" which has been previously scalloped and place in a dainty candle. The illustration (page 120) shows exactly how the candlestick looks after it is made.

### AN EGG-SHELL ROOSTER

To make the egg-shell rooster, fasten two pieces of a match to an egg, about three-quarters of an inch apart. Set the egg in position on these, and hold in place, while fastening lower ends of matches with sealing-wax to a firm base. Attach two large pieces of ragged shell to the egg for wings; use a slender piece of tallow, taken from the side of a candle, for the neck; and on top of this place a small chunky lump of the same material for a head. The pieces of tallow may be easily joined together by first slightly melting the ends where adherence is desired. The rooster's bill is made of two small fragments of shell stuck into the tallow head. The eyes are two tiny drops of sealing-wax. The comb is a piece of flattened sealing-wax and the tail is a ragged piece of egg shell. The feet may be made of sealing-wax drawn into shape while it is still soft.

### AN EGG-SHELL SWAN

An egg-shell and candle-grease swan may be made by emptying an egg and sealing it up care-

## NEW GAMES AND AMUSEMENTS

fully with sealing-wax. Then fasten on wings of ragged egg shell, tail of an odd-shaped piece of tallow, and neck and head of tallow.

For the bill thrust into the head two burnt matches; press in two pieces of tallow for eyes, and fasten a coin for ballast to the bottom of the egg with sealing-wax.

### THE "DEWEY ARCH"

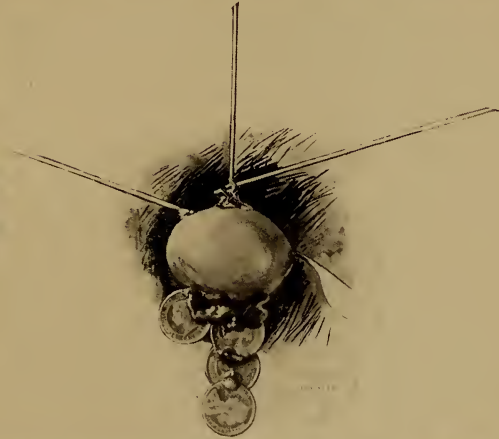
The "Dewey arch" may be made by taking the cover of a deep, stout pasteboard box and cutting out a piece in the centre to form the arch. Then with tacks firmly fasten the cover in upright position to a piece of board. Previous to doing this have ready a lot of ends of egg shells and attach these with sealing-wax to the cover, as shown in the illustration. When the face of the arch is completed fasten on top a small pasteboard box, and to this fasten egg shells. Upon the corners of the arch place two upright eggshells. Upon the top of the small box place half an egg shell, and upon the top of this again fasten a light flagpole with flag. For the lamps take two half egg shells and fasten them in position on the board about six inches in front of the arch. Upon the top of these half shells place whole eggs, and upon the top of these half shells. Into each of these half shells place a



BLOSSOMS



AN EASTER CHICKEN AT BREAKFAST



HULL OF YACHT



PUREST OF NIGHT LILIES



## FROLIC AND FUN WITH EGG SHELLS

small piece of lighted candle, and inverted over this another half shell. Cut the last half shells jaggedly on the sides facing the arch so as to let air in for the candles.

By painting the board black and turning out all other lights in the room, a marvellous effect is produced with the arch lit by fairy lamps.

Make all the fastenings with red sealing-wax, as it adds to the effect.

### AN EGG-SHELL YACHT

To make an egg-shell yacht, first empty an uncooked hen's egg. Do this by making a small hole in each end, when the contents may be blown out easily. Then close up both openings with sealing-wax; join a number of coins together for the keel, fasten this firmly to the egg—all fastenings to be made with sealing-wax—and your yacht is ready for launching. If it floats properly cut out the mast and spars from very light wood; fasten these to hull and to each other with sealing-wax. Place the delicate wooden rudder and bowsprit in position, and proceed to make sails of tissue paper. Fasten the main and top sails in place with prepared glue—the jib sails first to long pieces of thread, and these, in turn, to mast and bowsprit. Flags and pennants may be made to adhere with mucilage or glue. The

## NEW GAMES AND AMUSEMENTS

exact dimensions of mast and spars cannot be given, as so much depends upon the lightness of the material used and the size of the egg hull. Select as large an egg as can be procured for the hull; make the mast and spars as light as possible, and see that your yacht always sets perfectly even upon the surface of the water.

### EGG-SHELL FAIRY LAMP

To make the revolving fairy lamps, fasten to an emptied egg four slender sticks, each four inches in length. Upon the lower end of the egg fasten a tack, point downward, with sealing-wax. From the tip of each stick suspend with delicate wire a scalloped "half shell," and on top of the egg place another. Set the whole upon the bottom of an inverted tumbler. If rightly made it will balance perfectly upon the tack point. Place pieces of candles inside of scalloped shells and light. Wire may be fastened to the egg shells by boring a hole with the point of a penknife and then passing through wire and fastening on the inside.





EXQUISITE FAIRY LAMPS



DEWEY ARCH



CANDLESTICK



SUNSHINE TOYS AND HOW TO MAKE  
THEM



## CHAPTER XI

### SUNSHINE TOYS AND HOW TO MAKE THEM

A NEW motor power for you boys and girls, the most beautiful motor power that was ever dreamed of! It streams into all of your homes on bright, sunshiny days, bringing with it joy and happiness and health, for the power to which I now wish to call your attention is none other than the light of the glorious sun itself.

Who would have thought that the golden sunshine flooding our rooms had sufficient power in it to drive a pinwheel around? Who would have imagined that the dainty yachts shown in the illustration sailed round and round their circling orbits without any other aid than that derived from the warm breath of the star which keeps our earth so green?

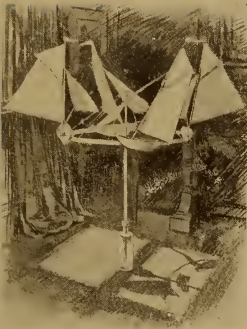
Why, boys, here is lots of fun for you—not only in summer but in winter as well. When the cold days are here, and your little brothers

## NEW GAMES AND AMUSEMENTS

and sisters cannot be out of doors for any length of time by reason of the raw winds, make a row of sunshine pinwheels for them in your southern window, and see if they won't be as happy as children can be. Then, too, perhaps some of you may have a brother or sister confined to his or her bed by a slight illness. Of course, it is helpful to cheer them with flowers, with books and with plenty of sunlight, but if the patient should be a boy, just rig up that circle of yachts, or if a girl, a few glasses of floating pinwheels, and just see if their eyes won't sparkle and brighten so quickly that it will be but a few days before they will be out romping with you in the fields and woods again.

You well boys and girls, you, too, cannot play out of doors for very long in extremely cold weather, and then that is just the time to try these sunlight ideas. Only very simple materials are necessary for the making of these toys—some cardboard, tissue paper and string. The completed toy must be set so that the sun's rays strike full upon it.

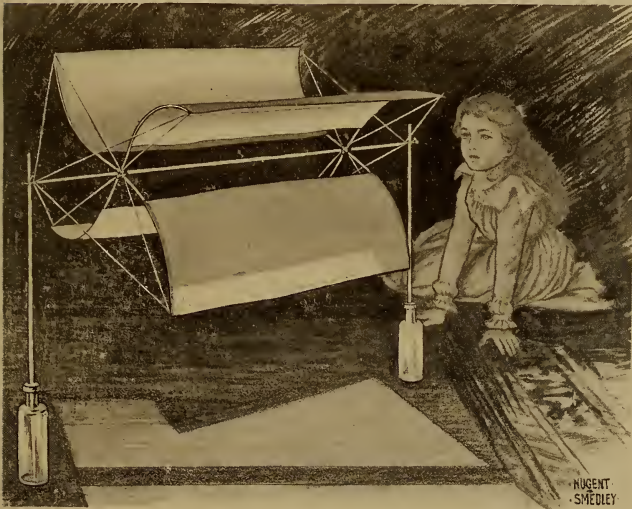
In conclusion, I would add that the lower the temperature of your room the better these sunshine toys will work.



SUNLIGHT YACHTS



THE FLOATING PINWHEEL



THE FERRIS WHEEL





## SUNSHINE TOYS

### THE FLOATING PINWHEEL

Fasten a piece of straw three inches in length in an upright position to the centre of a large flat cork. Then take another piece of straw six inches long, split it lengthwise with a pen-knife, and fasten both halves to the top of the perpendicular straw with sealing-wax. Cut out four pieces of tissue paper two by two and one-half inches, and attach these to split straws with mucilage or glue. Then take four more straws, each seven inches in length, and fasten these to the upright one about one inch above the surface of the cork, taking care to slant them downward as shown in the illustration. Cut out four pieces of light writing paper three by three and one-fourth inches, punch two holes in each, and place them on straws as illustrated. Slide the pieces of writing paper back and forth on the straws until the pinwheel is perfectly balanced.

When set in the sunlight this double-decked pinwheel will revolve beautifully. See to it that the goblet is brimming full of water before floating the pinwheel.

### THE FERRIS WHEEL

The axle is a perfectly straight stick three feet long, three-eighths of an inch in diameter

## NEW GAMES AND AMUSEMENTS

in the centre, and tapering slightly at the ends. The spokes are eight delicate sticks, each one foot in length, and drawn into the shape of a bow with pieces of thread. Fasten the spokes to the axle with sealing-wax at a distance of seven inches from each end of it. Then tie a thread to one end of the axle, running and fastening it to the tips of both sets of spokes, and secure it firmly to the other end of the axle. See the illustration. Also run a thread from the middle of each spoke to its mate opposite, which will prevent the paper paddles from sagging when placed in position. All threads should be drawn taut. The paddles of the wheel are made of tissue paper, twenty-three inches by ten inches. Paste the long ends of the paper over the spokes, and the front outer edge over the thread. Drive a pin in both tips of the axle. Make two upright sticks, fasten them tightly into bottles (see the illustration), and stick pins in the upper ends of them at almost right angles, for the axle of the toy Ferris wheel to rotate upon.

### SUNLIGHT YACHTS

Make a cardboard ring three-fourths of an inch wide and five feet in circumference, and fasten eight pieces of thread, about fifteen inches

## SUNSHINE TOYS

in length, to it at equal distances apart. Fasten the other ends of the threads to a small cardboard disk one and one-half inches in diameter. To the cardboard ring attach masts of straw, fourteen inches high, with sealing-wax. The sails are of tissue paper pasted to the masts. Make the hull of each yacht of two pieces of tissue paper nine by three inches, and paste curved edges of these to each side of the cardboard ring. Fasten a straight stick in a bottle as shown in the illustration, and to the top of this a pin, head downward, with sealing-wax. Place the cardboard disk on the point of the pin and the yachts will appear as shown in the illustration.

The greatest care must be taken to have the whole perfectly balanced.

When placed in the sunlight the boats sail very swiftly and gracefully.



TOM'S SUNSHINE ENGINE



## CHAPTER XII

### TOM'S SUNSHINE ENGINE

AND just to think of it! the "weather man" predicted still more rain. Tom wondered when his engine would have an opportunity of showing how well it could work. "Oh, if the sun would only shine for a few minutes!" he exclaimed irritably; then burying himself in the big chair, he dreamed of his rambles in sunny California the winter previous. As he recalled the days spent in golden orange groves he smacked his lips in exasperation, and then not even the remembrance of the fine salmon taken from the Penobscot, nor the merry times he had passed with Rohel York trout fishing in the Rangeleys, could convince him that his own state of Maine was not the dreariest place on earth.

Tom's sunshine engine was a contrivance of his own, and he was very proud of it. It consisted of a stiff writing-paper fly-wheel eight inches in diameter, a paper flanged wheel, straw

NEW GAMES AND AMUSEMENTS

uprights to support the straw walking-beam and the axle, a split-straw driving-rod and piston, and a paper cylinder. The two upright straw supports for the flanged driving-wheel each measured five inches in length, and these



FIG. 8

were fastened to a discarded glass negative with sealing-wax—absolutely perpendicular, you may be sure. The engine was Tom's invention, and,

for the benefit of other boys who might wish to make one like it, I will tell you how Tom made his. He began by making a flanged driving-wheel. To do this he pricked three holes in a strip of paper, one for the pin, another one and one-half inches from this, and a third one-half inch further on from the first one. Then, laying this strip on a sheet of stiff writing paper, he pressed a pin through the first hole, placed a pencil point in the second and described a circle, and then placed the pencil in the third hole and described another circle. After this he marked off the outer circle with a pencil at about every three-sixteenths of an inch. On every mark he cut a slit toward the exact centre of the disk



## TOM'S SUNSHINE ENGINE

as far as the inner pencil circle, not a hairbreadth farther. Then, holding the disk ever so gently, he turned one little cut projection in one direction, and the next in the opposite, just as you see in Fig. 8.

He then made of very stiff writing paper a wheel eight inches in diameter, over the centre of which, on both sides, he pasted a small circle of cardboard to stiffen the wheel where the axle came through.

Straw uprights, he found, were ever so much better than wooden ones, and he strove with all the care possible as he stuck the needles into the uprights. Through each of these two vertical straws he thrust a needle at an acute angle upward, and just above where these entered he thrust in another at exactly right angles to each straw. Then through the exact centre of the flanged wheel he put a "stickpin," and on the point of this he pressed the large wheel. Then he laid this stickpin with its two wheels on the projecting needles.

Now he fastened a long straw upright in position, and attached the straw cross-beam to it with a pin, so that it worked without the slightest friction. To each end of the cross-beam he suspended a split straw, one to serve as a piston, the other as a

## NEW GAMES AND AMUSEMENTS

driving rod. A bent pin was stuck through the crank rod and into the fly-wheel. The holes pierced in the straws were large enough to prevent any but the slightest friction, yet not so large as to permit the pinheads to come through. The dangling piston was allowed to move up and down in a writing-paper cylinder.

When the engine was completed Tom's eyes fairly gleamed with satisfaction, and little Gyp just barked and jumped at him as though she were equally pleased.

Then Tom went to work on the "power plant," as he called it, for as a matter of fact the part that we have just described as if it were the "engine" is in reality the "load," or the driven part; it was Tom's joke that made it appear as if the load were driving the engine.

We will now describe the "sure-enough" engine—the part that Tom said really "did the business."

He attached a square bit of cardboard to one end of a knitting needle with plenty of sealing-wax, and then with more sealing-wax fastened straws on top of this at exactly the same distances apart. Over these straws he drew half-sheets of writing paper, and fastened these in position with sealing-wax, so that they should all remain at the same angle.

### TOM'S SUNSHINE ENGINE

Then he stuck a circle of pins around a slice of a large cork, so that they formed oblique angles upward. Then, just above where these pierced the cork, he placed another circle of pins at oblique angles downward. He used a wooden upright, to the top of which he attached one end of a piece of cardboard at right angles, as shown in the picture. Near the projecting end of this cardboard he bored a hole, and about this fastened three needles with sealing-wax, so as to form a small triangle for the vertical knitting needle to revolve in. He also fastened a bit of cardboard with a hole in it to the negative upon which the wooden upright was fastened, and placed three needles across this also, so as to form a triangle directly under the upper one. Then, to avoid any chance of friction, he sharpened the lower end of the knitting needle with coarse sandpaper. This done, he lowered the point of the knitting needle down through the opening in the horizontal cardboard strip, pressed the point of it exactly through the centre of the cork wheel, and lowered it again until the sharp tip rested on the glass negative, Nothing remained but to connect the cork wheel and the paper-flanged wheel of the other "engine" with a piece of thread hanging rather loosely, as shown in picture.

## NEW GAMES AND AMUSEMENTS

And now, if the sun would only shine! Tom's engine stood right in front of the large south window, a gem of careful workmanship, but as motionless as though it were never intended to move. The clouds still scudded rapidly northward as the boy hurried to school the next morning, and not a sign could he detect of clearing weather.

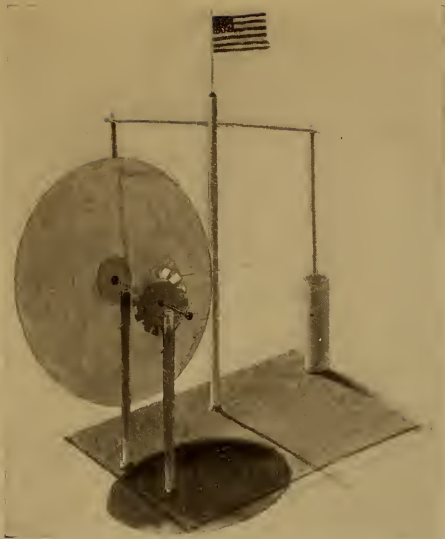
"I say, Tom, why did you stop in the middle of that reading lesson," exclaimed Harry Baker after school, "and right in the middle of a sentence, too?"

"Well, you come along with me, and I'll show you why I stopped," retorted Tom, somewhat nettled at having so much fun poked at him. "Only hurry up," he added on reaching the lower steps, "for I am going to run." Run they did, and in an incredibly short time Tom had thrown open the door of his sunny room.

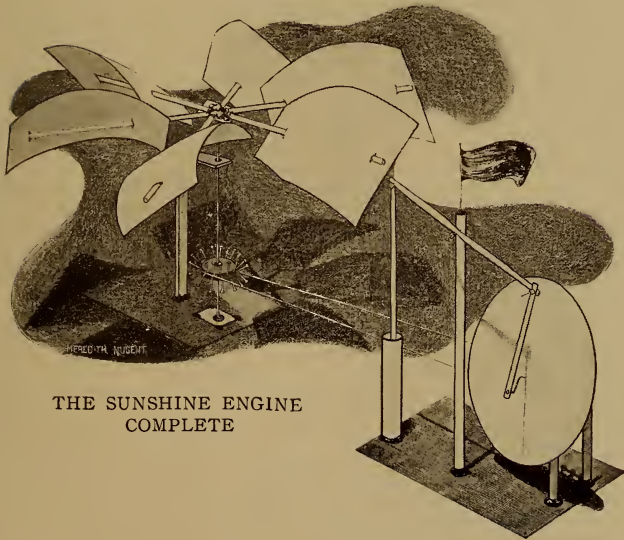
"But what makes it go, Tom, what makes it go?" repeated Harry Baker, excitedly, as they gazed on the remarkable piece of mechanism.

"What do you think makes it go?" said Tom, proudly, and with a slight air of mystery.

Harry scratched his head and tried to solve the puzzle. He looked first on one side of the engine, then on the other, then under the table,



THE "ENGINE," SHOWING FLY-WHEEL AND  
FLANGED DRIVING-WHEEL



THE SUNSHINE ENGINE  
COMPLETE



## TOM'S SUNSHINE ENGINE

and then unconsciously reached out his hand as though groping for invisible threads.

"I'll give it up," he said after a few minutes. "Tell me, tell me, what *does* make it go?"

"Sunlight!" shouted Tom, whose exuberance now burst forth in a wild hilarity. And while the little fly-wheel revolved just like that of a real engine, exultant Tom went on to explain the details of his wonderful mechanism, which, as he had told Harry, was run by no other power than the heat rays arise from the glorious sunshine itself.

Any boy reader may build sunshine engines for himself by carefully following Tom's method of working; be sure, however, to bend all your energies to the work as did this young inventor, for then you will succeed, and the sunshine will run your little engine for you day after day and week after week.





HOW TO HAVE FUN WITH OLD NEWS-  
PAPERS



## CHAPTER XIII

### HOW TO HAVE FUN WITH OLD NEWS- PAPERS

**B**Y the simplest of means the bulky sections of colour and advertisements of our daily newspapers may, after they have served their purpose, be made to furnish an immense amount of amusement and supply children, as well as older folks, with a source of enjoyment as novel as it is interesting and profitable.

Think of it, too: a single copy of one of the large newspapers more than suffices to furnish the necessary building material for all the objects pictured on page 142. Therefore do not throw your old newspapers away so quickly hereafter, for there is more fun to be had out of them than you probably have ever dreamed of.

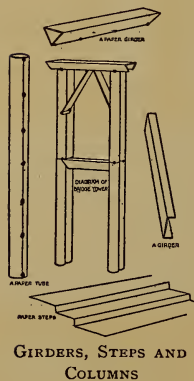
A sheet of newspaper rolled into a tube, and fastened together at intervals of about four inches with sealing-wax, is quite stiff, and capable of bearing a surprising amount of weight.

## NEW GAMES AND AMUSEMENTS

This you can easily demonstrate for yourselves. Then, too, these tubes lend themselves most admirably to architectural forms—in fact, there seems to be no limit to their usefulness in this respect. For instance, look at the illustrations

of the “Brooklyn Bridge” and the “Greek Temple” as samples of newspaper architecture. While these pictures give an idea of what may be done, they do not begin to do justice to the originals.

Let me tell you just how to go to work with this newspaper architecture. In the first place, all fastenings are made with sealing-wax. Begin by making a lot of paper tubes of various



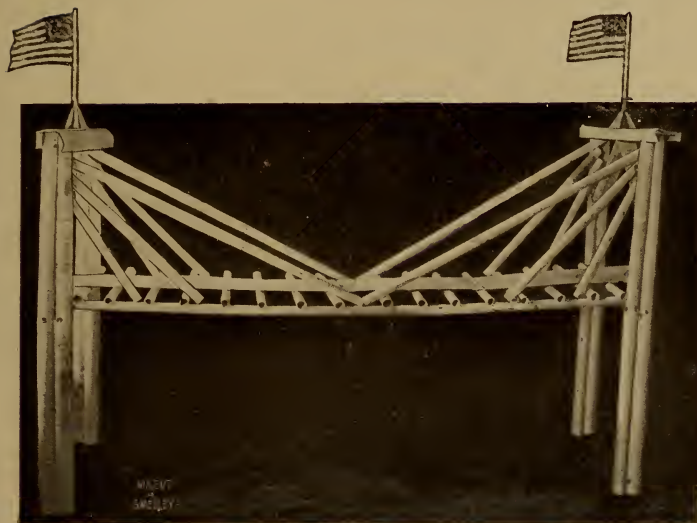
sizes and thicknesses. The diameter of some of the tubes should be two inches across, and of others only one inch. Then, too, make some of the tubes of one sheet of paper, and some of two or more sheets, as circumstances may require. Roll some lengthwise of the paper and some crosswise, so that you will have tubes of different lengths. Once provided with plenty of building material you may proceed to work without interruption.



GREEK TEMPLE



PERSPECTIVE VIEW  
OF PAPER BRIDGE



THE BROOKLYN BRIDGE



## FUN WITH OLD NEWSPAPERS

### A NEWSPAPER TABLE

To make a table similar to the one illustrated, use four large tubes connected with each other at the top and near the bottom with smaller tubes, joining them together with sealing-wax. If you have been careful in making the tubes and in joining them together you will have a table that will stand perfectly straight. A funny tablecloth may easily be made from the coloured supplement of a newspaper.

Other pieces of furniture may be made in the same way if there is a supply of tubes on hand.

### A NEWSPAPER "BROOKLYN BRIDGE"

The newspaper "Brooklyn Bridge" may seem from the picture of it to be quite a difficult undertaking, but it is nothing more than a number of tubes fastened to each other with sealing-wax. The making of the newspaper tubes is practically all there is to this work, and with plenty of these on hand you can make almost anything your fancy dictates.

The towers of the "Brooklyn Bridge" are made on the same principle as the back of the old-time chair which is illustrated

The slight differences between them are shown

## NEW GAMES AND AMUSEMENTS

in the diagram. It adds to the stability of the towers to make the upright tubes of four thicknesses of newspaper.

When the towers are completed stand them apart at a distance of about eight feet from each other, and proceed to make the two long tube girders which are to stretch from pier to pier. These long tubes are made by slightly telescoping a number of smaller tubes into each other until the required length is reached. Fasten all of these tubes firmly together with sealing-wax.

Now set in place the cables which will hold the long tubes firmly in position. Fasten the cables to the spanning tubes and to the inside of the tower tops, as shown.

When this is done lay a number of short tubes across the two spanning ones. It will not be necessary to fasten these in place. Over the short tubes lay long strips of newspaper to form a pathway. You can easily make a newspaper flagpole with a newspaper flag attached to it.

There is no real difficulty whatever in constructing this bridge. All that is needed is to make the newspaper tubes, fasten them to each other and place in position as shown in the illustration.

The picture of the bridge gives a much better





TABLE AND CLOTH



A NEWSPAPER CHAIR



## FUN WITH OLD NEWSPAPERS

idea of what to do than any set of directions possibly could.

### "GREEK TEMPLE" MADE FROM NEWSPAPERS

The illustrations and diagrams of the "Greek Temple" show perfectly how this pretty piece of architecture is made.

I would suggest that whenever possible the picture sheets of the newspapers should be utilised where decoration is needed, as their use heightens the effect of the whole very greatly.

In all cases carefully follow the illustrations and you cannot go wrong.

### A NEWSPAPER CHAIR

For the fun of it I made a newspaper imitation of an old-time rush-bottom chair, and it turned out so wonderfully realistic that it looked for all the world like a real chair covered with paper. Just how realistic it was you may judge from the reproduced photograph of it (page 144). Repeatedly visitors to my studio have carelessly placed numerous articles upon it, and more than once have absent-mindedly started to sit down upon my piece of newspaper furniture.

To make the chair, take four of the large tubes of two sheets' thickness, and make two

## NEW GAMES AND AMUSEMENTS

long tubes of them by sliding one into the other for the distance of an inch and fastening them firmly together with sealing-wax. These are for the back of the chair. Now lay these on the floor perfectly parallel to each other and proceed to fasten the smaller tubes to them. First, cut these tubes with a pair of scissors, however, so that they will measure in length the width of an ordinary chair. If you happen to possess an old-fashioned rush-bottom chair, use it for all measurements as well as for a model. The one illustrated is three feet and a half high.

Like the other newspaper ideas, this chair is so simple in construction that a bright boy can easily make one like it.

After you have cut the small tubes of the required size fasten one of them crosswise to, and eighteen inches from, the bottom of the large tubes. This is where the seat of your chair will come. Then fasten the lower rung in position in the same relative place as in an ordinary chair. To the top of the large tubes fasten a sheet of newspaper which should have been previously folded into shape like the square girder shown in the diagram (page 144). Place the back rungs in position as shown in the picture of the chair. These back rungs should

## FUN WITH OLD NEWSPAPERS

be very delicate, as they give a light and dainty appearance to the chair.

The back of your chair is now completed, and after standing it up against the wall set the front legs in position at the same distance from the back ones as in an ordinary chair. Fasten one end of a small tube to each of the back legs and on a level with the seat, and fasten the other ends to the front legs. Also put in another tube exactly on the same level, to connect the front legs to each other. Place the rungs in position as shown in the illustration.

For the seat take three or four thicknesses of paper cut square; crease them diagonally from all corners, and fasten in position as shown in the illustration. This creased seat adds very much to the effectiveness of the chair, especially if it be made of the coloured supplement.



HOW TO MAKE A PAPER YACHT THAT  
WILL SAIL





## CHAPTER XIV

### HOW TO MAKE A PAPER YACHT THAT WILL SAIL

**H**ERE is an opportunity for every boy to make a boat, whether he knows anything about boat building or not.

For convenience sake we will commence to build this boat in a way slightly different from that usually employed. Instead of proceeding at once to work on the hull we will begin with the spars. Let us start on the largest spar first, the mainmast.

Cut out a long strip of stout wrapping paper three inches wide, thoroughly cover it with paste on both sides, and

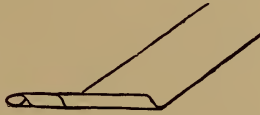


FIG. 9

then start to roll it into a long, tapering spiral tube twenty-three inches in length (see diagram, Fig. 9). At its widest end this tube should measure three-fourths of an inch in diameter and about one-eighth of an inch less at the

NEW GAMES AND AMUSEMENTS

other end. When you have done this carefully, tie a piece of thread around the small end, to prevent its unrolling, and set in a corner to dry. Then make the topmast of paper in the same way. This should be fourteen inches in length, while its diameter at the base should be that of the smaller end of your mainmast and tapering

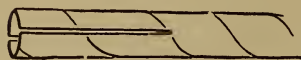


FIG. 10

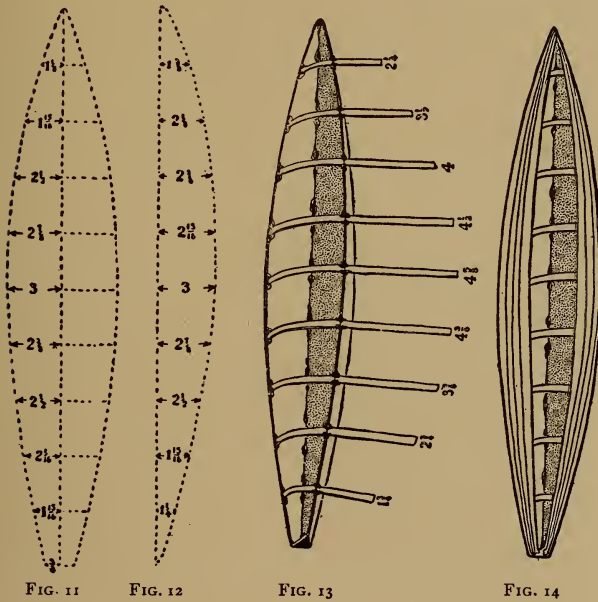
off to a point. Make a boom twenty - two inches in length, and of the same diameter

as the mainmast. The gaff should be sixteen inches in length, with a diameter of one-half inch. The bowsprit measures seven inches in length, with a diameter of five-eighths of an inch at its larger end, and tapering slightly toward its tip. Put the spars aside until they are thoroughly dry, which will take some time, and then plug the ends of all of them, excepting the lower end of the mainmast, with sealing-wax. Cut two long slits in the lower end of the mainmast, on opposite sides, each about three inches in length (see Fig. 10). The purpose of these slits I will explain further on.

While the spars are drying start to work on the hull, and as follows: Cut out a piece of stiff cardboard six inches in width and thirty inches in length. Then draw a pencil line down

## A PAPER YACHT THAT WILL SAIL

its long centre. With a foot-rule intersect this line every three inches, and at each intersection measure off to the right and left the distances in inches as marked in diagram (Fig. 11). After



this take a lead pencil and draw a line connecting these distance points with each other, which will give you the curved lines for your deck. Cut out on these curved lines with a pair of sharp scissors, and also in exact centre of deck,

## NEW GAMES AND AMUSEMENTS

and at a distance of ten inches from the bow cut a hole three-fourths of an inch in diameter. Through this hole your mainmast will pass later on.

Now take another piece of cardboard the same length as the deck and three inches in width, and mark this off also into three-inch sections, as shown in

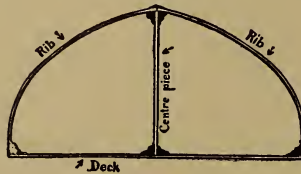


FIG. 15

Fig. 12. This centre piece, for such I shall call it, is straight on one side and curved on the other.

Now lay your deck flat down on the table and lay the straight edge of the centre piece exactly on the marked pencil line and at right angles to it (see Fig. 15). When perfectly upright fasten it to the deck with plenty of sealing-wax. The ribs are made of cardboard one-half inch wide, and of length as marked in diagram (Fig. 13). There are two sets of them, nine on a side. The figures in the diagram denote measurements from centre piece to tips of ribs, and as you will see on looking the first rib measures two and one-fourth inches, the second three and one-half, the third four, and so forth. Fasten these ribs, first to the centre piece on the intersected

## A PAPER YACHT THAT WILL SAIL

pencil marks, which will be a distance of three inches from each other. When sealing-wax is dry bend the ribs over to the edge of the deck and fasten there again with sealing-wax (see diagrams, Figs. 13 and 15).

Before going any farther, take your dried mainmast and lower it through a hole in deck so that it will straddle the centre piece. The slits in the mast should be long enough to allow it to reach the bottom of the centre piece. When in a perfectly upright position fasten it securely in place with plenty of sealing-wax.

Now cut out a dozen strips of wrapping paper, each thirty inches in length, about three-fourths of an inch wide in the middle and tapering to each end, and fasten them tautly over the ribs with little dabs of sealing-wax (see diagram, Fig. 14). This will serve as a sort of sheathing, so to speak. If a dozen strips should not be sufficient, cut out more, for the ribs must be thoroughly covered up. After this take a quantity of strips of newspaper, each one foot long and one inch wide, and paste these with flour paste over the sheathing until this in turn is completely hidden. When this is thoroughly dry put on another layer of newspaper strips, and let that dry, and so on until you have put on five or six layers. These strips may be

## NEW GAMES AND AMUSEMENTS

pasted on in any direction, provided they do not form wrinkles, and care should be taken to lap many of them over the deck for about an inch, so as to make the yacht perfectly water-tight.

The keel is made of a piece of cardboard about five inches wide and fourteen inches long, and shaped as shown in diagram (Fig. 16). Fasten this to the hull by pasting long strips of paper to it and to the hull.



FIG. 16

Put on plenty of these strips, so that when dry your keel will be perfectly solid.

When you are sure your boat is thoroughly dry, varnish it all over with paper varnish. Put on two or three coats of varnish. Your yacht is now completed, and all that remains to be done is to put on the spars in position, as shown in illustration (page 114). Tie the boom and gaff to the mast with strong thread, so that they will swing freely. Fasten the bowsprit and topmast in position with plenty of sealing-wax. Fasten three threads from the mast to the bowsprit, as shown in the illustration, and paste the edges of jibsails over these. The sails should be made of very light paper, cut out in shape as shown in picture, and fastened to spars with mucilage.

*A PAPER YACHT THAT WILL SAIL*

Finally cut a small hole in the centre of deck just back of the mainmast, and pour in sand for ballast. After ballast has been placed in, stick a cork in the hole to keep the water out. Enough ballast should be put in so as to sink the boat to within an inch of the deck.





KITES WITHOUT STICKS



## CHAPTER XV

### KITES WITHOUT STICKS

THERE, that makes the fifth stick to break!" cried Freddie Burt. "I don't believe there's a straight-grained piece of wood in the whole country!"

Freddie was down on his luck; any boy would have been under the circumstances. "Why can't kites be made without sticks?" he added, peevishly, as he flung himself upon a heap of shavings; then, suddenly realising the meaning of these words, he jumped to his feet and exclaimed excitedly, "Why—why can't kites be made without sticks?"

Kites without sticks! The idea set Freddie trembling with excitement. Of course kites could be made without sticks in these days when people were making everything out of nothing. But then—but then, what was to be used in place of the little strips of wood? This was a poser. Freddie scratched his head and stared at the pile of shavings. Then his eyes

NEW GAMES AND AMUSEMENTS

shifted to a paper bucket that sat in one corner of the shop, and then came the idea!

Why couldn't he use paper instead of wood? People made buckets out of paper, and car wheels out of paper, why not kite sticks? They could, of course. But how? Freddie thought and thought about this, his forehead wrinkled and his bright eyes fastened on the pile of shavings. Suddenly his face brightened. "I've got it!" he cried, excitedly; and he eagerly pulled down several sheets of wrapping paper from the shelf above his work bench. He seized a pair of scissors, and from one of these, the heaviest, he cut off a long, narrow strip and creased it down the middle. Then he trimmed another of the sheets, a lighter one, to the shape of a kite, and upon this he securely pasted the creased strip.

"Now, if that'll only be a success," he said, eyeing his handiwork anxiously. "But I'll have to wait until it dries before I can tell."

Freddie thought the paste never would dry; but it did, and he found that his experiment was a success. He had discovered how to make a perfectly stiff backbone out of paper.

Thoughts of inventing a new kite—a kite lighter and more easily constructed than other

## KITES WITHOUT STICKS

kites, and, what was more, a kite without sticks—kept Freddie so excited that he hardly slept a wink the entire night. Before daylight had come he had planned three different kites, and long before anyone else in the house had stirred he was out in the little carpenter shop hard at work upon the first one.

“Why, I feel just like a real inventor,” he said, as the breakfast bell called him away from his paste and paper; and, feeling very much like a young Edison, he strode importantly into the dining room.

By noon the three kites which he had planned while he should have been quietly sleeping were completed; and then began the tedious wait for them to dry. Freddie wanted to try them that same afternoon, but he feared that the paste had not yet thoroughly hardened. However, there was a “kite flying” the following day from the top of Prospect Hill, and you may be sure that Freddie and his three kites were there. As usual, there was much rivalry among the boys as to which one of them could get a kite up first.

In a few minutes all the boys were watching their sailing kites; all except Freddie, who for some reason was very slow. Eddie Miller, who stood nearest to Freddie, and whose kite was

NEW GAMES AND AMUSEMENTS

now soaring above all the others, turned upon him and began to laugh.

"What's the matter—gone to sleep?" he asked.

Freddie made no reply, but calmly started up one of his kites, and Eddie's eyes shifted from Freddie to the two odd-looking objects lying on the ground near him.

"Say, what make of sticks do you call those?" he shouted out, excitedly.

"Paper sticks," Freddie answered, proudly, as his kite arose slowly upon the breeze.

"What's that? Paper?" cried all the boys, eagerly crowding about Freddie to examine the curiosities. In their excitement they immediately forgot all about their own kites, every one of which were soon in a hopeless tangle.

"Whoever heard tell of paper sticks?" scornfully laughed Eddie Miller. "You're crazy, Freddie!" And he winked at some of the others, who joined in his laugh.

"Perhaps I am," said Freddie. It came to him suddenly that other great inventors had been called crazy, too, and the application of the same word to him made him feel even more like an inventor than he had before.

"You've never heard of paper sticks before," Freddie went on, calmly, "because they were

*KITES WITHOUT STICKS*

never made before. I am the inventor. These are the first kites that were ever made with paper sticks."

"He's an inventor, boys; did you hear that?" And Eddie Miller looked at him with mock admiration.

The boys who had laughed at Eddie before laughed again. "My, but he's smart!" they said, copying their leader's looks.

"All the same the kites are all right," Freddie insisted, stoutly.

"But will they fly?" the crowd asked, dubiously.

"There's one of them," returned Freddie, nodding at the kite that was now rising higher and higher. "And the other two—of course they'll fly!"

And they did. For the remainder of the afternoon there were just three kites flown, and those three were Freddie's. The boys lost all interest in kites made with wooden sticks, and could talk only about those stiffened with paper. Even Eddie Miller and the boys who had laughed when they first saw the kites had to admit they were all right, and were as much interested as any of the others.

"Say, Freddie, how did you make them?" Eddie Miller asked, at length.

## NEW GAMES AND AMUSEMENTS

Freddie had to bite his lip to keep from smiling with satisfaction. "I didn't suppose you'd care to know how a crazy fellow makes kites," he said.



FIG. 17

"Well, you know yourself that they looked queer."

"Yes—but they are flying."

"Oh, come on and tell, Fred, I'll take that back. Anyhow, I said it just in fun."

"Yes, tell us, Freddie," joined in all the other boys, eagerly.

Of course Freddie yielded, and set forth the manner in which all three were constructed—the six-sided kite, the bow kite and the tailless, stickless kite. And here, in substance, is what Freddie told them:

### A SIX-SIDED KITE

To make a six-sided kite, take a long strip of heavy wrapping paper, cover one side with paste, and roll spirally, as shown in Fig. 17 (see also Fig. 9, page 151). One strip



## KITES WITHOUT STICKS

of paper will not suffice, so just before rolling attach another strip of paper to the end of the first one and proceed with the rolling. Continue in this way until you have made a spiral tube eight feet in length and one inch in diameter. While still wet bend this tube into the angles shown in the illustration, join together by running one end into the other, and fasten securely in position with string. Paste light manila paper over this framework, and across the face of the kite paste diagonally two narrow strips of heavy wrapping paper. To these strips attach an ordinary kite bridle. If properly made this kite will be fully as strong as one with wooden framework. Use your discretion as to the length of tail required.

### A BOW KITE

To construct the bow kite you must first make a spiral roll, according to directions just given, thirty inches in length and one inch in diameter. Then cut out a strip of stiff cardboard thirty inches in length and one inch in width. To the centre of this cardboard paste another piece of the same material twelve inches in length. When dry



FIG. 18

## NEW GAMES AND AMUSEMENTS

fasten this with a strong paper band to the top of the spiral roll. Attach strong thread

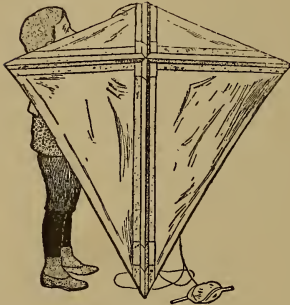


FIG. 19

to each end of the cardboard, draw it into a bow position, as shown in the illustration (Fig. 18), and then fasten the ends of the thread to the base of the spiral roll. Over this framework paste light manila paper. After attaching the bridle and the tail

—again use discretion as to the length—the kite is complete, and as soon as dry is ready for flying.

### A KITE WITHOUT A TAIL

To make a stickless, tailless kite (Fig. 19), first procure a strip of heavy wrapping paper four feet in length and twelve inches in width. Cover this on one side with thick flour paste, and fold lengthwise in the middle, paste side in. Then fold lengthwise again in the middle, and turn back a strip on each side one inch in width (see A, Fig. 20). Then cover with paste on one side another strip of wrapping paper five inches in

## KITES WITHOUT STICKS

width (see B, Fig. 20), and fasten A to this, as shown in the diagram. Now your upright backbone is complete. Make a crosspiece in the same way, only when this is dry cut it in two

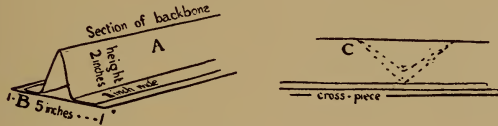


FIG. 20

on the dotted lines, as shown in diagram C. Allow the backbone and the crosspiece to dry thoroughly before going farther, and also be careful not to bend or wrinkle them. After the backbone and crosspiece are thoroughly dry, lay

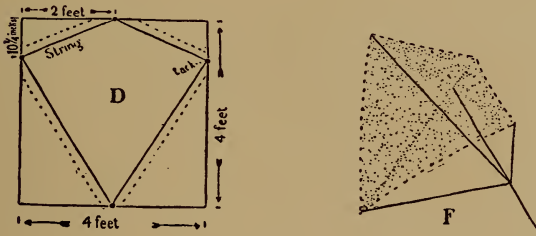


FIG. 21

a light piece of manila paper four feet square (see diagram D, Fig. 21) on the floor and drive four tacks into it. Around these tacks fasten a string (see same diagram), cut out the paper on the dotted lines and paste the edges over the

NEW GAMES AND AMUSEMENTS

string. Now cover the under sides of both the backbone and crosspieces thoroughly with paste and lay them down on the manila paper in the

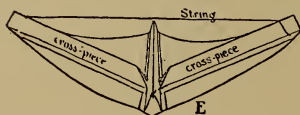


FIG. 22

position as shown in the picture. It will be well to tack them down until dry. When the kite is well dried lay it face down upon

the floor and fasten the crosspieces back with a string, as shown by diagram E, Fig. 22. Diagram F, Fig. 21, shows the arrangement of the bridle. If properly made this unique kite will ascend into the heavens and soar about against the wind like a great bird.

A BOY AND AN OLD UMBRELLA



## CHAPTER XVI

### A BOY AND AN OLD UMBRELLA

EVERYTHING was soaking, yet still it poured in torrents. Will Bishop languidly tossed the book he had read for the third time on to the blue-covered lounge, and aimlessly walked over to the window. A shutter banged to right in his face, and the rain tattooed against the well-washed panes harder than ever. Thoroughly disgusted, he meandered out into the hall, and there the glimpse he caught through the narrow side window of a man struggling with a wrecked umbrella, nearly convulsed him with laughter. "It's a jolly enough storm," he thought to himself, "but three days of it is too much." The man outside indignantly threw the umbrella into the gutter and bowed his head to the gale. The umbrella hilariously flapped its black wings up and down, and then turned half a dozen somersaults, as though it had played a good joke on the man and was greatly tickled in consequence. However, this

*NEW GAMES AND AMUSEMENTS*

funny incident served only for a momentary diversion, and as soon as it was over Will was as much in a quandary as before what to do with himself. It was his wont, whenever he wished to get thoroughly aroused, to run up the stairs two at a time until he reached the garret; and this he did now with all the energy he could command. "Hurrah! isn't this bully!" he shouted as he bounded into the raftered chamber, and, to give still further vent to his appreciation of the roaring din which filled the place, he executed a lively dance on an old storm door which lay on the garret floor. The wind whistled, the house shook, and the rain beat on the roof furiously. There is something about the noise of a storm that is very conducive to action, and the present one was having its effect on Will. He knocked out the sides of some old soap boxes, plunged into the dark recess at the far end of the garret, where he emptied a barrel of its noisy contents, and ransacked the place generally as though in quest of something he was not quite sure of. A blast harder than any that preceded it, accompanied by a loud crashing noise, caused him to rush to the little oval window to see what had happened. The big beech opposite had fallen prostrate across the road, and almost in the



*A BOY AND AN OLD UMBRELLA*

midst of the wreckage, as if in ecstasies over the great havoc wrought, was that same old umbrella, cutting up didos livelier than ever. The sight of the old umbrella nearly doubled Will up again. But, all at once becoming serious he jumped to his feet and exclaimed excitedly: "Why didn't I think of it before? It's just the very thing!"

Five minutes later a bareheaded boy struggling with a wrecked umbrella was seen forcing his way against the drenching gale. The umbrella behaved like some wild thing. It snapped its black wings, thrust out its skinny ribs, flipped water into Will's face, and once completely covered his head, and pushed, oh, ever so hard, as though just determined to be free. Harry Bates, who had witnessed this novel wrestling match from his house opposite, feeling sure there was going to be lots of fun, reached Will's house almost as quickly as Will himself, as did also little Paul Campbell from the house below. Paul, I am afraid, left without his mother's consent; but then, if ever boys were to be excused for doing as they ought not to, it was on this wild afternoon.

Once in the garret again, Will set to work on the old umbrella with all the enthusiasm he was capable of. He cut the silk along one side of

*NEW GAMES AND AMUSEMENTS*

each rib with a big pair of shears, tied strings to its drooping wings, and in very short order made the militant fellow look as though he would be glad to surrender. However, the umbrella soon showed its spirit again when Will held it up in front of the opened oval window, for it suddenly whizzed round and round in his hands like mad. Now this was exactly what Will had wanted it to do, and so tickled was he over the result that he unfolded his plans to Harry and Paul, so that both boys could assist him in carrying out his schemes. What a lot of fun lads do have, to be sure, when they get on the track of a real good idea and are enthusiastically working it out! The busy occupants of this garret paid not the least attention to the lowering darkness, nor to the angry rumblings of the approaching thunder, until a vivid flash of lightning made them all feel as though they might be occupants of an electric light globe. Stop work? No; they did not even think of stopping; on the contrary, they actually enjoyed the fun of adding to the racket by banging away the harder. The thunder boomed, the wind blew, the rain thrashed on the roof, and all at once the little oval window, which Will had forgotten to securely fasten, shot wide open, so that the gale, rushing full on to the old umbrella, which was now set up in position

*A BOY AND AN OLD UMBRELLA*

and attached to a train of shoe-box cars, made it whizz around like a runaway catharine-wheel. Then such a shouting and racket as followed you never heard. The shoe-box train got to going at such a speed that the caboose was flung clear off its couplings, so that it landed up in the paste pot. Numerous tin cans suddenly descended from numerous mysterious shelves and disported themselves all over the floor; old-time newspapers swished up to the rafters like monstrous white bats. And lightning? Why, you'd have thought someone was taking a series of flashlight pictures in a hurry. Most boys, indeed, would have been half scared out of their wits by all this hubbub, but somehow—I think the whirl of the old umbrella must have had something to do with it—these boys weren't scared a bit; instead, they just hurrahed with all their might.

Of course, Will's family were not at home, or such a noisy jollification would not have taken place; but when, three hours later, his mother and sister made their way through the double row of freshened maples, which were then sparkling in glory against the rainbowed heaven, they espied the black umbrella outside of the second-story window, whizzing away as cheerily as ever.

By means of very simple devices Will made

NEW GAMES AND AMUSEMENTS

the black umbrella serve as the motive power for running all sorts of things. Among the most novel of these I noted his scheme for flying kites in the house, and his "umbrella trolley line." So simply were these arranged that I have appended the following directions, in order that my boy readers may have just as good a time as did Will.

HOW TO MAKE THE UMBRELLA WINDMILL

Saw off the handle from an umbrella having a wooden stick, and with scissors cut the cover all the way down from one side of each rib. Connect tips of ribs, at equal distances apart, with

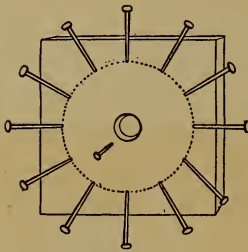
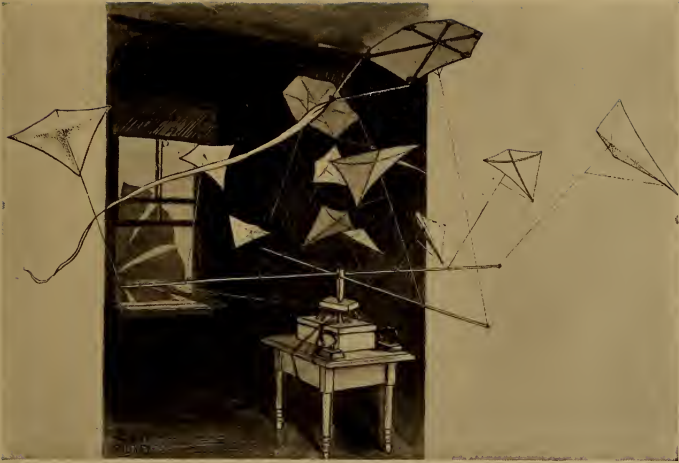


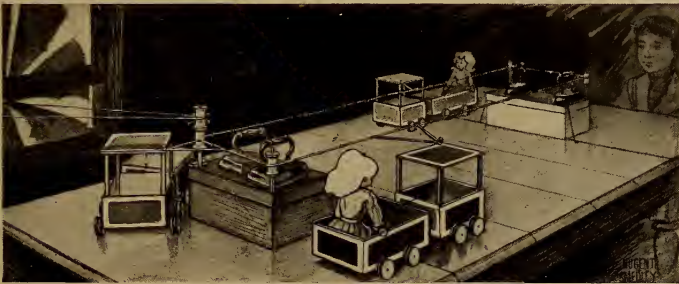
FIG. 23

string, fasten short strings to loosened ends of cover and tie to tips of ribs. Fasten again loose ends of cover—half way down—to ribs, with shorter strings. Then bore a hole through the centre of a six-inch-square block

of wood, force it over the umbrella stick until it rests against the ribs, then drive a nail slantingly through the block into the umbrella stick, and on both sides of each rib drive large tacks into the wooden block. The pulley is made of two pieces of wood nailed together, each



KITES FLOWN IN THE HOUSE BY THE "UMBRELLA WINDMILL"



THE "UMBRELLA TROLLEY-LINE"



## A BOY AND AN OLD UMBRELLA

an inch thick and eight inches square, with a hole bored through its centre of slightly less diameter than the umbrella stick. A circle of long wire nails is driven in on each side of the block (see diagram, Fig. 23).

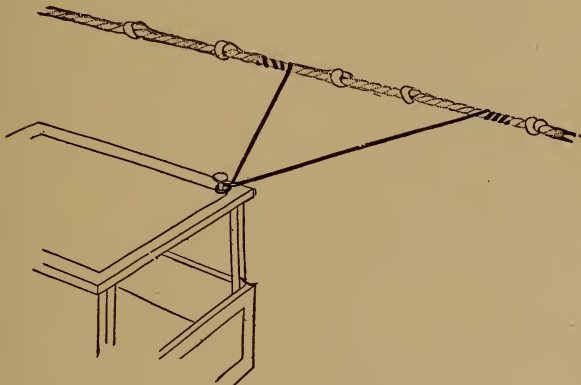


FIG. 24

Fasten this block securely to the umbrella stick with a nail. The windmill rests on wooden supports tied to the window sill both inside and out. A little block of wood nailed to the tip of one support holds the point of the umbrella in place. Carefully follow the picture in working, and you will not go wrong.

### UMBRELLA TROLLEY LINE

The cars are cigar boxes with pill-box wheels. The trolley line is twine with knots tied in it at

## NEW GAMES AND AMUSEMENTS

intervals of an inch. The trolley is of copper wire and attached to trolley line and car, as shown in diagram, Fig. 24. Shoe boxes with upright sticks and spools on them support the trolley line. Upright sticks are fastened to shoe boxes with sealing-wax. The power cord from the umbrella windmill is connected to the upper of the two spools seen on the box nearest the window. A row of small wire nails is driven into both of these spools, and at such an angle as to form a sort of picket fence. Pass strings around centres of these. The cars travel quickly.

### INDOOR KITES

These kites are made of very delicate sticks covered with tissue paper. The upright support for the "kite flier" is one and one-half feet in length and carries four delicate sticks, each measuring four feet in length, which are tied to it, as shown in picture. Half way up the upright is fastened a pulley just like the one on the umbrella windmill, with the exception that this one has only one ring of nails. The upright sets in a stout pasteboard box which is securely fastened to a small table. Flatirons may be put on top to hold it steadier. In the middle of the bottom of the box a spool is fastened with



## A BOY AND AN OLD UMBRELLA

sealing-wax, and directly over it there is a hole in the cover.

The upright is passed through this hole so that its pointed end rests in the spool. A piece of stout twine connects the pulley on the wind-mill with that on the kite flier. The largest kites are one and one-half feet in length, the others much smaller.

When starting, hold up the kite which is to first pass over the cord. The others will rise into the air of their own accord.

These kites as they circle around look most effective. The illustration shows arrangement of kite flier and kites.



“RIGHT IN THE WIND’S EYE”



## CHAPTER XVII

### “RIGHT IN THE WIND’S EYE”

IT was a glorious day. The breakers booming across the Sculpin Shoals wore the whitest of whitecaps; the cloudlets swept through the sky in a golden chase, while the waters which hurled themselves against the weed-clothed foundations of Hunter’s Head thundered and flung far the jewelled spray, as if in restless impatience for the contest to begin.

“They’re off!” suddenly shouted a group of excited boys and girls on Knowlton’s Point; and by the time I had climbed to that same vantage ground the long-looked-for struggle was well under way.

Now, of all the boat races that I’ve ever seen this was the queerest, and even to-day I am unable to tell you whether it was a sailing match or otherwise. To be sure, the contesting boats were moved by the wind; yet, on their outward journey at least, they did not sail with the wind on any point; instead, they sailed directly

## NEW GAMES AND AMUSEMENTS

against it! And who ever heard of a sailboat sailing against the wind? No; clearly these could not be classed with sailboats at all, if but for this one reason alone; and then, too, about a foot in front of each bow the water was churned into foam by a small propeller, which whizzed around as if for dear life. "Why, they were propeller boats!" the majority of you will say; but did any of you ever hear of propeller boats going by wind power? On the other hand, I'll admit Sir Thomas Lipton himself would be astonished to hear of sailboats going by propeller power. Perhaps some of you bright boys and girls will be able to solve this problem, and decide whether this might fairly be called a sailing race or not.

But to return to the race itself. The wind had now freshened to half a gale; yet, instead of the little boats being blown shoreward, as one might naturally have expected, the obstinate fellows just pushed into the breeze with greater speed. Yes; the more the wind endeavoured to blow them back, the more they forged ahead against it!

Soon when the sounds of cheers and fish-horns announced that the leader had started for home, there was another surprise. It was not because she had turned the stake boat first,

## “RIGHT IN THE WIND’S EYE”

for in fact she hadn’t turned at all, but was returning in her own novel fashion—which was backward, and entirely of her own accord. The surprise was that the sails, which up to this time had whizzed round and round ever so rapidly, had suddenly ceased to revolve at all, so that the propeller boat of a moment ago was transformed into a sailboat in every sense of the world. Now, in place of resolutely bucking against wind and wave, she joined forces with them, and fairly flew over the ruffled seas. Onward she came, amid a babel of noise, right into the rocky cove at my feet, where I at once clambered down to see what manner of craft she was. When, a few minutes later, the victor was slowly drawn from the water, I carefully noted her simplicity of construction; and in order that all of my boy readers may make one just like her, I have appended the following detailed instructions:

### HOW TO MAKE THE BOAT

Take a piece of board two feet long, eight inches wide and one inch thick, and draw a pencil line along its entire length, and in the centre. On this line, an inch from one end, bore a hole three-eighths of an inch in diameter nearly through the board. Half an inch from

## NEW GAMES AND AMUSEMENTS

the other end, and on same pencil line, put in a delicate screw eye that has an inside diameter of three-eighths of an inch, and then cut your board into the shape of the boat as shown in illustration (Fig. 25).

Now take a stick nine inches long and half an inch square, and put a screw eye—same size and kind as one mentioned previously—into one

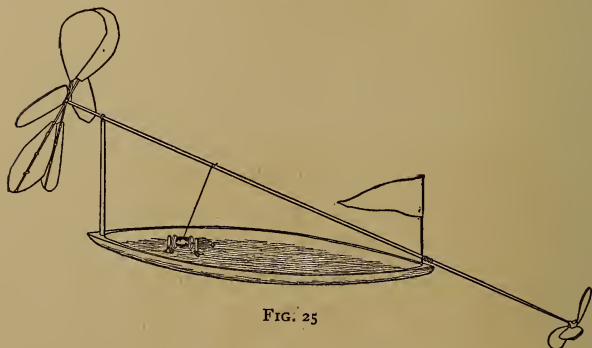
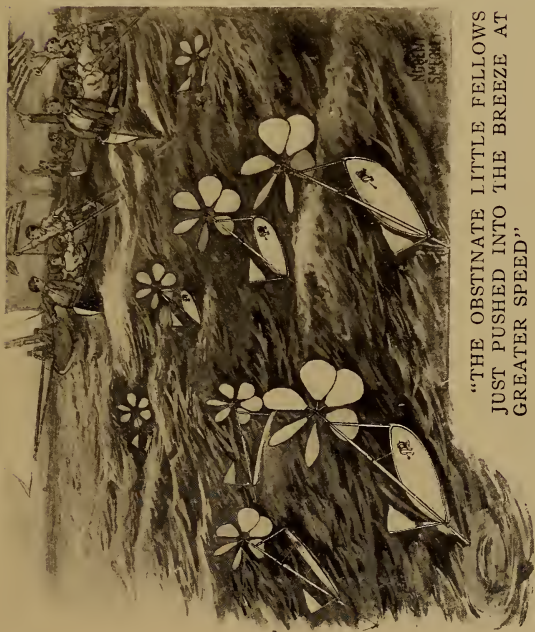


FIG. 25

end of it. Shape the other end of this stick so that it will fit tightly into the hole already made in the boat, and then round it off so as to make it slightly thinner at top than at bottom. The shaft is a straight cylindrical stick thirty-nine inches long, three-eighths of an inch in diameter in the middle, and tapering slightly toward each end. On one end fasten with plenty of sealing-wax six delicate sticks each seven and three-





“THE OBSTINATE LITTLE FELLOWS  
JUST PUSHED INTO THE BREEZE AT  
GREATER SPEED”.



THE “OLD-UMBRELLA MOTOR”.



*"RIGHT IN THE WIND'S EYE"*

quarter inches in length, taking care to set them all evenly and at the same distance apart.

Now pass the shaft through the screw eyes until it projects one foot beyond the bow of the boat. Hold in this position and then, while slowly turning it, put sealing-wax around it, each side of the forward screw eye. These sealing-wax shoulders (if I may call them such) should be perfectly smooth and a quarter of an inch apart (see picture). After this take six pieces of stiff writing paper six inches long and four and a half

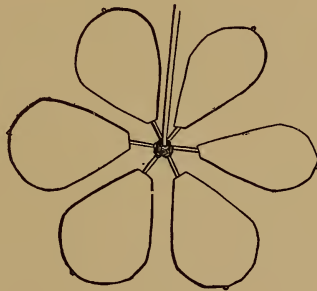


FIG. 26

inches wide, and cut each into the shape shown in the diagram of the windmill (Fig. 26); fasten these to the spokes with sealing-wax at exact angle, as shown in the picture of the boat.

The blades of the screw are made of three thin pieces of wood, each three and a half inches by two inches, with edges sharpened. Place the blades—with sealing-wax—in the shaft at equal distances apart, and at the same angle

## NEW GAMES AND AMUSEMENTS

as the papers on the windmill. The two little upright sticks which support the spool are one inch and a quarter high, two inches apart, and fastened with sealing-wax to the bottom of the boat, six inches from the stern. Afterward burn holes through these supports with a heated hatpin.

Tie the end of the stout cotton to an empty spool and wind this spool with as much thread as it will carry; then thrust a hatpin through the supports and the spool, as shown in the picture, and fasten the loose end of the cotton to the shaft. On starting the boat, point it directly toward the wind, when the little screw will at once begin revolving rapidly. As soon as the thread is all unwound from the spool the windmill will cease to revolve, and the craft will sail gallantly back to the shore from which she was started.

A BATHTUB REGATTA



## CHAPTER XVIII

### A BATHTUB REGATTA

A CERTAIN small boy had been reading the life of Robert Fulton. The tale of the first steamboat had fascinated him, and he put down the book full of the enthusiasm of invention. He wanted very much to go and do likewise. Half an hour later his mother heard a great splashing and swishing in the bathroom. He had found that the long marble tub made an excellent river. In his imagination it became the glorious Hudson, and, being a practical boy who liked to tinker, he thought he had found a way to combine the pleasure of a game with his love of making things. So he set to work manufacturing a boat. This consisted of a baking-powder can resting upon four hatpins stuck into a flat piece of wood. Small, lighted candles placed under the can, which was filled with water, generated steam. A proud moment it was for the boy when this miniature steamship puffed grandly up the

## NEW GAMES AND AMUSEMENTS

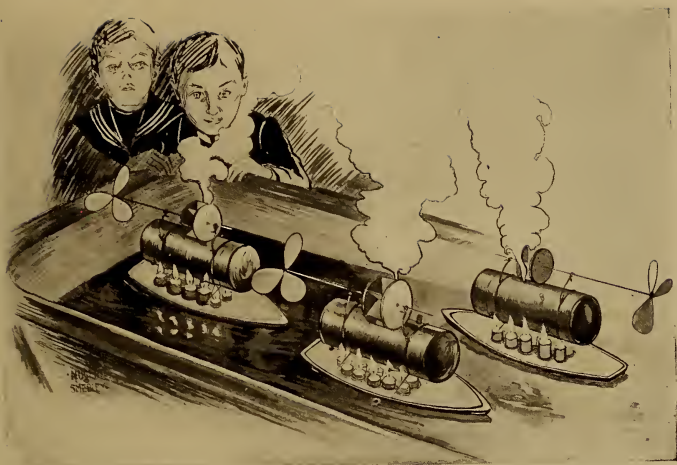
river with marble banks. This achievement satisfied the young inventor for a day or two, and then he cast about for other problems, and decided not to stop short of a fleet. One by one the tiny vessels grew till he had made three other boats, each of which had a different motive power. The second ran by waterpower, the third was run by candle-light power, and the other, which was really a clever piece of work, had an air propeller.

The following week the boy held a grand bathtub regatta, to which he invited his friends. The marvellous boats, the skill with which they were made, and the unique devices by which each was run, quite captured the youngsters. It is for the benefit of children who couldn't be there that this little description of the boats is given. The boy with a love of tinkering will find material for many days of work and pleasure. Tin cans, copper wire, smooth pieces of board, strong paper and some sealing-wax are about all that are really necessary.

### THE BAKING-POWDER-CAN BOAT

The boat is of wood, one foot long, five inches wide, one inch thick, and hollowed out. Hat-pins are stuck into the sides of the boat and fastened together where they cross with light copper wire. The boiler is a small baking-





AIR-PROPELLER BOATS



A BAKING-POWDER CAN STEAMBOAT



## A BATHTUB REGATTA

powder can with a hole driven in the bottom of it with a stout needle. Fill the boiler one-third full of water, and then put on the cover, after first placing a piece of cotton cloth over the opening. This is to make it steam-tight. Be sure to get the boiler in the centre of the boat. The more candles placed under the boiler, the faster the boat will travel.

## WATER-POWER CATAMARAN

The boats are one foot long, and each half is held two inches apart by light sticks fitting tightly into holes made in their sides. Fasten two sticks, notched on top, in place for the hatpin axle to rest on. Make the paddle-wheel of four delicate wooden blades, and fasten to the axle with sealing-wax. The water-box is of cardboard, made water-tight with sealing-wax. The box rests on four light sticks of wood, and placed so that the paddles just escape it when in motion. The hole in the bottom of the box should be one-eighth of an inch in diameter. Excepting where specified make all fastenings in sealing-wax (see the illustration).

## THE CANDLE BOAT

The boat is one foot long, three inches wide, one-fourth of an inch deep, and hollowed out.

## NEW GAMES AND AMUSEMENTS

The masts are one foot in height. The sails are of writing paper, the lower ends of which are fastened to the mast with sealing-wax. Small pieces of lighted candles, placed in position as shown in the illustration, furnish the motive power and a swift-moving boat.

### AIR-PROPELLER STEAMBOAT

The boat is fourteen inches long, five and one-half inches wide, one inch deep, and hollowed out. Use the largest size baking-powder can for the boiler. Paste strips of paper one inch wide around the can, to prevent steam escaping from beneath the cover. Make one hole in the side of the can with a darning needle, and a larger hole for pouring water into the boiler. Make a wooden plug to fit tightly in the large hole after the boiler has been filled. The propeller is three wooden toothpicks, to which are attached pieces of light paper. The steam wheel should be made of tough paper and fastened to a straight piece of wire. The illustration shows the arrangement of the mechanism so plainly that further description is not necessary. Ten little pieces of candle placed beneath the boiler make the propeller whiz.



A FLEET RUN BY WATER POWER



BOATS RUN BY CANDLE-LIGHT POWER



TOYS THAT RUN UP HILL





## CHAPTER XIX

### TOYS THAT RUN UP HILL

**H**ERE is a chance for lots of fun—a chance to make a boat that will travel uphill, that will travel from your back garden to the second or third story window of your house and that will travel as prettily as any boat you ever saw. If you are not fond of boats you can make for yourself the funniest kind of a funny cat, and then send this travelling up and down hill, or back and forth across the yard, or along the street, or even to the highest windows of the house. If you do not care for boats and cats, and prefer something else, there is the funny Italian organ grinder, with his cardboard monkey, and these, too, will travel wherever you wish.

Unless I am much mistaken, however, all you boys will be just delighted with that air-line steamboat, for it has two pinwheel paper screws in the stern of it, and as the steamer makes its numerous trips back and forth these revolve,

## NEW GAMES AND AMUSEMENTS

oh! ever so rapidly. Simpler toys were never made, so all try and see what you can do.

### HOW TO ARRANGE THE RUNNING-GEAR WHICH WILL MAKE ALL THESE TOYS TRAVEL

First procure a cigar box; if you cannot conveniently get one, make a box for yourself out of wood, which will answer fully as well. Bore four holes in the cover of the box, and four holes in the bottom of it—near the corners and about one and one-fourth inches from each of the sides. Be sure that holes are parallel to each other and of sufficient diameter to allow the head of a thin one-and-one-fourth-inch wire nail to pass through. After you have carefully bored these holes, cut a narrow slit in each end of the box—from top to bottom—one-fourth of an inch in width. Then take four spools—which should be of the same size, and slightly shorter in length than the inside depth of the box—and plug up the holes of these tightly with wooden pegs. After whittling off the projecting ends of these pegs, drive thin one-and-one-fourth-inch wire nails into the plugged-up spools, allowing half an inch of each nail to project, so as to serve for an axle.

Now place the four spools inside the box, allowing the wire-nail axles to protrude through

## TOYS THAT RUN UP HILL

the holes in the bottom, and close the lid, taking care that the upper nail axles pass through the holes in the cover. If you are now sure that the spools work perfectly free and do not touch the sides of the box at all, nail down the cover. The diagram (Fig. 27) shows the arrangement of the spools exactly. To set the box in motion, pass the ends of two long strings through one of the slits



FIG. 27

so that these will drop between both sets of spools and out through the slits on the lower side. Then, to test whether your box and spools are properly arranged, proceed as follows: Tie the ends of the two strings that issue from out one side of the box to the top of the door, and close together. Next, go with your cigar box to the far end of the room—the strings should easily reach that distance—and holding a string in each hand, pull both perfectly taut, then suddenly move your hands wide apart perpendicularly, straight up and down. As soon as you do this the box will shoot up to the top of the door so quickly that you will be surprised. By placing your hands together the box will return again. The illustration of the boy and girl playing "Cat on the Fence" shows perfectly the method of making the box travel.

## NEW GAMES AND AMUSEMENTS

### HOW TO MAKE THE AIR-LINE STEAMBOAT

First, arrange your cigar box and spools as just described, then fasten a stick six inches in length across the middle of the upper part of the box with small nails and sealing-wax (see the

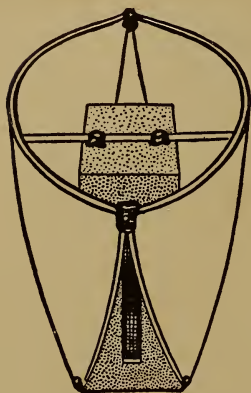
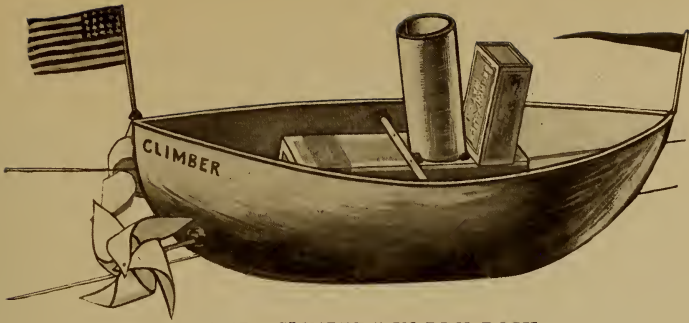


FIG. 28

illustration of steamboat). Fasten cardboard sides for your boat to the tips of this stick and to the lower corner of the box with sealing-wax. After drawing the cardboard together in the front and rear, fasten these to each other with sealing-wax. Each cardboard side should measure twenty inches in length and seven inches in depth. The tops of each side should be cut with a slight curve inward, and the lower parts cut well away in the front and the back (see the illustration of the steamboat and the diagram (Fig. 28).

A match box will serve admirably for a pilot house, and this may be fastened in position with sealing-wax. A smokestack of heavy wrapping paper is also fastened in position with some sealing-wax. The two propellers are paper pin-



THE "CLIMBER" IN DRY DOCK



ORGAN GRINDER AND  
MONKEY



LAUNCHING OF THE STEAMBOAT "CLIMBER"



## TOYS THAT RUN UP HILL

wheels, fastened to the ends of short sticks, which are in turn attached to the steamboat with sealing-wax. Be sure to place these propellers in such a position that they will not interfere in the least with the strings. Decorate the boat with streamers and flags, and paint the name *Climber* on its side.

These boats may be made to travel from the back yard to the second-story window by fastening the ends of the strings which come through the bow to the "blind catch." If convenient, it would be well to fasten the upper string that comes from the stern of the boat tightly to the top of the clothes post in the yard. Now, by pulling down hard on the lower string that comes through the stern the boat will travel with marvellous rapidity from the ground to the second-story window, with its screws just whizzing around. A few trials will enable you to become quite expert in sending this boat up the string. The string itself should be of the strong, hard, smooth variety.

### "CAT ON THE FENCE"

Two pieces of pasteboard cut the shape of a cat, or somewhere near that shape, and fastened one on each side to a cigar box—which already contains the necessary machinery—is practically

## NEW GAMES AND AMUSEMENTS

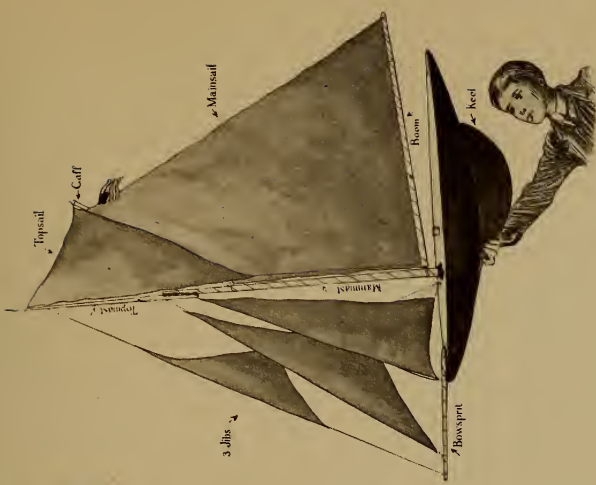
all there is to the making of this interesting toy. Be careful, though, to bore holes through the pasteboards for the axles of the spools to pass through. This cat may easily be made to travel a hundred feet and return by suddenly and strongly pulling the hands apart as shown in the illustration. You can make your cat as funny as you please by painting it with various colours, and by fastening broom straws to its head for whiskers.

### ORGAN GRINDER AND MONKEY

Cut out of cardboard a man, minus both arms, and fasten him to the organ—which should be a small cigar box fitted with the necessary spools between the slit and the outside edge of the box. The right arm is made of two separate pieces of cardboard. Punch holes through these two pieces, and fasten them together at the elbow with thread. Also punch a hole through the cardboard shoulder, as well as through the upper part of the arm, and fasten both together loosely, but securely, with thread. Make the left arm of cardboard, and fasten to the shoulder and to the top of the organ with plenty of sealing-wax.

In making this toy use a piece of stout wire, two and one-half inches in length, instead of a wire nail, to serve as an axle for the upper rear





A PAPER YACHT



GAME OF "CAT ON THE FENCE"



## TOYS THAT RUN UP HILL

spool. Where this wire projects beyond the box bend it into the shape of the crank on a hand-organ. Slip the cardboard hand over the end of this crank, then drop on the tip of it a little lump of sealing-wax, so as to prevent the hand from slipping off.

The monkey is cut out of stiff pasteboard. Circles of wire are fastened to the hands and feet with sealing-wax, so that the creature may easily slip up and down the string. A very stout piece of wire should be used to connect the monkey with the man or organ. Pass the upper string only through the rings on the monkey's hands and feet, then drop both strings through the box as previously described. If properly made this is a most amusing toy.

In making all these objects carefully follow the illustrations, and you will not go wrong.

It is great fun at a party for young folks to have all the boys and girls try their hand at making these toys. It is easy to get the material together, and it adds to the fun if a prize is offered.



HOME-MADE ARTILLERY



## CHAPTER XX

### HOME-MADE ARTILLERY

**H**URRAH, boys, here's some fun! A chance for you all to make cannons for yourselves! Easy? Why, all you have to do is to get some heavy sheets of wrapping paper, paste these thoroughly, then roll them into long cylindrical tubes. That's easy enough, is it not? The gun carriages, too, are made without any more difficulty, a soap box and barrel-head wheels serving for the "field gun," and a paste-board support and wheels for the "house gun."

The best thing, though, about these wrapping-paper cannons is that they shoot just like those great guns you have seen in forts. True enough, the cannon balls used are only hollow rubber balls or bound wads of newspaper, but then they may be thrown quite a considerable distance, and when sailing through the air they look for all the world like the large iron ones.

## NEW GAMES AND AMUSEMENTS

Just for the fun of it, try and see what you can do. Follow the directions carefully and you will be enabled to enjoy the sport of sham battles in the garden, mimic battles on the dining table, and lots of fun generally.

First begin by making the "house gun." Unless otherwise specified, make all fastenings with sealing-wax.

### HOW TO MAKE THE HOUSE GUN

Paste half a large sheet of heavy wrapping paper thoroughly on one side, and then roll it into a long tube, tapering at one end. Roll very neatly. The tube should measure eighteen inches in length, three inches in diameter at the larger end, and two inches at the smaller end. Wind the string around it to prevent unrolling, and put aside to dry.

While the cannon tube is drying make the "shot thrower." Cut from the stoutest cardboard a disk one and three-fourths inches in diameter, and bore three holes in it at an equal distance apart, near its outer edge. Then cut out a strip of pasteboard one inch wide and six inches long, roll this in the form of a napkin ring one and one-half inches in diameter, fasten the overlapping ends securely together, and then as securely fasten this ring to the cardboard disk (see



## HOME-MADE ARTILLERY

the diagram, Fig. 29). Now take three narrow elastic bands—each measuring three and one-half inches in length—and thrust one end of these through the holes around the edge of the disk. Knot the ends of the elastic afterward, so as to prevent them from slipping out, then thrust three short pieces of string—of equal length—through the same holes; tie these securely to the disks, also tie the loose ends

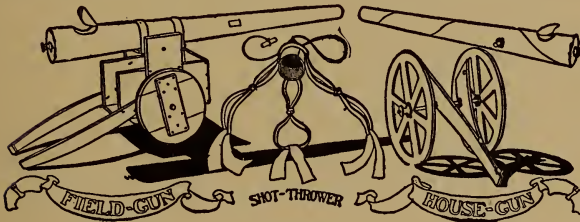


FIG. 29

together, and add another piece of string one foot in length just where these intersect (see the illustration of the "shot thrower," Fig. 29). The illustration here given of the "shot thrower" is that for the "field gun." The "shot thrower" for the "house gun" is like it in all respects, with the exception that only three elastic bands are used for the propelling power in place of six for the "field gun." The measurements just given for the disk, etc., are especially for use in the "house gun." Of course, these

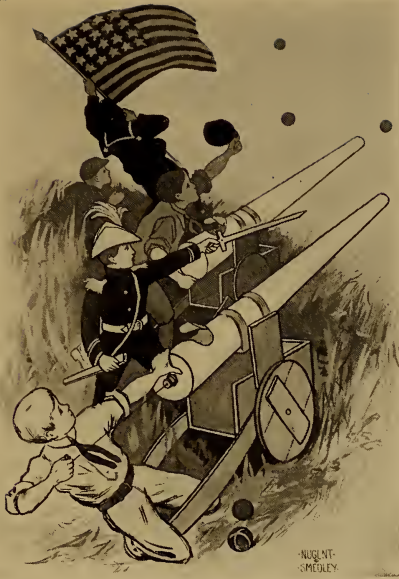
## NEW GAMES AND AMUSEMENTS.

measurements would have to be very much enlarged for use in the "field gun."

Now trim off the ends of your cannon, if it is dry, with a pair of scissors, drop the "shot thrower" into its large end, taking care to keep the free ends of the elastic bands hanging downward, then pass a three-inch length of tape through each band, and fasten the ends of these to the outside of the cannon's mouth (see the diagram of the "house gun," Fig. 29).

Cut out a disk of cardboard three inches in diameter for the breech, punch a hole through its centre, fasten a small spool to it in the same place, pass the end of the long string attached to the shot thrower through the holes in the disk and the spool, and afterward tie to the end of the same string a little stick of wood. Then fasten the breech to the cannon as shown in the diagram.

Now for the gun carriage. Make two wheels eight and one-half inches in diameter, of heavy pasteboard, and fasten spools to these for hubs; make a delicate wooden axle eight inches in length, pass it through the wheels and spool hubs, and put a bit of sealing-wax on both ends of the axle, to prevent the wheels from slipping off, and another bit of sealing-wax on the axle just inside the wheels, to prevent these



A FIGHT WITH FIELD GUNS



A FIERCE BATTLE INDOORS



## HOME-MADE ARTILLERY

from slipping too near the cannon. Cut out two strips of cardboard fifteen inches in length by three inches in width, join together for fully half their length with sealing-wax, punch holes through the tips of the unjoined ends, slip these over the projecting pieces of wood on each side of the cannon, rest the cannon on the axle, and fasten the strips to the same very securely with sealing-wax (see the diagram of the "house gun," Fig. 29).

Now with a penknife cut an almost complete circular slit in the cannon, beginning two inches from its breech, leaving only one-half inch uncut to serve as a sort of hinge for the paper flap. Your cannon is now completed.

Cannon balls for this gun may be made of wads of newspaper tightly bound with string. When ready to fire, lift up the paper flap, pull back the firing string as far as you can, place a paper ball into the shot holder, aim carefully, then let go the string.

Before beginning to fire take care that the shot thrower is held in position quite taut by the little piece of wood on the end of the firing string. If loose, wind up the string on the stick until it is taut. On no account allow the elastic bands, the tapes inside the cannon or the firing string to sag in the least.

## NEW GAMES AND AMUSEMENTS

### HOW TO MAKE THE FIELD GUN

The "field gun" is made in almost precisely the same way as the "house gun," except that it is larger, that the gun carriage is made of a soap box with barrel-head wheels, while two barrel staves support it on the ground. Also, the disk of the shot holder is made of wood, the propelling force consists of three pairs of heavy elastic bands, and the tapes attached to the ends of these are thrust through slits made in the sides of the cannon instead of outside the cannon's mouth, as in the "house gun." Follow the illustrations carefully and you cannot go wrong. For cannon balls use hollow rubber balls. In conclusion fasten the large field guns to the swivel boards on which they rest by pasting a number of strips of paper entirely around them and the board.

Always wait until the cannons are thoroughly dried and hard before using.

SHIPS THAT SAIL ON THE SNOW





## CHAPTER XXI

### SHIPS THAT SAIL ON THE SNOW

**I**F YOU boys want to have lots of fun on those bright, crisp winter days when the snow is covered with a hard, shiny crust, and the temperature is just low enough to give the air a pleasant, stinging sensation, make yourselves a "snow ship." It is not at all a difficult ship to build; in fact, it is the simplest ship that ever was built, and constructed solely of those materials found plentifully about every house. A few sticks, a few strips of cardboard, a paper or muslin sail, and there you have it!

Will they sail? Well, you boys never in all your lives saw ships sail so swiftly as these do. The trouble is they sail too well, too swiftly, and require to be weighted in order to keep them down to a moderate pace. Why, if the wind is blowing at the rate of thirty miles an hour, the boats will travel at the same speed; or if at sixty miles, they will still keep up with it. "Flying over the snow" better expresses

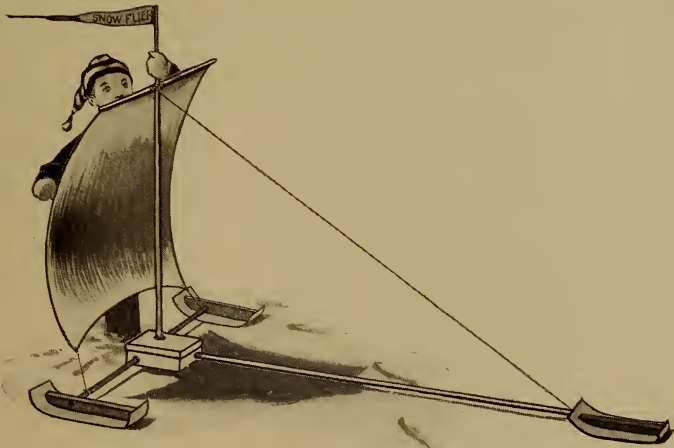
## NEW GAMES AND AMUSEMENTS

their movements than "sailing over it." Indeed, unless the breeze be very light, it is nearly always necessary to make them carry weight, just as a horse does when he proves to be too swift. If you don't weight them, the chances are that they will be out of sight before you realise what is happening. My, but what a pretty picture it makes when a whole fleet of these snow ships rushes up to the top of a snow-covered hillside! The effect is as though a whole lot of witches were riding their broomsticks in a wild endeavour to escape from this world as soon as possible.

The illustrations on page 218 show so exactly how the boats are constructed that detailed directions are really not necessary. And, too, they can be varied so much in the making of them that I'll wager every bright boy will wish to adopt some novel ideas of his own. For instance, in the illustration of the "completed snow ship" a pasteboard box is used for a hull—if I may call it such—through which the cross sticks, the horizontal stick and the mast are run. This pasteboard box serves admirably for a boat measuring three, four or five feet in length, but if you boys wish a much stiffer and a much larger boat, a soap box will serve the purpose better. Then, too, the shoes of the



AN "ICE-SCHOONER"



' FLYING OVER THE SNOW '



## SHIPS THAT SAIL ON THE SNOW

boat shown in the illustration are made of cardboard, and I am almost certain that in building a real large boat you will discover that barrel staves or other easily acquired materials are preferable in every way. I see no reason why one of these boats should not be built large enough to carry passengers, and that, too, without much difficulty. Fancy flying across a long stretch of country at the rate of twenty or thirty miles an hour! It's enough to make one dizzy to even think of it.

In making the boats as here illustrated, make them three, four or five feet in length, or even very much smaller if you wish, say one or two feet in length. Cut holes in the sides and top of your pasteboard-box hull, for the cross stick, long, horizontal stick and mast to pass through. Fasten these sticks firmly together—inside the box—with string or wire, and then slip the cover of the box down over the mast and fasten it securely to the box with plenty of sealing-wax. Also put on a very liberal supply of sealing-wax around each stick, close to the box, so there shall be no wobbling.

In the diagram (Fig. 30), A shows the arrangement of the box, sticks and where to put on sealing-wax. A wooden crosspiece is fastened near the top of the mast. Fasten it with string if

## NEW GAMES AND AMUSEMENTS

you should wish the sail to always remain up, but with a wire ring if you should desire to raise or lower the sail often and quickly. The sail may be made of paper or muslin, of any colour, and shaped like those shown in the illustrations, or

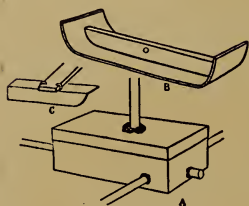
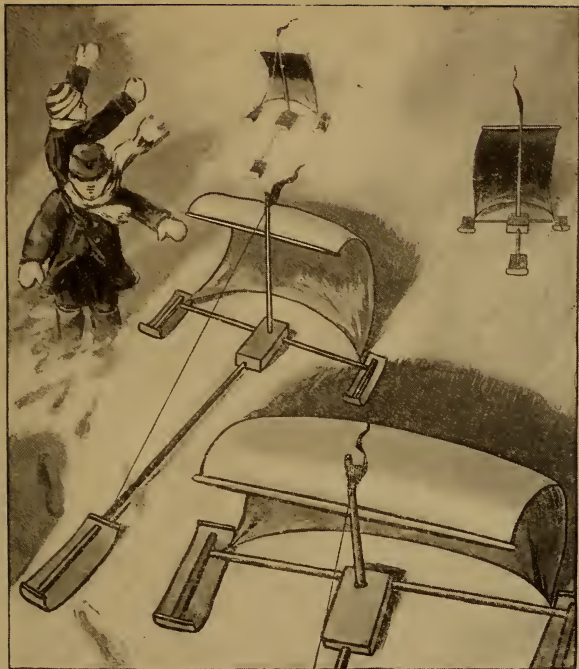


FIG. 30

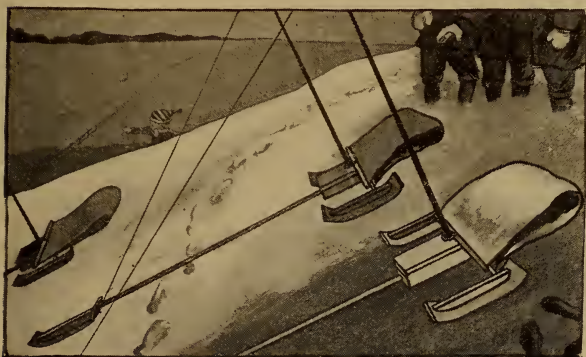
different if you prefer. A stout cord is fastened from the top of the mast to the farthest end of the long, horizontal stick. The shoes are made of cardboard, rolled up at each end, and tacked to a piece of wood about two inches thick, which is placed on top of them. For the shape of this piece of wood and the arrangement of the shoe generally see B in diagram.

Weights to prevent the boats from travelling too rapidly may be fastened to the top of the rear shoe, to the pasteboard hull, and even in the box hull itself.

The illustration of the "ice schooner" shows the construction of its wooden framework so accurately that I need only mention that the shoes for it are made of bent pieces of tin. Be sure that the tin touches the ice its entire length, and also that it is moderately sharp. Sails may be made of paper or



AN ICE-SHIP RACE UP HILL



SAILS REEFED—GOING DOWN HILL





## *SHIPS THAT SAIL ON THE SNOW*

muslin, and fastened in position as shown in the illustration.

In racing the snow ships, a good plan is to race them up a long, steep hill. At the top of the hill boys should be stationed, whose duty it is to announce to the boys at the bottom of the hill the winners of the flying contests, and also to lower the sails, fastening them snugly down, so that the boats will travel down the incline of their own accord. See the illustration of the boats with sails reefed returning down hill. For a real, all-round, exciting, healthful sport, these boat races on the snow would be hard to beat.



FUN WITH CANDLE LIGHT



## CHAPTER XXII

### FUN WITH CANDLE LIGHT

**B**RILLIANT in effect, of the simplest materials, and easily made by anybody, are the objects here pictured. There is a lighthouse with real red and white flash lights, a fairy-like "merry-go-round," a "candle-light engine," a "revolving tower" and a number of other pleasing combinations of light and movement, and just the sort of fun for boys on a winter's night. Pieces of lighted candle furnish the motive power, and when all other lights are extinguished dull indeed will he be whose enthusiasm is not aroused.

#### A PRETTY ILLUSTRATION OF AN OLD IDEA

Cover the bottom of a dinner plate with water to the depth of an eighth of an inch, or a little more. In the centre place a small piece of lighted candle. Then take a tumbler and lower it, in an inverted position, quickly down over the lighted candle. As soon as the inverted

## NEW GAMES AND AMUSEMENTS

tumbler rests on the plate the water with the candle floating will at once rise in the tumbler as shown in the picture. The taller the tumbler used the more effective will be the trick.

### THE REVOLVING TOWER

The cylinder is made of wrapping paper; half-way up its sides delicate sticks are attached with sealing-wax, and over each stick is drawn half a sheet of writing paper and set at the angle as shown in the picture. On top of the cylinder is a circle of cardboard, and to this is fastened with sealing-wax a delicate wooden upright, to the tip of which are attached two small cross-sticks. Over these cross-sticks draw on pieces of paper at the angle shown in the picture.

When the cylinder is completed cut out a circle of paper, float it in a large pan of water, and carefully place the cylinder on this. It is well to attach it there with sealing-wax.

Set the candles in position as shown in the picture, and these when lit will cause the whole to revolve beautifully. Tissue-paper streamers and other decorations greatly heighten the effect.

### THE CANDLE-LIGHT ENGINE

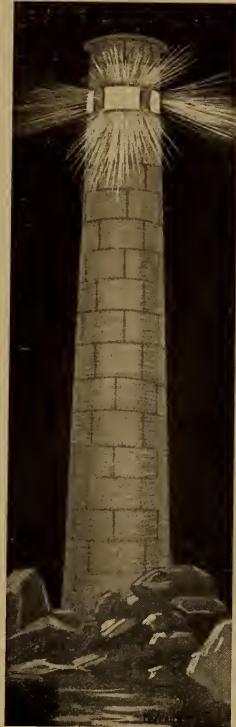
The uprights for the flywheel and the walking-beam are straws. The walking-beam is of straw



A PRETTY ILLUSTRATION OF AN OLD-TIME TRICK



A REVOLVING TOWER



WRAPPING-PAPER  
LIGHTHOUSE





## FUN WITH CANDLE LIGHT

and the driving-rod and piston are split straws. The fly-wheel is of stiff writing paper, about seven and one-half inches in diameter, to the inside and centre of which is fastened a small circle of cardboard. The axle for the fly-wheel is a "stickpin," and this rests on small needles inserted into the uprights (see picture, Fig. 31). Before putting the axle in position slip on the flanged wheel, which

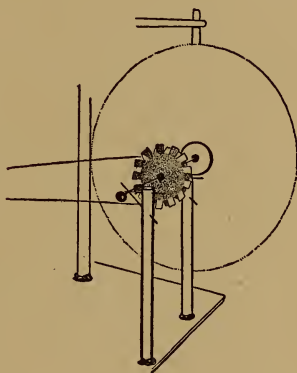


FIG. 31

may easily be cut out of stiff writing paper (Fig. 32). Then press the axle into the circular piece of cardboard, taking care that it does not project through the other side of the fly-wheel. One of the pictures shows the back of the engine. Place sealing-wax on both cardboard and stickpin at the point of contact; also put a little sealing-wax on the flanged wheel where the stickpin perforates it. The cylinder for the piston to work in is made of writing paper and the straws of the engine are fastened to each other with very fine needles. The crank con-

## NEW GAMES AND AMUSEMENTS

necting the driving-rod with the fly-wheel is a bent pin.

The power plant which makes the engine run has a knitting needle upright, to the top of which a small square piece of cardboard is attached



FIG. 32

with plenty of sealing-wax, and on top of this straws are fastened, also with plenty of sealing-wax. Over the straws half sheets of writing paper

are drawn at angles as shown in the picture. The knitting needle is held in place by a wooden upright, from the top of which projects a piece of cardboard with a hole in it. The lower point of the knitting needle also rests in a hole made in a piece of cardboard. Before dropping the point of the knitting needle in the lower hole force over it a slice of cork having two rows of pins stuck in it, as shown in the picture. An advantage may be gained by fastening three fine needles to the cardboards so as to form a small triangle over each of the two holes for the knitting needle to revolve in. The more



CIRCLING ARCH



CANDLE-LIGHT MERRY-GO-ROUND



## FUN WITH CANDLE LIGHT

candle-light used the faster the fly-wheel will revolve.

If convenient build both engine and power plant on pieces of glass. Two discarded negatives of photographs will answer admirably. The power plant is connected to the engine with a piece of thread allowed to hang rather loosely.

## PAPER MERRY-GO-ROUND

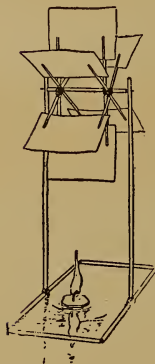
Cut out a circle of paper like that shown in the picture, and to this attach with a little sealing-wax creased uprights of writing paper. Uprights may be easily cut out of a piece of writing paper after it has been folded over and well creased with a pair of scissors. Be sure they all, when stood up, are at the angle shown in the picture. Now float the circle of paper in a large pan of water, and under each upright—not too close—set a small piece of lighted candle, when the whole will revolve beautifully. Two uprights are sufficient to make the circle revolve, but the addition of more of them greatly adds to the effect and rapidity of the revolutions.

## THE CIRCLING ARCH

The arch is cut out of a pasteboard box, and then pasted over with paper. To the sides light

## NEW GAMES AND AMUSEMENTS

sticks of wood are attached with sealing-wax, and over these are drawn half sheets of writing paper. These papers should be placed at angles as shown in the picture. On top



FLOATING FERRIS  
WHEEL

of the arch a delicate wooden upright with two cross-pieces is fastened in place with sealing-wax, and over the cross-pieces more papers are drawn and set at angles as shown.

Set the arch on a large circle of floating paper, and place bits of lighted candles in position as shown in the picture. The

more gaudily the arch is decorated with stars, coloured papers, streamers, etc., the more effective the whole will appear.

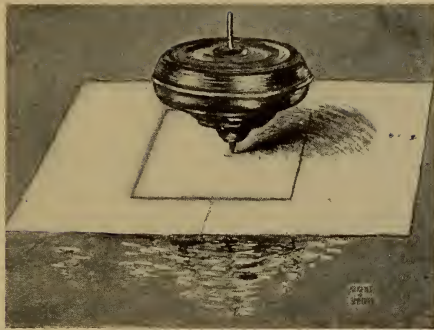
The arch may be rested on a circle of wood instead of paper if desired.

### THE SIMPLY MADE LIGHTHOUSE

Roll up a large sheet of heavy wrapping paper, crosswise, into a slightly tapering cylinder, and fasten with mucilage or glue. A sheet of thin, dark-coloured cardboard answers still better. Trim both ends of cylinder with scissors. About two and one-half or three inches below the



THE PAPER TOWER



A TOP SPINNING ON FLOATING PAPER



A SHEET OF WRAPPING PAPER  
BEARING A CAT





## FUN WITH CANDLE LIGHT

top of cylinder cut narrow oblong holes in three sides for light to flash through; half an inch below these cut two slits a quarter of an inch wide, one on the right and the other on the left side of the cylinder.

Cut out a strip of stout tin a quarter of an inch wide, make a dent in its centre for a needle point to rest in; pass this strip through both slits, and bend down each projecting end closely against the



A TOY FERRY BOAT

cylinder. Now cut a hole in the back of the cylinder and as near to the top as possible, an inch and one-half wide and an inch high. Also cut a hole in the back of the cylinder, and close to its base, through which to pass a small piece of candle later.

In a shallow pan of water, and so that it rests on the bottom, place a large wooden block, or a small pan inverted, and on top of this stand the cylinder. If desired the cylinder may be fastened to the foundation with sealing-wax. Now whittle out six delicate wooden spokes, all of the same length, and insert these at equal dis-

NEW GAMES AND AMUSEMENTS

tances apart into a slice of cork. To each spoke attach a triangular-shaped piece of paper with mucilage, and when dried bend these slightly upward at an angle as shown in the diagram

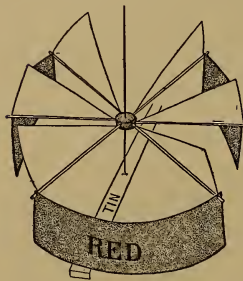


FIG. 33

(Fig. 33). Then suspend with mucilage from each set of two spokes a strip of thin red paper. The diagram shows how this wheel is made. It should be of such dimensions that it will go through the top of the cylinder without touching its

sides. Complete the wheel by sticking a short, straight hatpin through the exact centre of the cork. It would be well to file the head off. After this cut out a circular piece of cardboard, to serve as a cap to the lighthouse, and through the exact centre of this pierce a small hole. Now lower the wheel down through the top of the cylinder until the point of the hatpin rests in the dent made in the tin strip, and then in placing the cardboard cap on top of the lighthouse allow the upper part of the hatpin to pass through the pierced hole.

The lighthouse being completed, place a short piece or two pieces of candle through the lower

## *FUN WITH CANDLE LIGHT*

hole in the back of the cylinder and light them. Immediately the wheel will begin to revolve and red and white lights will alternately flash out from your lighthouse. If the wheel does not revolve at once, carefully examine to see if it touches the sides of the cylinder at any point. If it does touch, remedy the defect. If it does not, turn up triangular papers attached to spokes at a more acute angle, and it may also be necessary to make both holes in the back of the lighthouse larger. Cover up the foundation on which the cylinder stands with sand, small stones and shells, as this adds greatly to the realism of the whole. Stonework may easily be marked on the lighthouse with ink. Do not place more than one piece of candle in the lighthouse unless necessary.



SOME NEW PAPER TRICKS



## CHAPTER XXIII

### SOME NEW PAPER TRICKS

NOTHING is more interesting than the way in which our preconceived notions about the physical world are overturned by experiment. It used to be assumed that a heavy body would fall faster than a light one, until some wise soul tried it and discovered that all bodies fall at the same rate. And I fancy that if questioned most people would say that a sheet of paper would not float for any length of time on water, and certainly would not bear any weight. But experiment proves the contrary. Indeed, the number of things that can be done with floating paper will not only surprise old people but will furnish amusement for children. A sheet of ordinary writing paper, if properly adjusted, will float for an apparently indefinite period. Four half-sheets which I floated by way of a test were as dry on the upper surface after having been on the water for ten days as when I first placed them on the liquid.

## NEW GAMES AND AMUSEMENTS

But what surprised me most of all was to learn the weight these floating papers can carry. One day while I was experimenting with them I rather carelessly placed a large wooden spool on one of the half sheets, expecting, of course, to see the paper go to the bottom immediately. This did not happen, however, and my aroused curiosity prompted me to add greater weight. Recklessly I laid my four-bladed penknife on top of the spool; to my astonishment the paper still remained floating; and even when I placed on more freight, in the shape of four one-cent pieces, it obstinately refused to sink.

Desirous of learning the exact carrying capacity of a whole sheet of floating writing paper. I first placed a stiff piece of cardboard in its centre, and then proceeded to load it with the numerous articles shown in the illustration (page 238). That a sheet of paper should float for ten days was surprising enough, but that it should float under such a weight was nothing short of marvellous. Continuing my experiments along this line, I placed a piece of wrapping paper thirty by forty inches on the surface of the water. On this paper I first laid two slender sticks lengthwise; on these sticks I placed a large tin bowl, and on top of this bowl I seated my pet cat,

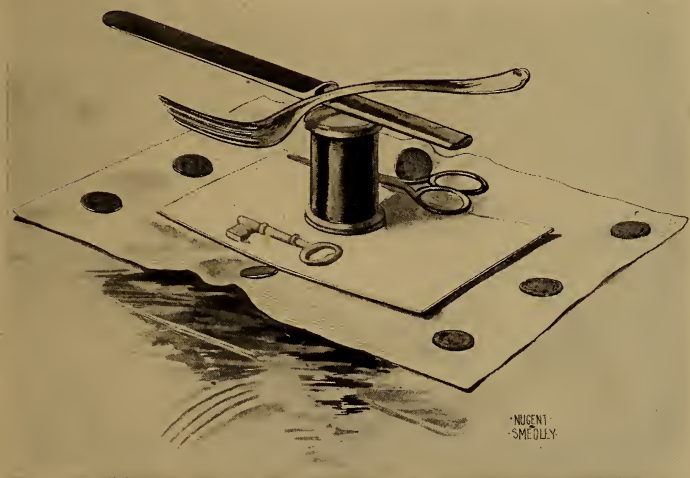




BONFIRE ON FLOATING PAPER



THE MERRY-GO-ROUND!



WHAT A SHEET OF WRITING PAPER WILL CARRY



## *SOME NEW PAPER TRICKS*

which weighs just five and one-half pounds! The result was that pictured on page 230.

More in a spirit of mischief than anything else, I started a bonfire on one of the floating sheets, and although the flames burned fiercely they did not even scorch the paper. Returning to the weight test again, a delicate tower of writing paper eight feet in height was made and set upon four sheets of writing paper. It floated beautifully, and I ascertained that the actual weight of this tower could have been easily supported by a single sheet, but four were necessary to keep it balanced.

Later on I spun a humming top on a half sheet of floating note paper, in the centre of which was placed a piece of cardboard, with the almost certain knowledge that its peg would puncture the cardboard; but my almost certain knowledge was rudely shaken, for the top whirred round and round until it stopped of its own accord and without accident.

I continued to make new experiments. One of the most interesting and instructive was that of constructing a tiny windmill, placing lighted candles beneath it to create wind artificially, and floating the whole on the water.

All the tricks I have here described and illustrated may be successfully performed by anyone

## NEW GAMES AND AMUSEMENTS

who will use a little care, and I can assure you that it is a most delightful way in which to entertain children at an afternoon or evening party. It will be readily seen that the designs do not by any means exhaust the possibilities of amusement to be had in this direction. Rather they are intended to serve as suggestions and to act as an incentive to the discovery of other novelties quite as interesting and as easily performed as these.

When floating the paper it should be carefully done, so as not to allow water to creep over the edge, or the frail raft will begin to sink at once.

Before spinning the humming top make a slight indentation in the cardboard for the peg to rest in.

To make the candle merry-go-round, fasten hoods of writing paper to a slice of cork, and then place this on top of the upright sticks. Fasten the lower end of the stick to a piece of cardboard, and set this in turn upon a circular piece of floating writing paper. Make all fastenings with sealing-wax. Place candles in position as shown in the illustration, and it is all ready for use.

The paper tower is eight feet high, and rests upon four sheets of floating writing paper fastened to each other with sealing-wax. The

*SOME NEW PAPER TRICKS*

upright posts between each story are composed of two sheets of writing paper rolled the shortest way, fitted into each other and held in position with sealing-wax. Cross-pieces are single sheets rolled like uprights and curved at each end with scissors, so as to fit. On top of each set of columns lay a sheet of paper for the next story to rest on. Make each section separately, so it can be placed upon the lower one without any difficulty.



HOME-MADE CHRISTMAS TOYS





## CHAPTER XXIV

### HOME-MADE CHRISTMAS TOYS

**H**ERE are some home-made Christmas presents that are really easy to make:

#### BUILDING THE SUBWAY

The principal articles needed in the making of this subway are a piece of board three and one-half feet in length and ten inches in width, a large-sized shoe box or a wooden box of about the same dimensions, a smaller box to serve for the salt reservoir, and four sticks, each measuring twenty inches in length. Fasten the sticks to the outside of the larger box, and then, after setting this in an upright position, place the smaller box—which is to serve as the salt reservoir—on top of it, and secure it there with three or four touches of sealing-wax. Bore a hole one-fourth of an inch in diameter down through both boxes, one on each side, and at a distance of two and one-half inches from the exact centre. It is through these holes that the

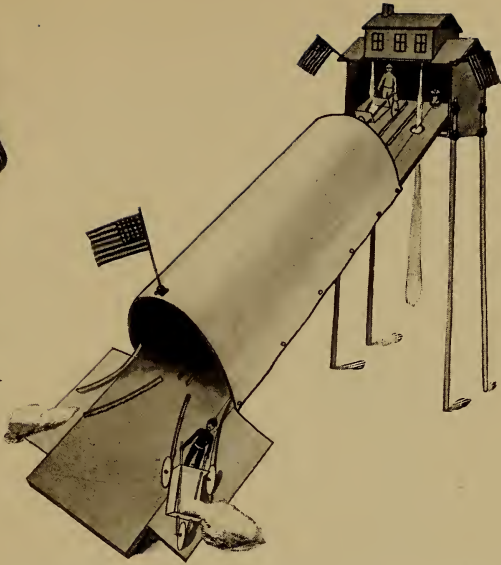
## NEW GAMES AND AMUSEMENTS

salt will fall into the wheelbarrows of your subway workmen.

Now bore two holes, each one inch in diameter, in the long board, four inches from the top end and two and one-half inches from either side of it. One-half inch from the top end of the board, and just two and three-fourths inches from each side of it, fasten with plenty of sealing-wax two upright wooden pegs of slightly less diameter than an ordinary lead pencil, so that when wooden spools are slid over them later on they will revolve without friction of any kind. After this, take two strips of cardboard, twenty-seven inches in length by one-half inch in width, fasten these lengthwise, one on each side, from the top of the board downward and at a distance of four and one-half inches from the sides of the board. This half-inch-high guard will prevent your workmen from colliding with each other. Now arch the board over for two feet or more of its length with stout wrapping paper, so as to form a tunnel, and fasten this in place with tacks. Set the board in the inclined position as shown in the illustration, so that the two holes in its upper end will be exactly under the two holes bored in the salt reservoir. When this is done, take two pieces of stiff cardboard or pasteboard, eleven inches in length by three and one-



NATTY FEATHER  
BALLET DANCER



THE SUBWAY IN COMPLETE WORKING ORDER



PAPER BUTTERFLY CIRCUS



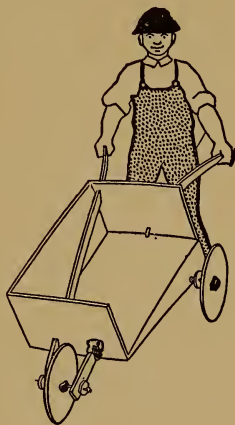
HOLLY-BRANCH MERRY-GO-ROUND



## HOME-MADE CHRISTMAS TOYS

half inches in width, and fasten one on each side of the lower part of the incline with tacks (see the illustration). Now place the two curved strips of cardboard which you see on each side of the lower part of the incline in position with sealing-wax. Each of these strips measures eight inches in length and about one-half inch in height, and guides the wheelbarrows to and from the dumping grounds.

The men and wheelbarrows are made as follows: The wheelbarrow is a matchbox with one of its sides partly cut off and turned down. Fasten the cut-off piece to the other side of the box, so that both under sides will match. Through these lower pieces the back axle is passed, which may be made of stiff wire four inches in length or a hatpin cut to this required length. An ordinary pin serves for the front axle. As you will see by the illustration and diagram, this wheelbarrow has three wheels, which are of cardboard, one and one-half inches in diameter, and fastened firmly to the



## NEW GAMES AND AMUSEMENTS

axle with sealing-wax. The diagram (Fig. 34) also shows perfectly how the wheelbarrow is put together.

The workman is simply cut out of cardboard and fastened to the wheelbarrow, by passing the slits which have been cut in each hand over the handles of the wheelbarrow. To conclude, fasten a piece of stout thread to the back of one of the wheelbarrows while it is resting at the bottom of the incline, run the other end of the thread straight back of the two spools at the top of the incline, and fasten the loosened end to the back of the other wheelbarrow, which should have been previously placed directly under one of the holes through which the salt is to fall from the salt reservoir, and directly touching the spool. Be sure the thread is perfectly taut.

Fill the salt reservoir to the top with salt, and as soon as the wheelbarrow at the head of the incline is loaded it will immediately start to run to the bottom of the incline, where it will empty the salt automatically. As the loaded wheelbarrow rushes down the incline it pulls the emptied wheelbarrow to the top of the incline to get its load of salt.

This species of perpetual motion will continue so long as the salt reservoir is kept filled with salt.

## HOME-MADE CHRISTMAS TOYS

By means of pieces of bent cardboard you may make your power house at the head of the incline as architecturally interesting as you desire.

When salt is not falling into the wheelbarrows it should fall through either of the holes bored in the upper part of the incline.

### THE BUTTERFLY CIRCUS

The butterflies are of light cardboard covered with various coloured crepe tissue papers. These may be made of all sizes; the large ones shown in the illustration were six inches in length. When the butterflies are all prepared, fasten them to long, curved wires by thrusting the tips of the wires through the wings; see the illustration. The wires are then stuck in and suspended from a large cork and through the centre of this cork a hatpin is inserted, so that when the point of this pin rests on the smooth end of a stick, which should be fastened in an upright position to the top of the Christmas tree, the circle of butterfly will balance perfectly. In placing the butterflies on the wires, incline them considerably in one direction. The heat arising from the lighted tapers will cause the butterflies to fly around and around in beautiful style.

## NEW GAMES AND AMUSEMENTS

### HOLLY-BRANCH MERRY-GO-ROUND

Four sprigs of holly are stuck into a cork, through the centre of which a hatpin has been previously driven. Near the top of the hatpin a small cork may be seen, in which four light sticks are stuck, and over these sticks are slipped square pieces of paper placed at slightly inclined positions. Near the end of each holly branch a little candlestick with a candle is attached. When the candles are lighted the "holly-branch merry-go-round," with its lighted wax tapers, will revolve very prettily indeed.

### THE FEATHERED BALLET-DANCER

Long chicken feathers are stuck into a cork as shown in the illustration, so that each feather is turned slightly outward and all in the same direction. The head is a wad of newspaper, on which features are marked. Upon the under side of the cork a long straw is fastened. This is slipped over a hatpin, which has been previously tied to a stick fastened in an upright position to two of the branches. The lighted candles make the dancer revolve very comically.



ELASTIC TOYS AND HOW TO MAKE  
THEM



## CHAPTER XXV

### ELASTIC TOYS AND HOW TO MAKE THEM

**H**ERE is a whole lot of fun for you boys and girls, and unless I'm very much mistaken you'll all think so yourselves after you have made some of these elastic toys. Why, just think of it, all the toys here illustrated are so simple to make that every boy and girl can easily make others like them. They are toys that will move, too.

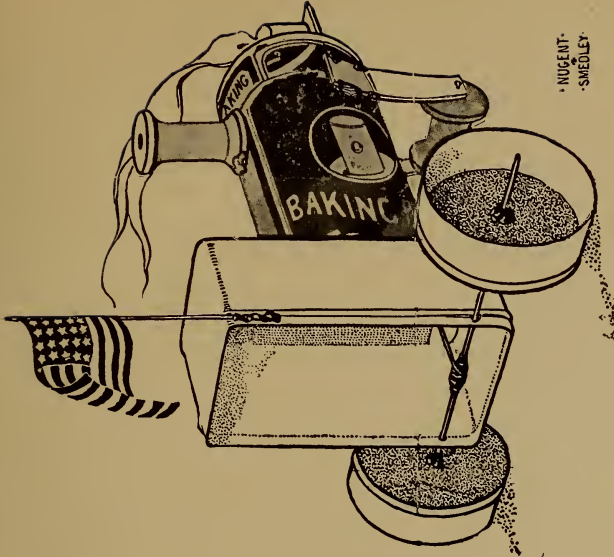
Begin with the "tin-can locomotive," for that is the simplest. Make all the fastenings with sealing-wax.

#### HOW TO MAKE A TIN-CAN LOCOMOTIVE

The boiler of the locomotive is a baking-powder can, the rear wheels are covers of the same, the cab is an oblong tin box, the smoke-stack is a spool, and the forward wheel is another spool. Cut along the lower edge of the tin-box cab, and turn up the tin for three-fourths of an

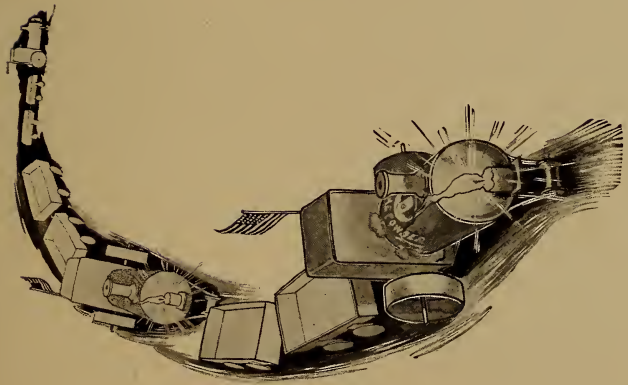
## NEW GAMES AND AMUSEMENTS

inch and at right angles to the plane of the box. Bore two holes in the sides of the cab for the knitting-needle axle. Bore a hole in the centre of wheels, slip the axle through the holes in the cab, slide the wheels over the ends of this and fasten securely to the axle. Fasten the boiler to the cab, resting the back of it on the turned-up tin. Fasten two pieces of cardboard to the forward part of the boiler and bore a hole through the lower ends of these. Plug the holes of the spool to be used as the front wheels with wood, place between the cardboard strips, and stick ordinary pins through the holes in the strips and in the centre of the plugs for axles. The headlight is supported on a square of cardboard fastened to the boiler. Carefully fasten a piece of elastic in position as follows: Tie one end around the centre of the axle inside the cab, pass the loose end through the long, narrow opening in the lower part of the cab, and fasten it with plenty of sealing-wax to the front end of the boiler; see diagram for way to arrange the elastic. The elastic should be as long as from the front of the boiler to the axle. An elastic band cut in two at one end or a number of small elastic bands tied together will answer admirably. To set the locomotive in motion, turn the tin wheels backward until quite a lot of the elastic



• NUGENT •  
• SMEDLEY •

THE LOCOMOTIVE



THE TRAIN



## ELASTIC TOYS

is wound up on the axle, then holding the wheels firmly, set the locomotive on the floor, when it will travel for a distance of twenty-five feet or more. Cars are made of match boxes.

### HOW TO MAKE A TROLLEY CAR

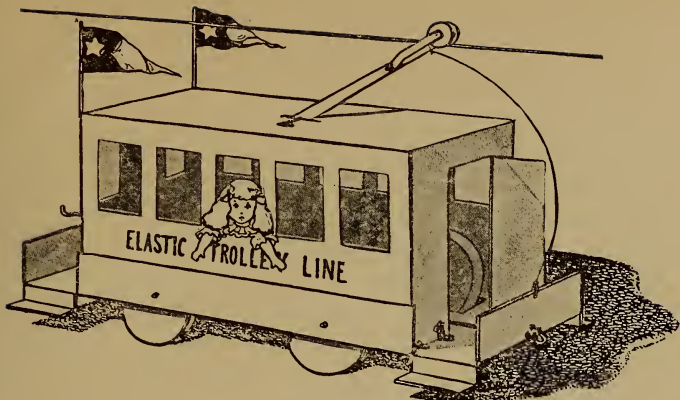
The upper part of the car is an inverted box of light cardboard, ten inches in length, with windows and doors cut in it. The wheels are of cardboard or pill boxes, two and one-half inches in diameter, and are set inside the car. Holes are bored in the sides of the car through which to pass the knitting-needle axles (see the illustration). The wheels inside should be fastened firmly to the axles with sealing-wax. Now take a box cover of the same width as the box but four inches longer. Cut holes in it through which to pass the wheels, and also punch holes in its sides for axles. Before going farther tie a piece of elastic eight inches long to the centre of the front axle. Place the inverted box in the cover, allowing the tips of the axles to pass through the holes in the sides of this, and fasten together with sealing-wax. Bend the sides of the cover projecting beyond the front and the rear of the car body to form steps. Pass the loose end of the elastic under the rear axle, and fasten to the extreme rear of the car (see illus-

## NEW GAMES AND AMUSEMENTS

tration). The trolley is of cardboard. The trolley wheel is a slice of cork, with cardboard disks of larger diameter fastened to it. Use an ordinary pin for the axle on the trolley wheel. Place the lower end of the trolley through a slit in the top of the car, and stick a pin through it crosswise, so that it rests there. Fasten the pin down with sealing-wax. The trolley line is of thread. Be sure to pass it under the trolley wheel. To make the car go, wind up the elastic on the front axle by turning the wheels backward.

The bicycles and their riders are of stiff cardboard. The illustration shows how these are made. The diameter of the large wheels is five inches. The uprights on each side of the large wheels are three inches in length. The upper ends of these are fastened to narrow, curved strips of cardboard seven inches in length, on the lower ends of which small wheels are placed. The wire axles through the large wheels are three inches in length, and bent as shown in the illustration. First fasten the body of the bicyclists in position on the cardboard uprights, and then loosely attach the joints with pins. Fasten the bicyclists to the tips of a slender eighteen-inch stick, as shown in the illustration. The elastic power to run the bicyclists is in a cardboard box





TROLLEY CAR



A BICYCLE RACE



## *ELASTIC TOYS*

between the two. A knitting needle is stuck through the box, one end of a piece of elastic is fastened to it, and the other end to the box. To make the bicyclists go, hold them and turn the box around and around, which will wind up the elastic.



SCULPTURE FOR EVERYBODY



## CHAPTER XXVI

### SCULPTURE FOR EVERYBODY

EVERY woman and girl has here an opportunity to make lovely things in sculpture.

Talent is not requisite, nor study in art schools necessary. There is no dirt-making clay to handle, no expensive wax to buy, no intricate modelling tools to learn the use of. A few cakes of white soap, a teaspoon and a penknife are all that is needful for the creation

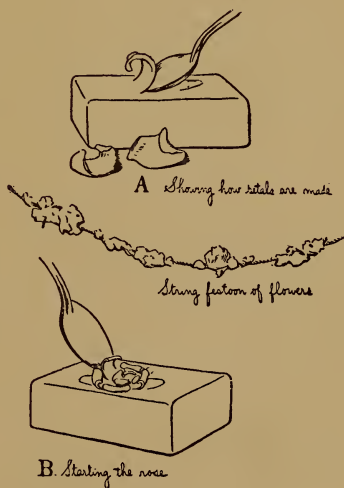


FIG. 35

of a veritable fairyland. Beautiful chariots, graceful candlesticks, perfect dogwood blossoms,

## NEW GAMES AND AMUSEMENTS

roses, orchids and a whole profusion of dainty objects can, by this means, be produced with surprising ease. The best results are produced from ordinary cakes of white soap—the softer the better.

To make single petals for dogwood and other flowers, scoop out a light shaving of soap with a teaspoon, as shown in A, Fig. 35. To make a rose, first scoop up a small petal with a teaspoon near the centre of a cake of soap, and proceed to make petals as shown in B, Fig. 35, until the rose is completed. Be very careful not to break petals off, and also to make them gradually larger as the outer edge of the rose is reached.

### DOGWOOD BLOSSOMS

Dogwood blossoms may be made as follows: Upon a piece of dogwood branch fasten a number of soap blossoms, as shown in illustration. Each flower consists of four petals, which should be fastened to the branch, one at a time, with sealing-wax. Festoons of flowers may be made by saturating a long piece of soft, white string with prepared glue, then placing it upon a handful of delicate, small soap shavings. Leave it there until the glue hardens, when upon carefully withdrawing it the festoon will be ready for use.





SOAP CANDELABRUM



DOGWOOD BLOSSOMS



THE FLOWERY CHARIOT



## SCULPTURE FOR EVERYBODY

You will need a soap mixture, and this is the way to make it: Place a number of fine soap shavings in a tin pan and just cover them with water. Set this upon the stove and keep it there until the soap is melted, then take it off, and when the solution thickens until the consistency of glue is reached it is ready for use. This mixture is used to fasten the parts of sculpture together, to fill up all interstices, and is generally useful and convenient.

### A SOAP CANDELABRUM

To make the candelabrum, fasten a block of wood three and one-half inches square by six and one-half inches in height to a piece of board. Around the block place four cakes of soap (A, Fig. 36). These should measure about four inches long, two and one-half inches wide and one and one-half inches thick,

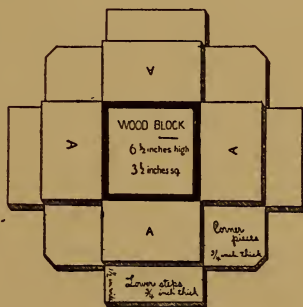


FIG. 36

and be fastened securely to the board with "soap mixture." Then place corner pieces and

NEW GAMES AND AMUSEMENTS

lower steps in position, as shown in the diagram, and the base is complete. Start building pedestal by fastening large roses (A, Fig. 37) to base; use sharpened matches as pegs for this purpose (see B, Fig. 37). Fasten small roses on

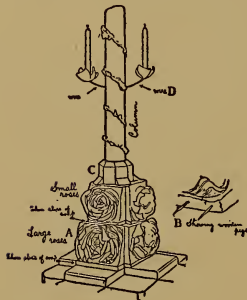


FIG. 37

top of large roses in same manner, and the pedestal will be completed. Roses will present a better appearance if separated from each other and from base with thin slices of soap fastened in position with "soap mixture" (see diagram).

After this cut out a hexagonal piece of soap (C, Fig. 37) and fasten it to the top of the block.

For the column, use a pasteboard roller about twelve inches high and one and one-half inches through and paint it white. Bore a hole completely through the middle of tube and insert a curved piece of wire, which should be firmly secured with sealing-wax (D, Fig. 37). Upon each tip of wire fasten four small soap petals with sealing-wax. Entwine a string festoon of flowers gracefully around the column, securing both ends with sealing-wax. Fasten the column in

## SCULPTURE FOR EVERYBODY

place upon a hexagonal piece of soap with the "soap mixture" or with sealing-wax.

In conclusion, cover up all exposed sealing-wax and wire with white paint; also paint the board upon which the candelabra stands jet black, which will greatly add to the effect. Candles may be fastened in place with "soap mixture."

### THE FLOWERY CHARIOT

The foundation of the flowery chariot is made by fastening a block of wood six inches long, two inches wide and one and one-fourth inches high securely to a stand. Slice two cakes of soap in half (A, Fig. 38). Place three slices upon the wooden block, and fasten the whole together with "soap mixture." When the mixture has hardened carve out these slices in shape as shown by B, Fig. 38. Next place a whole

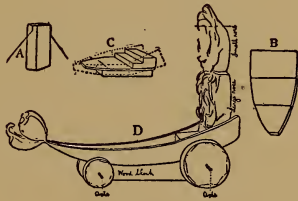


FIG. 38

cake of soap, from which a step has been previously cut out, upon the rear of this (C, Fig. 38), fastening it in the same manner as shown in B, Fig. 37, and afterward affix smaller rose, as shown in Fig. 38. Now

NEW GAMES AND AMUSEMENTS

cut out six thin, narrow slices of soap and fasten them with mixture to body of chariot, as shown by dotted lines (C, Fig. 38). Keep these in place with pins until the mixture hardens, and then shave down until the whole presents the appearance as shown by D, Fig. 38. For decoration, fasten single petals to chariot with mixture or pins. In front place a flower composed of petals joined together with mixture; around this flower entwine a long string festoon as shown in the illustration. For wheels, cut out four circular pieces of soap, two large and two small stick matches in centre for axle, and decorate these with delicate petals.

The daintiness of this chariot can hardly be imagined by the person who has never seen any of the beautiful articles that can be made from ordinary white soap. When placed against a dark background it looks wondrously beautiful, Rich, dark backgrounds and strong light and shade, properly placed, heighten the effect of these soap sculptures very materially.





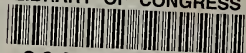








LIBRARY OF CONGRESS



0 020 237 147 4