



A.D. 1868, 18th March, N<sup>o</sup> 925.

### Producing Optical Illusions.

**LETTERS PATENT** to John Barnes Linnett, of Birmingham, in the County of Warwick, Printer, for the Invention of "**IMPROVEMENTS IN THE MEANS OF PRODUCING OPTICAL ILLUSIONS.**"

Scaled the 5th September 1868, and dated the 18th March 1868.

**PROVISIONAL SPECIFICATION** left by the said John Barnes Linnett at the Office of the Commissioners of Patents, with his Petition, on the 18th March 1868.

I, JOHN BARNES LINNETT, of Birmingham, in the County of Warwick,  
5 Printer, do hereby declare the nature of the said Invention for "**IMPROVEMENTS IN THE MEANS OF PRODUCING OPTICAL ILLUSIONS,**" to be as follows:—

My Invention consists of the improvements herein-after described in the means of producing optical illusions by presenting to the eye  
10 in rapid succession a series of pictures of objects representing the objects in the several successive positions they occupy when in motion, and thereby producing the impression of moving objects. I print or

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otherwise produce on separate leaves of paper or card or other flexible material a series of different pictures, in which the object or portion of the object which it is intended shall have the appearance of moving is represented in different positions, for example, if the illusion to be produced is that of a windmill with moving sails, I make the 5 stationary parts of the mill the same in all the leaves or cards, but the position of the sails is different in each. On one of the leaves two of the sails are represented in vertical and two in horizontal positions; on another the sails are represented in a slightly changed position, that is, at a small angle from the first-described position; on a third 10 the position of the sails is still further changed, and so on with respect to the rest, the number of leaves being sufficient to give the successive positions through a quarter revolution. The duplication of the same series will give the necessary positions of the sails in a half revolution, and by further repetitions the positions proper to any number of 15 rotations may be obtained. These leaves or cards are secured together at or near one edge so as to bind them together into a series similar to the leaves of a book, the leaves being so arranged that they follow one another in the order in which successive positions of the sails are represented. By holding the series in one hand and with the finger 20 and thumb of the other causing the leaves rapidly to turn over, the several pictures are presented in rapid succession to the eye, and the picture of a windmill with sails in motion is produced. The appearance of motion in any other object may be given in a manner similar to that described with respect to a windmill. The opposite sides of the 25 leaves may have different pictures on them, so that one book or series of leaves will present one moving picture when the leaves are looked at on one side, and another moving picture when they are looked at on the other side.

**SPECIFICATION** in pursuance of the conditions of the Letters Patent, 30  
filed by the said John Barnes Linnett, in the Great Seal Patent  
Office on the 14th September 1868.

**TO ALL TO WHOM THESE PRESENTS SHALL COME,** I, JOHN  
BARNES LINNETT, of Birmingham, in the County of Warwick, Printer,  
send greeting.

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**WHEREAS** Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Eighteenth day of March, in the year of our Lord One thousand eight hundred and sixty-eight, in the thirty-first year of Her reign, did, for Herself, Her heirs and successors,  
5 give and grant unto me, the said John Barnes Linnett, Her special licence that I, the said John Barnes Linnett, my executors, administrators, and assigns, or such others as I, the said John Barnes Linnett, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter  
10 during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "IMPROVEMENTS IN THE MEANS OF PRODUCING OPTICAL ILLUSIONS," upon the condition (amongst others) that I, the said John Barnes Linnett,  
15 my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and  
20 immediately after the date of the said Letters Patent.

**NOW KNOW YE**, that I, the said John Barnes Linnett, do hereby declare the nature of the said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof, that is to say:—

25 My Invention consists of the improvements herein-after described in the means of producing optical illusions by presenting to the eye in rapid succession a series of pictures of objects representing the objects in the several successive positions they occupy when in motion, and thereby producing the impression of moving objects.

30 In carrying my Invention into effect, I print, photograph, or otherwise produce on separate leaves of paper or card or other flexible material a series of different pictures, in which the object or portion of the object which it is intended shall have the appearance of moving is represented in different positions. For example, if the  
35 illusion to be produced is that of a windmill with moving sails I make the stationary parts of the mill the same in all the leaves or cards, but the position of the sails is different in each. On one of the leaves two of the sails are represented in vertical and two in

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horizontal positions; on another the sails are represented in a slightly changed position, that is, at a small angle from the first described position; on a third the position of the sails is still further changed and so on with respect to the rest, the number of leaves being sufficient to give the successive positions through a quarter revolution. 5

Figure 1 of the Drawing represents a series of leaves arranged in the order I have described, from an examination of which it will be seen that the position of the sails of the mill in each of the leaves is different from that in the others. The duplication of the series of leaves represented will give the necessary positions of the sails in a half 10 revolution, and by further repetitions the positions proper to any number of rotations may be obtained. These leaves or cards are secured together into a series similar to the leaves of a book, the leaves being so arranged that they follow one another in the order in which successive positions of the sails are represented. 15

Figure 2 represents a series of leaves or cards bound together after the manner of the leaves of a book. In the said Figure 2 the leaves or cards are secured together by metal eyelets *a, a*, but other means of binding or securing the leaves or cards together may be employed. I make perforations at *b* at the edges of the series of leaves or cards 20 for the purpose of facilitating the turning over of the said leaves or cards. By holding the book or series of leaves or cards, Figure 2, in one hand, and with the finger and thumb of the other hand causing the leaves rapidly to turn over, the several pictures are presented in rapid succession to the eye, and the picture of a windmill with sails 25 in motion is produced.

Figure 3 illustrates the manner in which the book or series of leaves or cards are turned over for the purpose of producing the optical illusion described. The appearance of motion in any other object may be given in a manner similar to that described with 30 respect to a windmill. The opposite sides of the leaves or cards may have different pictures on them, so that one book or series of leaves or cards will present one moving picture when the leaves or cards are looked at on one side, and another moving picture when they are looked at on the other side. 35

Although I have only described the turning over of the leaves, sheets, or cards as effected by hand, yet I do not limit myself thereto;

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as the said leaves, sheets, or cards may be turned over by mechanical means with the same effect.

Having now described the nature of my invention, and the manner in which the same is to be performed, I wish it to be understood  
5 that I do not limit myself to the precise details herein described and illustrated, as the same may be varied without departing from the nature of my Invention; but I claim as my Invention the improvements in the means of producing optical illusions herein-before described and illustrated in the accompanying Drawing, that is to  
10 say, printing or otherwise producing on one or both sides of separate leaves, sheets, or cards of paper or other flexible material a series of different pictures, in which the object or objects or a portion or portions of the object or objects which it is intended shall have the appearance of moving are represented in different positions, and  
15 binding or securing the said leaves, sheets, or cards together at or near one edge, so that by turning over the said leaves, sheets, or cards rapidly, the object or objects or a portion or portions thereof in their several positions are presented in rapid succession to the eye and the picture of a moving object or moving objects thereby  
20 produced.

In witness whereof, I, the said John Barnes Linnett, have hereunto set my hand and seal, this Eleventh day of September, in the year of our Lord One thousand eight hundred and sixty-eight.

25

JOHN BARNES LINNETT. (L.S.)

Witness,

GEORGE SHAW.

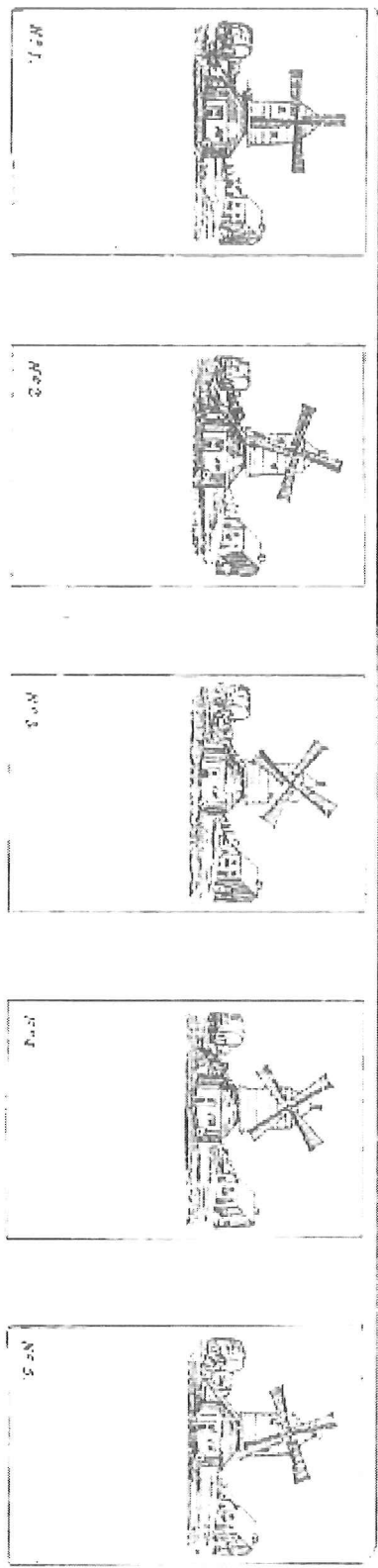


FIG. III.

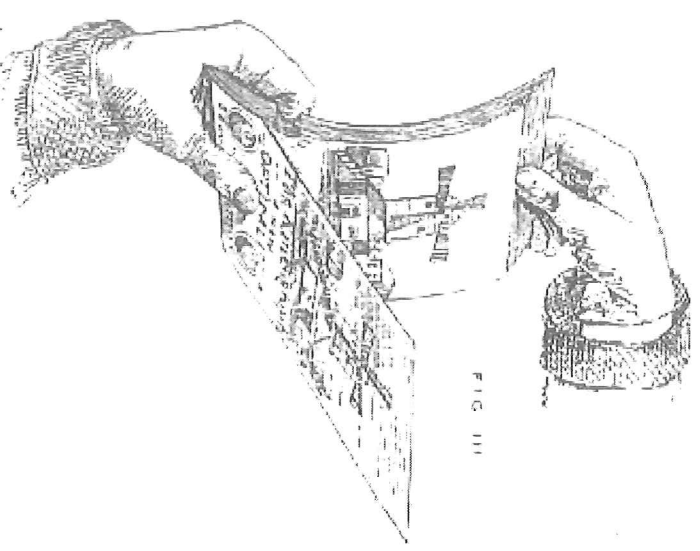
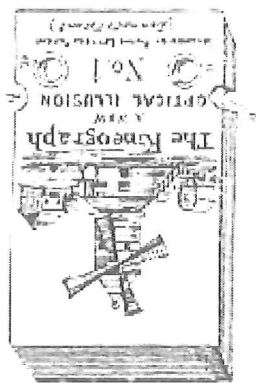


FIG. II.



The first drawing is not colored.

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