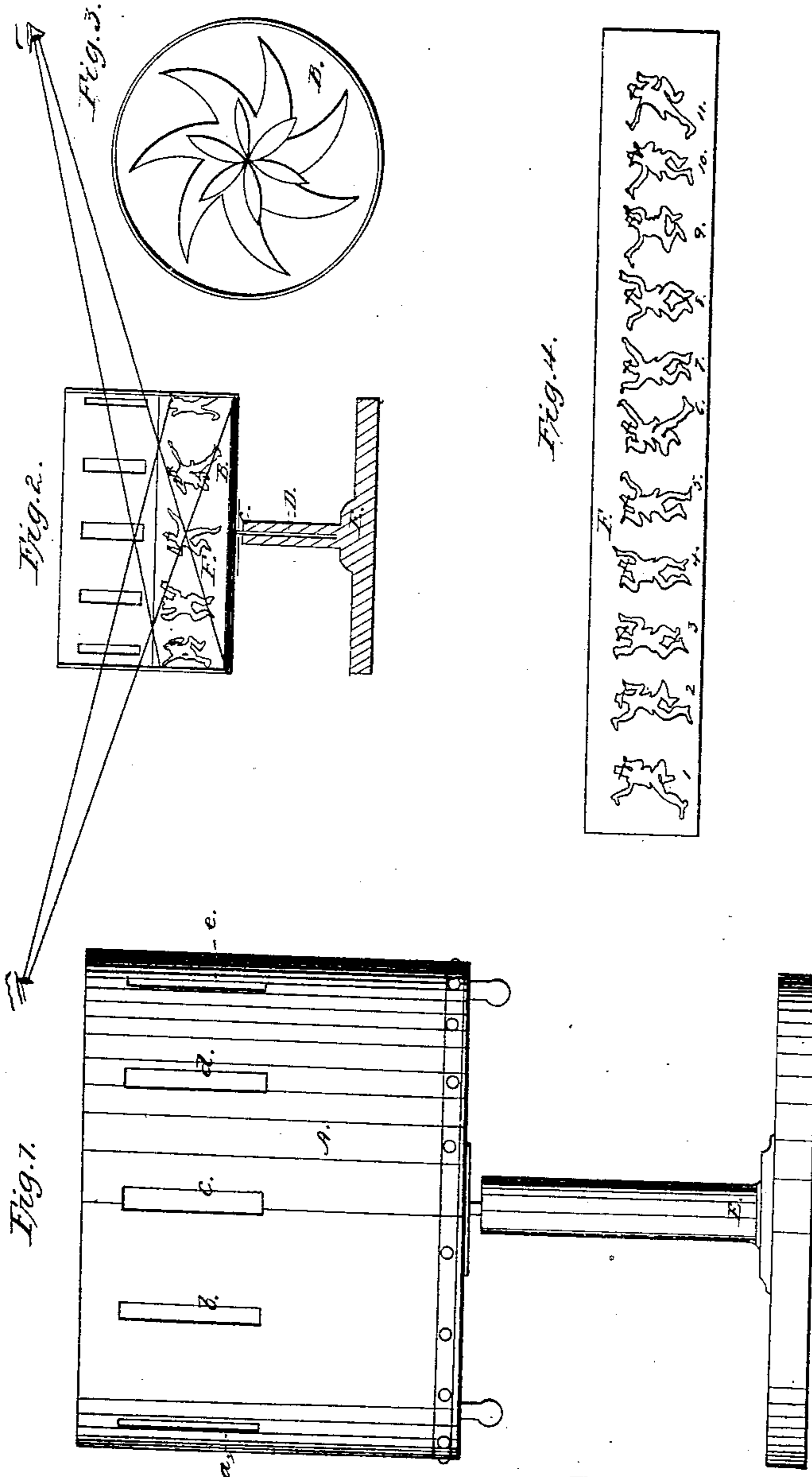


W. E. LINCOLN.
TOY.

No. 64,117.

Patented Apr. 23, 1867.



Witnesses:
Edward A. Hyde.
James P. Strong.

Inventor:
Wm. E. Lincoln
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United States Patent Office.

WILLIAM E. LINCOLN, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO
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Letters Patent No. 64,117, dated April 23, 1867.

TOY.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM E. LINCOLN, of Providence, county of Providence, State of Rhode Island, have invented a new and useful toy called the Zoëtrope; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon. In the drawings—

Figure 1 is a side view.

Figure 2, a section; and

Figure 3, a plan view of my invention.

Figure 4 being a view of a portion of it.

This invention consists of a toy arranged so that a number of figures are seen moving in imitation of life, or in other and complicated movements, and is constructed so that any number of plates can be adjusted to it, putting no limit to the variety of the subjects that can be shown. This invention is based upon the optical fact that an image once seen is retained for a moment of time upon the retina of the eye after the image is withdrawn.

In construction I form my zoëtrope of a cylinder, A, of pasteboard or other suitable material, having vertical slits, *a b c d e*, &c., cut in its sides. This cylinder has a bottom, B, to it, in the centre of which is fastened a pin or centre pivot, C, upon which it revolves. The centre pivot C works in a socket, D, upon the stand E. Around the inside circumference of the cylinder A I place the plate F, having the figures upon it. This plate F occupies, in height, the space between the bottom of the cylinder and the lower edges of the slits *a b c d e*, &c., and laterally extends all around the inside surface of the cylinder, meeting at its ends. The figures in this plate, generally corresponding in number to the slits in the cylinder, are arranged and shaped in a peculiar manner, each figure developing the movement wished to be imparted, in a slight degree more than the one preceding it. Thus it will be seen in the plate shown in fig. 4, that No. 2 (the motion intended being that of dancing) is a further development of the position of No. 1, the left leg being brought a little further down, and the left arm a little higher up, the right limbs being correspondingly reversed. No. 3 is a still further development, No. 4 still further, until at No. 5 it changes on the reverse from No. 1. Thus each of these figures are different from the next ones by a little nearer approach to the change desired. Now when these plates are placed inside of the cylinder, in the position before mentioned, having the figures arranged on this principle, the cylinder being rapidly revolved on its pivot, the observer looking through the slits in the sides sees the figures apparently moving. Those shown in the drawing appear to be dancing. The reason of this is, because one of these figures being caught sight of through one of the slits, the impression is retained upon the retina of the eye until another slit has come around, and another figure is seen. But this figure being in a different attitude from the first, the two are merged into each other so rapidly that the abruptness of the change is not apparent to the eye, and the first figure seems as if it moved into the position of the second. In the same way each succeeding figure makes part of the general motion. In the bottom of the cylinder may be placed a plate, G, with a figure similar in general shape to that shown in fig. 3, and subject to the same laws that are described above. In this figure a number of teeth are apparently made to revolve in opposite directions by a gradual change in the relative positions of the two wheels. In this manner I produce a very amusing toy, cheap in construction, and admitting of every variety of taste and fancy in the designs upon the plates, they being only limited by the principle involved and the size of the cylinder. The great advantage of this invention over all other toys based on the same optical illusion is, that with this any number of persons can, by placing it in the centre of the room, be able easily to see, at the same time, all the movements.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The device herein described, consisting of the revolving cylinder A, with any number of slits, *a b c d e*, and having figures upon its inside surface, and arranged and constructed substantially as set forth.
2. The plate F, having any desired figures upon it, arranged in the manner and for the purpose described.
3. The plate B, upon the bottom of the cylinder, having any desired figure or figures upon it, formed substantially in the manner and for the purpose shown.

WM. E. LINCOLN.

Witnesses:

EDWD. D. PEARCE,

J. ANDREWS.