

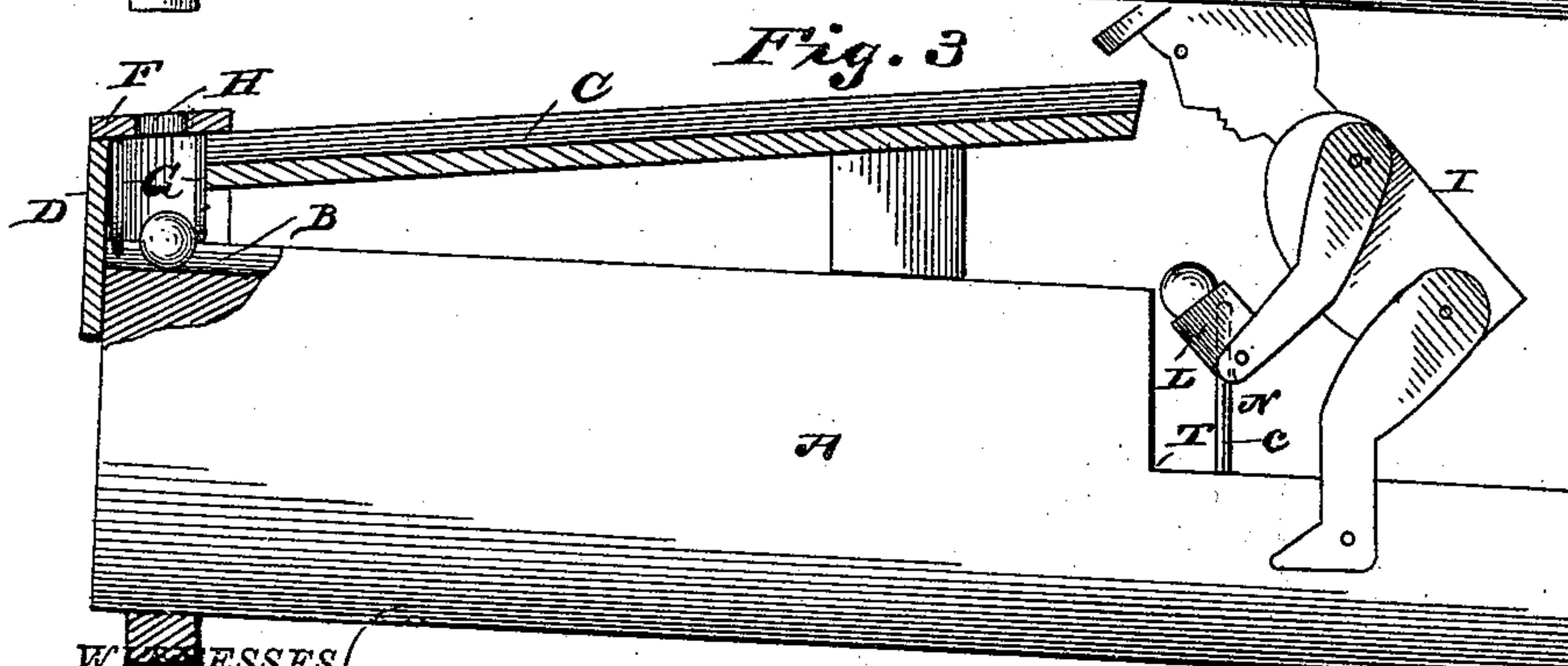
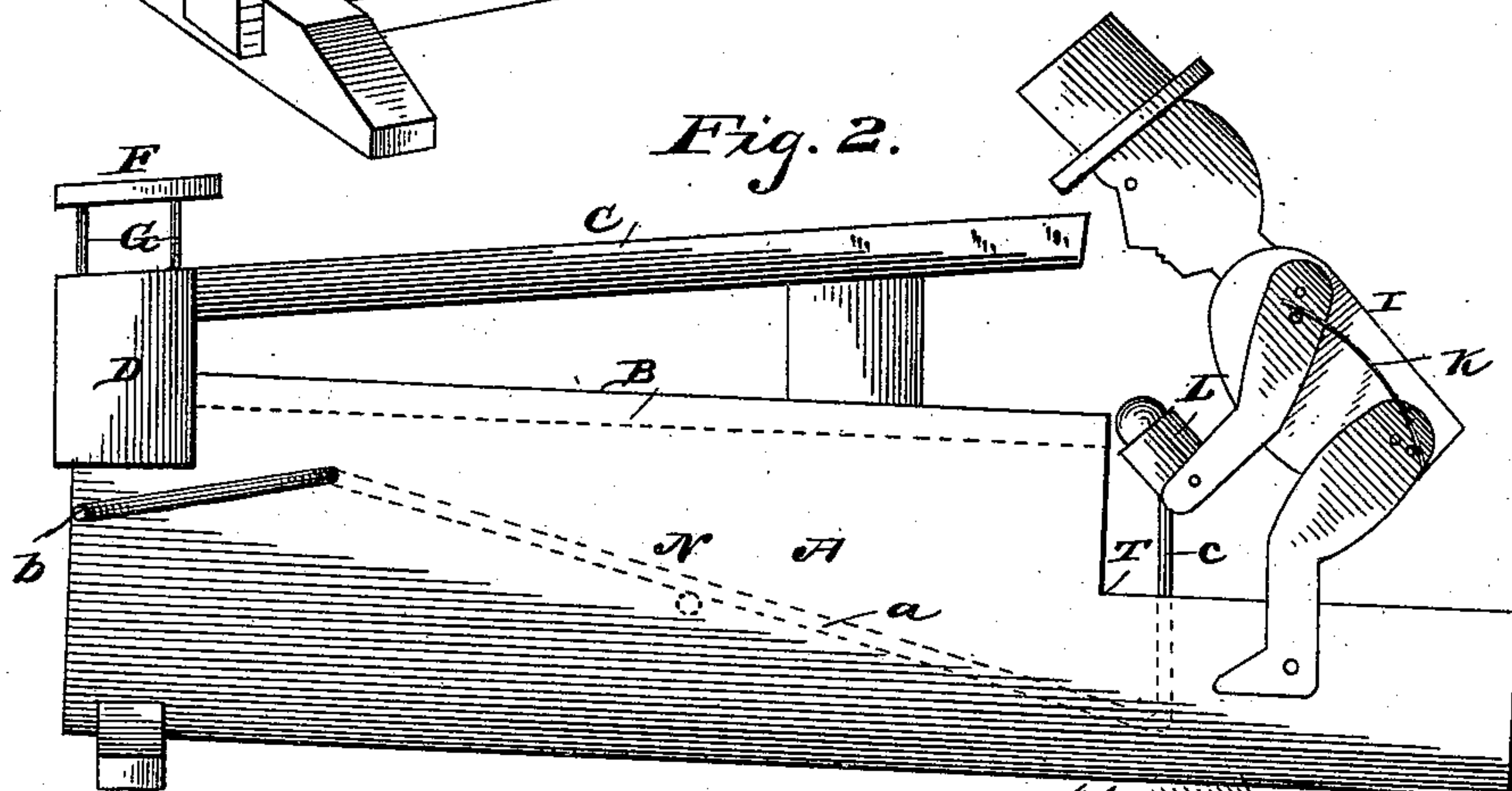
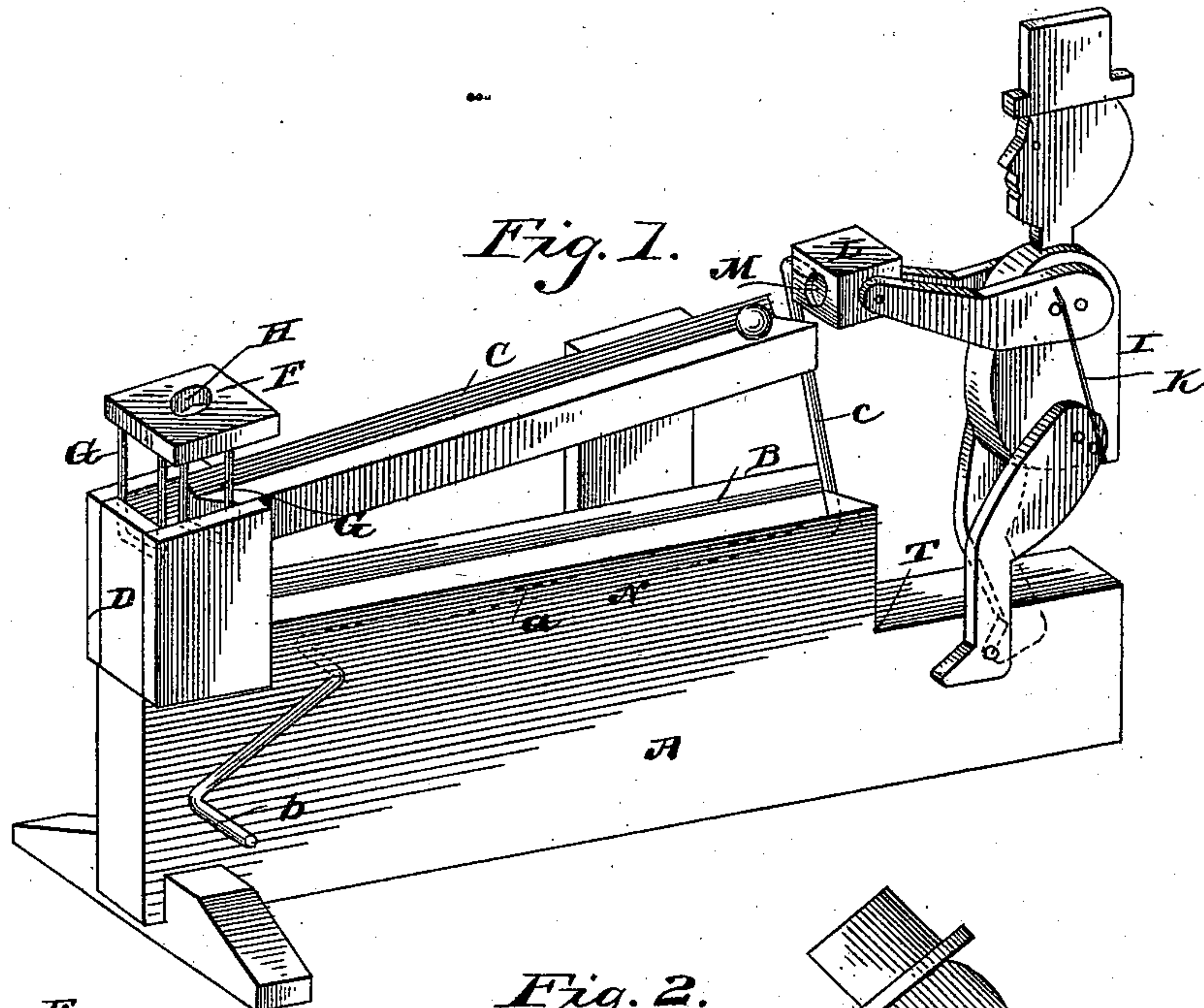
(No Model.)

C. M. BARTHOLOMEW.

MECHANICAL TOY.

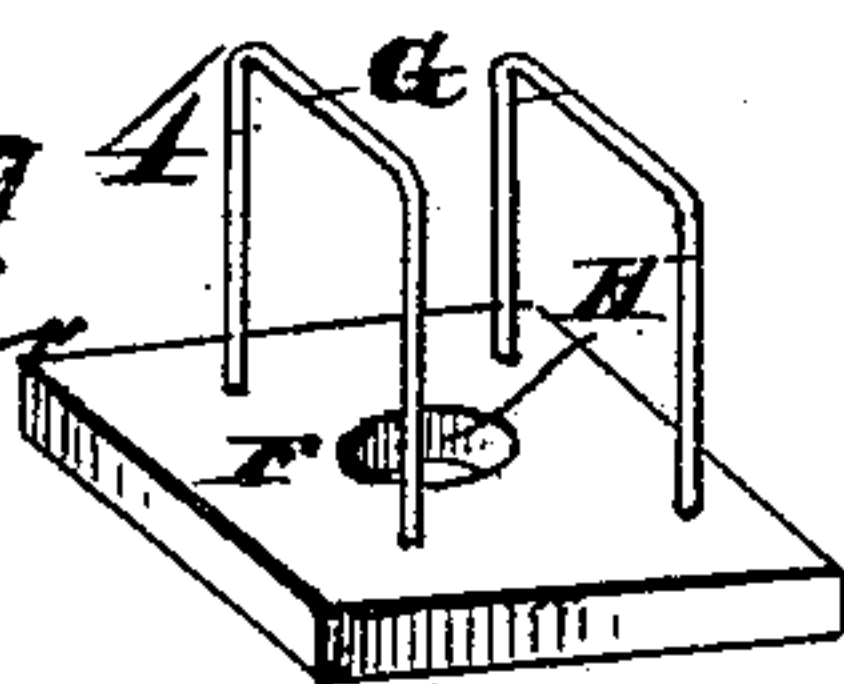
No. 370,305.

Patented Sept. 20, 1887.



WITNESSES

Fig  
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INVENTOR

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# UNITED STATES PATENT OFFICE.

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## MECHANICAL TOY.

SPECIFICATION forming part of Letters Patent No. 370,305, dated September 20, 1887.

Application filed April 29, 1885. Serial No. 163,876. (No model.)

*To all whom it may concern:*

Be it known that I, CASSIUS M. BARTHOLOMEW, a citizen of the United States, residing at Newark, in the county of Licking and State of Ohio, have invented a new and useful Improvement in Mechanical Toys, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to an improvement in mechanical toys designed for the amusement of children; and it has for its object to provide an article of this character which will operate to keep one or more balls or marbles continuously in motion while the toy is being worked.

The said invention consists, essentially, of a series of tracks or inclined planes on which the balls are arranged to roll, in connection with a figure carrying a bucket or other suitable device to catch the ball and suitable operating means, whereby the working thereof causes the bucket or carrier to present the ball at the inlet end of one plane or track and allow the rolling of the ball down the plane, and then to present itself at the discharge end of the other plane or track to catch the ball, this action being kept up continuously as long as the toy is working, the figure being moved correspondingly, as will be hereinafter described.

The invention consists, further, in certain details of construction and novel combinations of parts, as will be hereinafter particularly described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my improved toy, the figure being operated to present the ball at the inlet end of the upper inclined plane or track. Fig. 2 is a similar view showing the figure in the act of catching the ball at the discharge end of the lower plane or track. Fig. 3 is a longitudinal section. Fig. 4 is a detail view of the guard.

Like letters are used to indicate corresponding parts in the several figures.

Referring to the drawings, A designates the main frame of the toy mounted on a suitable supporting-base, and having one end cut off, as shown at T, to receive the figure, the construction of which will be presently described.

The upper edge of the main frame is grooved longitudinally, to form a V-shaped track, B, which is inclined downwardly toward the open end T of the frame. Above this track B, and on a vertical line therewith, is arranged another track, C, grooved correspondingly, but inclining in a reverse direction to that of the track B. The discharge end of this track C communicates with a chute, D, so that the ball as it rolls down the track C will drop through the chute onto the track B below. The upper open end of the chute is on the same plane with the track C, and unless some means is provided the ball as it rolls down the track will oftentimes escape over the side of the chute, and cause considerable annoyance to those working the toy. For this reason I have found it necessary to provide a guard at the upper end of the chute, by which this objection is overcome. This guard (shown in Fig. 4) comprises a block, F, having depending therefrom two wire bails or yokes, G G, which work in guide grooves or ways provided in the inner sides of the chute D. When not in use, this guard may be pressed down, as shown in Fig. 3, the wire bails being received within the chute and the block resting on the upper edge of the same and covering the entrance thereto, and in this position it is impossible to continue the working of the toy, for the block will prevent the ball from entering the chute. This guard also provides means for retaining the ball within the toy, as seen in Fig. 3, the ball resting at the inner end of the track B, and held from rolling down the same by the wire bails or yokes, an opening H being provided in the block F for the introduction of the ball when the guard is in this position. When it is desired to operate the toy, this guard should be drawn up into the position shown in Figs. 1 and 2, the block F being raised above the chute, and the four arms of the bails fitting at each corner of the latter. In this position the space between the arms of the bails will allow the passage of the ball down the chute, and will also prevent the ball from escaping laterally over the side thereof, and thus avoid the objection heretofore pointed out.

I designates the figure of a man, having its



legs secured on each side of the frame A, at the reduced end T thereof, the body being hinged to the legs and the arms pivotally connected to the body. A spring, K, connects the arms and legs, so as to give a spring action to the former. At the outer ends of the arms is journaled a block, L, having one of its faces hollowed out at M to form a socket, in which the ball may be received, and forms a carrier therefor.

N designates the operating-rod, comprising the main arm *a*, which is passed transversely through the frame A, and has an operating crank or handle, *b*. The other end of the arm has a vertical extension, *c*, having its end turned at right angles and fitting in a perforation provided in one corner of the block or carrier L. A stud or projection extends outwardly from the frame A below the arm *a*, and limits the movement thereof. It will be observed that the operating-rod N has a vertical movement, and, being connected with the block or carrier L above the pivot thereof, causes the latter to turn when the toy is operated. This block or carrier L, which is more properly a pivoted bucket, serves to catch the ball at the lower inclined plane or track and dump or present it at the other track. I do not wish to be limited to any particular construction of catching device, as such may be changed at will without departing from the spirit of my invention.

The operation of my invention will be readily understood from the foregoing description, taken in connection with the annexed drawings.

When the toy is not in use, the ball rests at the inner end of the track B, and is held from moving down by the guard, hereinbefore described.

In operating the toy this guard is drawn up to the position shown in Figs. 1 and 2, allowing the ball to roll down the track B, the figure being then in its lowest position, with the bucket or block or carrier L standing on an inclined line slightly below the discharge end of the track, ready to catch the ball as it issues from the latter. The ball is caught by the bucket and held within its socket, and the figure operated by the rod N, causing the figure to be thrown back to an upright position and the arms thrown out on a horizontal line slightly above the inlet end of the track C. At the same time the bucket or block or carrier L is slightly turned on its pivot—from the inclined position shown in Fig. 2 to the horizontal position seen in Fig. 1—the ball being thrown out from the bucket or carrier by this movement upon the inner end of the track C, down which it rolls, through the bails of the guard at the discharge end of the track, and down through the chute D upon the track B below. The ball rolls down this track, when the figure is again operated by the rod N to present the bucket at the discharge end of the track B in time to catch the ball or wheel as it issues therefrom. This operation may be

repeated as often as desired, the figure being changed alternately from an upright position to present the ball at the upper track, C, to the stooping position to catch the ball at the lower track, B. Normally, the weight of the rod N serves to retain the figure in its stooping position, the bucket or carrier being ready to catch the ball immediately on the commencement of the operation. It will be observed that the tracks B C are inclined in opposite directions to each other and form planes along which the ball runs by gravity.

It will be apparent that instead of two tracks or planes I may use any number thereof; but in that case the figure could be operated to present the ball at the upper one of the series and catch it at the lower one of the series. The intermediate planes or tracks, being inclined reversely to each other, allow the continuous rolling of the ball from the upper track to the lower one, as will be readily understood. The spring which connects the arms is extended when the body is raised into a vertical position and the arms thrown out, and is contracted when the body is caused to assume a stooping position.

It will also be seen that the bucket or carrier in the position shown in Fig. 2 is slightly above the inlet end of the track C, and thus the ball will be thrown out upon the track. Since the figure and its bucket or carrier work on the same plane with the two tracks, the ball will always be presented at the upper track and received at the lower track on a direct line with the tracks, and thus the possibility of the ball escaping will be avoided.

My improvement provides a simple mechanical toy for the amusement of children. The movements of the figure are life-like, while the alternate rolling of the ball from one track to another and the catching and presenting of the ball to each track will provide a pleasant diversion to those operating the toy.

I do not wish to limit myself to the use of small marbles or balls as an article to be employed in connection with my toy.

Having described my invention, I claim—

1. In a toy, the combination, with a series of inclined tracks or planes, of a carrier and operating means therefor, whereby said carrier is caused to present a ball to the upper track or plane and to receive or catch the ball as it issues from the lower track or plane, and a figure shaped to simulate a living being pivotally connected with the carrier, for the purpose set forth.

2. In a toy, the frame having a series of inclined tracks or planes, in combination with a figure, a carrier connected to the figure, and operating means therefor, whereby when the carrier is operated to present the ball at the upper track or plane and receive it from the lower track the figure is caused to move from an upright to a stooping position, for the purpose set forth.

3. In a toy, the frame having a series of inclined tracks or planes, in combination with a



figure having a hinged body and pivoted arms, a carrier pivoted in the arms, and operating means for raising the carrier from the lower plane to the upper, as set forth.

5 4. In a toy, the frame having a series of inclined tracks or planes, in combination with a figure having pivoted arms, a movable body, a spring connected to the arms, a carrier, also connected to the arms, and operating means  
10 for raising the carrier from the lower plane to the upper, whereby the movement of the carrier causes the arms to be extended and the body swung into an upright position, for the purpose set forth.

15 5. In a toy, the frame having a series of inclined tracks or planes, in combination with a movable figure, the carrier connected to the figure and adapted to present the ball to the upper track or plane and catch it as it issues  
20 from the lower track or plane, and operating means connected to the carrier, as set forth.

6. In a toy, the series of tracks or planes, in combination with a figure having pivoted arms, a carrier connected to the arms, and  
25 actuating means for raising the carrier from the lower plane to the upper, as set forth.

7. In a toy, the series of tracks or planes, in combination with a pivoted carrier and operating means therefor, whereby the carrier  
30 is caused to be thrown from a horizontal position in presenting the ball to the upper track or plane to an inclined position to catch the ball as it issues from the lower track or plane, as set forth.

35 8. In a toy, the series of tracks or planes, in combination with a movable figure shaped to simulate a living object or being, and operating means for the latter to cause the figure to present the ball to the upper track or plane  
40 and catch the ball as it issues from the lower track or plane, as set forth.

9. In a toy, the series of inclined tracks or planes, in combination with a movable figure provided with arms which are adapted to present the ball to the upper track or plane and catch the ball as it issues from the lower track or plane, and operating means for the figure, as set forth.

10. In a toy, the series of inclined tracks or  
50 planes, each connected with the other by a chute or passage, in combination with a guard located in the chute or passage, and vertically movable or adjustable therein, said guard in its raised position serving to prevent the ball  
55 from rolling off laterally to one side, and when in its lowered position being adapted to hold

the ball from moving down the track, as set forth.

11. In a toy, the series of tracks or planes, each connected with the other by a chute, in  
60 combination with a guard comprising a block having a series of depending vertical yokes which slide within the chute, for the purpose set forth.

12. In a toy, the series of tracks or planes, each connected to the other by a chute, in combination with a guard comprising a series of depending bails or yokes, and a perforated block, whereby said bails may be moved vertically within the chute, for the purpose set forth. 70

13. A mechanical device for the purpose of delivering or conveying articles from a lower to a higher point, comprising a movable figure shaped to simulate a living object or being, a series of inclined planes or tracks, and a carrier between the inclined planes and the figure pivotally secured to the figure, and mechanism, substantially as described, for raising the carrier from a lower to a higher point, substantially as set forth. 80

14. A mechanical toy consisting of a series of inclined planes or tracks, a jointed figure shaped to simulate a living object or being, a carrier connected with said figure, and mechanism for raising and lowering the carrier, whereby the figure is given the appearance of performing the work, as set forth. 85

15. A mechanical device for conveying articles from a lower to a higher point, consisting of a movable figure shaped to simulate a living object or being, a carrier pivotally connected to said figure, a series of inclined tracks or planes, and operating mechanism for elevating the carrier and moving the figure, said mechanism being connected to the carrier and causing the figure to appear as though doing the work, substantially as set forth. 90 95

16. A mechanical toy consisting of a movable jointed figure shaped to simulate a living object or being, a carrier pivotally connected thereto, a series of inclined tracks or planes, the carrier being between the figure and the planes, and operating mechanism for raising the carrier, and thereby moving the figure, substantially as specified. 100 105

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

CASSIUS M. BARTHOLOMEW.

Witnesses:

JONATHAN REES,  
O. F. SEARS.