

No. 793,865.

PATENTED JULY 4, 1905.

F. M. WADSWORTH.  
OPERATING MECHANISM FOR ADVERTISING DEVICES.

APPLICATION FILED JAN. 4, 1904. RENEWED NOV. 4, 1904.

4 SHEETS—SHEET 1.

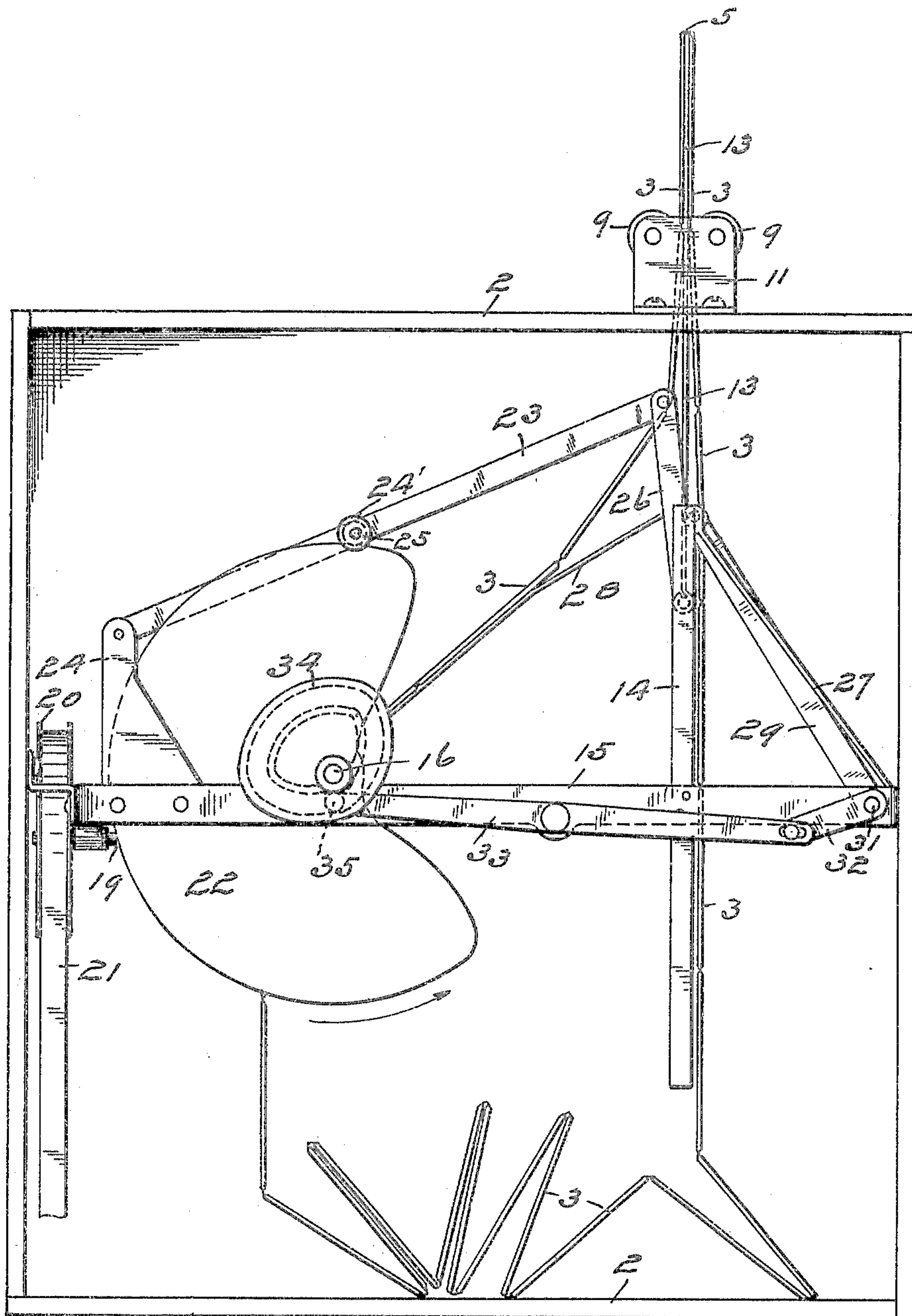


FIG. 1.

WITNESSES  
*E. J. Stande*  
P. G. Hanson.

INVENTOR  
FRANK M. WADSWORTH  
BY *Paul & Paul*  
HIS ATTORNEYS

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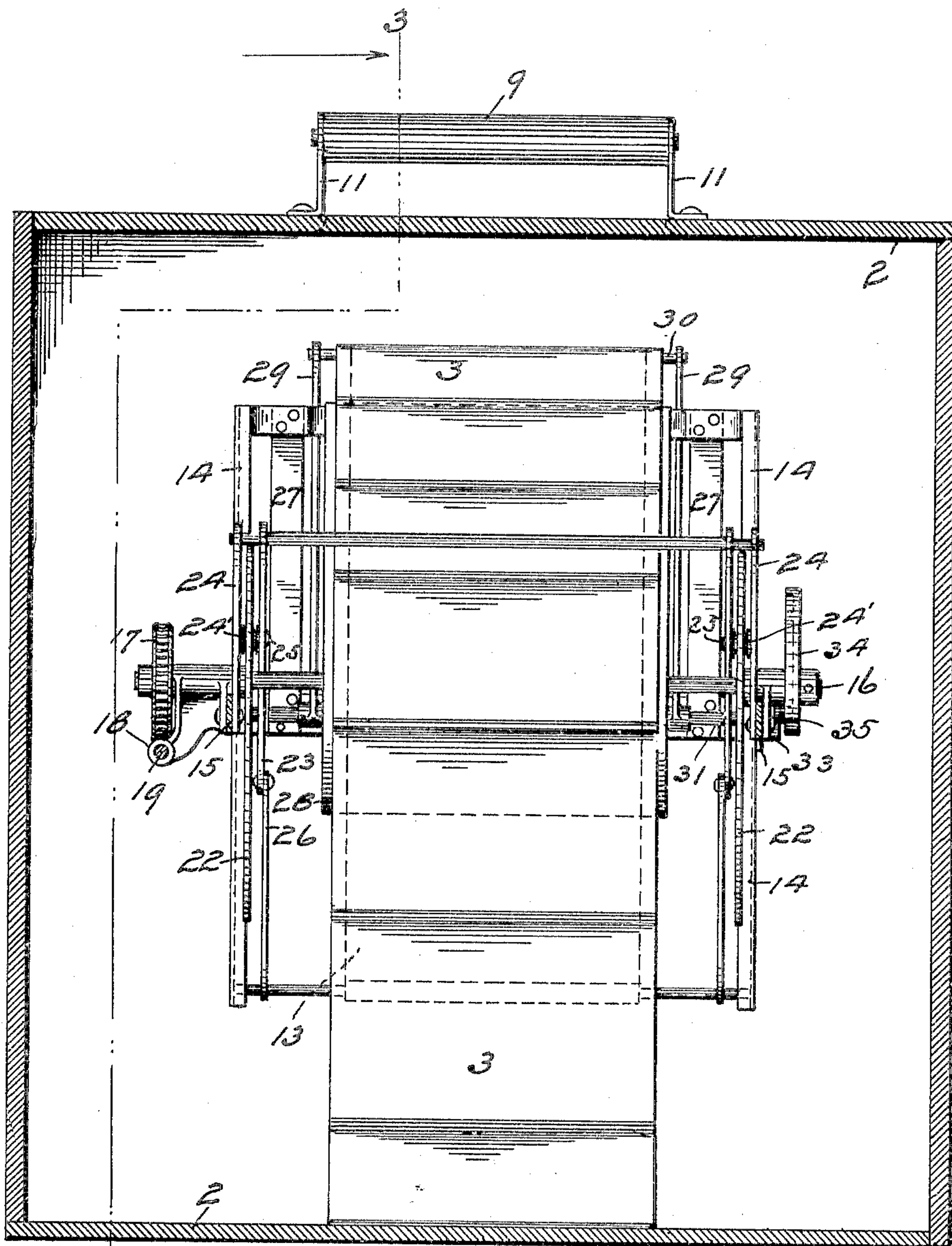


FIG. 2

WITNESSES

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4 SHEETS—SHEET 3.

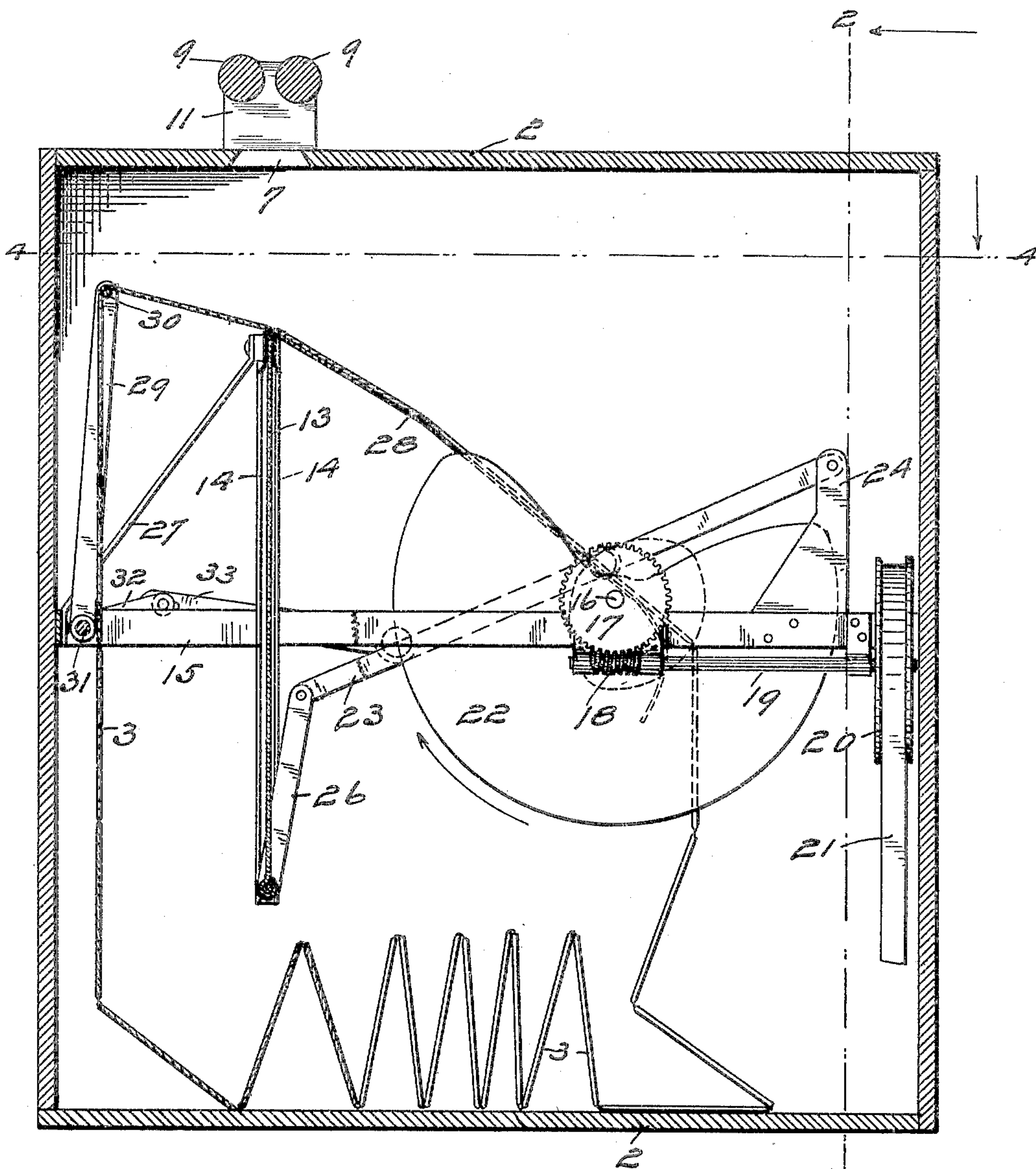


FIG. 3.

WITNESSES

*E. J. Stand*  
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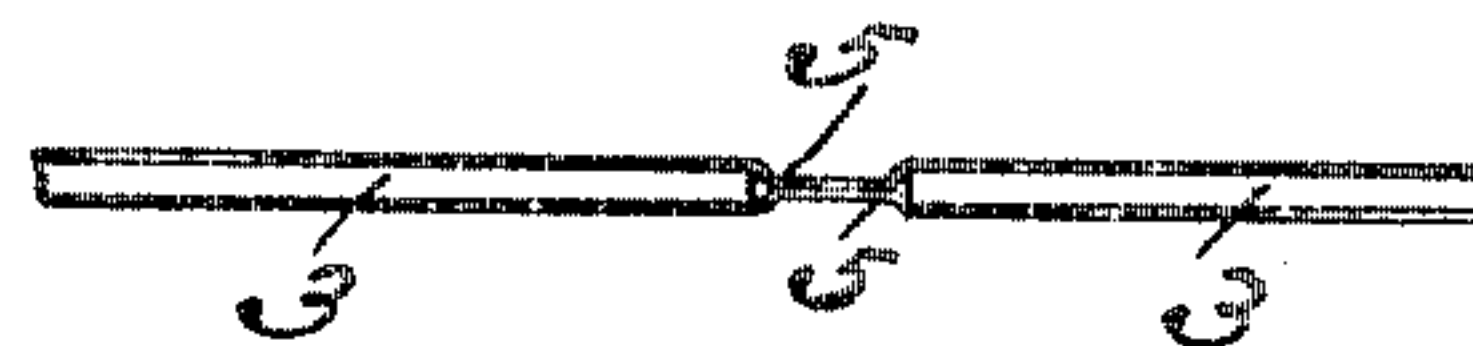
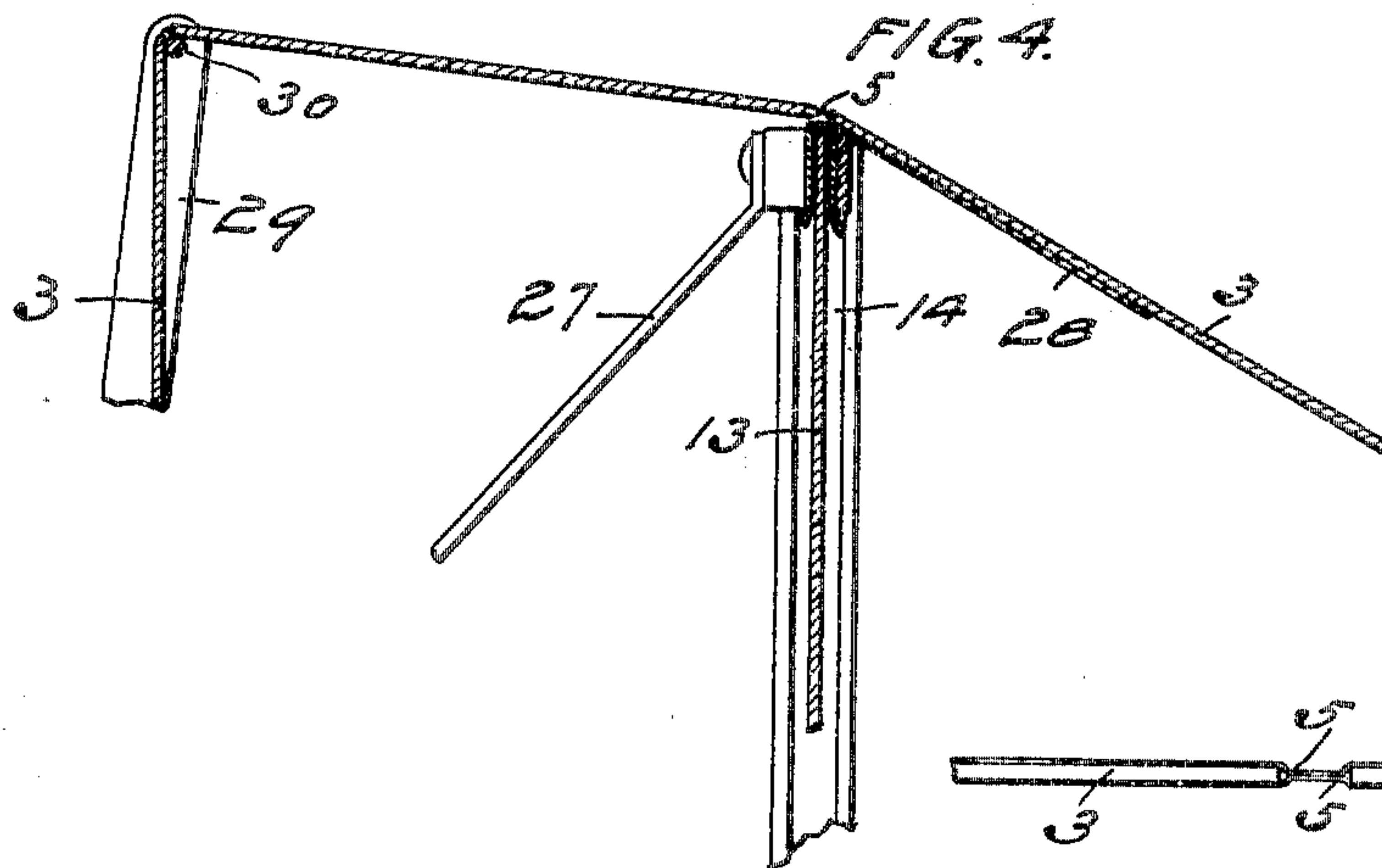
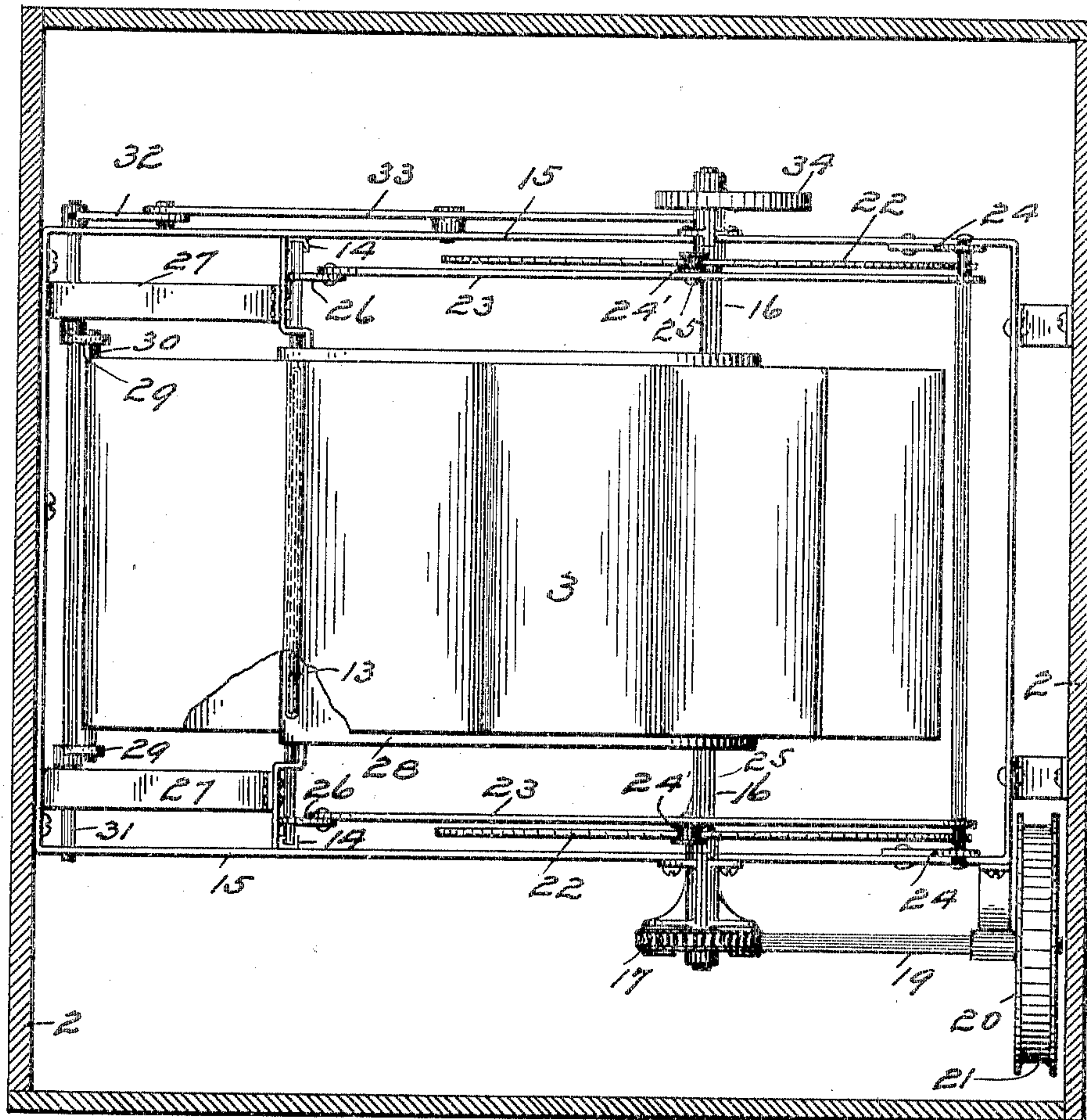
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4 SHEETS—SHEET 4.



WITNESSES

*E. J. Hansen*  
P. G. Hanson.

FIG. 5.

FIG. 6.

INVENTOR  
FRANK M. WADSWORTH  
BY *Paul & Paul*  
HIS ATTORNEYS



# UNITED STATES PATENT OFFICE.

FRANK M. WADSWORTH, OF MINNEAPOLIS, MINNESOTA.

## OPERATING MECHANISM FOR ADVERTISING DEVICES.

SPECIFICATION forming part of Letters Patent No. 793,865, dated July 4, 1905.

Application filed January 4, 1904. Renewed November 4, 1904. Serial No. 231,357.

*To all whom it may concern:*

Be it known that I, FRANK M. WADSWORTH, of Minneapolis, county of Hennepin, State of Minnesota, have invented certain new and useful Improvements in Operating Mechanism for Advertising Devices, of which the following is a specification.

The object of this invention is to provide improved mechanism by which a series of cards secured together so as to form an endless belt may be displayed one at a time at regular intervals, so as to attract the attention of persons who happen to be in the vicinity where the cards are displayed.

The invention consists generally in the constructions and combinations hereinafter described and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of a machine embodying my invention, the side wall of the inclosing casing being removed. Fig. 2 is a transverse vertical section on line 2 2 of Fig. 3 looking in the direction of the arrows. Fig. 3 is a section on line 3 3 of Fig. 2 looking in the direction of the arrows. Fig. 4 is a horizontal section on line 4 4 of Fig. 3 looking in the direction of the arrow. Figs. 5 and 6 are details.

In the drawings, 2 represents a suitable casing, within which the mechanism for displaying the cards is arranged. A series of cards 3, having suitable advertising matter thereon, are connected together by strips of cloth or other flexible material 5, thereby forming an endless belt, and said strips of flexible material between the cards forming double hinges, so that the cards are capable of folding together in either direction, as illustrated at the lower part of Fig. 1. A suitable opening 7 is provided in the top of the casing 2, and above this opening are suitable rolls 9, mounted in standards 11, said standards being suitably secured to the top of the casing. Within the casing is a plunger 13, that is arranged directly below the opening 7 and is arranged to travel between suitable guides 14. The belt is arranged to pass over the upper end of this plunger, and suitable means is provided for raising the plunger, bringing its upper end

into contact with the belt at the joint between two of the cards and then raising the belt and carrying two of the cards upward through the opening 7 and between the rolls 9 and exposing one or both of said cards. When the plunger descends, the cards return with it and suitable means is then provided for moving forward the belt a distance equal to the length of one of the cards. The plunger is then raised and another card displayed, and this operation is repeated as long as the machine remains in operation. I provide novel means for operating the plunger and belt-feeding device arranged within the casing 2. For this purpose I secure within the casing a suitable frame 15, preferably of rectangular form and suitably secured to the inner wall of the casing. (See Fig. 4.)

16 represents a suitable driving-shaft mounted in bearings upon the frame 15 and provided with a worm-gear 17, that is engaged by a worm 18 upon a shaft 19. The shaft 19 is preferably provided with a belt-pulley 20 and is driven by means of an operating-belt 21. The shaft 16 is preferably provided near each end but within the frame 15 with a large cam 22. A lever 23 is pivoted upon a standard 24, near each side of the frame 15, and each of these levers carries a roll 24', arranged upon a suitable stud 25 and resting upon the cam 22. The free ends of the levers 23 are connected by links 26 with the lower end of the plunger 13. The cam 22 is suitably shaped so that as said shaft 16 is rotated by the means already described the plunger 13 is raised, so as to carry one of the cards above the rolls 9 9 and in position to be seen by any person standing in front of the casing. The guides 14 may be suitably supported within the casing. I prefer to secure the guides to the frame 15, as shown in Fig. 1, and to provide suitable braces 27, secured to the tops of the guides and also to the inner wall of the casing. (See Fig. 2.) A suitable support, consisting, preferably, of a sheet-metal plate 28, is secured to the top of the guides 14 and extends in an inclined direction over the shaft 16. This plate forms a support for that portion of the belt that is above the frame 15. The device, already described, operates to raise the plun-



ger, and thereby to carry a portion of the belt above the guide-rolls 9. As the plunger rises the cards fold down flat against the plunger, and when the upper part of the plunger passes above the rolls 9 9 one of the cards will be exposed, with the illustrations or printed matter thereon, right side up and in position to be seen by any person standing in front of the casing. The plunger always engages the belt at the hinge between two of the cards, so that as the plunger rises two of the cards turn into vertical position against the sides of the plunger, as illustrated in Fig. 1 of the drawings. I also provide means for feeding the belt after each operation of the plunger. This means consists, preferably, of the arms 29, pivoted at their lower ends upon the frame 15 and connected by a rod 30, which is arranged within the endless belt 3. The arms 29 are preferably secured upon the transverse shaft 31, that is mounted in bearings in the frame 15. At one end this shaft is provided with the crank-arm 32, pivotally and slidably connected to the pivoted lever 33. A grooved cam 34 is arranged upon the shaft 16, and a pin 35 upon the lever 33 engages the groove in this cam, as shown in Fig. 1 of the drawings. When the plunger 13 is raised, so as to carry a portion of the belt above the casing 2, the arms 29 stand in the position shown in Fig. 1 of the drawings. When the plunger is lowered, the arms 29 are, through the lever 33 and cam 34, moved into the position shown in Fig. 3 of the drawings, and this movement of the arms 29 and rod 30 feeds the belt forward a space equal to the length of one card. This brings the belt into such position that when the plunger is raised the next card in the belt will be displayed.

I claim as my invention—

1. The combination, with the movable plunger and the series of cards connected together to form an endless belt and arranged to pass over said plunger, of an operating-lever connected with said plunger, and a cam engaging said lever, for the purpose set forth.

2. The combination, with the movable plunger and the series of cards connected together and forming an endless belt and arranged to be engaged by said plunger, of the pivoted levers connected with said plunger, and the rotating cams arranged to engage said levers, for the purpose set forth.

3. The combination, with a suitable casing provided with an opening therein, of the movable plunger arranged in said casing and adapted to be projected through said opening, a series of cards connected together and forming an endless belt and arranged to pass over said plunger, a pivoted lever connected to said plunger, and a cam engaging said lever, substantially as described.

4. The combination, with the casing provided with an opening therein, of the guide-rolls supported in standards above said opening, a movable plunger arranged in said casing and adapted to be projected through said opening and between said rolls, an endless belt consisting of a series of cards connected together by flexible connections and arranged to pass over said plunger, a pivoted lever connected to said plunger and a cam engaging said lever.

5. The combination, with the casing provided with the opening 7 and with the guide-rolls 9 mounted in suitable standards above said opening, of the movable plunger 13 arranged in suitable guides within said casing and adapted to be projected through said opening and between said rolls, the series of cards connected together by flexible connections and forming an endless belt and arranged to pass over said plunger, the pivoted levers connected to said plunger, and the rotatable cams engaging said levers, substantially as described.

In witness whereof I have hereunto set my hand this 16th day of December, 1903.

FRANK M. WADSWORTH.

In presence of—

A. C. PAUL,  
C. G. HANSON.