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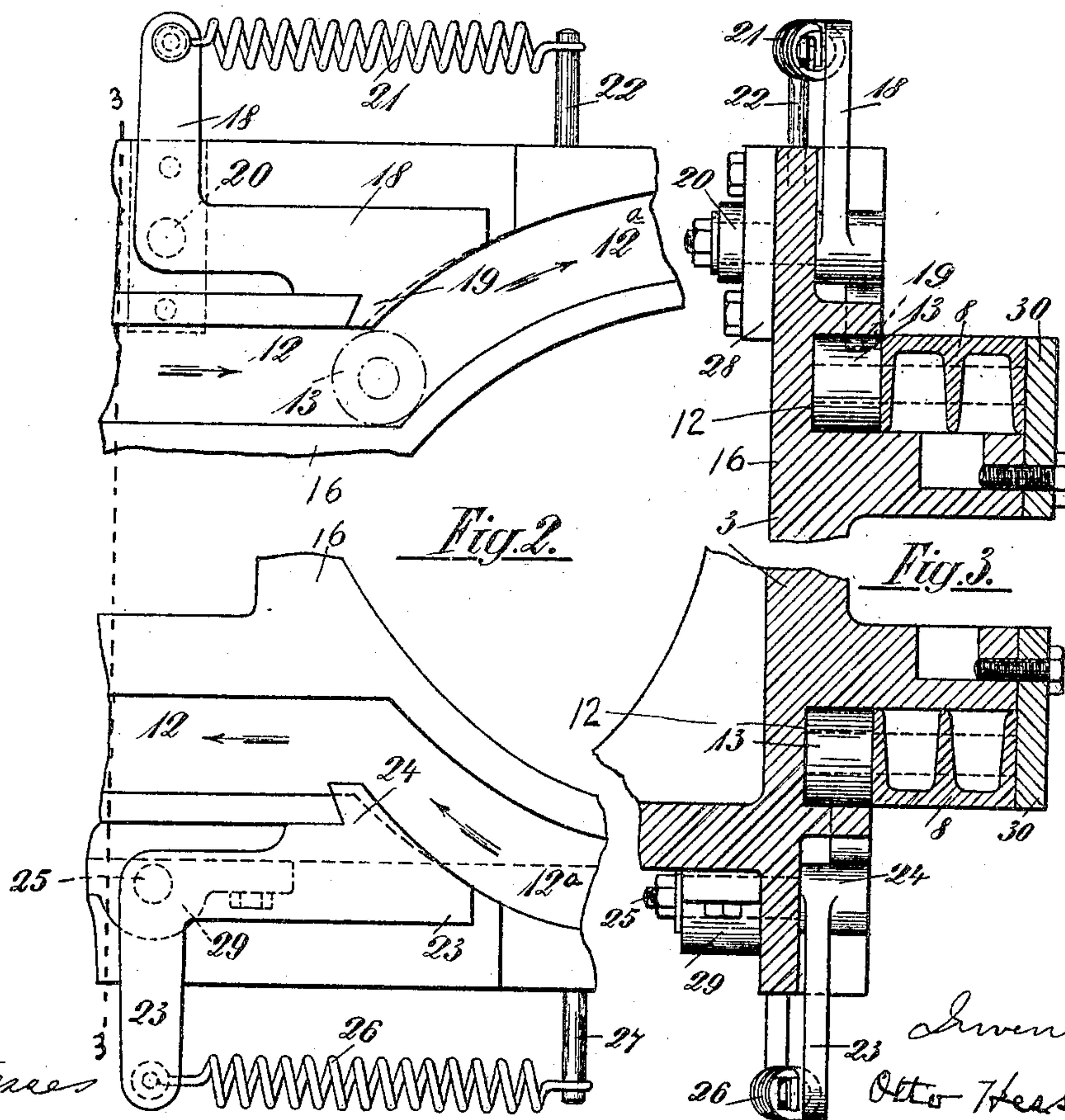
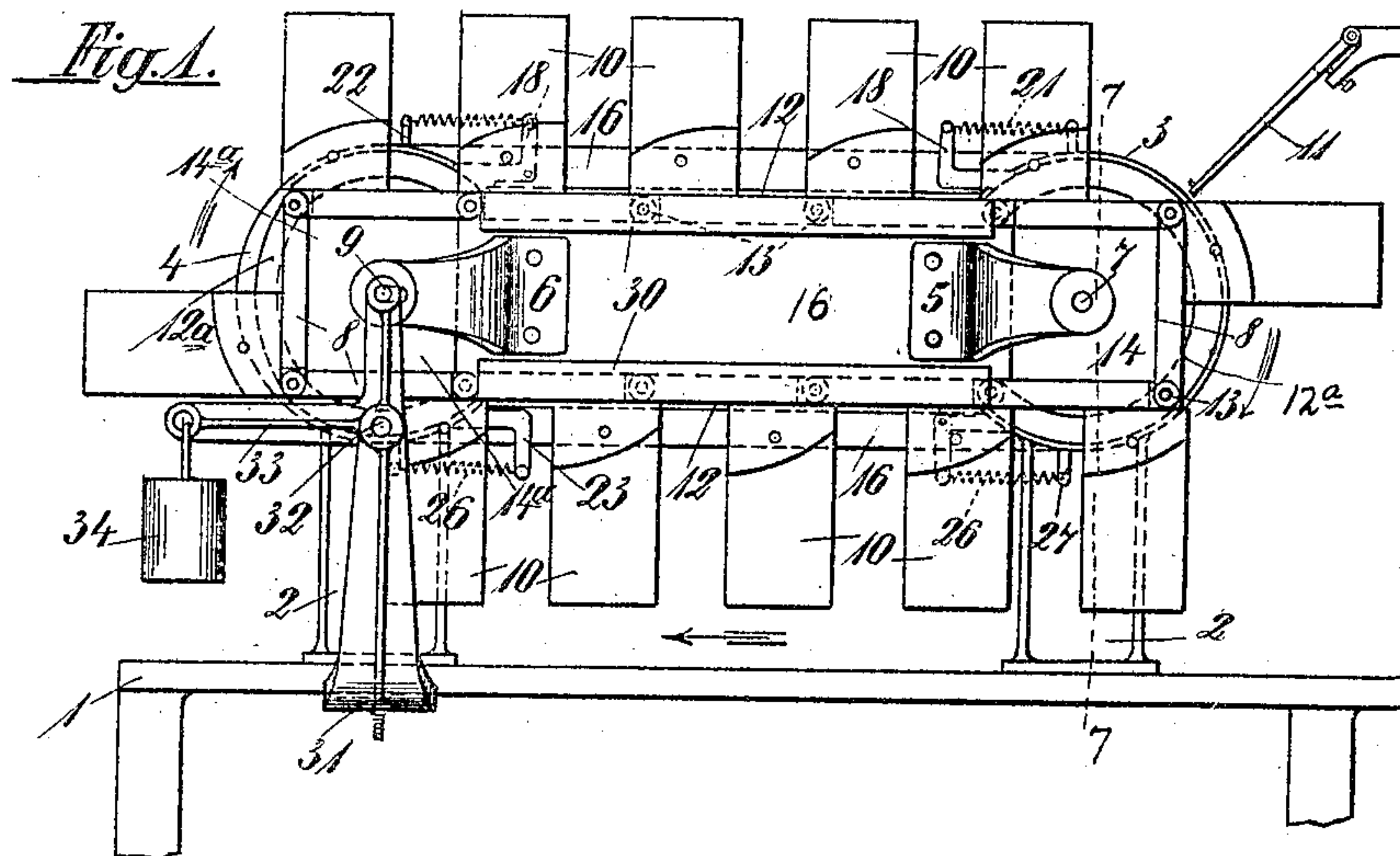
PATENTED FEB. 20, 1906.

O. HESSER.

CONVEYING MECHANISM FOR PAPER BAG MACHINES.

APPLICATION FILED DEC. 16, 1904.

3 SHEETS—SHEET 1.



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Fig. 4.

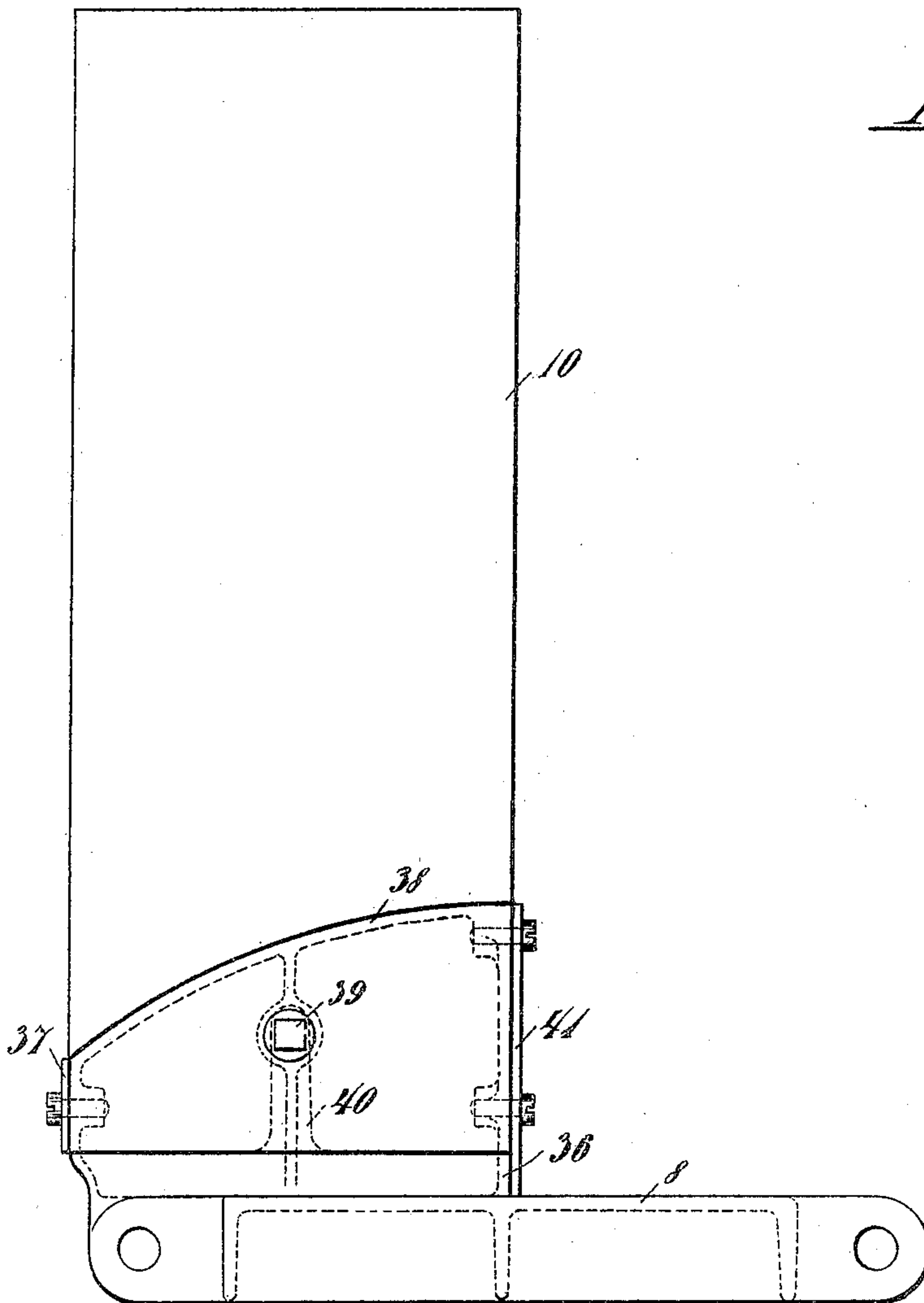


Fig. 5.

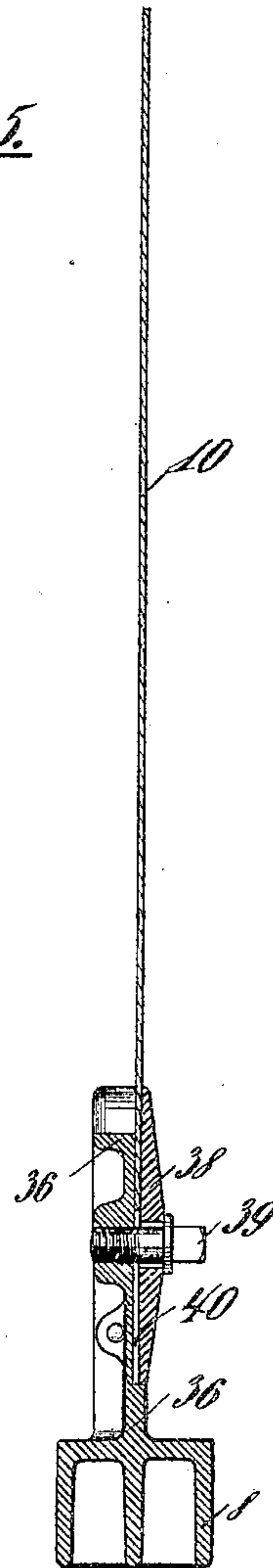
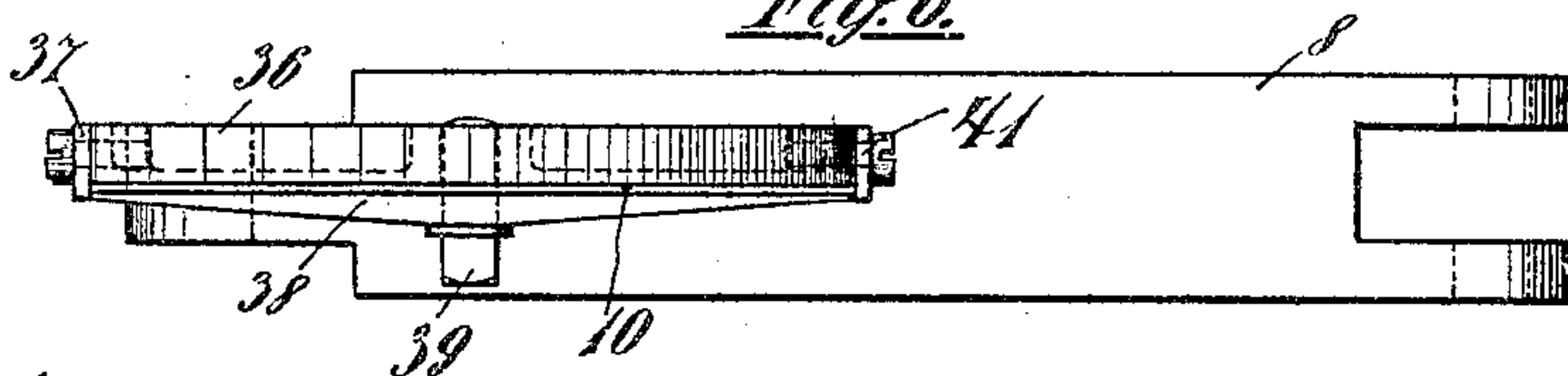


Fig. 6.



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3 SHEETS—SHEET 3.

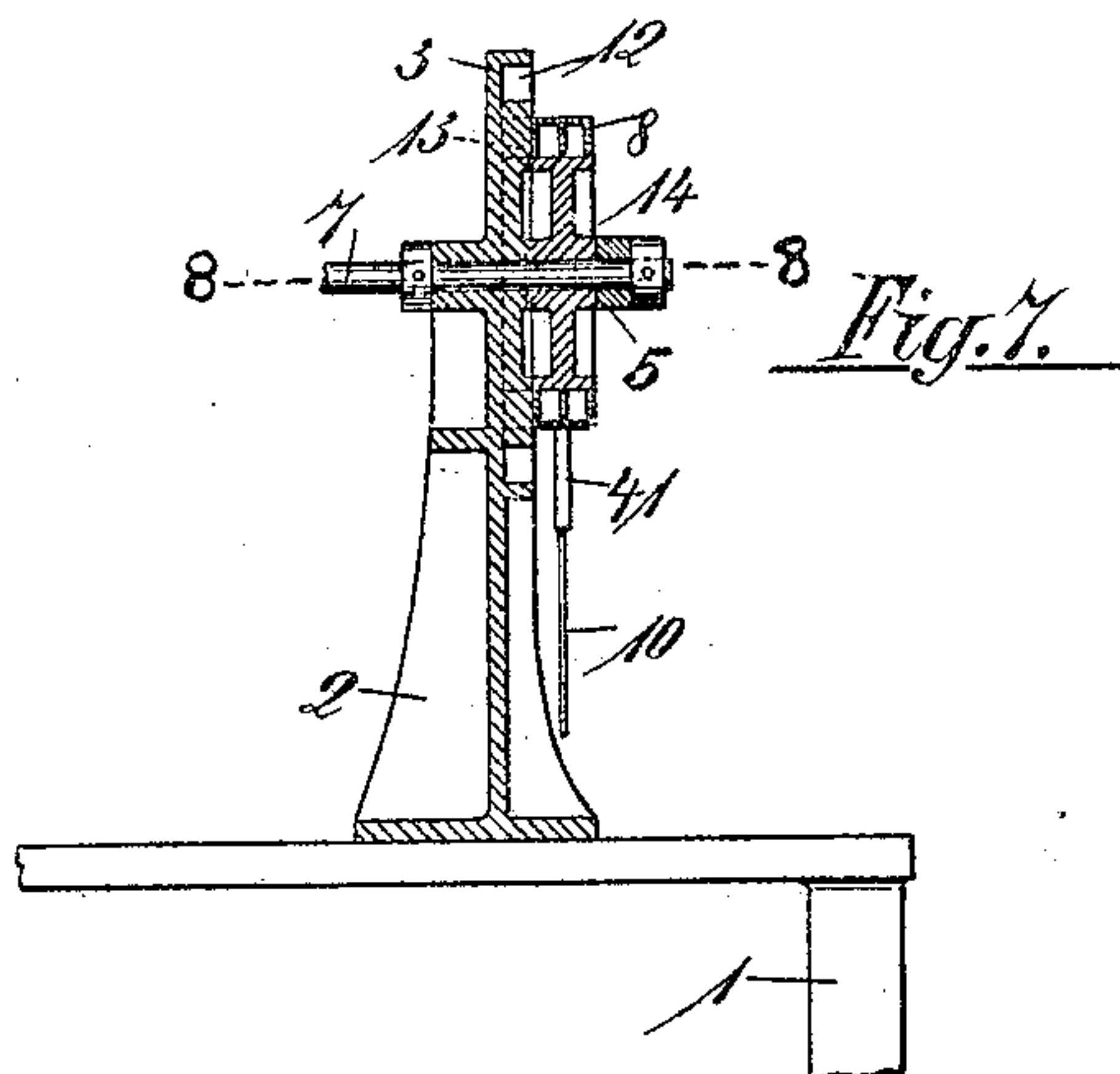


Fig. 7.

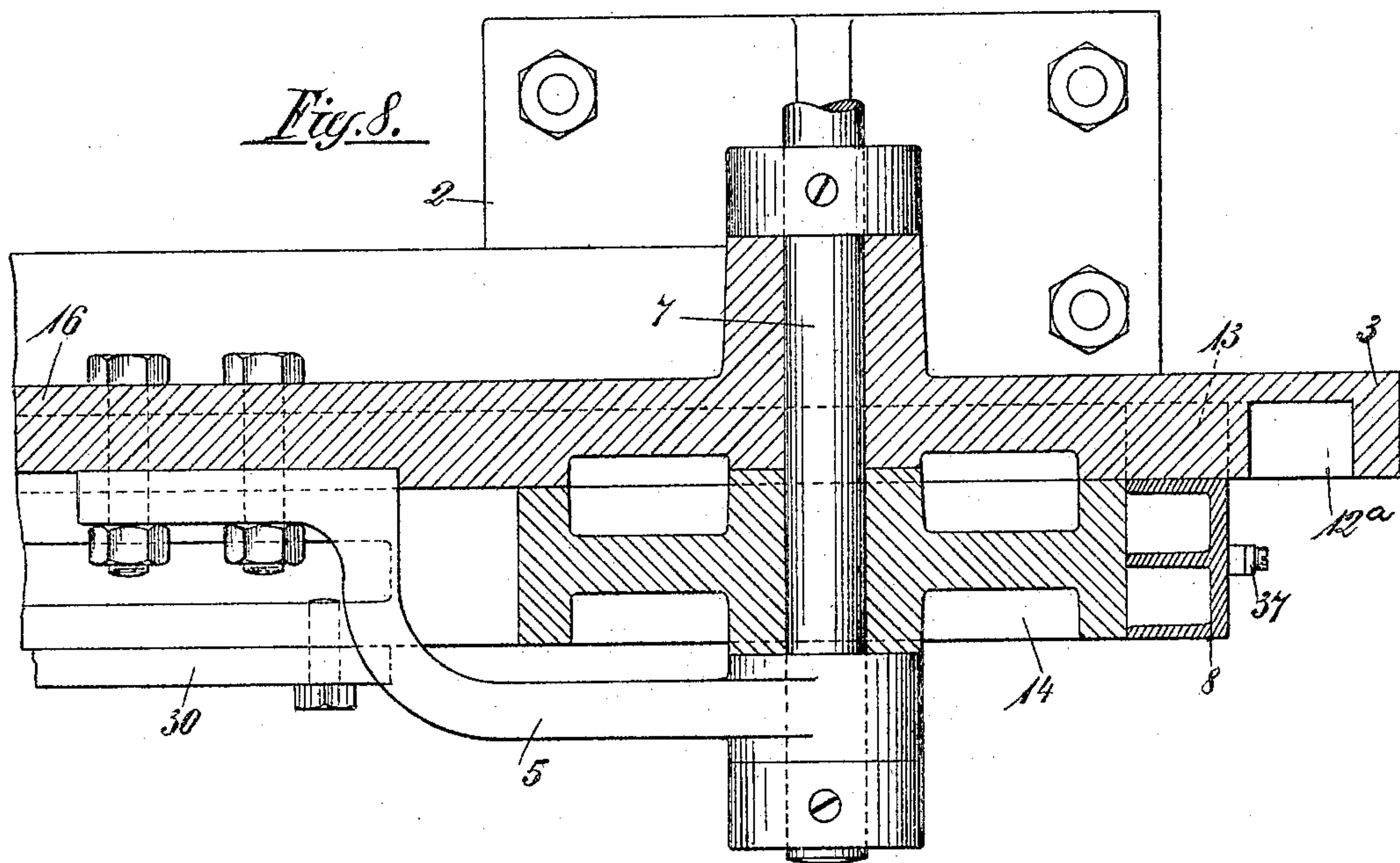


Fig. 8.

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CONVEYING MECHANISM FOR PAPER-BAG MACHINES.

No. 813,208.

Specification of Letters Patent.

Patented Feb. 20, 1906.

Application filed December 16, 1904. Serial No. 237,130.

To all whom it may concern:

Be it known that I, OTTO HESSER, a citizen of the German Empire, residing at Cannstatt, in the Kingdom of Württemberg, Germany, have invented certain new and useful Improvements in Conveying Mechanism for Paper-Bag Machines, of which the following is a description, reference being had to the accompanying drawings and to the figures of reference marked thereon.

This invention relates to conveying mechanism for use in paper-bag machines and like purposes, and has for its principal object to provide novel means for insuring a positive and correct movement of a number of folding plates or mandrels carried by an endless conveyer.

A further object of the invention is to provide a device of this character in which the conveying mechanism receives step-by-step movement and in this connection to effect positive locking of all of the folding plates or mandrels at the completion of each of such movements.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and combination of parts hereinafter described, illustrated in the drawings, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation of sufficient of a paper-bag machine to illustrate the invention. Fig. 2 is an elevation of portions of the structure shown in Fig. 1, drawn to an enlarged scale and illustrating more particularly the roller-holding devices at the juncture of the straight and curved portions of the cam-groove. Fig. 3 is a transverse sectional elevation of the same on the line 3 3 of Fig. 2. Fig. 4 is an elevation of one of the folding plates or mandrels and its carrying-link. Fig. 5 is a transverse sectional elevation of the same. Fig. 6 is a plan view of the plate and link. Fig. 7 is a vertical section of the machine on the line 7 7 of Fig. 1. Fig. 8 is a sectional plan view of a portion of the machine on the line 8 8 of Fig. 7, the view being on an enlarged scale.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The general frame of the machine includes a base or table 1, having standards 2, that support a horizontal plate 16, having curved end portions 3 and 4. To this plate are bolt-

ed two brackets 5 and 6, the bracket 5 serving, in connection with the plate 16, to support a shaft 7 and the plate and bracket 6 affording a similar support for a shaft 9, although the bearing-openings for the latter are horizontally elongated to permit slight movement of the shaft. On shaft 7 is a rectangular plate 14, and on shaft 9 is a similar plate 14^a, these two plates being connected by an endless conveyer or belt formed of pivotally-connected links 8, each of which carries a folding plate or mandrel 10. In the plate 16 is formed a continuous groove, including parallel horizontal portions 12 and curved end portions 12^a, and each pivot-pin of the conveyer-links is extended and carries an antifriction-roller 13, that travels in the groove as the conveyer moves.

In the machine forming the subject of the present invention single sheets of paper are laid on a slotted table 11 and the conveyer receives a step-by-step movement equal to the length of one of the links at each operation. The successive mandrels move through the slotted table, and each partly folds and carries with it a sheet of paper, the mandrels halting at successive stages, when the partly-folded sheet is acted upon by other mechanisms in the formation of a paper bag.

The principal difficulty encountered in the use of machines of this class is that when the pins or rollers arrive at the junctures of the straight and curved portions of the grooves they are not rigidly locked. To accomplish this, a pair of bell-crank locking-levers 18 is arranged at the juncture of the upper portion of the groove with the curved end portions, and similar bell-crank levers 23 are arranged at the juncture of the lower portion of the groove and the curved end portions thereof.

The bell-crank levers 18 are mounted on pins 20, carried by brackets 28, secured to plates 16, and have cam-shaped ends 19 projecting into the upper portions of the groove to reduce the width of the latter and offer resistance to the passage of the rollers 13. The upper arms of these levers are connected by springs 21 to studs 22. When a roller 13, traveling in the direction of the arrow, Fig. 2, in the upper straight portion of the groove, arrives at the entrance to the curved portion thereof, it is locked against vertical play by the lever 18, and the links and folding plates or mandrels are firmly held.

The lower bell-cranks 23 are mounted on pins 25, carried by brackets 29, secured to

plates 16, and have cam-shaped ends 24, which project into the lower portions of the groove. The lower arms of these levers are connected by springs 26 to pins or studs 27.

5 When a roller 13, traveling in the direction of the arrow, arrives at the juncture of the curved and straight portion of the groove, it will also be firmly held from movement, and it is only when one or other of the shafts, preferably shaft 7, is turned that the belt receives movement.

In order to properly guide the links 8, the frame-plate 16 has suitable flanges, on which the links are held by strips 30, as shown in 15 Figs. 1 and 3.

Owing to the movement of the links in a circular path at the ends of the frame, it is necessary to permit some movement of one of the shafts toward and from the other, and 20 in this case the ends of shaft 9 extend into openings in the vertical arms of bell-crank levers 33, pivoted on studs 32, and the horizontal arms of said levers carry weights 34, tending to move said shafts 9 away from the 25 shaft 7.

As it is desirable that the folding plates or mandrels 10 be interchangeable, each link is provided with a rib 36, recessed on one side to receive the plate. The plate is provided 30 with a slot 40 at its inner end, through which extends a clamping-bolt 39, said bolt also passing through an opening in a clamp-plate 38 to confine the folding plate or mandrel in position. To the ends of the rib are secured 35 strips 37 and 41 to prevent lateral displacement of said plate.

Having thus described the invention, what is claimed is—

1. In an apparatus of the class described, 40 pivotally-connected links forming an endless conveyer, folding plates or mandrels carried thereby, pins projecting from the links, a conveyer-support, a plate having a continuous guiding-groove for said pins and means 45 for resisting the passage of the latter in the groove.

2. In an apparatus of the class described, pivotally-connected links forming an endless conveyer, folding plates or mandrels carried

thereby, pins projecting from the links, a 50 conveyer-support, a plate having a guiding-groove with straight and curved portions for the reception of said pins, and means at the junction of the straight and curved portions of the groove for resisting the passage 55 of the pins.

3. In an apparatus of the class described, pivotally-connected links forming an endless conveyer, folding plates or mandrels carried thereby, pins projecting from the links, a 60 conveyer-support, a plate having a groove with straight and curved portions for the reception of said pins, and spring-pressed cam-levers at the junction of the straight and curved portions of the groove for resisting 65 the passage of the pins.

4. In an apparatus of the class described, pivotally-connected links forming an endless conveyer, folding plates or mandrels carried thereby, pins projecting from the links, a 70 conveyer-support, a plate having a groove with straight and curved portions, and pivotally-mounted spring-pressed levers having cam-shaped end portions for locking the pins at the junction of said straight and curved 75 portions of the groove.

5. In an apparatus of the class described, pivotally-connected links forming an endless conveyer, folding plates or mandrels carried thereby, pins projecting from the links, a 80 supporting-frame, a pair of shafts carried thereby, rectangular plates carried thereby and receiving the links, bell-crank levers carrying one of the shafts, and weights connected to the levers and tending to separate the 85 shafts.

6. In a device of the class described, a link having a recessed rib, a clamp-plate, a bolt connecting the two, a detachable folding plate or mandrel having a slot for the recep- 90 tion of the bolt, and side strips for preventing lateral play of said plate or mandrel.

In testimony whereof I affix my signature in presence of two witnesses.

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Witnesses:

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