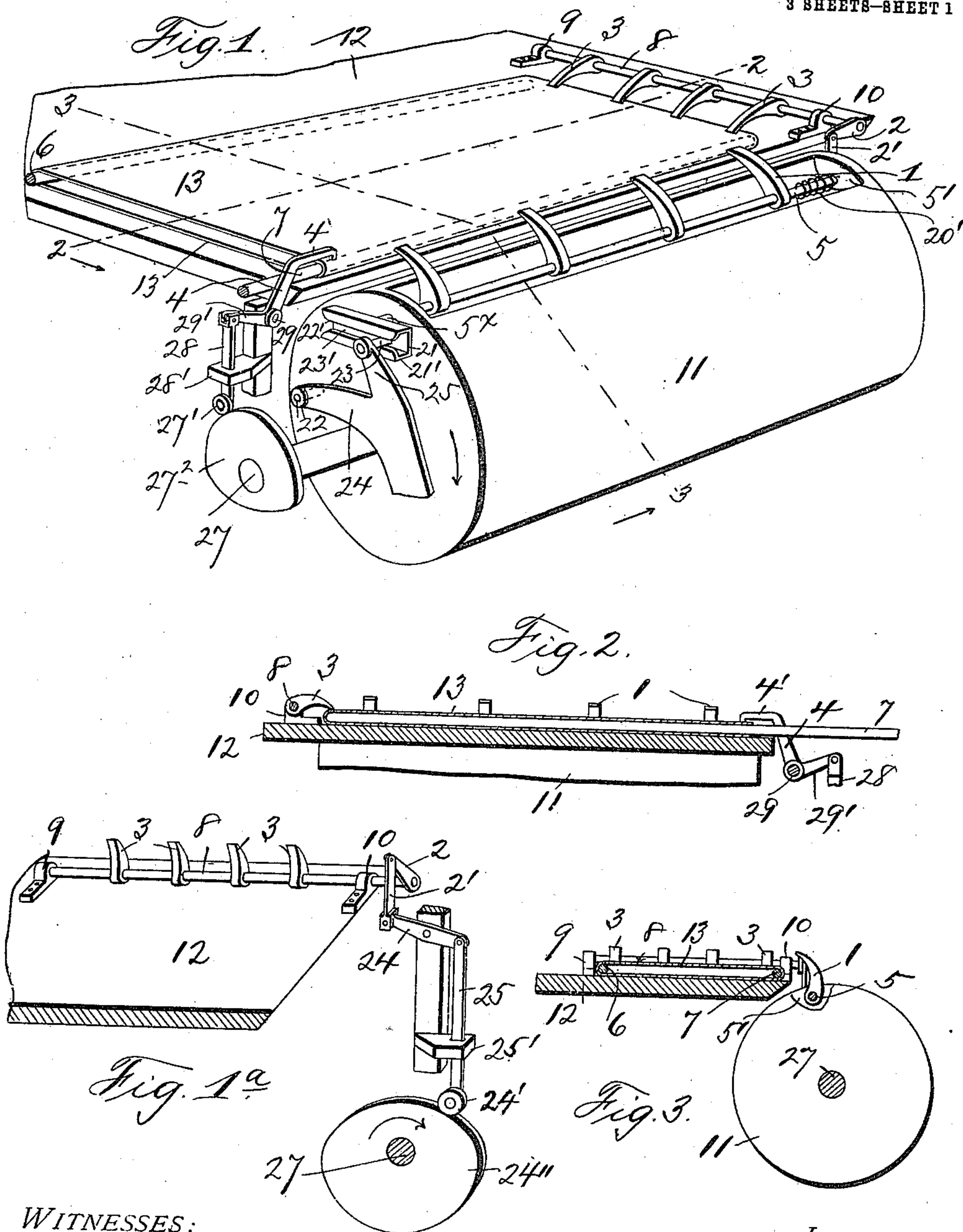


L. J. ELSAS.
MACHINE FOR FEEDING BAGS TO PRINTING OR OTHER MACHINES.
APPLICATION FILED AUG. 31, 1909.

976,255.

Patented Nov. 22, 1910.

3 SHEETS—SHEET 1



WITNESSES:

M. H. Darg.
L. A. Price

INVENTOR

Louis J. Elsas,
BY Ch. Brandenburg

Attorney

L. J. ELSAS.
MACHINE FOR FEEDING BAGS TO PRINTING OR OTHER MACHINES.
APPLICATION FILED AUG. 31, 1909.

976,255.

Patented Nov. 22, 1910.

3 SHEETS—SHEET 2.

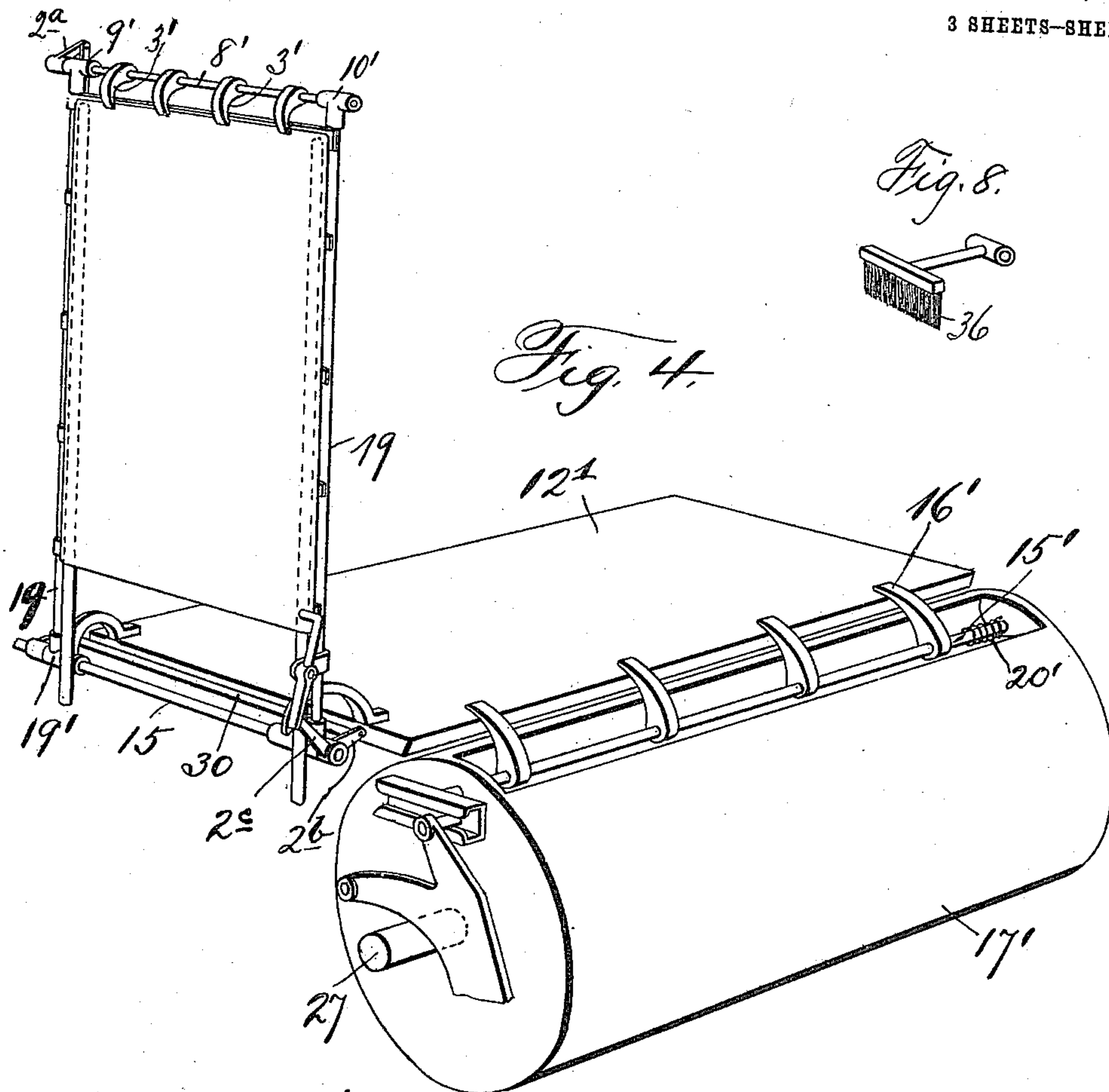


Fig. 8.

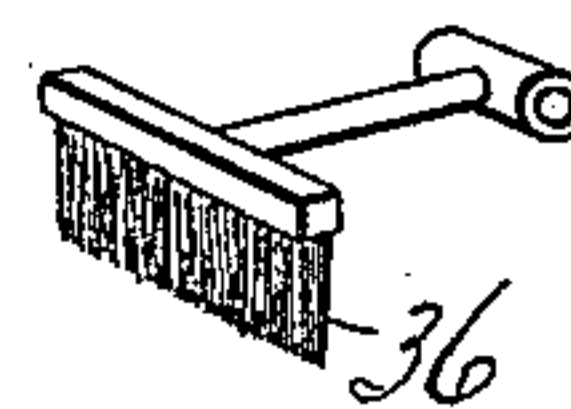


Fig. 4.

Fig. 6.

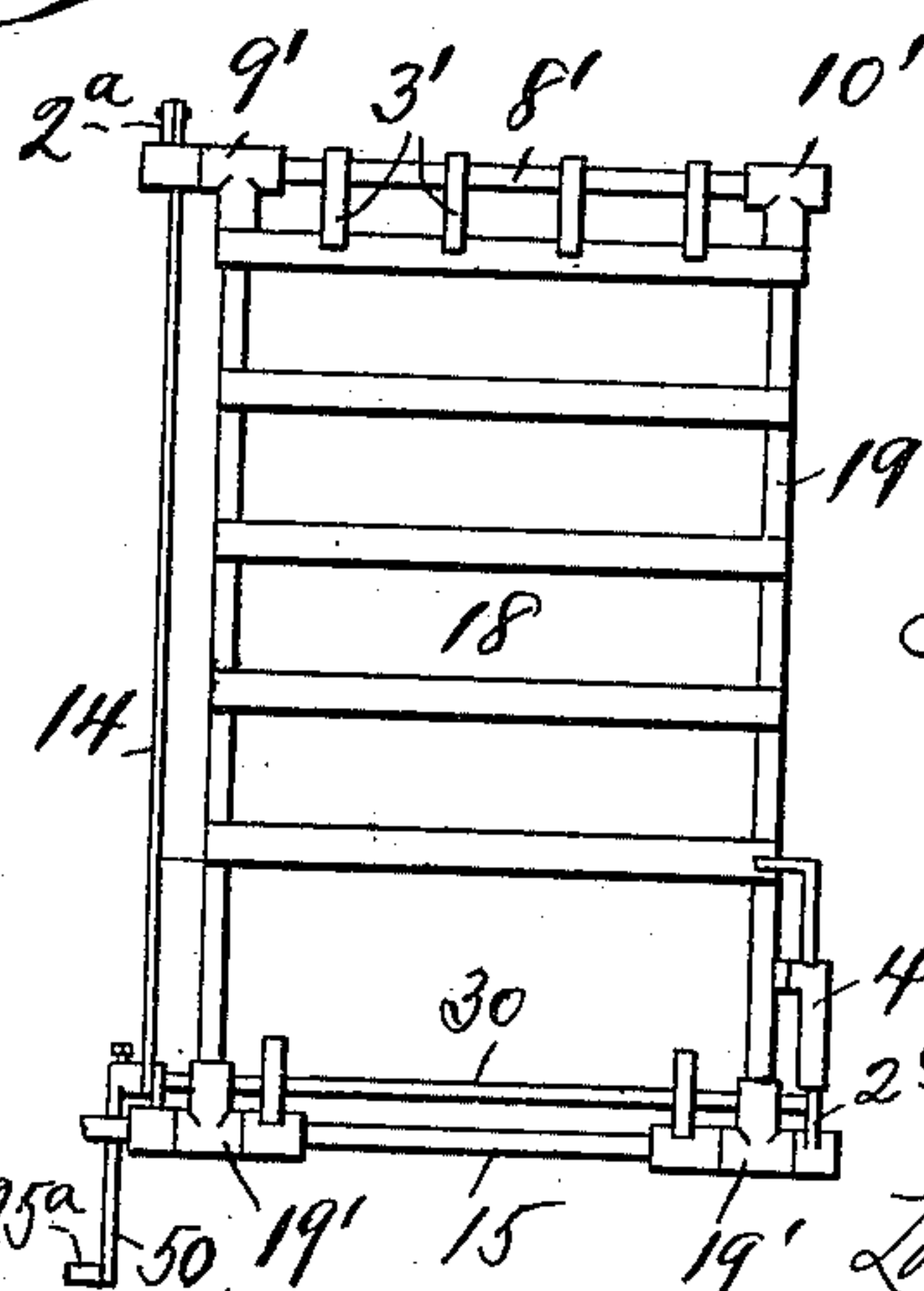
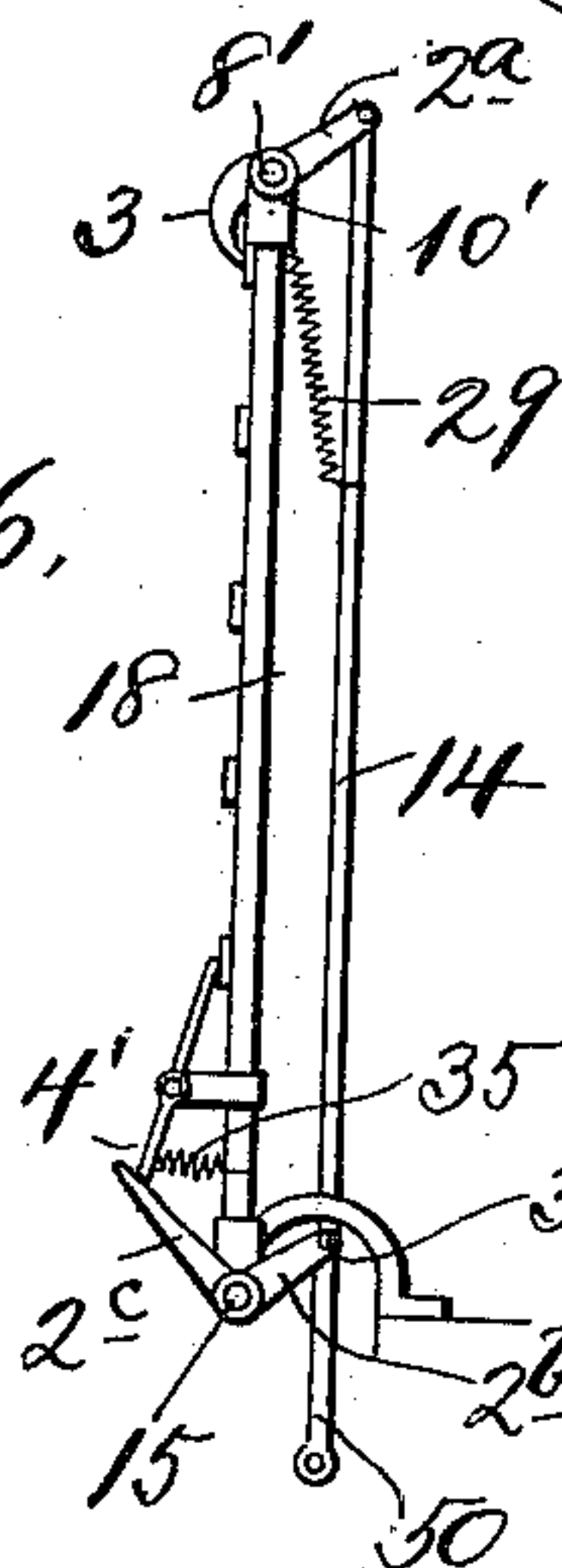


Fig. 5.

WITNESSES:

M. V. Darg.
L. A. Price.

INVENTOR

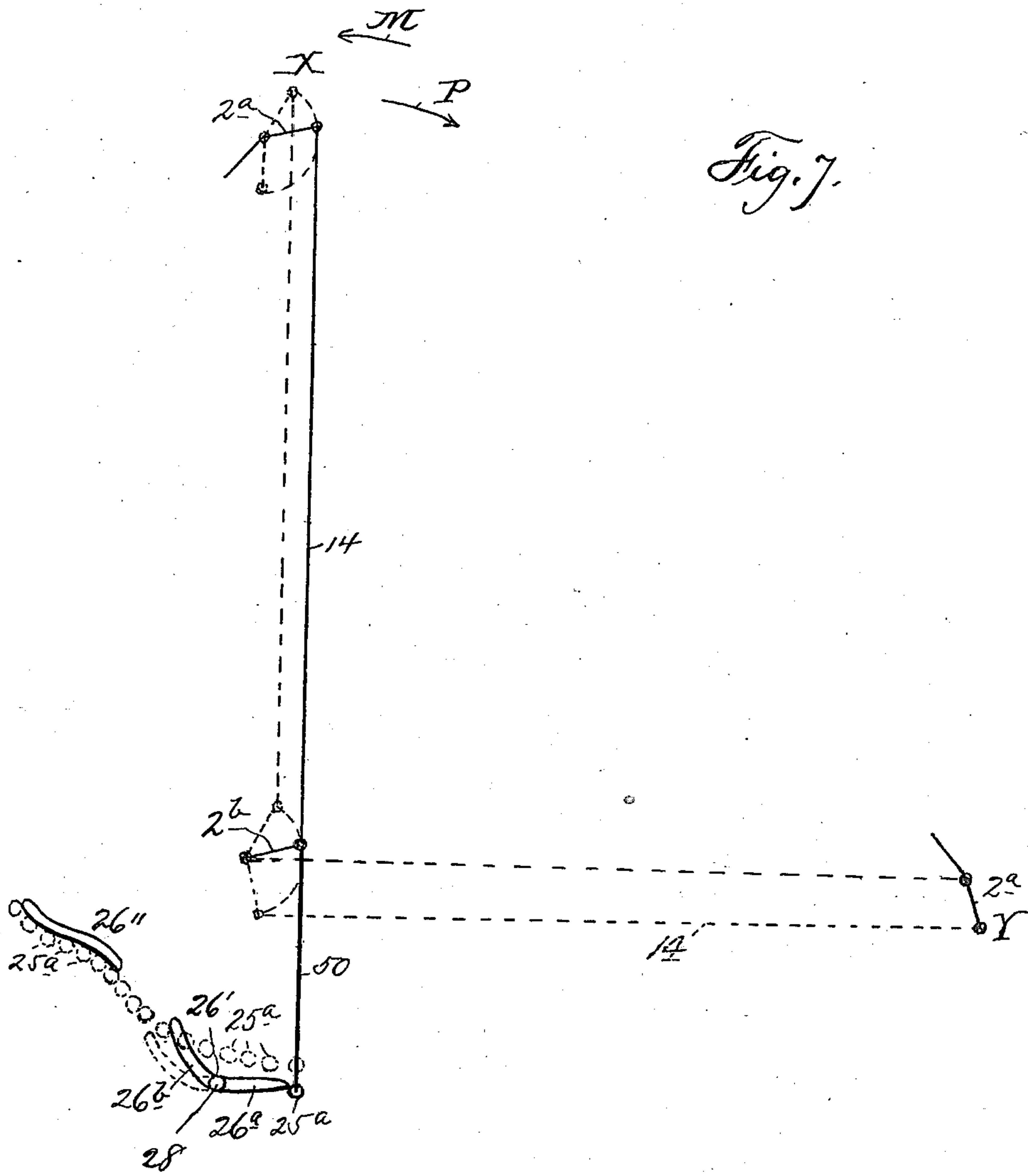
Louis J. Elsas,
By C. A. Brandenburg
Attorney

L. J. ELSAS.
MACHINE FOR FEEDING BAGS TO PRINTING OR OTHER MACHINES.
APPLICATION FILED AUG. 31, 1909.

976,255.

Patented Nov. 22, 1910.

3 SHEETS-SHEET 3.



Witnesses
M. H. Darg
L. A. Price.

Inventor
Louis J. Elsas.
By C. A. Brandenburg,
Attorney

UNITED STATES PATENT OFFICE.

LOUIS J. ELSAS, OF ATLANTA, GEORGIA.

MACHINE FOR FEEDING BAGS TO PRINTING OR OTHER MACHINES.

976,255.

Specification of Letters Patent.

Patented Nov. 22, 1910.

Application filed August 31, 1909. Serial No. 515,486.

To all whom it may concern:

Be it known that I, LOUIS J. ELSAS, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Machines for Feeding Bags to Printing or other Machines, of which the following is a specification.

My invention relates to machines for feeding bags to a printing press or other machine and among the objects in view is to provide an extremely simple, inexpensive and efficient machine whereby bags may be turned stick into a printing press or other machine, and with the above recited objects in view, my invention consists in the novel construction, arrangement and combination of parts as hereinafter fully described, illustrated in the drawings and pointed out in the appended claims.

In the drawings: Figure 1 is a perspective showing a portion of the turning-sticks of a bag turning machine operating horizontally, and showing said turning-sticks holding a bag in position to be seized by the grippers of a printing-press and also showing the press-cylinder and the feed-board. Fig. 2 is a transverse sectional view on line 2—2 of Fig. 1. Fig. 3 is a longitudinal sectional view on line 3—3 of Fig. 1. Fig. 1^a is a detail view showing some of the parts seen in Fig. 1. Fig. 4 is a perspective view showing my invention as adapted for a turning machine operating vertically. Fig. 5 is an elevation of the feeding devices seen in Fig. 4. Fig. 6 is a side or edge view. Fig. 7 is a diagrammatic view showing the operation of the cams. Fig. 8 is a detail view showing a modification.

One step of the method now in vogue for making cloth and burlap bags is to sew up a piece of cloth which has been cut the proper size. This sewed bag, having the seams on the outside, must be reversed so the seams will be on the inside. This process of reversing is done either by hand or a turning machine.

There have been some attempts made to arrange the stick for turning the bag in such a way that the bag can be printed before it is removed from the stick. My method differs from this method in that the bag is removed from the turning stick and carried by suitable mechanism into such a position that the regular feed gripper of the printing

press can engage with the bag and carry the bag on into the press.

Referring particularly to Figs. 1, 2 and 3 wherein I have illustrated my invention as coöperating with a bag-turning machine which operates horizontally, *i. e.* wherein the turning-sticks are swung in a horizontal plane, 1 indicates a plurality of grippers of a printing press, mounted on an oscillating gripper shaft 5 which extends longitudinally of the printing press cylinder 11 and within a groove 5' therein, as usual and having suitable bearings in the ends or heads of said cylinder.

The intermittent partial rotation of the shaft 5 may be obtained by any suitable means, such as are usually employed on printing presses, such means not constituting any part of my present invention. For instance the shaft may be operated by the means shown in detail in Fig. 1 wherein I show a cam 21 comprising a plate secured to the projecting end 5* of the shaft 5 and having flanges 21' with cam edges 22', said flanges forming between them a narrow throat 23' through which may pass rollers 22, 23, carried at the end of arms, 24, 25, bolted to the frame of the press. The arms are of different lengths, and the parts are so constructed and arranged that when the cylinder is rotated in the direction of the arrow in Fig. 1, the roller 22 will pass into the forward end of the throat 23' and as it emerges therefrom at the rear end it will cause the cam plate to tilt and thus partially rotate the shaft 5, whereby the grippers will be raised to receive beneath them the edge of a bag. While the roller 22 is still in the rear end of the slot 23' and just before passing out of the same, the roller 23 will enter the forward end of the slot and, just as it does so, the roller 22 will pass out of the rear end of said slot. While the roller 23 is traveling along the slot 23' the grippers will be kept open, but as the roller 23 approaches the rear end of slot 23', the plate 21 will be tilted reversely by roller 23, assisted by spring 20', presently described, and when roller 23 entirely clears the slot, the spring 20' will press the grippers closed against the bag and hold same during the remainder of the rotation of the cylinder.

Any other means which will produce the above described operation of the gripper shaft may be used if desired. The grippers are normally held closed by a spring 20' at-

tached at one end to shaft 5 and at the other end to the cylinder frame.

8 indicates a gripper shaft oscillatably mounted in suitable bearings 9 and 10 carried by the feed board or table 12, of the press. This shaft is arranged at right angles to the shaft 5 and adjacent to one side of the feedboard.

Mounted upon the shaft 8 are a plurality of grippers 3 which are adapted to grip the lower or bottom edge of a bag held by the turning sticks. The shaft 8 may be operated by any suitable means to cause said shaft to be intermittently oscillated whereby the grippers 2 will be made to grip first the bag and hold same firmly until the turning sticks have been withdrawn from the same and then release the bag when the latter is to be carried around with the press cylinder. In Fig. 1^a I show more plainly a means for operating the shaft 8, comprising a crank arm 2 mounted at one end on the shaft and jointed at the opposite end to a lever 2' whose other end is pivotally connected with one end of a lever 24 pivoted intermediate its ends to the press frame. The other end of the lever 24 is pivotally connected with one end of a lever 25 which passes down through a guide 25' and carries at its lower end a roller 24' which bears upon a cam 24'' carried by the shaft 27 upon which is mounted the press cylinder.

At the proper moment in the rotation of the press cylinder the cam 24'' will act to cause the various levers to effect the partial rotation of the shaft 8 and the grippers 3 to close down on the bag 13 and hold the latter until after the turning sticks have been withdrawn, after which the cam will be in such position as to permit the grippers to loosen their grip upon the bag.

4 indicates a gripper pivotally mounted at 29 upon the press frame. The gripper has a portion thereof bent as at 4' and is integral with an arm 29' pivotally mounted in the fork of a lever 28 which passes through a guide 28' and carries a roller 27' at its lower end which bears against a cam 27² carried on the shaft of the press cylinder.

6 and 7 indicate the turning sticks which engage within the bag and carry it around into the position seen in Fig. 1, where the bag is adapted to be gripped by the grippers 1 and 3.

In operation, the turning sticks having engaged a bag and been operated to carry the latter around into the position seen in Fig. 1, the gripper shaft 8 is operated to cause the grippers 3 to close down upon the bottom edge of the bag. At the same time the gripper 4 is operated to cause it to close down on the edge of the bag at a point adjacent to its open mouth. The turning sticks are then withdrawn from the bag by the reciprocating motion of the turning machine leaving the

bag held on the feed table by the grippers 3 and 4. As the grippers 1 on the press cylinder come into position, they will be operated to close down on the edge of the bag adjacent thereto, and at the same time the grippers 3 and 4 are operated to release the bag. The grippers 1 will then carry the bag into the press.

I will now describe the construction shown in Figs. 4 to 6 wherein my invention is adapted for use with turning sticks which are oscillated in a vertical plane, the principle of operation being here the same as that described with relation to Figs. 1 to 3. The gripper shaft 15', grippers 16' and cylinder 17' are constructed and arranged and operated exactly like the corresponding part 5, 1 and 11 in the construction shown in Figs. 1 to 3. 8' indicates a gripper shaft carrying a plurality of grippers 3' adapted to grip the bottom end of a bag, the said parts being similar in construction to the gripper shaft 8 and grippers 3 seen in Figs. 1 to 3 excepting that in the present instance the shaft 8' is mounted in bearings 9' 10' carried by an oscillatably mounted frame 18, adapted to be swung from a vertical position as represented in Fig. 4 into a horizontal position. For this purpose the arms 19 of the frame are mounted in sockets 19' carried by a fly shaft 15 horizontally arranged above the feed table 12' and mounted in suitable bearings thereon. The shaft 15 is adapted to be turned through one-fourth of a revolution by any suitable means, as by a cam and connecting rods, and I do not deem it necessary to illustrate said operating means. To the gripper shaft 8' is attached a crank arm 2^a to which is pivotally connected one end of a rod 14 whose lower end is pivoted upon a shaft 30 carried by arms 2^b loosely mounted at one end on the fly shaft 15, and rigidly secured at the opposite end to shaft 30. To one end of the shaft 30 is secured, as by a set-screw, an arm 50 carrying a roller 25^a which is adapted to bear upon cams 26', 26'' mounted on a suitable fixed support, when the frame and parts carried thereby are being swung from the horizontal position, into the vertical position seen in Figs. 4 to 6, the various parts turning with the shaft 15 as the center. The cam 26' comprises two parts 26^a and 26^b. The part 26^a is stationary. Part 26^b is hinged at 28 and held in position by a suitable spring arranged on hinge 28. 26'' is a simple cam. Starting at point of cam 26², the gripper is closed while the roll 25^a is traveling in the direction of arrow L. Before roll snaps off the point of part 26^a, the gripper is then in the position X and open. When the roll snaps off the point of part 26^a the gripper closes. The gripper then starts in the direction of arrow P. It will be seen that in this movement the gripper is closed since

there is nothing bearing against the roll. As the roll 25^a comes in contact with part 26^b the roll forces the cam 26^b into the position represented by dotted lines, nothing working against this motion but the light spring at hinge 28. The roll encountering cam 26^b the grippers 3' are opened at the high point of the cam as per position indicated at Y and when grippers 3' are thus opened the grippers 16' seize the bag and the latter is carried around the press cylinder. The roll 25^a then reversing the direction of its motion presses against cam 26^b and the grippers are allowed to close when the roll reaches the low point of the cam 26^b which is immaterial since there is no bag in the gripper on its upward motion. In the meanwhile the part 26^b of cam 26' having been brought back into its original position by the spring on hinge 28, the roll 25^a encounters this part 26^b on its underside and opens up the grippers 3' which open wide when parts are in vertical position indicated by X. The operation is repeated for each bag. Integral with the arms 2^b is an arm 2^c which lies beneath one end of a gripper 4', pivotally mounted on the frame 18, and when the roller is being acted upon by the cam 26' to cause the grippers 3' to assume an open position the arms 2^b and 2^c will be turned whereby the arms 2^c by bearing away from the gripper 4' will cause the opposite end of the latter to swing upwardly and away from the frame 18. When, however, the frame 18 and parts carried thereby reach the horizontal position and the roller 25^a snaps off the end of part 26^a of cam 26' the spring 29 attached to the rod 14 and frame 18 by drawing the rod 14 upwardly, causes the arms 2^b and 2^c to turn, the latter then bearing away from the end of the gripper 4' and permitting the opposite end of gripper 4' to close down on the bag a spring 35 being arranged to hold the gripper 4' closed when roller 25^a is not acted on by cams 26', 26^b.

Instead of employing grippers 3, 4, and 3', 4' in the nature of fingers adapted to grip the bag, I may employ grippers in the form of brushes 36, as seen plainly in Fig. 8 for effecting the same object. These brushes would have their bristles extending in the direction shown and would be operated by any suitable means.

While I have described my invention in connection with a printing press, it will be understood that my invention is capable of use in connection with any other machine for receiving and operating upon the bags after being released from the turning sticks and the grippers.

What I claim is:—

1. The combination with the rotatable cylinder of a printing press and feed grippers mounted thereon, of turning-sticks for delivering a bag into a position adjacent said cylinder and grippers, and means operating to temporarily engage and hold the bag in said position while the turning-sticks are being withdrawn and to release said bag when the grippers of the press have engaged therewith preparatory to carrying the bag around with said cylinder.

2. The combination with the rotatable cylinder of a printing press and feed grippers mounted thereon, of turning-sticks for delivering a bag into a position adjacent said cylinder and grippers, oscillatable grippers operating to temporarily engage and hold the bag in said position while the turning-sticks are being withdrawn and to release said bag when the grippers of the press have engaged therewith preparatory to carrying the bag around with said cylinder.

3. The combination with the rotatable cylinder of a printing press and feed grippers mounted thereon, of turning-sticks operating to deliver a bag into a position adjacent said cylinder and grippers, and grippers arranged to engage the bottom edge of a bag and one of its lateral edges and operating to temporarily engage and hold the bag in said position while the turning-sticks are being withdrawn and to release said bag when the grippers of the press have engaged therewith preparatory to carrying the bag around with said cylinder.

4. The combination with the rotatable cylinder of a printing press, and an oscillatable shaft mounted thereon, and feed grippers mounted on said shaft, of turning-sticks operating to deliver a bag into a position adjacent said cylinder and feed grippers, an oscillatable shaft arranged to occupy a position at an angle to the feed gripper shaft, grippers carried by the latter shaft and operating to temporarily engage and hold the bottom edge of a bag when the latter has been brought adjacent to the feed grippers, and while the turning-sticks are being withdrawn, and to release the bag when the feed grippers have engaged therewith, and means for intermittently operating the gripper shafts for the purposes set forth.

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

LOUIS J. ELSAS.

Witnesses:

E. A. CRONHEIM,
H. VARDEMAN.