

No. 750,302.

PATENTED JAN. 26, 1904.

W. PIPPERT.

APPARATUS FOR FEEDING SELF OPENING SQUARE PAPER BAGS.

APPLICATION FILED SEPT. 30, 1903.

NO MODEL.

4 SHEETS—SHEET 1.

Fig. 1.

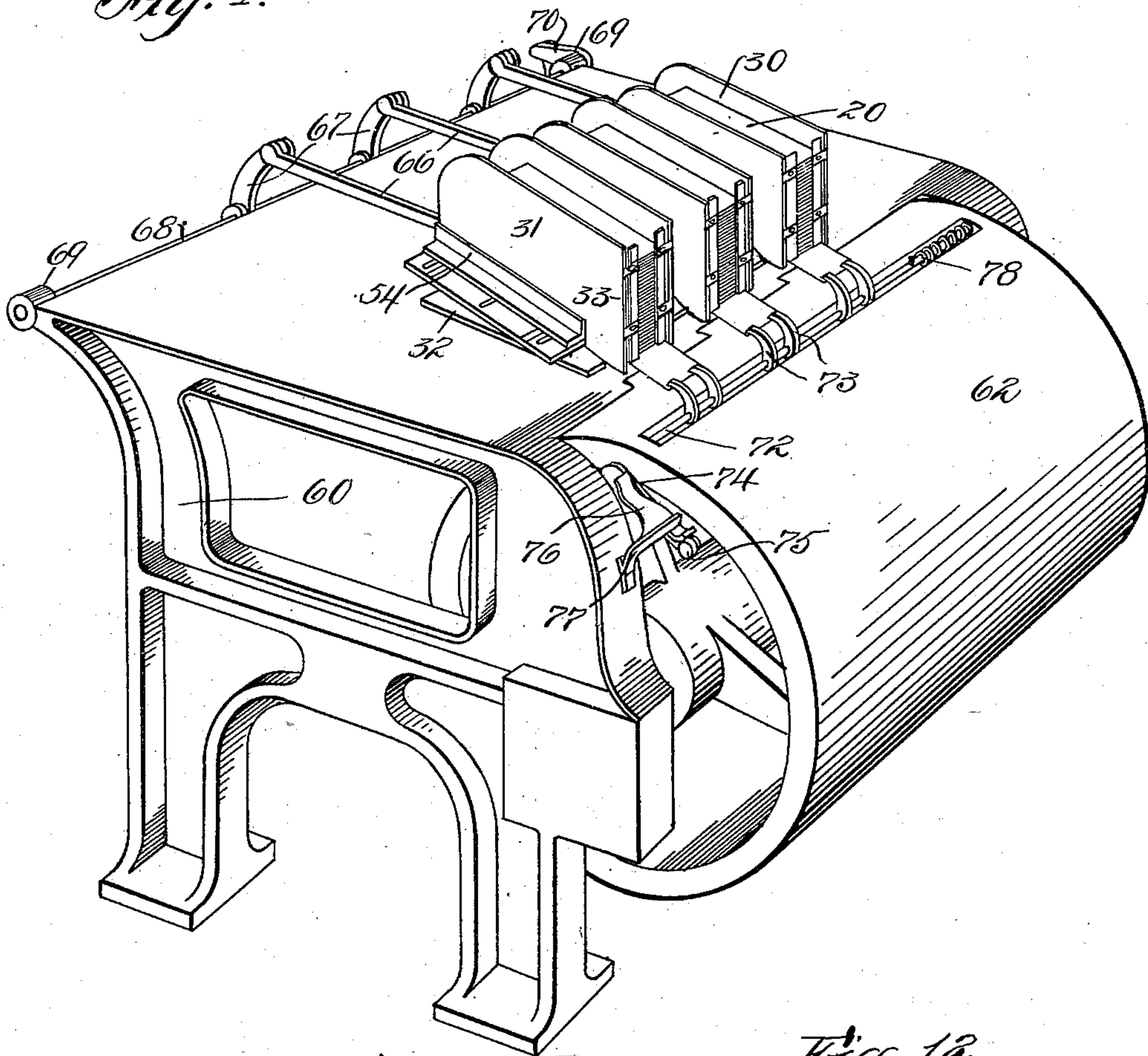
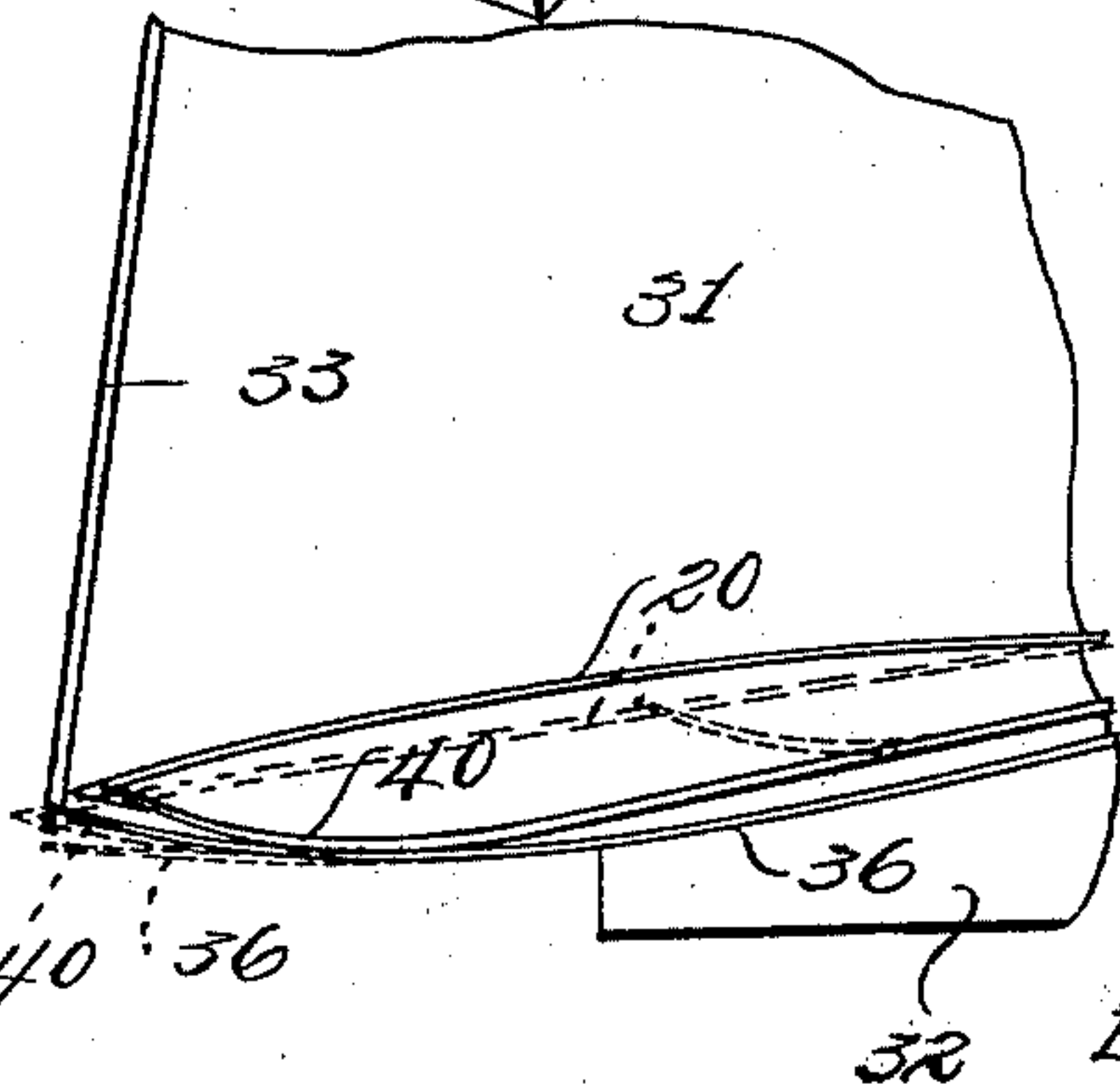


Fig. 1a.



Witnesses:

C. A. Jarvis.

C. C. Fuss.

Inventor:
Willis Pippert.

By his Attorney,

J. H. Richard.

No. 750,302.

PATENTED JAN. 26, 1904.

W. PIPPERT.

APPARATUS FOR FEEDING SELF OPENING SQUARE PAPER BAGS.

APPLICATION FILED SEPT. 30, 1903.

NO MODEL.

4 SHEETS—SHEET 2.

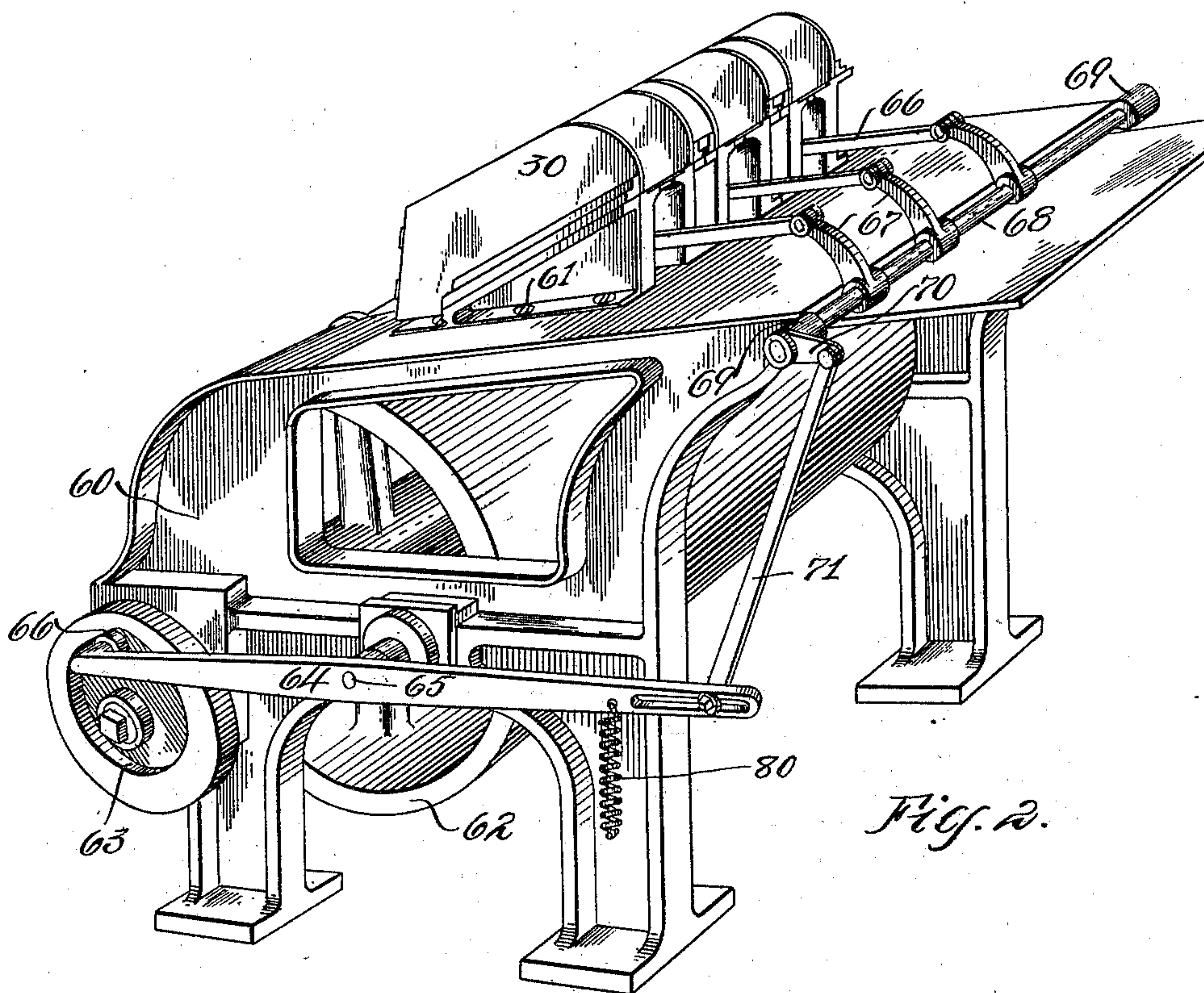
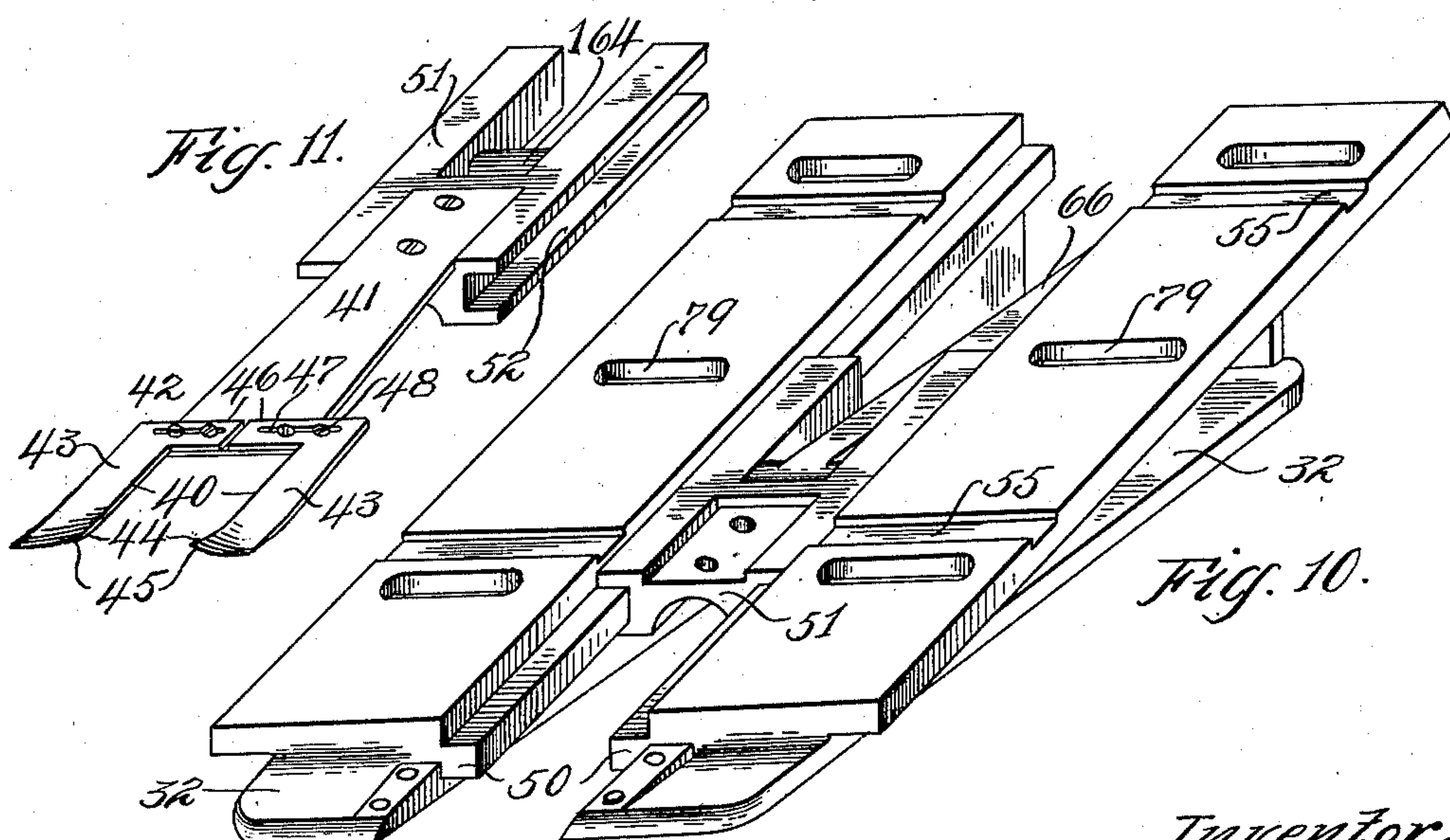


Fig. 2.



Witnesses:
G. F. Fuss.
C. A. Jarvis.

Inventor:
Willis Pippert.
By his Attorney,
F. A. Richards.

No. 750,302.

PATENTED JAN. 26, 1904.

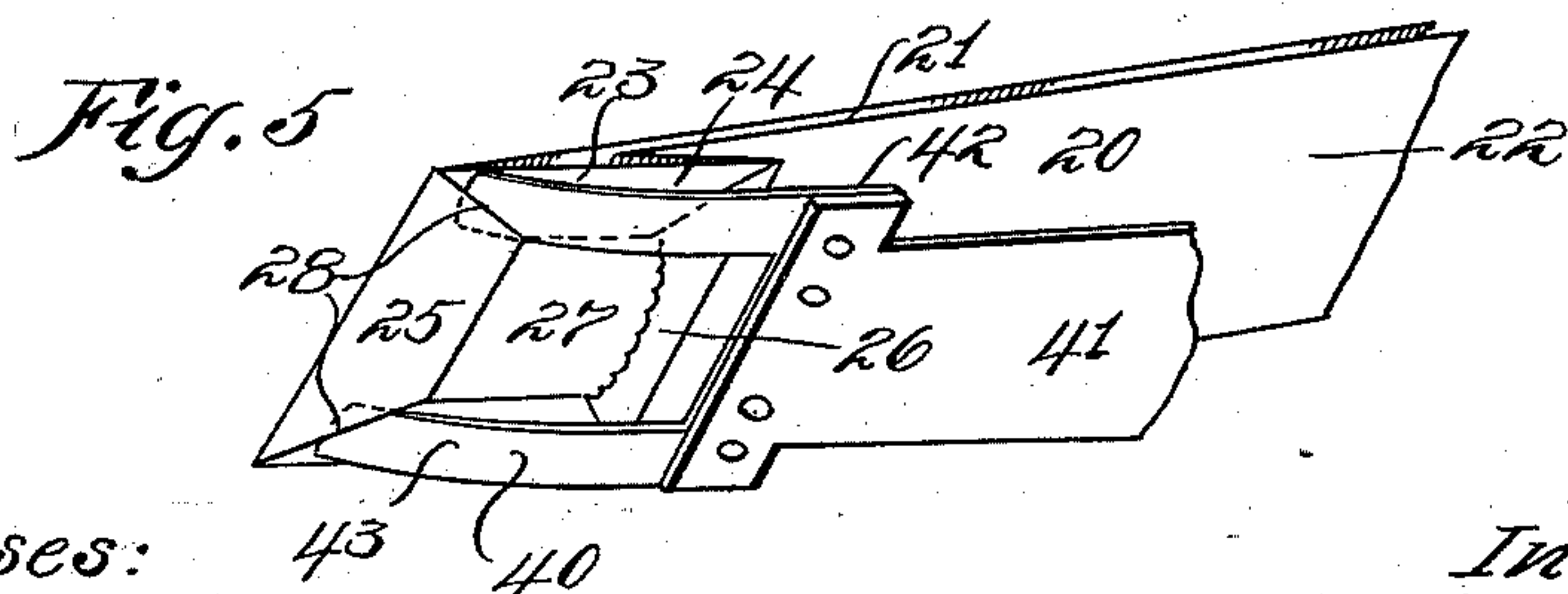
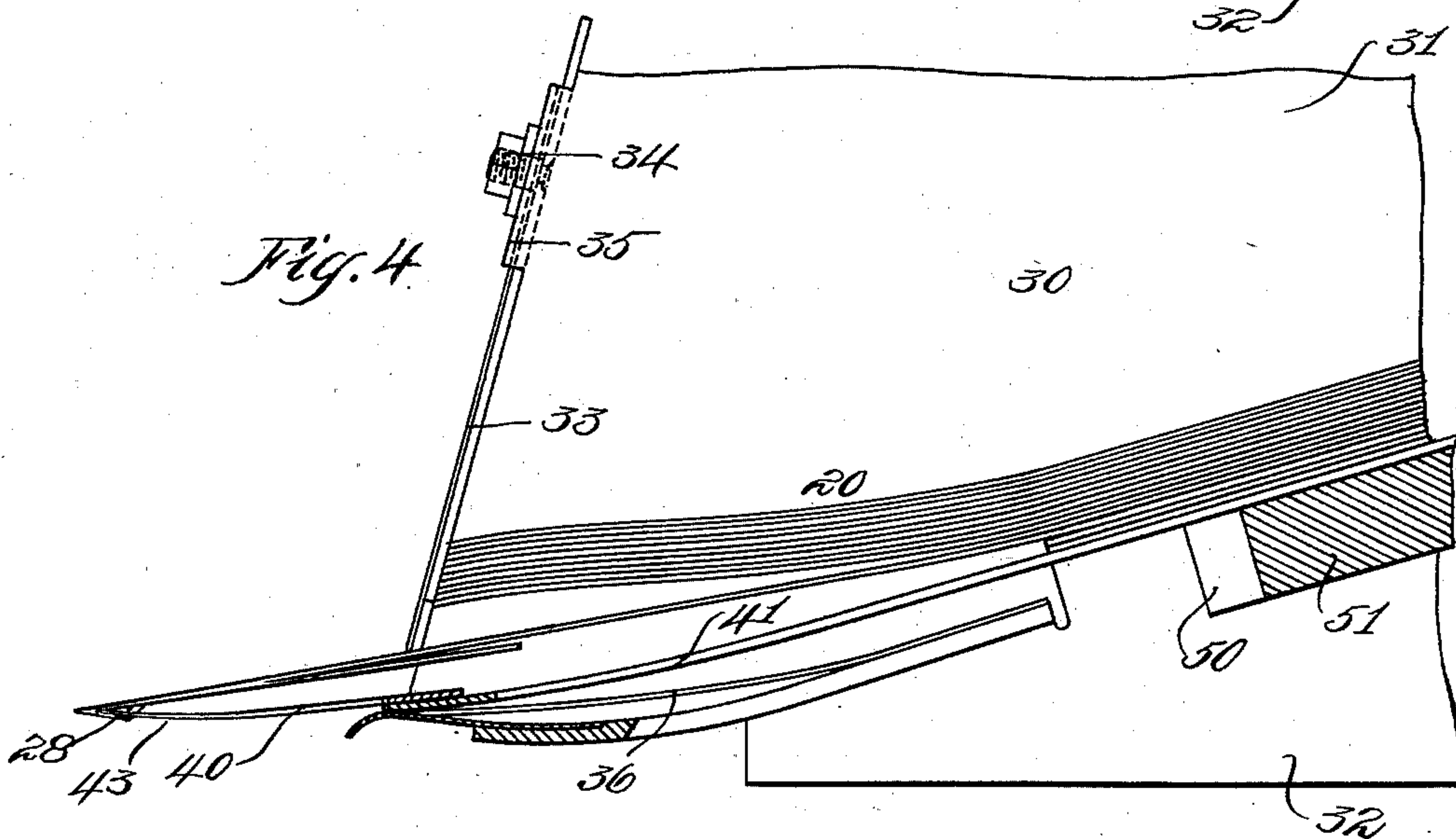
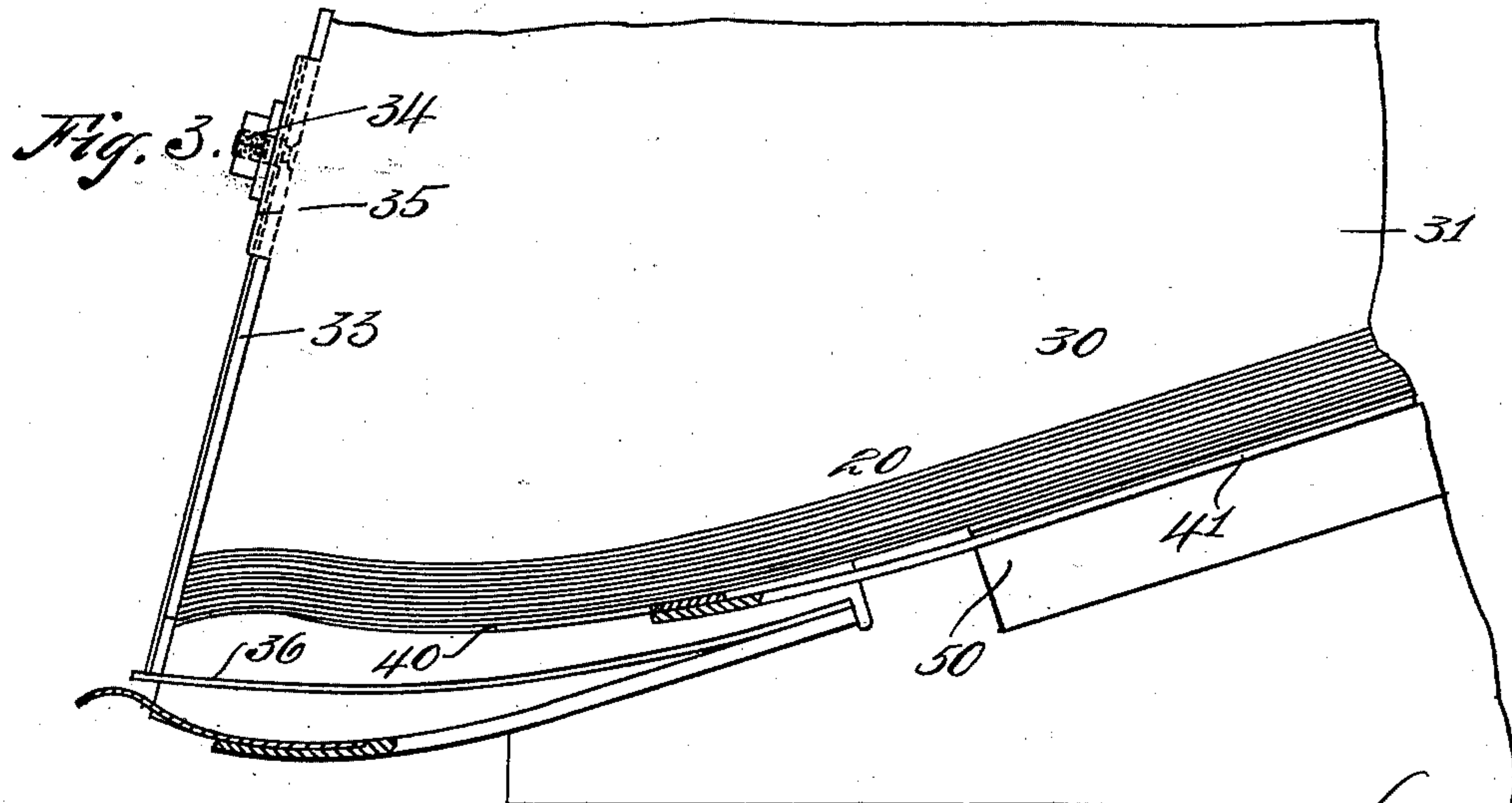
W. PIPPERT.

APPARATUS FOR FEEDING SELF OPENING SQUARE PAPER BAGS.

APPLICATION FILED SEPT. 30, 1903.

NO MODEL.

4 SHEETS—SHEET 3.



Witnesses:
C. A. Jarvis.
G. G. Fuss.

Inventor:
Willis Pippert.
By his attorney,
F. H. Richards.

No. 750,302.

PATENTED JAN. 26, 1904.

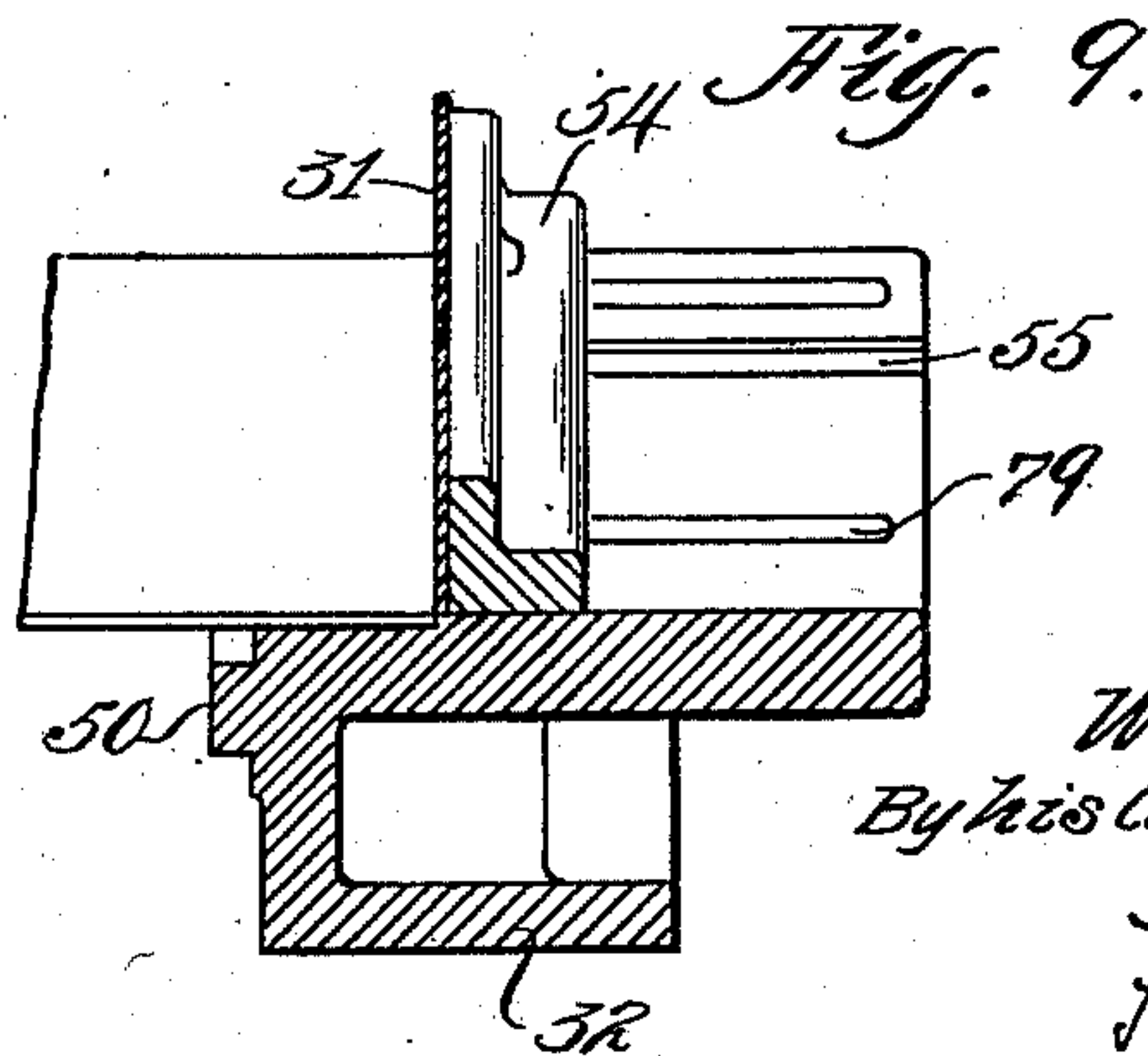
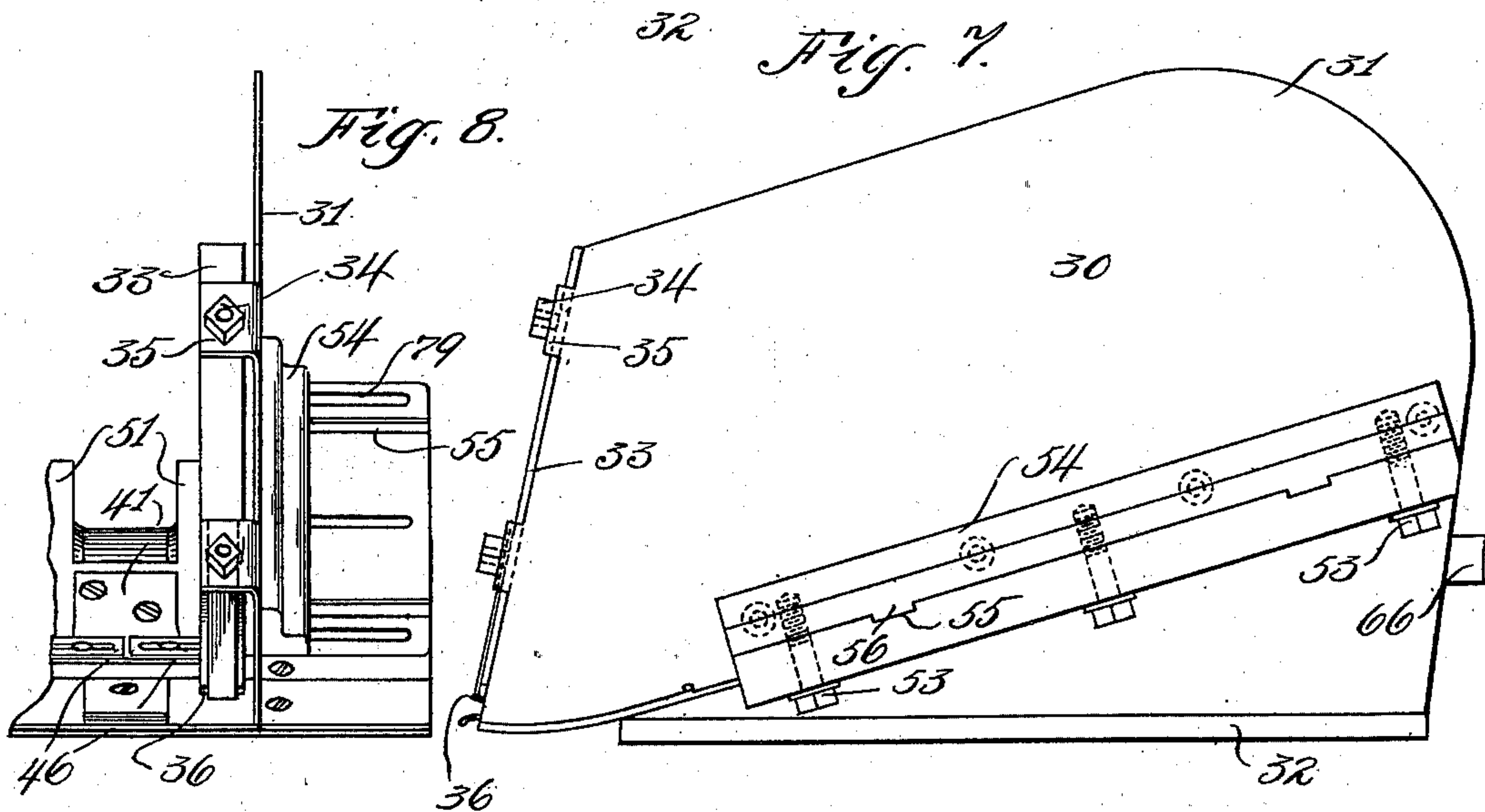
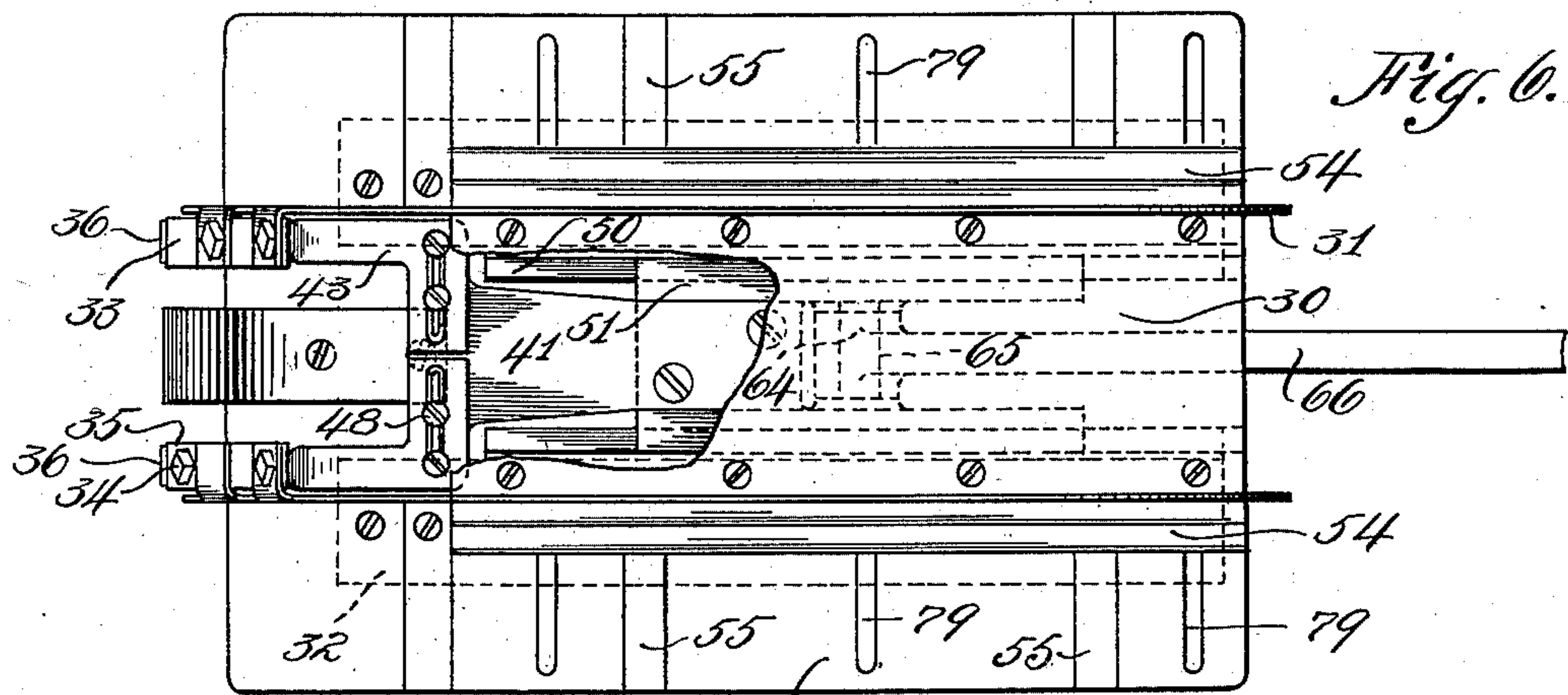
W. PIPPERT.

APPARATUS FOR FEEDING SELF OPENING SQUARE PAPER BAGS.

APPLICATION FILED SEPT. 30, 1903.

NO MODEL.

4 SHEETS—SHEET 4.



Witnesses:
C. A. Jarvis.
G. F. Fuss.

Inventor:
Willis Pippert.
By his Attorney,
F. H. Richards.

UNITED STATES PATENT OFFICE.

WILLIS PIPPERT, OF RUMFORD FALLS, MAINE, ASSIGNOR TO CONTINENTAL PAPER BAG COMPANY, OF RUMFORD FALLS, MAINE, A CORPORATION OF MAINE.

APPARATUS FOR FEEDING SELF-OPENING SQUARE PAPER BAGS.

SPECIFICATION forming part of Letters Patent No. 750,302, dated January 26, 1904.

Application filed September 30, 1903. Serial No. 175,129. (No model.)

To all whom it may concern:

Be it known that I, WILLIS PIPPERT, a citizen of the United States, residing in Rumford Falls, in the county of Oxford and State of Maine, have invented certain new and useful Improvements in Apparatus for Feeding Self-Opening Square Paper Bags, of which the following is a specification.

This invention relates to and has for an object to provide means to feed articles such as envelops or paper bags one at a time from a pile of such articles or from several piles, one from each pile at a feed.

This invention is intended for use in connection with mechanism requiring to be fed with one or several separated articles at regular intervals of its working, and in the drawings accompanying and forming a part of this specification a form of my invention is illustrated, wherein—

Figure 1 is a perspective of a portion of a cylinder printing-press equipped with a form of the present improvement and looked at from the front and end. Fig. 2 shows a perspective of the same viewed from a diagonally opposite position, in each of which figures there are shown a plurality of trays or containers and mechanism to feed to the roller of the press from all the trays in unison. Fig. 3 is a central longitudinal section of the front end of one of the trays, showing a pile of paper bags therein and the feeding fork or finger in position to engage the lowermost of the pile. Fig. 4 is a view of a similar portion of the tray or receptacle, showing the engaged bag separated from the pile and partially expelled and showing the yielding support or bottom for the front end of the tray depressed by the fork or feeding-tool. Fig. 5 is a perspective illustrating the manner in which a fork or tool having two tines or fingers will engage the forward diamond or triangular fold on the bottom portion of a paper bag. Fig. 6 is a plan view of a tray, showing means to adjust the same and the feeding-tool to accommodate articles of various widths. Fig. 7 is a side view thereof. Fig. 8 is a front view of one side of such tray, the other parts being broken

away. Fig. 9 is a cross-section of one side of the tray, showing the side wall and its foundation or base. Fig. 10 is a perspective of such base, with the tool-carriage on the track and the tool removed. Fig. 11 is a perspective of the feeding-tool and its carriage, and Fig. 12 is an enlarged detail of the manner in which the tool and bag pass the front stops or wall of the tray.

As illustrated in the drawings herein, the invention is adapted to a cylinder printing-press and to feed what are known as "self-opening" square paper bags—a bag which when folded will have its bottom bent over upon one side and the seams of the paper making such bottom forming a double triangulation with the apexes toward the center and the lap of the seams opening outwardly, one of the triangular flaps pointing toward the center of such bottom and diverging toward the juncture of the bottom with the side at said fold, and in Fig. 5 one of such bags (designated in a general way by 20) is shown in perspective with its sides 21 tucked in and its sides 22 lying flat. The bottom 23 of the bag comprises what for the purposes of this description may be termed a "foundation" is designated for like reason by 24 and triangular flaps 25 26, one of which has an extension 27 overlying the other. As these bags are commercially made the edges of the flaps at 28 will be ungummed and open, so that a thin blade or finger can readily enter between the front flap 25 and the side flaps 24. The bags will have the bottom portion folded back on one of the sides 22, and the flap 25 at its juncture with the other side 22 will make a sharp fold, the edges of the flap converging toward the center of the bottom and diverging toward such edge.

In Fig. 3 a pile of bags 20 is shown as resting in one of the trays or receptacles, (designated in a general way by 30,) which have side walls 31, carried by a base or foundation 32, which serves as a bottom for the trays, and if such bottom is on a slant, as shown, there generally need be no end wall to the tray. The front wall comprises longitudinally-adjustable

bars 33, held in position by set-screws 34 entering arms 35, carried by the sides of the tray. These bars will retain the pile of bags by engaging them near their corners. At the front end of the tray the floor is made yieldable and is shown as comprising a pair of spring-supports 36, shown as protruding below and resting against the lower ends of the bars 33. A fork or tool 40 (see Fig. 5 for a perspective) may be employed to separate the bags from the pile and feed them out of the tray. The fork is shown as comprising a handle or beam 41, a head 42, carrying a pair of fingers or tines 43, shown as having obtuse ends, the inner corners 44 of which may be slightly curled upwardly at 45 (see Fig. 11) to facilitate the entry of such fingers into the pockets behind the ungummed edges 28. The fork on being moved forward will separate such bag from the pile, depress the yieldable floor, and be itself caused to yield downwardly by the bars 33, the ends of which will press closely the bag as it passes out of the tray, and thereby prevent the passage with it of other bags. Fig. 4 illustrates the bag fed from the tray in a position where it may readily be taken hold of by some mechanism to have work performed upon it. Fig. 12 illustrates the manner in which the bag-laden fork is pressed out of its path by the ends of the bars, so that but one bag is removed at each advance of the fork. The base 32 of the trays may be provided with a track or ways 50, on which a carriage 51 for the fork may be mounted, the carriage having grooves or ways 52 to run on the ways 51. The handle or beam 41 of the fork is shown as let into the carriage and of yieldable structure, and, as in Fig. 11, the head 42 of the fork may be divided and each side 46 carry one of the fingers 43 and be provided with a slot 47 for set-screws 48 to admit of adjustment of the tines or fingers 43 toward and from one another of the tray to accommodate bags of various widths. The tray-bases 32 may be provided with transverse slots 79 to receive set-bolts 53, which enter flanges 54 on the tray sides, whereby the side walls of the tray may be adjusted toward and from one another to permit the reception by it of bags and other articles of various width. The bases may have transverse grooves 55 to mate with ribs 56 on the sides to maintain the same in proper position during adjustment. The trays are shown secured to the top of a printing-press frame 60 by screws 61, and such frame carries a cylinder 62, the shaft of which has fast upon it a driver comprising a cam-face 63. A lever 64 is fulcrumed on the frame at 65 and carries a roll 66, engaging such cam-face. Each of the carriages 51 has a pin 164, embraced by the eye 65 of a pitman 66, connected to an arm 67, fast on a rock-shaft 68, supported by bearings 69 on the frame and carrying a rocker-arm 70, pivoted to a link 71, adjustably connected to the lever 64, whereby all the

trays may feed in unison to the cylinder and be controlled in their feed by the speed of such cylinder. A spring 80 is here shown to act upon the lever 64 and retain it to normal position. Printing-presses are generally provided with means to take control of the stock fed to them, and the cylinder herein illustrated carries a rock-shaft 72, let into a channel on its perimeter and carrying a series of pairs of gripping-fingers 73 to seize the fed envelopes. The rock-shaft 72 has a rocker-arm 74, carrying a roll 75, a cam 76 being carried by an arm 77 from the frame to engage said roll and rock the shaft and cause the fingers to open to grip the bags. A suitable spring 78 may be employed to normally hold the grippers closed.

It will readily be seen that various changes not contrary to the spirit of my invention may be made when demanded and that the particular employment herein illustrated is not to be regarded as exclusive.

Having thus described my invention, I claim—

1. Feeding apparatus comprising a tray having a yieldable bottom at one end; a stop at such end for a pile of material to be fed; a yieldable finger adapted to engage the lowermost article of the pile; means to actuate the same to engage such article and press the yieldable bottom and be depressed by said stop in issuing from the tray with the engaged article.

2. In an apparatus to feed paper bags, the combination of a tray; fingers adapted to engage the diamond fold at the bottom of the lowermost bag in a pile; means to reciprocate said fingers to feed forward the engaged bag; and yieldable means in the path of movement of the fingers to normally sustain the bottom ends of a pile of bags at one end of the tray.

3. In apparatus to feed paper bags, the combination of a tray open at one end near the bottom, yieldable means to normally sustain the bottom ends of a pile of bags at the open end of the tray; a reciprocable member adjacent to such portion of the tray, a fork carried thereby and having tines to engage the front triangular fold of the bottom of the lowermost bag, a portion to depress said support, and means to reciprocate said member to feed the engaged bag out of the tray.

4. In an apparatus to feed paper bags one at a time from a pile, the combination of a tray; a spring-support at one end thereof for the bottom ends of a pile of bags; a track parallel with the bottom of such tray; a carriage upon the track; means to reciprocate the carriage; fingers to engage the lowermost bag of such pile at the front diamond fold; a stop at the front of the tray to maintain the bags in the tray, and organized upon the reciprocation of the fingers with an engaged bag to depress such fingers as the end of the bag is projected from the tray.

5. Feeding apparatus comprising a receptacle to contain a pile of articles to be fed, a

yieldable support at each side of the bottom and adjacent to one end of said receptacle, an opening in such end of the receptacle and the end wall thereof engaged by such supports 5 when in their normal position; a yieldable member on each side organized to engage the lowermost article on the pile, depress the supports, be depressed by the end wall and carry such article below such wall, and having an 10 obtuse end with one corner turned upwardly.

6. In an apparatus to feed paper bags, the combination of a tray open at one end near its bottom and having sides adjustable toward and from each other to accommodate bags of 15 different widths, a shiftable support in the tray for the bottom ends of the bags at the open end thereof; a member mounted for reciprocation lengthwise of the tray; a fork carried thereby and having tines to engage the 20 front triangular fold of the lowermost bag; means to adjust the tines toward and from each other to assume positions to engage bags of different widths, a portion of said member to depress said support, and means to reciprocate 25 said member to feed the engaged bag out of the open end of the tray.

7. In combination with a printing-press having a number of feed-grippers working in unison, of a number of receptacles to contain piles 30 of the articles to be fed, yieldable supports at the bottom of each receptacle at each side thereof and adjacent to one end, an opening in such end of the receptacle and the end wall thereof engaged by such supports when in 35 their normal position; a yieldable member on each side organized to engage the lowermost article on the pile, depress the supports, be depressed by the end wall and carry such arti-

cle below such wall, and having an obtuse end with one corner turned upwardly, and means 40 controlled by the press to actuate the same in unison.

8. In an apparatus to feed paper bags to a printing-press having means to grip a series of such bags at intervals, the combination of 45 a series of trays each open at one end near its bottom and having sides adjustable toward and from each other to accommodate different sizes of bags, a shiftable support in the tray for the bottom ends of the bags at the open 50 end thereof; a member mounted for reciprocation lengthwise of the tray; a fork carried thereby and having tines to engage the front triangular fold of the lowermost bag; means to adjust the tines toward and from each other 55 to assume positions to engage different sizes of bags, a portion of said member to depress said support; and means to reciprocate said members in unison to feed a bag out of the open end of each of the trays. 60

9. In an apparatus for feeding paper bags, the combination with a tray to contain a pile of bags to be fed and having an opening at one end, of a spring-support to hold the bags 65 in position; spring-fingers to engage the bags one at a time; and means to advance the fingers; the organization being such that the fingers at their advance will engage the bag, depress the spring-support, and be depressed by the front stop upon projecting the bag from the 70 tray.

WILLIS PIPPERT.

Witnesses:

CHAS. L. BROWN,
JOHN P. SHEPHERD.