

J. F. AMES.  
BAG MACHINE.

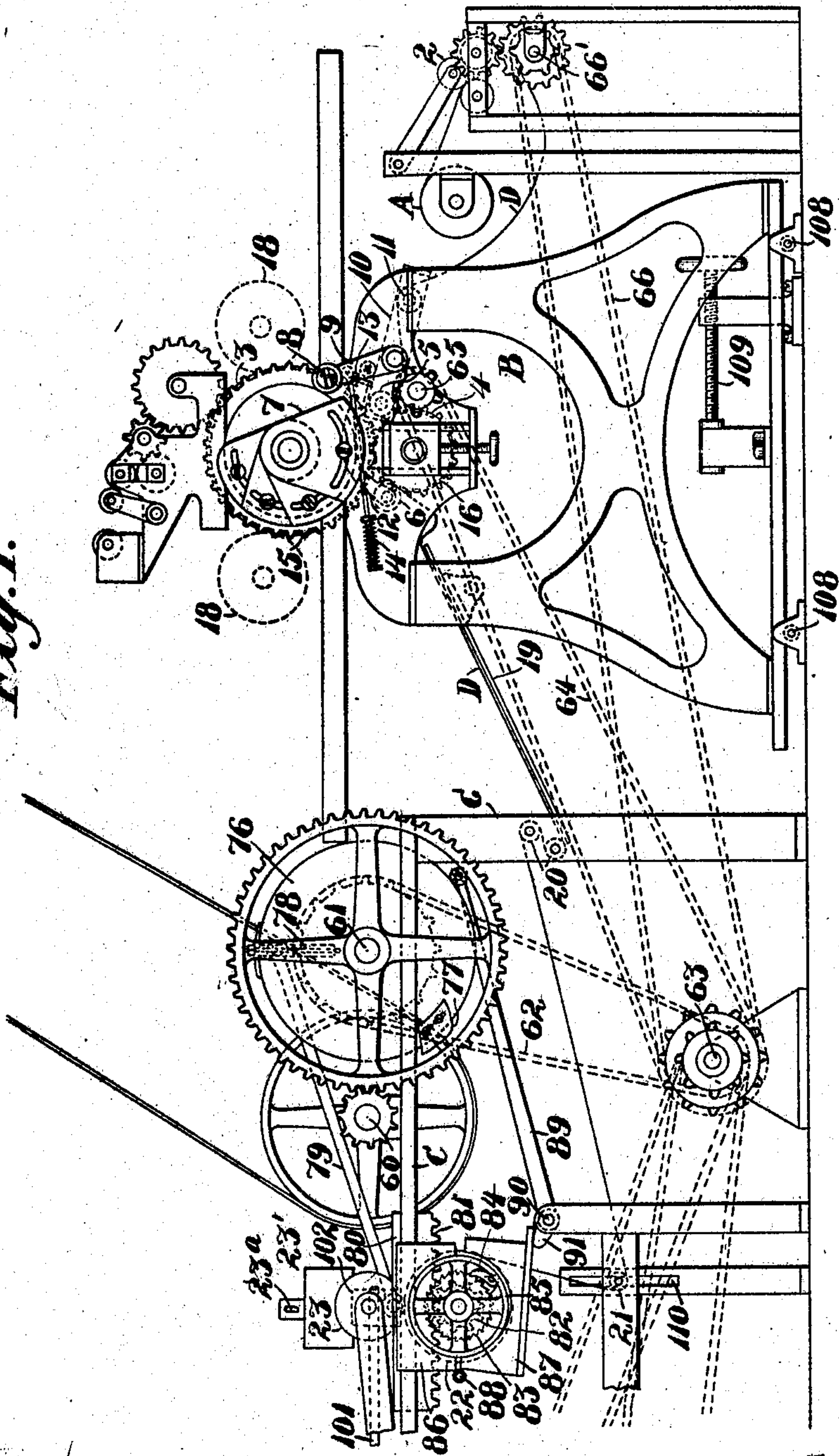
APPLICATION FILED JUNE 16, 1906.

Patented Feb. 9, 1909.

5 SHEETS—SHEET 1.

911,563.

Fig. 1.



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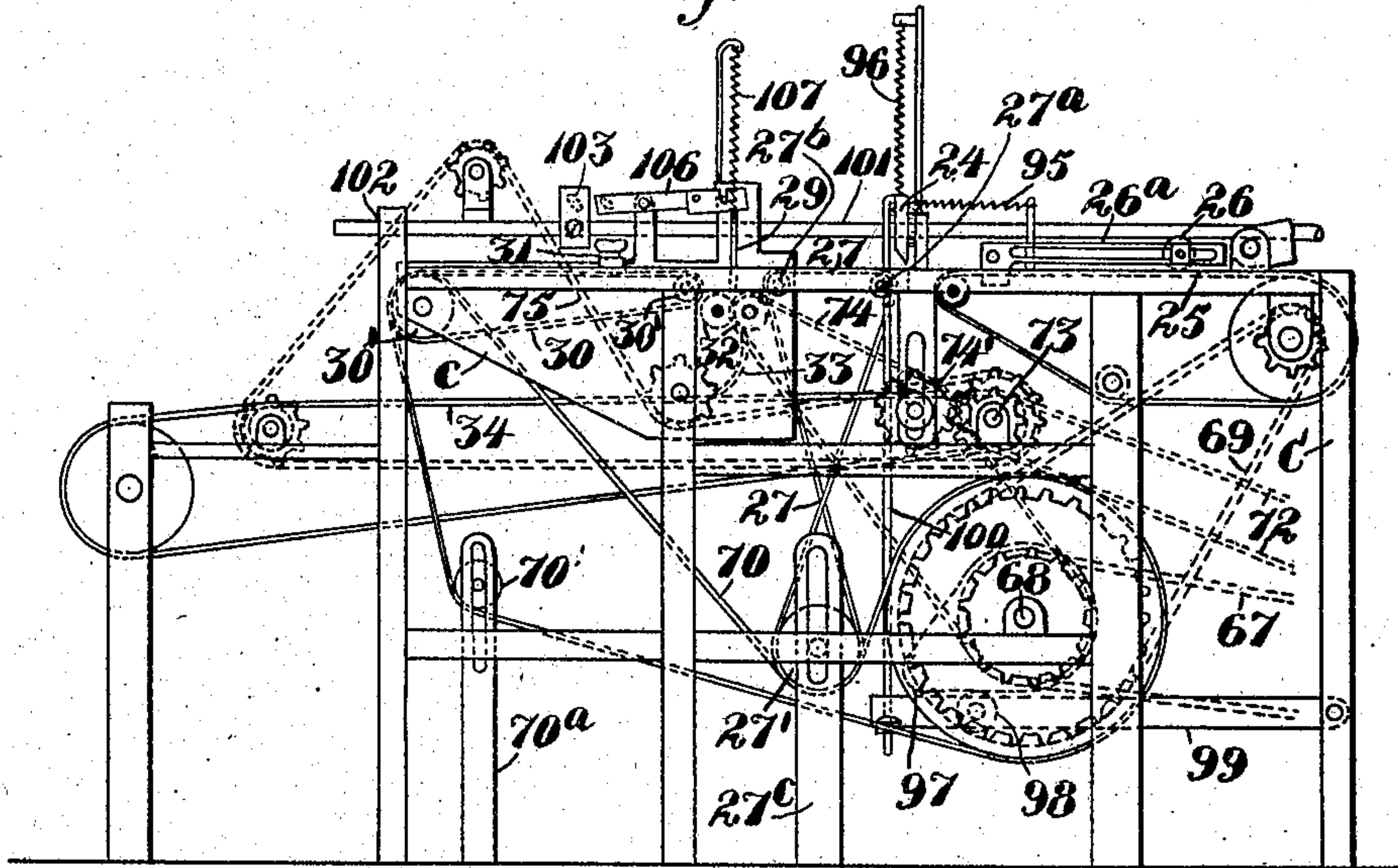
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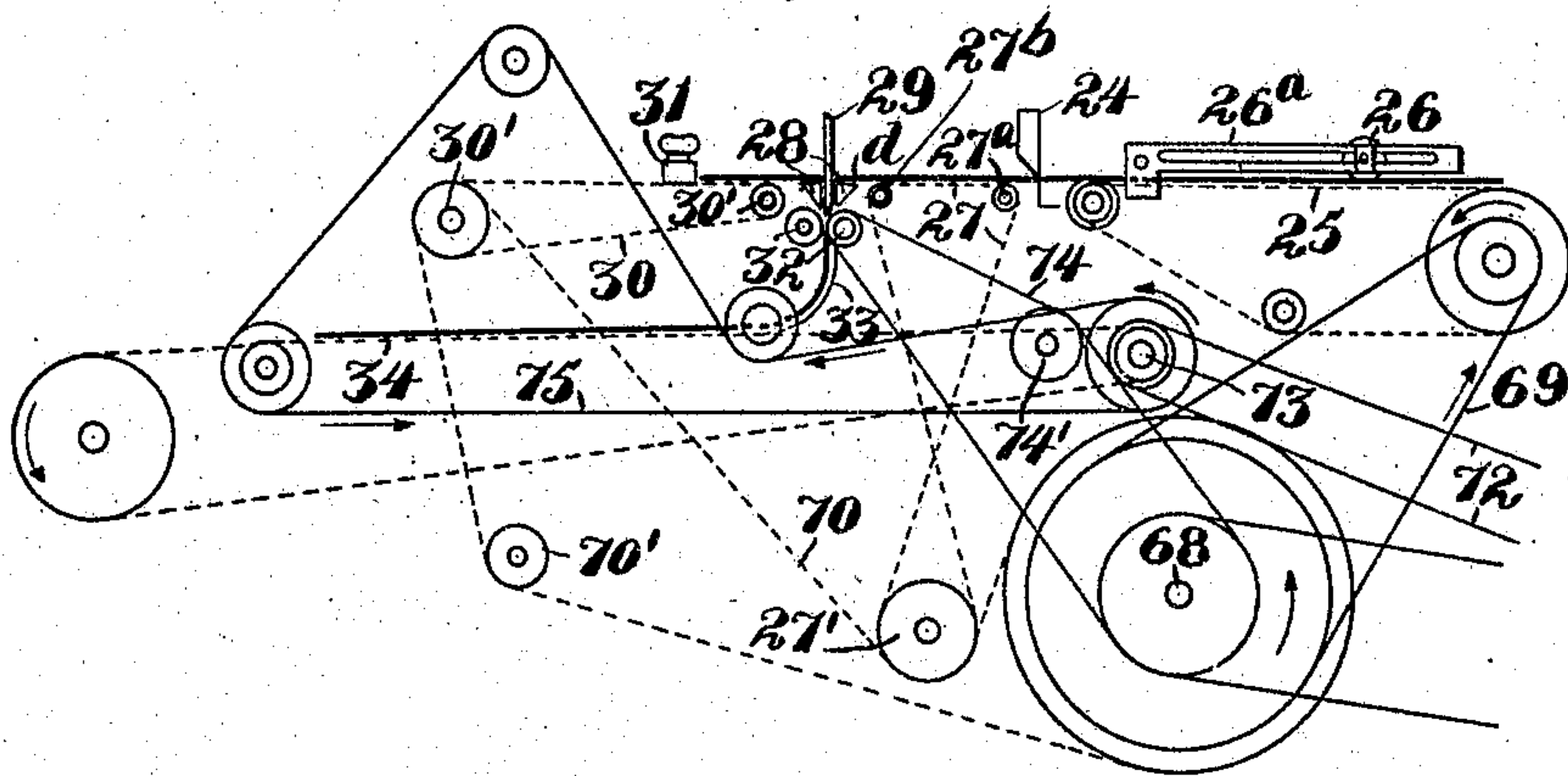
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5 SHEETS—SHEET 2.

*Fig. 2.*



*Fig. 4.*



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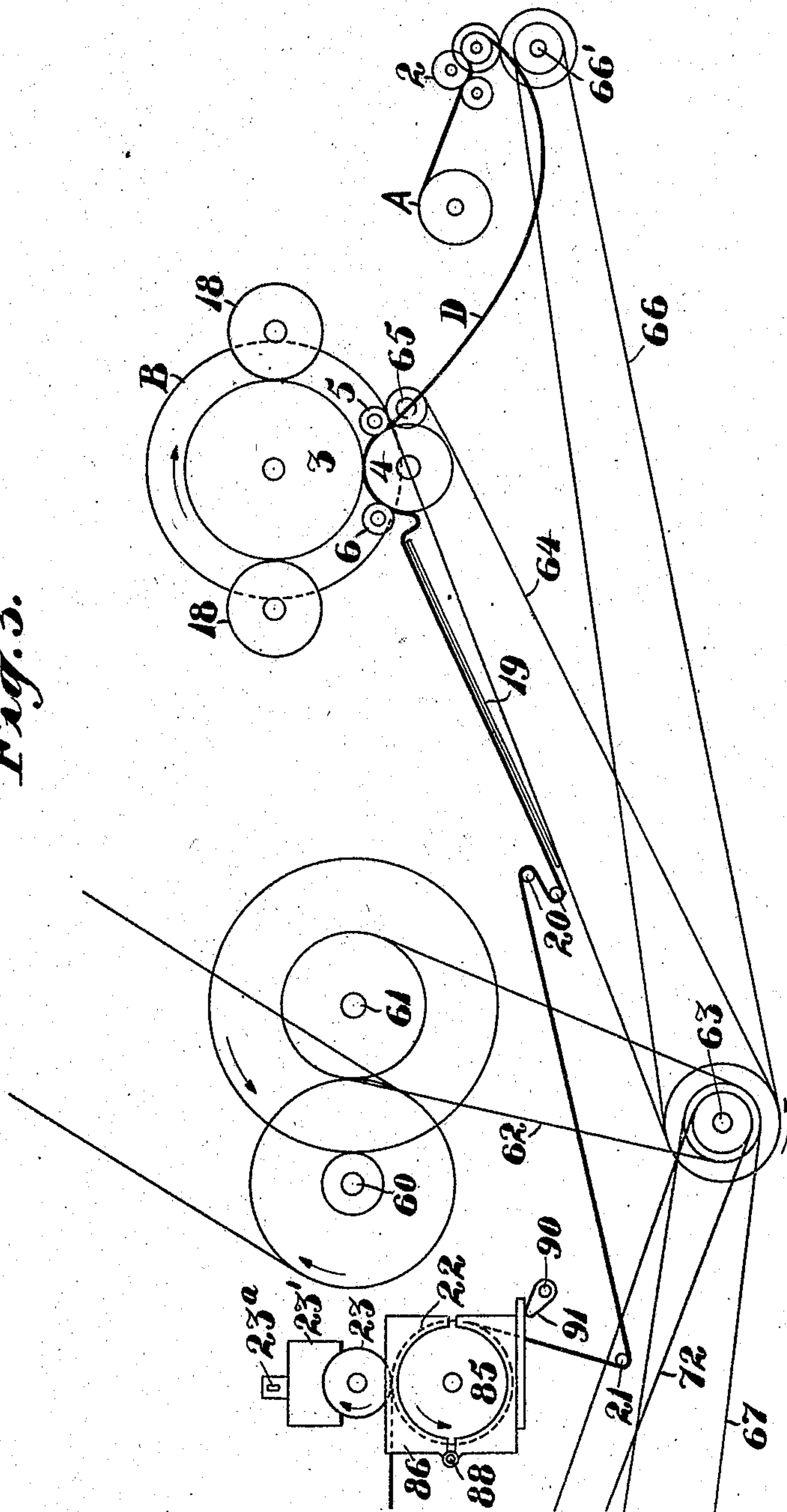
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5 SHEETS—SHEET 3.

Fig. 3.



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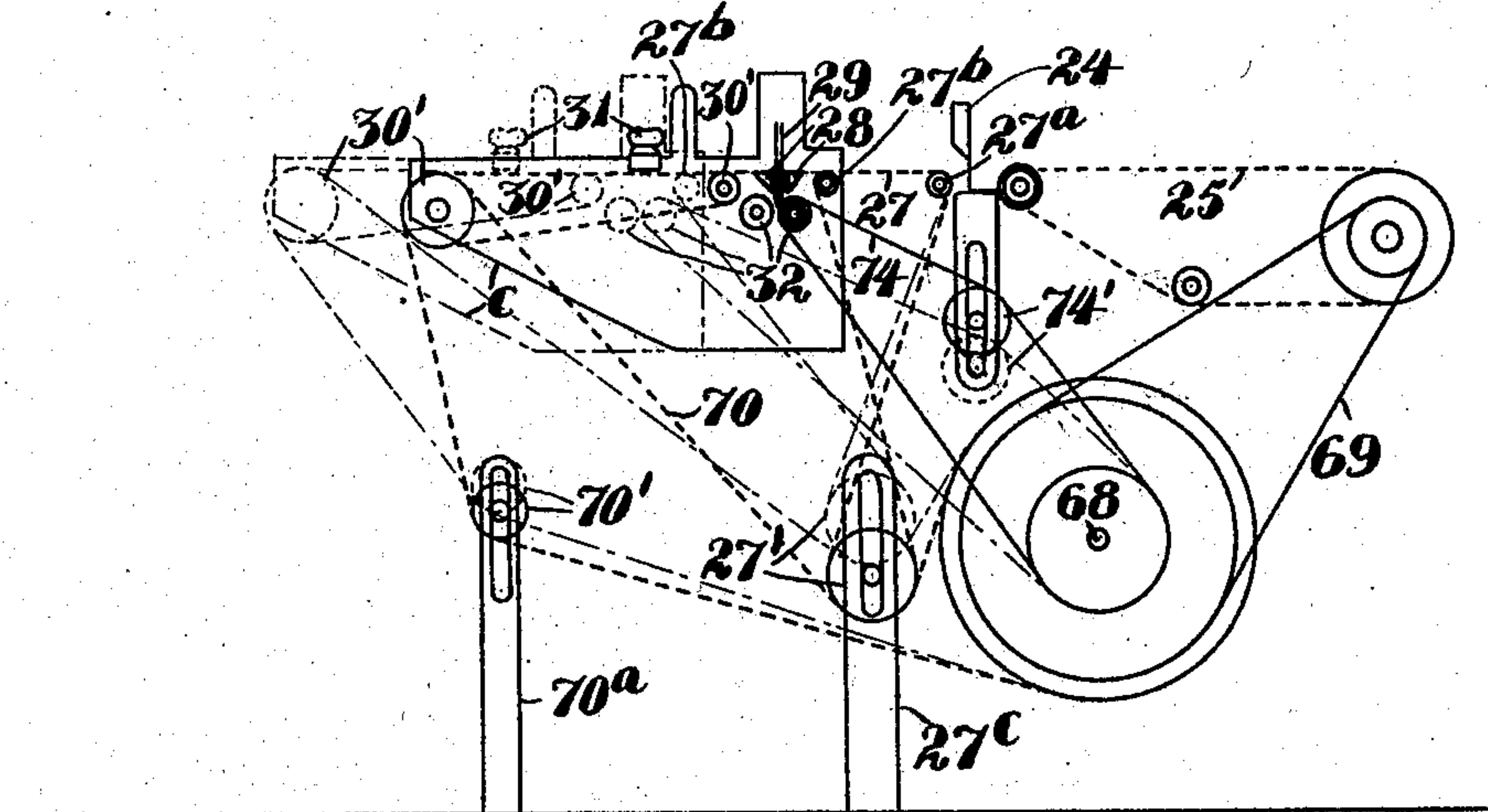
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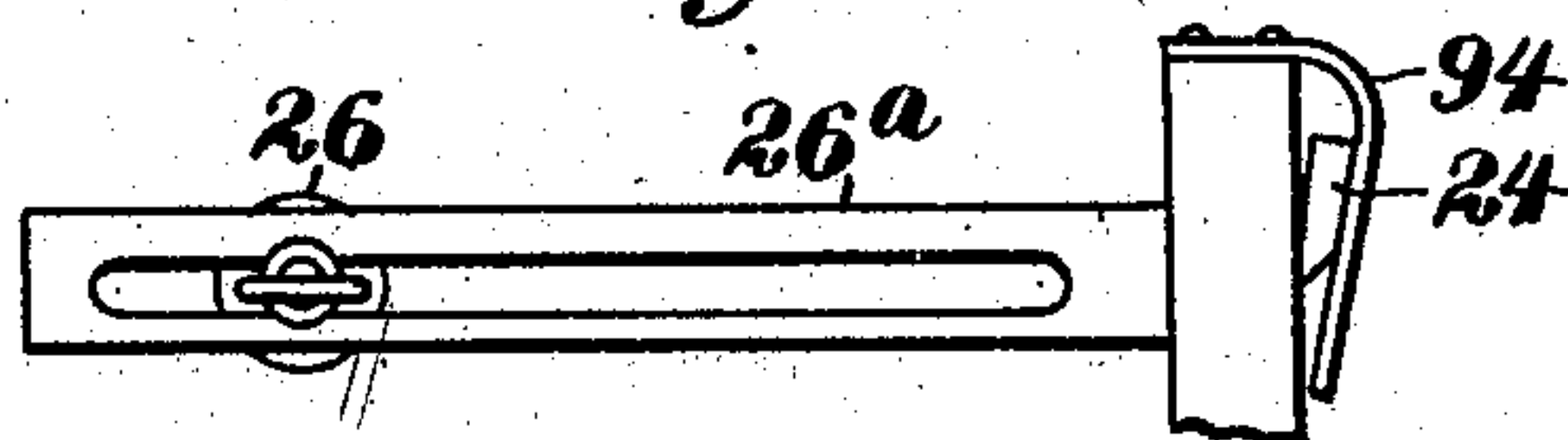
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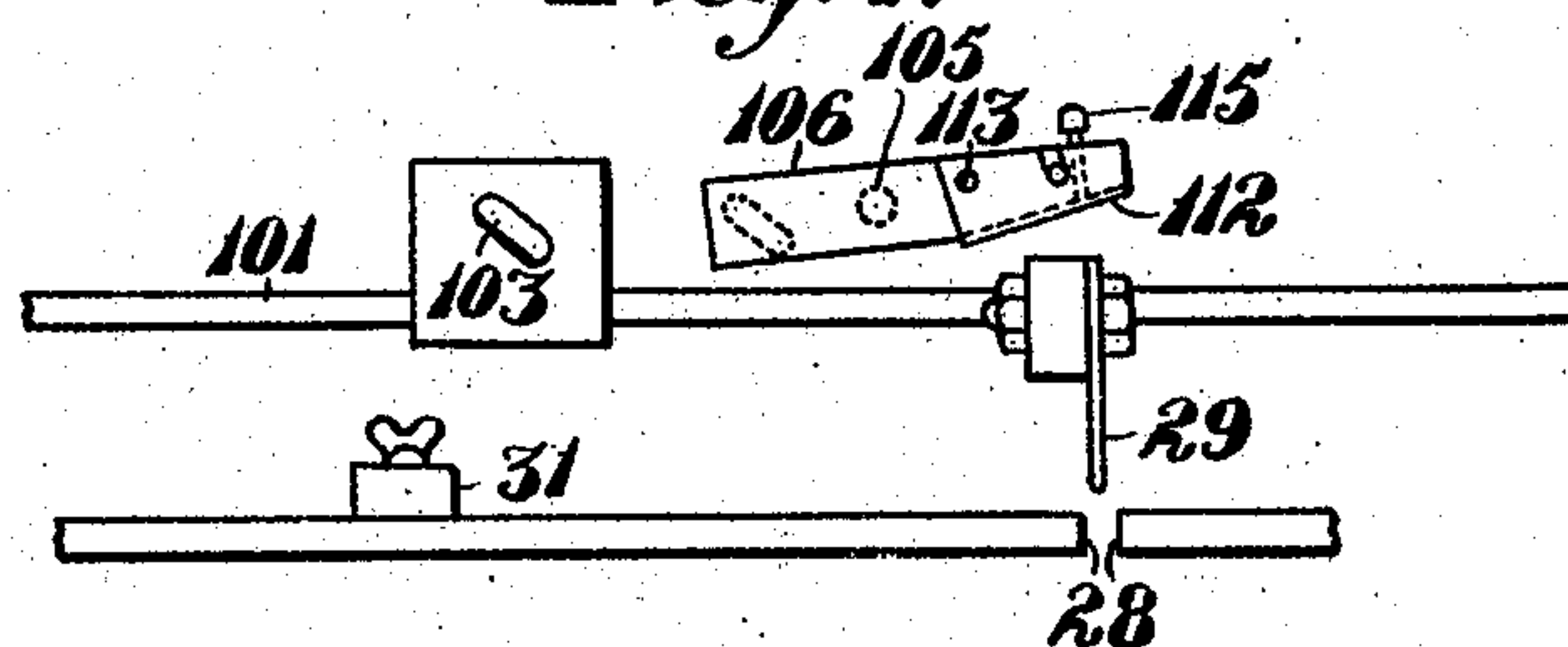
*Fig. 5.*



*Fig. 6.*



*Fig. 7.*



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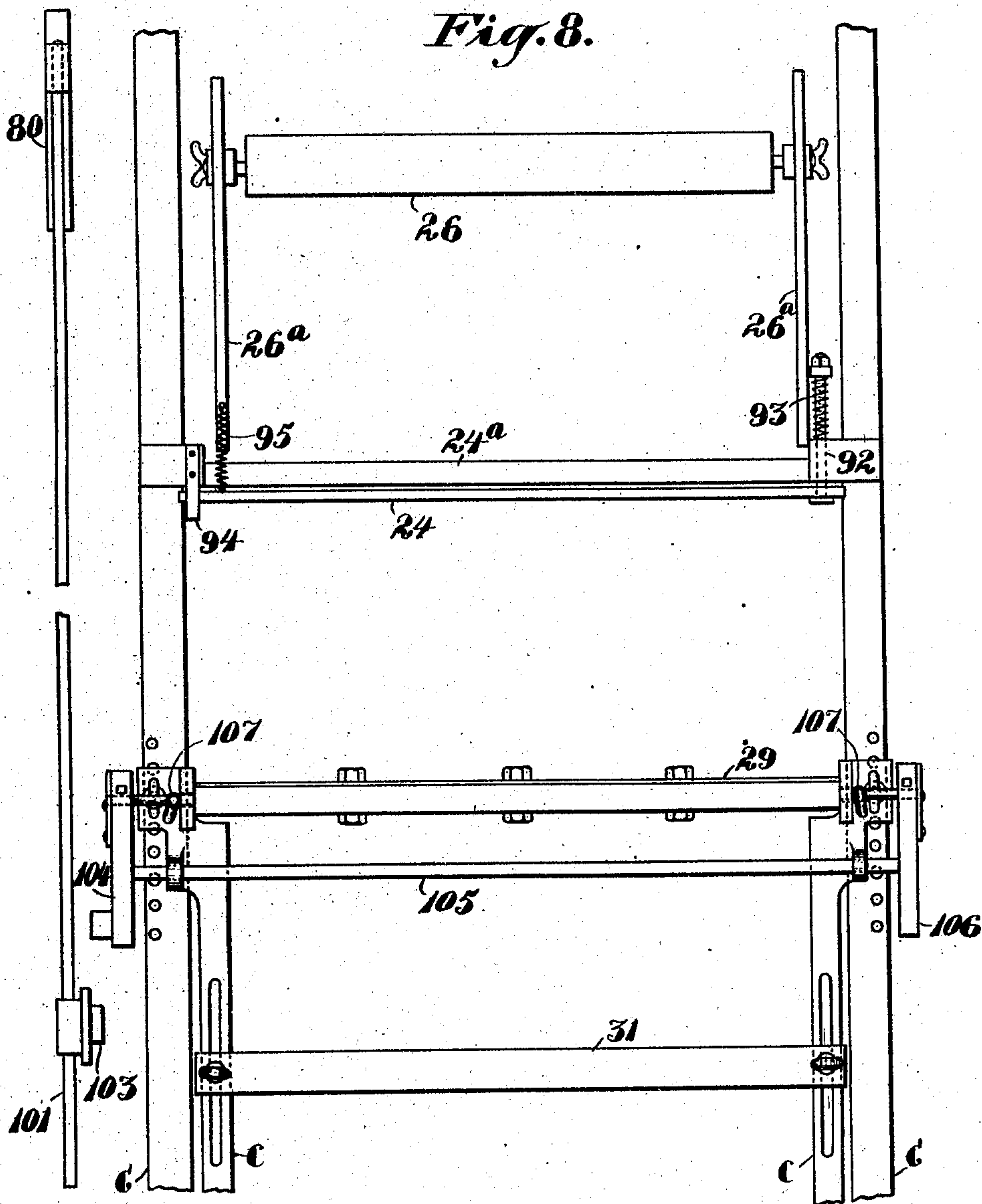


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5 SHEETS—SHEET 6.

911,563.

*Fig. 8.*



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# UNITED STATES PATENT OFFICE.

JOHN FREEMAN AMES, OF PORTLAND, OREGON.

## BAG-MACHINE.

No. 911,563.

Specification of Letters Patent.

Patented Feb. 9, 1909.

Application filed June 16, 1906. Serial No. 322,072.

*To all whom it may concern:*

Be it known that I, JOHN FREEMAN AMES, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented new and useful Improvements in Bag-Machines, of which the following is a specification.

My invention relates to bag machinery and especially to machines in which a continuous length or web of cloth is passed through a printing press to have a suitable brand imprinted on it at suitable intervals, thence severed into proper bag lengths and the bag sections finally folded.

My object is to group in a single organism the several printing, cutting and folding mechanisms; and particularly to render these mechanisms mutually adjustable in every respect to the manufacture in a practical and commercially-successful manner, of bags of different sizes.

The present invention pertains more specifically to the means for operating and controlling the feed to the cutter, and to the means for adjusting the folding device to the rest of the machine; it also covers other matter, but these are the two main features of the present application.

Having reference to the accompanying drawings,—

Figure 1 is a side elevation of the principal parts of the stock roll, printing press and cutter-feed mechanism. Fig. 2 is a similar view in continuation of Fig. 1: the two views taken together representing a side elevation of the present invention. Figs. 3—4 correspond respectively to Figs. 1—2 and represent diagrammatically the driving connections and carrying tapes and the web in its course through the machine. Like Figs. 1—2, the Figs. 3—4 should be viewed together. Fig. 5 is a partial elevation and partial diagrammatic representation of the folding mechanism; the full-line position of the carriage indicating its position for small bags and its dotted-line position that for large bags. Fig. 6 is a detail of the spring guide for the free end of the knife and of the presser roller. Fig. 7 is a detail of the means for operating the folding blade. Fig. 8 is a plan of the cutter and folder omitting certain parts of the machine.

A represents the roll of stock which is to be printed at regular intervals and cut into suitable lengths, the width of the rolled stock

corresponding to the length of the bag to be made.

B is the printing-press taking the stock from roll A printing it and passing it on to be taken into and through the cutting and folding machine, the frame of which latter is indicated by the reference letter C. For convenience of illustration in Figs. 3—4 the stock in its travel through the press and machine is represented in heavy lines by D; the sprocket chains and driving connections by single lines, and the conveying tapes and belts by broken lines. From roll A (Fig. 3) which is mounted to turn free, the fabric is carried between the rollers 2 driven in unison with the rest of the machine. Thence it passes between the form or type cylinder 3 of the press and the impression cylinder 4 being fed intermittently thereto by means of the feed roller 5 resting normally on the impression cylinder. 6 is another roller on the other side of cylinder 4 which is movable with roller 5 and operated by the same means. These rollers are operated through the agency of an expansible and adjustable cam 7, Fig. 1 on the shaft of the constantly revolving form cylinder. The cam 7 is composed of a plurality of concentric sectors adapted to be opened out or closed up to present a more or less extended surface of contact to the roller 8 on arm 9 by which the periodical raising of the rollers 5—6 is effected. The roller 5 is journaled in the arms 10 keyed to rock shaft 11 to which the roller-arm 9 is also fastened. Roller 6 is carried by the arms 12 which are pivoted on arms 10 and the two rollers are adjusted by suitable devices as the set screws 13 to cause them to bear equally and simultaneously on the impression cylinder. The roller 6 serves also to strip the cloth from the form to prevent the cloth following around with the cylinder after making the impression. Thus it is seen that when the cam 7 contacts with the roller on arm 9, the shaft 11 is rocked to lift both rollers 5—6 from the impression cylinder. When the cam leaves the roller 8 a spring 14 operates to pull arm 9 back and allow the rollers 5—6 to contact with the impression cylinder to feed the cloth forward. The period of contact of the rollers 5—6 with the impression cylinder regulates the amount of feed at each revolution of the form cylinder independent of the contact of the form with the cloth and impression cylinder and



the amount of feed of cloth depends on the size of the bag to be made. The rollers 5—6 are preferably caused to contact with the impression cylinder prior to the contacting of the form with the cloth, so as to start the latter in motion and not produce a smudge as might occur if the feed of the cloth depended on the contact of the form and impression cylinders alone. The adjustability of the cam sectors allows a wide range of variation in the time and amount of feed to the press. For large bags the sectors would be closed more than for small bags. The two cylinders are driven positively in unison and at the same surface speed by reason of the inter-engagement of the gears 15.—16 on the respective cylinders.

18 represents the inking rolls which are preferably mounted on adjustable carriages and each adapted to apply a different colored ink to a different area of the brand.

Leaving the press, the printed length of fabric is preferably supported on an inclined plane or table 19 which is carried by and adjustable with the press as will be more fully explained later. The fabric passes around a suitable tension device 20 and thence around an adjustable tension rod 21 whose functions will be made apparent hereinafter. Thence the cloth passes to the feed rolls 22—23 by which it is fed intermittently to the knife or cutter 24; first coming after leaving rolls 22—23, upon the constantly running tapes 25 and passing beneath the adjustable presser roller 26, which latter holds the fabric flat, evens out the creases and keeps the end of the fabric from jumping back, or buckling when the knife cuts off a section. This roller 26 is important for the reasons last mentioned and is adjustable in slotted guides 26<sup>a</sup> to permit it to be moved back and forth lengthwise of the machine so that when the cloth is temporarily at rest, being still held by the rollers 22—23 but supported on the constantly running tapes 25, the roller which also runs constantly by reason of its engagement with the tapes, can be shifted so that it will not rub over the freshly printed portion of the cloth and possibly blur the brand or smear the fabric.

23 is a frame, felt-lined on its under side and slidable on a suitable guide 23<sup>a</sup> and movable lengthwise of and in contact with the upper feed roll 23. It is for the purpose of wiping off the ink that may possibly collect on the roll from the freshly imprinted fabric.

Beyond the cutter the severed and printed section *d* of the strip D is received on to the constantly running tapes 27 and carried across the transversely extending bars 28 between which the vertically reciprocating folding blade 29 operates. The front end of the severed strip *d* is caught by a succeeding set of constantly running tapes 30 and car-

ried against an adjustable stop bar 31 which trues the front edge of the strip. As the severed strip contacts with bar 31 the blade 29 descends and folds the strip lengthwise in the middle carrying the strip down between the oppositely turning rollers 32 which crease and deliver the folded strip on to a curved guide 33 and thence on to the endless carrier 34, whence the strip is delivered as desired.

The folding mechanism (including the cross bars 28, the folder 29, the stop bar 31, the creasing roller 32, the curved guide 33, the supporting rollers for tapes 30 and the rear supporting roller for tapes 27) are mounted on an adjustable frame or carrier *c* which is slidable back and forth with respect to the cutter, on suitable guides on frame C. The carriage may be locked in any desired position by appropriate means. The importance of the adjustability of the folder with regard to the cutting and printing mechanisms will be pointed out later. I desire to say now that special stress is laid on the fact that this machine is strictly adjustable in all essential particulars.

Stop bar 31 is adjustable on carriage *c* and is essential since both carriers 27—30 run constantly and without the bar the severed section would be carried too far or be thrown askew so as not to be folded in the middle. The adjustment of the bar to the folder is proportioned to the distance between the folder and cutter, and both depend on and vary according to the size of the bag to be made.

Referring to the driving connections: Power is derived from the main shaft 60 operated from any suitable source. A gear on shaft 60 engages another gear on the counter-shaft 61 whence extends a sprocket chain 62 to a sprocket on shaft 63. From shaft 63, a chain 64 runs to shaft 65 on the printing press, whence the form and impression cylinders, inking and feed rolls are operated. Also from shaft 63 extends a chain 66 to a sprocket 66' geared to one of the rolls 2 which operate the unwinding of the material from roll A. Also from shaft 63 runs a chain 67 to a sprocket on shaft 68 whence power is transmitted by the respective connections 69 and 70 to run carriers 25, 27 and 30. Tapes 27 are crossed and pass around the three rollers 27'—27<sup>a</sup>—27<sup>b</sup>. The lower roller 27' is adjustable in vertically slotted guides 27<sup>c</sup> on a fixed part of frame C; roller 27<sup>a</sup> is journaled in a fixed part of frame C proximate to the cutter 24. Roller 27<sup>b</sup> is journaled in the movable carriage *c*. When carriage *c* is moved to carry the folder 29 nearer to cutter 24 the carrying surface of tape 27 is shortened; roller 27' being correspondingly lowered, and vice versa. Tapes 30 run over front and rear rollers 30' which are both mounted on carriage *c*. The length of tape 30 is not



changed except as may be required to maintain their proper tension. Chain 70 which drives a sprocket on roller 27' to drive tapes 27, also passes around a sprocket on one of the rollers 30' to drive tapes 30 and thence around an adjustable tension sprocket 70' which is movable vertically in fixed guides 70<sup>a</sup>. Also from a sprocket on shaft 63 extends another chain 72 to operate a shaft 73 and the conveyer 34. The rolls 32 are run from shaft 68 by connections 74; an adjustable idler 74' adapting the connections to the movements of carriage c. It will thus be observed that the folding mechanism is strictly adjustable to and from the cutter and that all the carrying tapes and driving connections can be easily and properly adjusted to whatever position the folder carriage may be made to assume. The means for operating the folding blade and their adjustment will be described later.

Shaft 61 carries a radially slotted disk 76 and an adjustable cam 77 disposed on a radius approximately at right angles to the slot 78 in the disk.

A connecting rod 79 adjustable in slot 78 connects with a sliding carriage 80 on the frame of the cutting and folding machine. The carriage 80 is provided with a rack 81 engaging a pinion 82 loose on the shaft of the feed roller 22. A ratchet 83 is fast to the shaft of roller 22 and pinion 82 carries an arm having a pawl 84 riding on the ratchet so that as the carriage 80 moves in one direction, or toward the cutter, the roller 22 will be turned and when the carriage is retracted the pawl will ride free over the ratchet and the roller 22 will determine the feed to the cutter; and this amount will equal the exact length of fabric to be severed and will be equal to the feed through the press at each imprinting operation.

Variation in the feed to the knife is effected by shifting the pivot of the connecting rod 79 in the slot 78 to shorten or lengthen the stroke.

Thus it is seen that the adjustment afforded by the slotted disk 76 and connecting rod 79, and the adjustment afforded by cam 7, are mutually interdependent, so that the feed to the cutter may be proportioned to the feed to the press.

In order to render effective a fine and exact adjustment of the feed of the fabric to the cutter relative to the operation of the printing-press, means are provided to limit the rotative movement of the feed rollers 22-23 beyond that prescribed by the forward movement of the carriage 80 since these rollers have a tendency to continue turning after the power by which they were set in motion has ceased to be applied. To prevent this continued rotation and to bring them to rest immediately and prevent any possible variation in the amount of feed

each time to the cutter, the shaft of roller 22 carries a friction pulley 85 on which a weight 86 is adapted to rest by gravity and a brake shoe 87 hinged at 88 is adapted to be pressed up against the under side of the roller. This brake is applied the moment the power for accomplishing the rotary movement of the feed rolls is discontinued, through the agency of the adjustable cam 77 periodically depressing the arm 89 fastened to the rock shaft 90. The latter carries a projection 91 on which the brake shoe is suitably supported. This brake mechanism prevents an unequal feeding and assures absolute uniformity in the length of the severed sections of cloth.

The cutting mechanism which is shown in Figs. 2-4-5-8 consists of a stationary member 24<sup>a</sup> on the bed-frame and a movable member 24 having a spring-supported pivot at one side of the machine. This pivot comprises a bolt 92 suitably journaled in the frame, and a spring 93 surrounds the bolt and operates always to press that end of the knife in against the stationary cutting member. The opposite end of the blade is movable in a tapered spring guide 94 which acts in conjunction with the spring 95 to press that end of the knife always into close contact with the stationary cutting member. Thus the knife is flexibly supported and guided at each end and operates on the cloth after the fashion of a pair of shears. By mounting the movable blade in this manner the cutting edges remain sharp for a considerable length of time.

A spring 96 serves to hold the knife normally open and its depression at proper intervals is effected by means of the cam 97 on shaft 68 contacting with a roller 98 on the pivoted arm 99 to which is connected the rod 100, the free end of the rod being pivoted to the knife blade.

The operation of the folder 29 is accomplished by means of a rod or bar 101 fast to and movable with carriage 80 and slidable in guides 102. This bar carries an adjustable cam 103 which engages a rocker arm 104 at each revolution of disk 76.

Arm 104 is connected with one end of the folder and is fixed to the transversely extending fulcrum shaft 105, the opposite end of which is provided with a similar arm 106 which is connected with the end of the folder on that side of the machine. A rocking of shaft 105 in one direction by the cam 103 depresses the blade to carry the bight of the severed strip in between the creasing rollers 32. The retraction of the folder is occasioned by the springs 107.

As the carriage c is moved toward or from the cutter to vary the distance between the folder and cutter, the cam 103 is shifted on rod 101 accordingly.

It will be observed that while the feeds to



the printing press and to the cutter are intermittent, the operation of the several endless carriers 25—27—30—34 and 36 is continuous.

5 The several driving connections are either chains and sprockets, or gears in order that every essential part should be positively driven, thereby preventing disarrangement after the machine is once adjusted for a particular run of bags.

10 In operation a roll of cloth A is taken, the width of the cloth being equal to the length of the bag to be made. Cam 7 is adjusted so that its period of non-contact with the roller on arm 9 will allow the rolls 5—6 to operate just long enough to feed the exact quantity of cloth through the press as will constitute the width of a severed bag blank before it is folded. The position of the press relative to the cutter 24 is then determined; the press being mounted on rollers 108 for this purpose and being movable back and forth by suitable means as the screw and hand-wheel 109. The throw of the connecting rod 79 is then adjusted to render the feed by the rollers 22—23 to the cutter proportionate to the feed through the printing-press, since there is seen to be a necessarily coordinated movement between the printing and the cutting and folding mechanisms. The folder is then adjusted towards or from the cutter according to the size of the bag, and the stop bar 31 is set at such point as to bring the blade exactly in the middle of the section to be folded.

35 It is essential to a commercially practicable machine, as I have found by long experience, that the folding mechanism be adjustable as a unit to and from the cutting mechanism. In fact it is impossible to fold a large bag if the folding mechanism is fixed close to the cutter as it should be for small bags. Conversely it is impracticable to properly fold small bags if the folder is set permanently at a point necessary to correctly fold the largest bag which the machine is capable of cutting, and for the following reasons: Assume the folder is fixed at a point which would enable the folding of a bag containing 34" of cloth. The folder blade in this case would have to be situated at least 17" from the cutting blades. Now suppose that when the folding mechanism is situated at this distance from the cutting blades it is desired to cut a bag containing six inches of cloth. The folding device would be adjusted until it was three inches from the cutter, the stop bar 31 would be shifted to bring the folder in the middle of the strip to be severed, and the cam 7 adjusted so that its period of contact with the roller on arm 9 would allow the rolls 5—6 to operate just long enough to feed the exact quantity of cloth through the press as would constitute the width of the severed bag blank before it

is folded. The position of the press relative to the cutter would be adjusted, and the length of the connecting rod 79 also adjusted so as to render the feed by the rollers 22—23 to the cutter proportionate to the feed through the press, as previously described. There is thus an adjustment of two of the three essential mechanisms in this printing, cutting and folding operation, towards or from the third. After the length has been severed, if the folding blade is situated 17" from the cutting blades, it will be observed that the end of the 6" length would be 9" from the folding blade, and in order to be folded properly it would have to be carried 3" beyond the blade. Following the cutting blades is the small roller 27<sup>a</sup>, and attached to the folding-blade-frame c is a similar roller 27<sup>b</sup>. These rollers carry the tapes 27 which conduct the cloth from the cutting blades to the folder as before described. At the rear side of the folder are the rollers 30' for supporting the tapes 30 which operate continuously beyond the folder. There is a space of five or six inches between the front roller 30' and roller 27<sup>b</sup> on the folding blade frame. It will be perceived that if the cloth is severed in 6" lengths, that there would be nothing to carry it across the space between these two rollers and bars 28. In other words the part of the strip to be folded must be projected across this space through the agency of the unsevered web. So unless the folding blade frame were adjustable to and from the cutting blade, it would be impossible to properly fold bags of a variety of sizes.

The feed rolls 22—23 and the carrier bolts 25 preceding the cutting mechanism, assist the continuously moving carriers 27—30 respectively between the cutting and folding blade and beyond the folding blade, by pushing the fabric forward beneath the folding blade and onto both carriers 27—30. This pushing of the fabric by the feeding rolls and the carriers preceding the cutting blades is essential to the practical operation of the machine.

I have in successful operation, machines which are adjustable to cut and fold bag sections from 6" to 34" in width. When these sections are folded they make bags respectively from 3" to 17" in width.

The feed of the cloth to the cutter and folder is intermittent like that to the press but is alternative with and at a different rate of speed than the latter. That is the amount of material coming from the press after each imprint will exactly equal the amount going to the cutter at each actuation of the rollers 22—23 yet at the actual time of the forward movement of the cloth through the press and to the cutter, the rate of speed through the cutting machine is greater than through the printing press due to the differences in the respective feed-operating means. It is obvi-



ous therefore, that if the cloth were fed simultaneously into each, and not successively or alternately, there would be a gain of the feed into the cutting machine over that by the printing machine with the result that the cloth, when it is held by the pressure of the printing plate against the impression cylinder, would be torn by the pull of the feeding rolls of the cutting and folding machine.

10 The printing mechanism is disposed at some distance from the cutting mechanism and its feed rollers, and the section of cloth between the press and the feed to the cutter, has printed on it at regular intervals various and several impressions of the printing plate. 15 This separation of the press and the cutting and folding mechanisms is to permit of the adjustment of one mechanism relative to the others, that must be made in printing bags of different sizes, since the distance from the cutting blade to the point of contact on the cloth of the side of the printing plate must be definitely fixed in order that the print on the section to be severed be always properly 20 disposed relative to the distance from each edge of the folded section. In other words the print on the cloth must occupy a definite uniform position relative to the cut edge of the cloth—hence with a continuous strip having successively applied brands—the cut must always occur on precisely the same line between any two prints in order that the 30 sewed bag sections should have the prints appear uniform. For every different size of bag and every different size of brand the position of the print on the strip has to be especially regulated relative to the cutter.

The inclined table 19 is fixed to the printing press frame and moves with it and a space is left between the impression cylinder and the adjacent upper end of the table into which space a fold of the fabric is received after each impression. This portion of fabric which is allowed to sag between the table and the cylinder is the amount that the 45 rollers 22—23 will draw forward the next instant for the cutter.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is—

50 1. In a bag machine, the combination of a printing mechanism, a cutting mechanism and a folding mechanism, and means by which two of these mechanisms are movable toward or from the third mechanism to vary the distance between the three mechanisms and adapt the machine to bags of different sizes.

2. A bag making machine having in combination means for supporting a continuous 60 strip of cloth, a printing mechanism to which the strip is delivered, means for giving an advance movement to the strip in unison with the making of the imprint, means for interrupting the advance of the strip and causing the printed portion thereof to be delivered

loosely beyond the printing devices, independent intermittently operating means for renewing the travel of the printed strip after each imprint, a cutting mechanism to which the printed strip is advanced by the last-named means, a folding device for folding the severed sections, and means for adjusting the folding device toward and from the cutter to adapt the machine to bags of different sizes. 75

3. In bag machinery, the combination in a single organism of means for supporting a continuous strip of cloth, a printing mechanism to which the strip is delivered, means for interrupting and then renewing the travel of the strip and causing the printed portion thereof to be delivered loosely beyond the printing devices, independent means for continuing the travel of the loose and printed strip, a cutting device, a folding device, and 80 means for adjustably positioning the folding device with respect to the cutting device and printing mechanism to adapt the machine to different bag lengths.

4. In a bag machine, the combination in a single organism of means for supporting a continuous strip of cloth, a printing mechanism to which the strip is delivered, means for interrupting and then renewing the travel of the strip and delivering said strip in a loose condition beyond the printing mechanism, independent means for continuing the travel of the said loose and printed strip, a cutting mechanism to which the printed strip is delivered, a folding mechanism to which the severed lengths of cloth are delivered, means 90 for operating the imprinting, feeding, cutting and folding mechanisms automatically and coördinately, said folding mechanism mounted on a carriage movable with respect to the cutting mechanism. 105

5. A bag machine having in combination intermittently operating printing mechanism and means whereby a strip of fabric may be fed thereto; intermittently operating cutting mechanism by which the printed strip is severed into bag lengths; intermittently operating folding mechanism succeeding the cutting mechanism, feeding means between the cutting and folding mechanisms, and means for mutually adjusting the several printing, cutting and folding mechanisms to bags of different sizes, two of said mechanisms being independently movable towards and from the third mechanism. 115 120

6. A bag machine including in a single organism an adjustable printing mechanism to which a strip of fabric is delivered, an adjustable, intermittently operating feeding means for giving an advance movement to the strip in unison with the making of the imprint and then interrupting said advance movement after the imprint is made, a cutting mechanism, means whereby the cutting 130



and printing mechanisms are adjustable one relative to the other, said cutting mechanism operating during the intermission of the forward movement of the fabric, for severing the fabric into bag lengths, a feeding means associated with the cutting mechanism and independent of the first feeding means for feeding to the cutting mechanism the portion of the imprinted fabric advanced beyond the printing mechanism by the first said feeding means, and an adjustable intermittently operating folding mechanism to which the severed lengths of fabric are delivered.

7. A machine of the character described having the following instrumentalities, viz: means for supporting and feeding a strip of fabric; means for printing said strip; adjustable, intermittently operating mechanism for cutting the printed strip into bag lengths, and to which mechanism the strip is automatically and intermittently fed; and a folding mechanism to which the severed lengths are delivered intermittently and by which said lengths are folded into bag forms, said folding mechanism mounted on a movable carriage and adjustable towards and from the cutting mechanism.

8. The combination of three successively arranged carriers moving in the same direction, having their carrying surfaces disposed in substantially the same plane, a cutter operating between the first two of said carriers, means for driving the carriers continuously, means for feeding a strip of material intermittently upon said carriers, a folder operating between the second and third carriers, and means for varying the distance between the cutter and folder.

9. The combination of three successively arranged carriers the carrying surfaces of which move in the same direction, a cutter operating between the first two of said carriers, means for driving the carriers continuously, means for feeding a strip intermittently upon said carriers, and a transversely extending guiding device disposed in the path of the severed sections of the strips for the purpose of stopping and truing the edge of the severed sections prior to folding, a folder between the second and third carriers, and means for varying the distance between the folder and cutter.

10. The combination of four successively arranged carriers whose carrying surfaces move in the same direction, the fourth carrier being disposed parallel with the other three but on a different plane, a cutter operating between the first two of said carriers, means for feeding a strip intermittently upon said carriers, a transversely extending guiding device disposed in the path of the severed sections of the strip for the purpose of stopping and truing the edge of the severed section prior to folding, a

folder operating between the second and third carriers, means for delivering the folded sections on to the fourth carrier, and means for varying the distance between the cutter and folder.

11. In a bag machine, the combination of a cutter and a folder, means for delivering material to the cutter, an endless carrier on each side of the folder, said carriers having their carrying surfaces in the same plane and traveling in the same direction and receiving the severed sections, means for varying the distance between the cutter and folder, and means for varying the length of the carrying surface of said endless carrier between the folder and cutter to adapt it to the varying distance of the cutter from the folder.

12. In a bag machine, the combination of a cutter and a folder, means for delivering material to the cutter, an endless carrier on each side of the folder, said carriers having their carrying surfaces in the same plane and traveling in the same direction and receiving the severed sections, and an adjustable stop beyond the folder for the purpose of stopping and truing the edges of the severed sections prior to folding, and means for lengthening and shortening the carrying surface of the carrier between the cutter and folder.

13. The combination of four successively arranged carriers whose carrying surfaces move in the same direction, the fourth carrier being disposed parallel with the other three but on a different plane, a cutter operating between the first two of said carriers, means for driving the carriers continuously, means for feeding a strip intermittently upon said carriers, a transversely extending guiding device disposed in the path of the severed sections of the strip for the purpose of stopping and truing the edge of the severed section prior to folding, and means for shortening and lengthening the carrying surface of the carrier between the cutter and folder and for varying the distance between the cutter and folder.

14. In a bag machine the combination with means for supplying a strip of fabric, of a printing mechanism, a feeding mechanism and three successively arranged carriers having their upper planes disposed in substantially the same plane and whose carrying surfaces move in same direction, a cutter operating between the first two of said carriers, a folder operating between second and third of said carriers, the cutter and folder operating in successive order during the intermission of the forward movement of the fabric, means for driving the carriers continuously, means for feeding a strip intermittently upon said carriers, and means for varying the distance between the folder and cutter.

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15. In a bag machine the combination with means for supplying a strip of fabric, of a printing mechanism, a feeding mechanism and three successively arranged carriers having their upper planes disposed in substantially the same plane and whose carrying surfaces move in same direction, a cutter operating between the first two of said carriers, a folder operating between second and third of said carriers, the cutter and folder operating in successive order during the intermission of the forward movement of the fabric, means for driving the carriers continuously, means for feeding a strip intermittently upon said carriers, and means for varying the distance between the folder and cutter, said last-named means including a carriage for the folder movable to and from the cutter, said carriage supporting one end of the intermediate carrier, and means for maintaining the proper tension of said carriers irrespective of the position of said carriage.

16. In a bag machine, the combination with means for supplying a strip of fabric, of a printing mechanism, a feeding mechanism and three successively arranged carriers having their upper planes disposed in substantially the same plane and whose carrying surfaces move in same direction, a cutter operating between the first two of said carriers, a folder operating between second and third of said carriers, the cutter and folder operating in successive order during the intermission of the forward movement of the fabric, means for driving the carriers continuously, means for feeding a strip intermittently upon said carriers, a transversely extending device disposed in the path of the severed section of the strip for the purpose of stopping and truing the edge of the severed section, and means for varying the distance between the folder and cutter.

17. The combination of three successively arranged endless carriers having their upper planes disposed in substantially the same plane and all moving in the same direction,

a cutter operating between the first two of said carriers, means for driving the carriers continuously, means for feeding a strip of material intermittently upon said carriers, a folder operating between the second and third carriers, and means for varying the distance between the cutter and folder.

18. The combination of three successively arranged endless carriers having their upper planes disposed in substantially the same plane and all moving in the same direction, a cutter operating between the first two of said carriers, means for driving the carriers continuously, means for feeding a strip of material intermittently upon said carriers, a folder operating between the second and third carriers, means for varying the distance between the cutter and folder, an adjustable stop for stopping and truing the severed sections prior to folding, and means for varying the distance between the folder and cutter and for correspondingly lengthening or shortening the carrying surface of the intermediate carrier.

19. The combination of a printing press, a cutting device and a folder, said cutting device and folder mounted independent of the press, means for passing a strip of material through the press and thence to the cutting device and folder, said folding device adjustable with respect to the cutting device, and means for giving the printing press, cutting device and folder a coördinate movement.

20. In a machine of the class described, a strip cutting mechanism combined with a strip folding mechanism including folding rollers and a reciprocating folding bar, together with means for simultaneously adjusting the folding rollers and folding bar toward or from the cutting mechanism.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN FREEMAN AMES.

Witnesses:

FRANK STONE,  
KENT M. AUSTIN.