

(No Model.)

4 Sheets—Sheet 1.

T. HIATT.
MACHINE FOR WRAPPING ORANGES.

No. 446,451.

Patented Feb. 17, 1891.

Fig. 1.

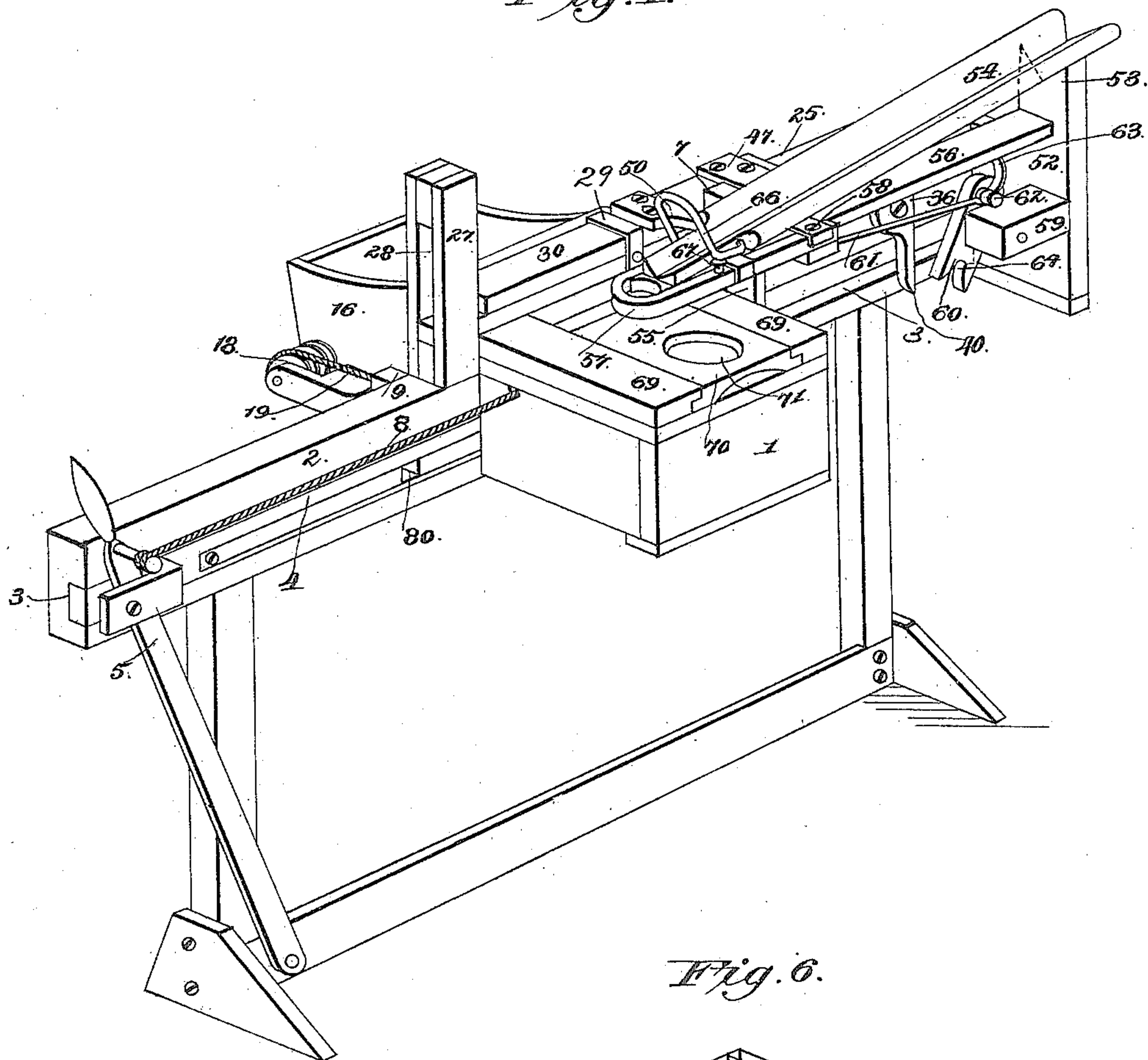
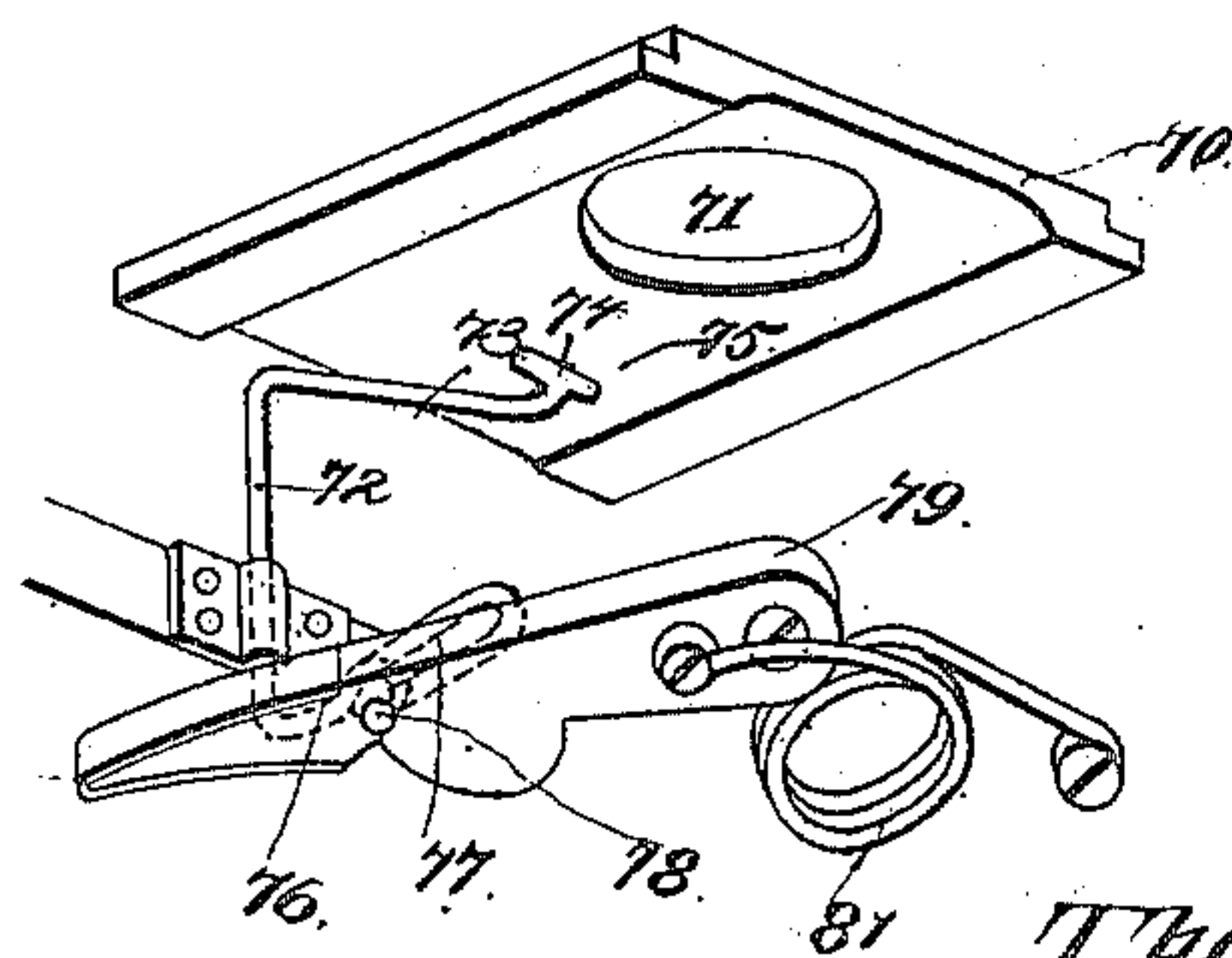


Fig. 6.



Witnesses

M. Fowler

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By his Attorneys,

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Inventor

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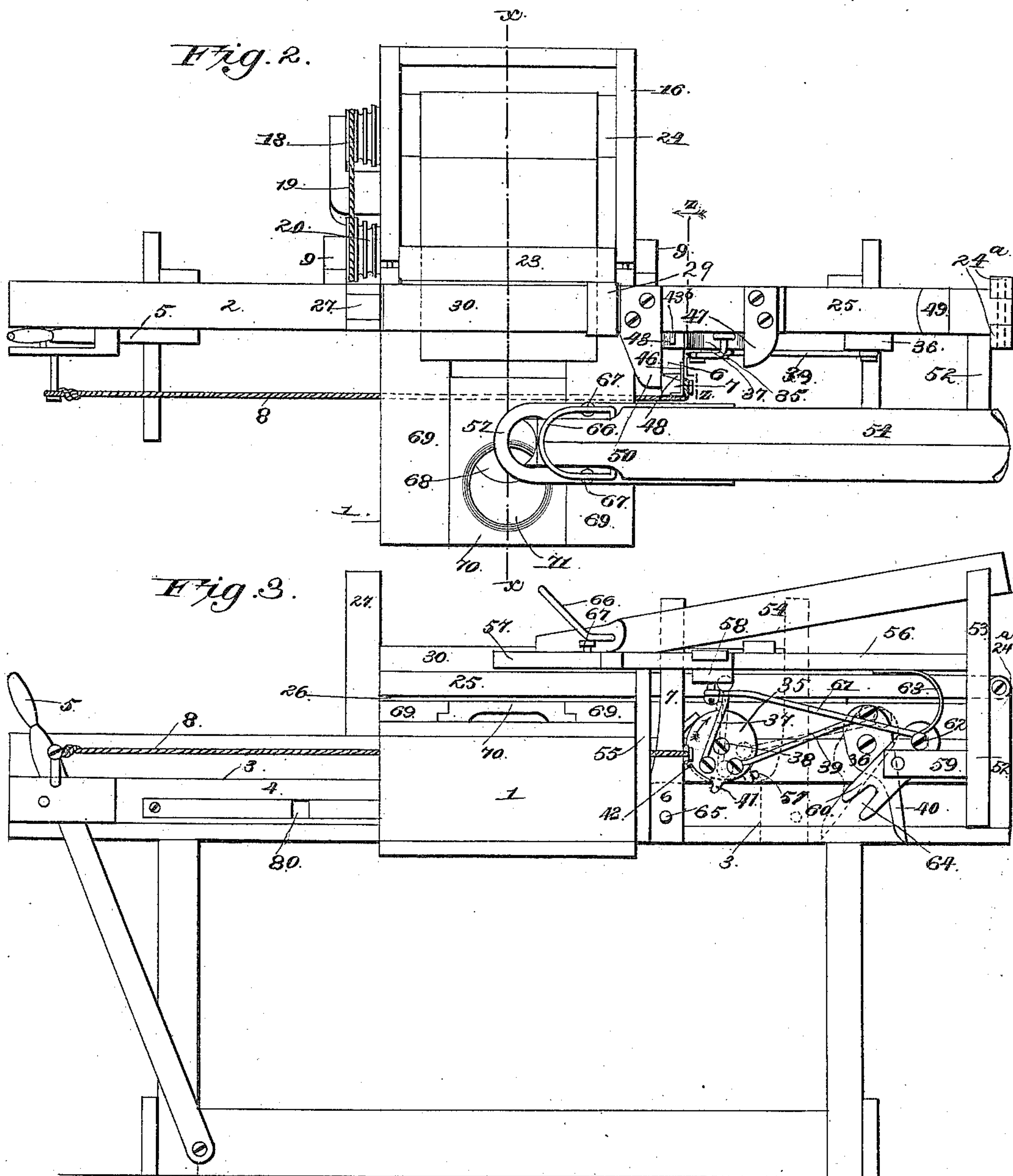
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4 Sheets—Sheet 2.

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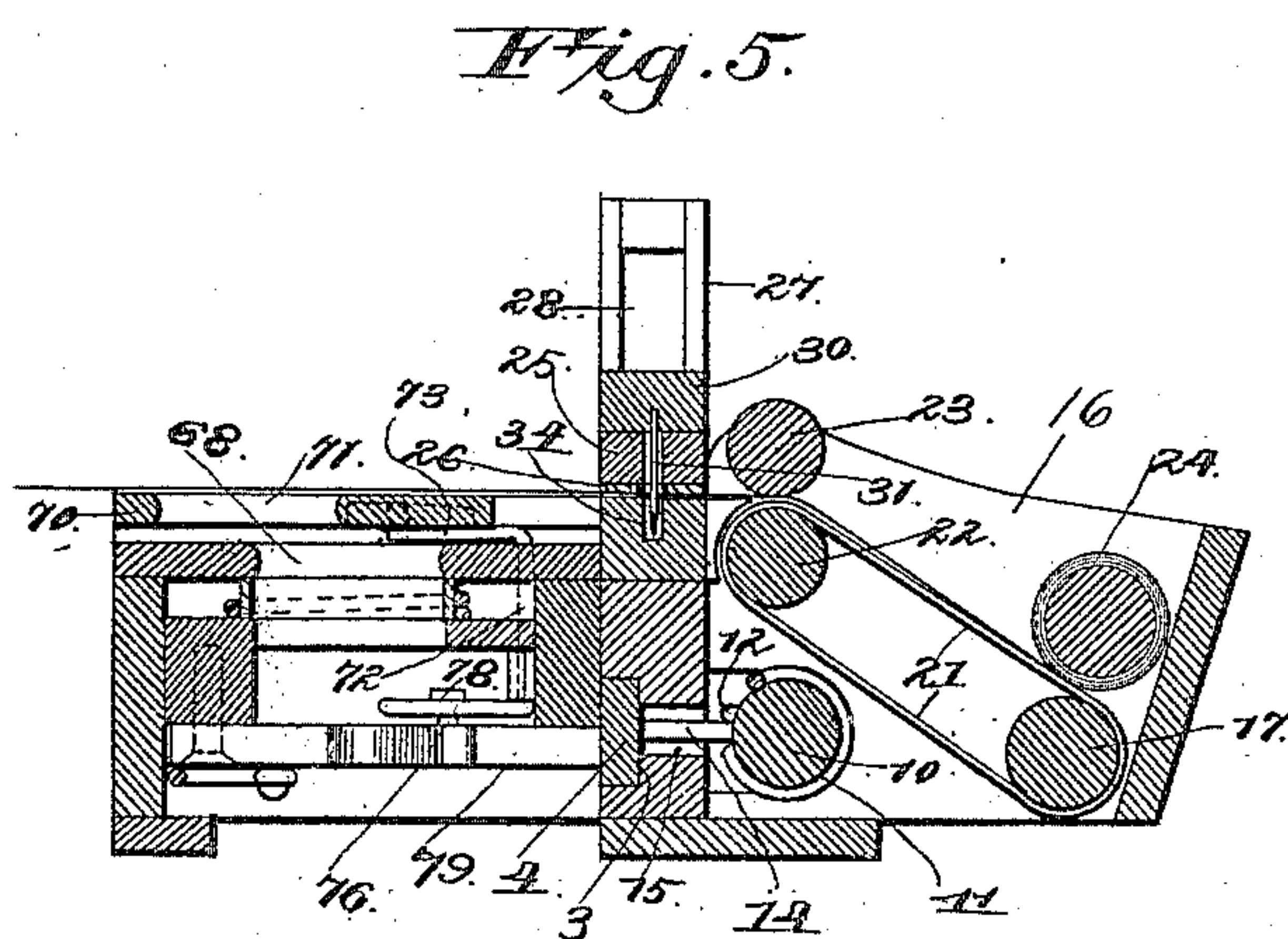
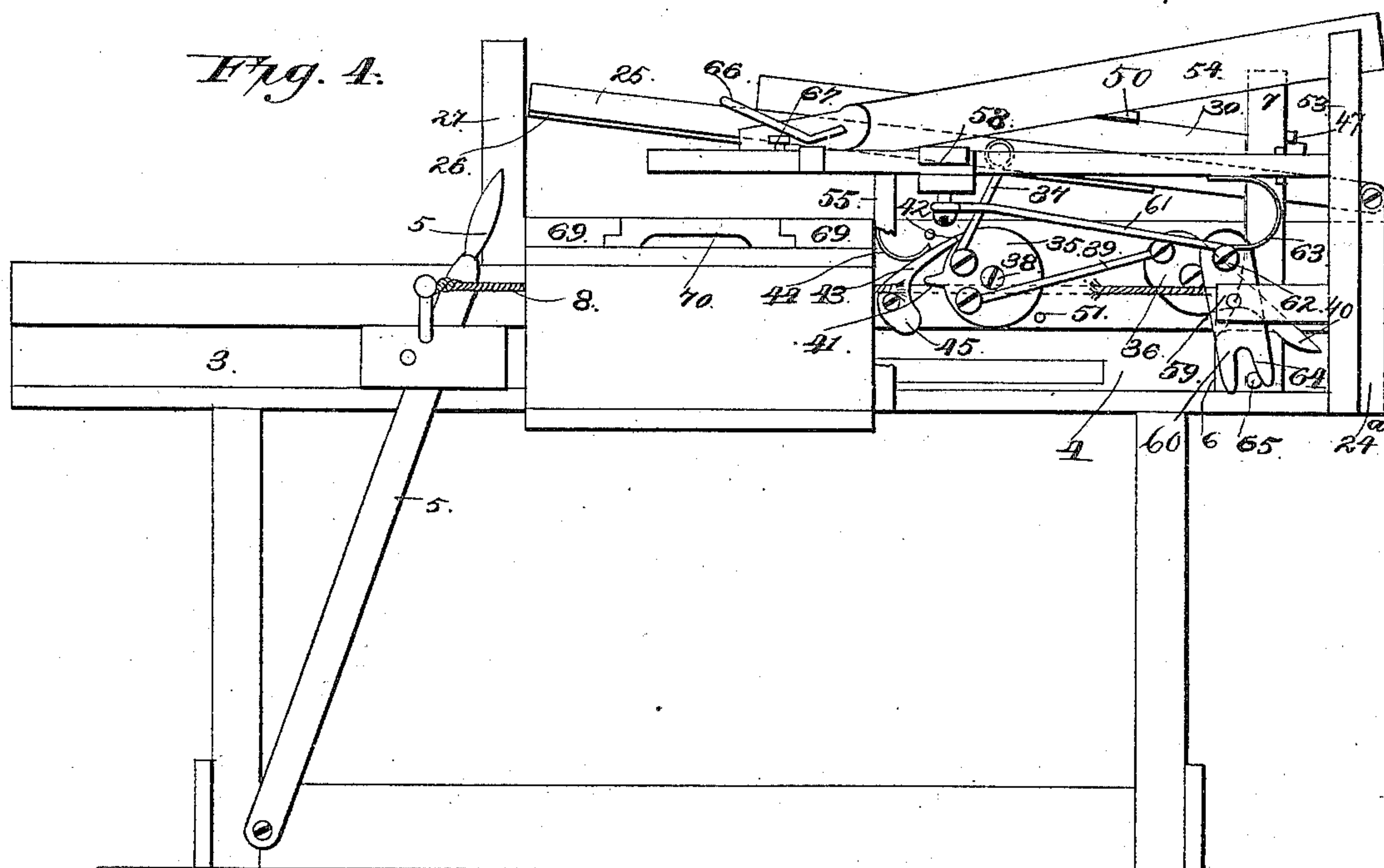
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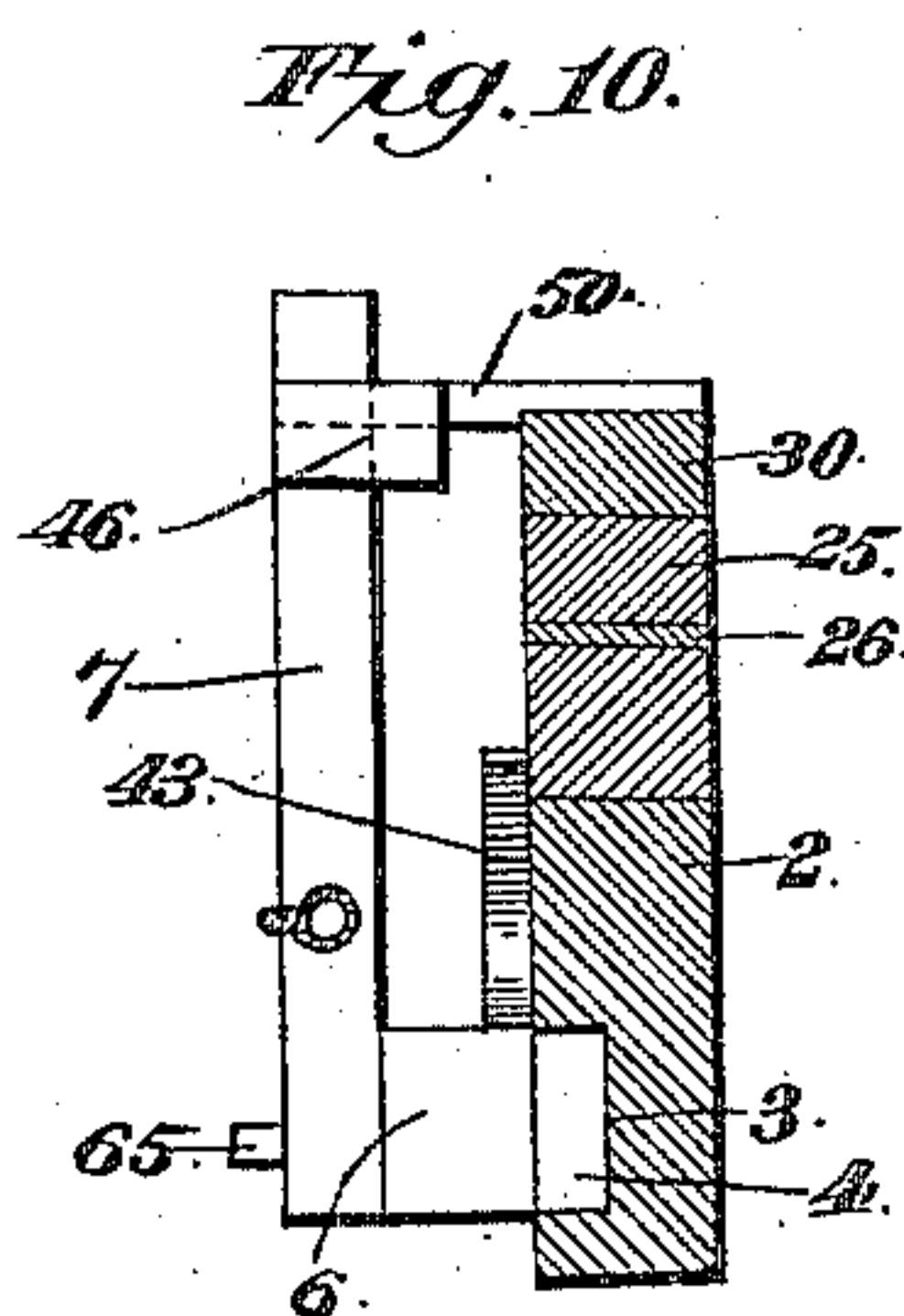
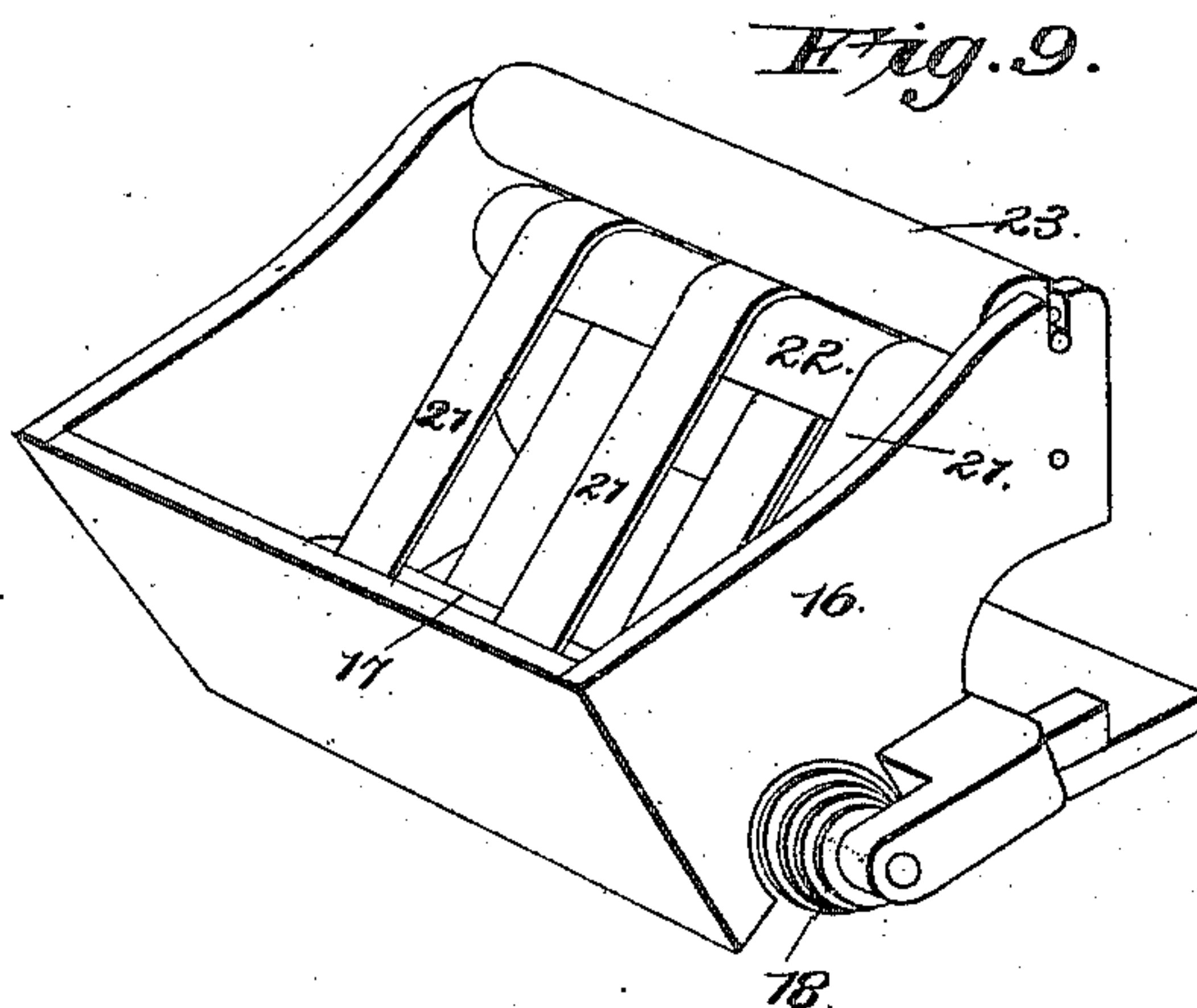
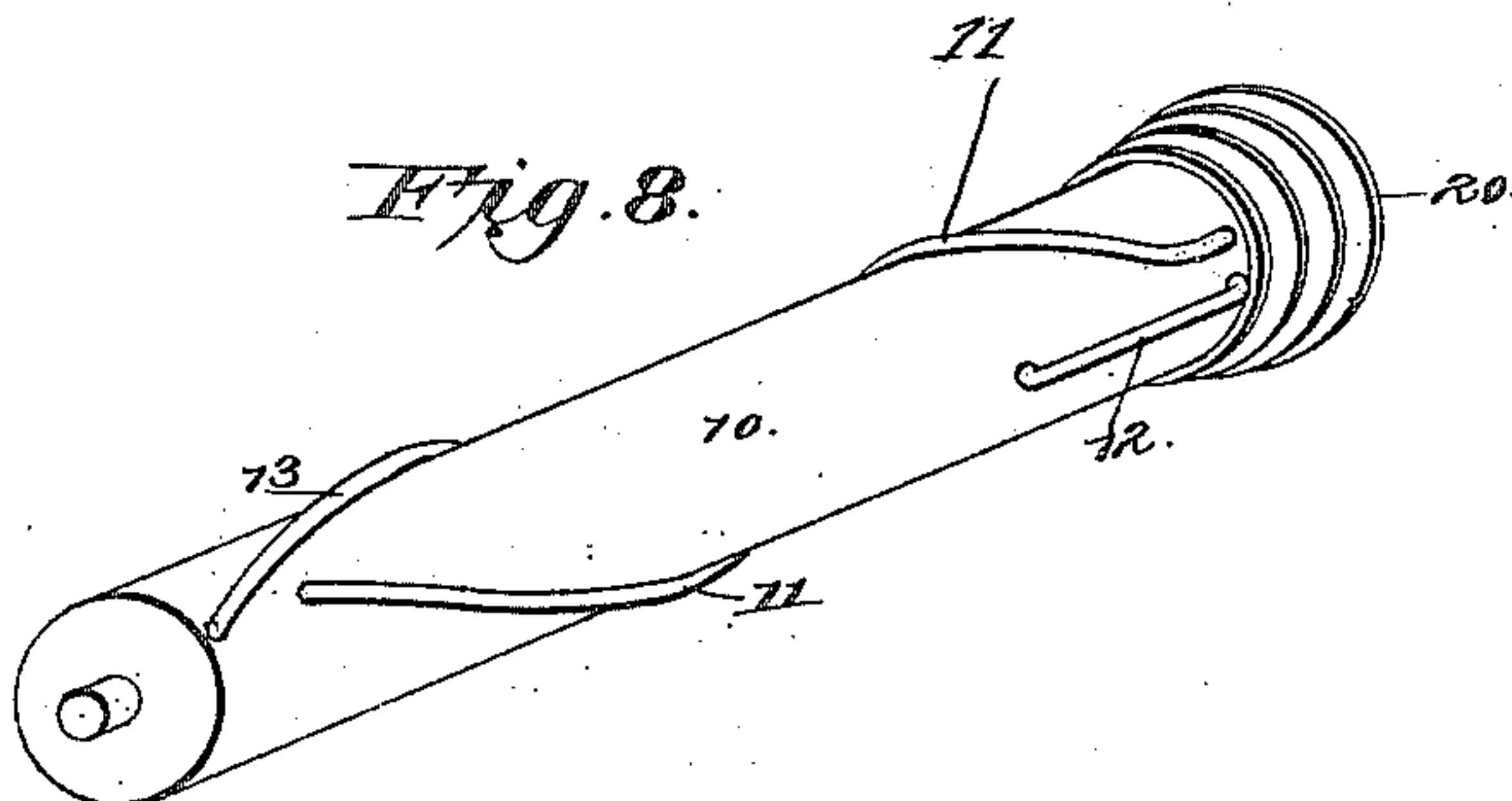
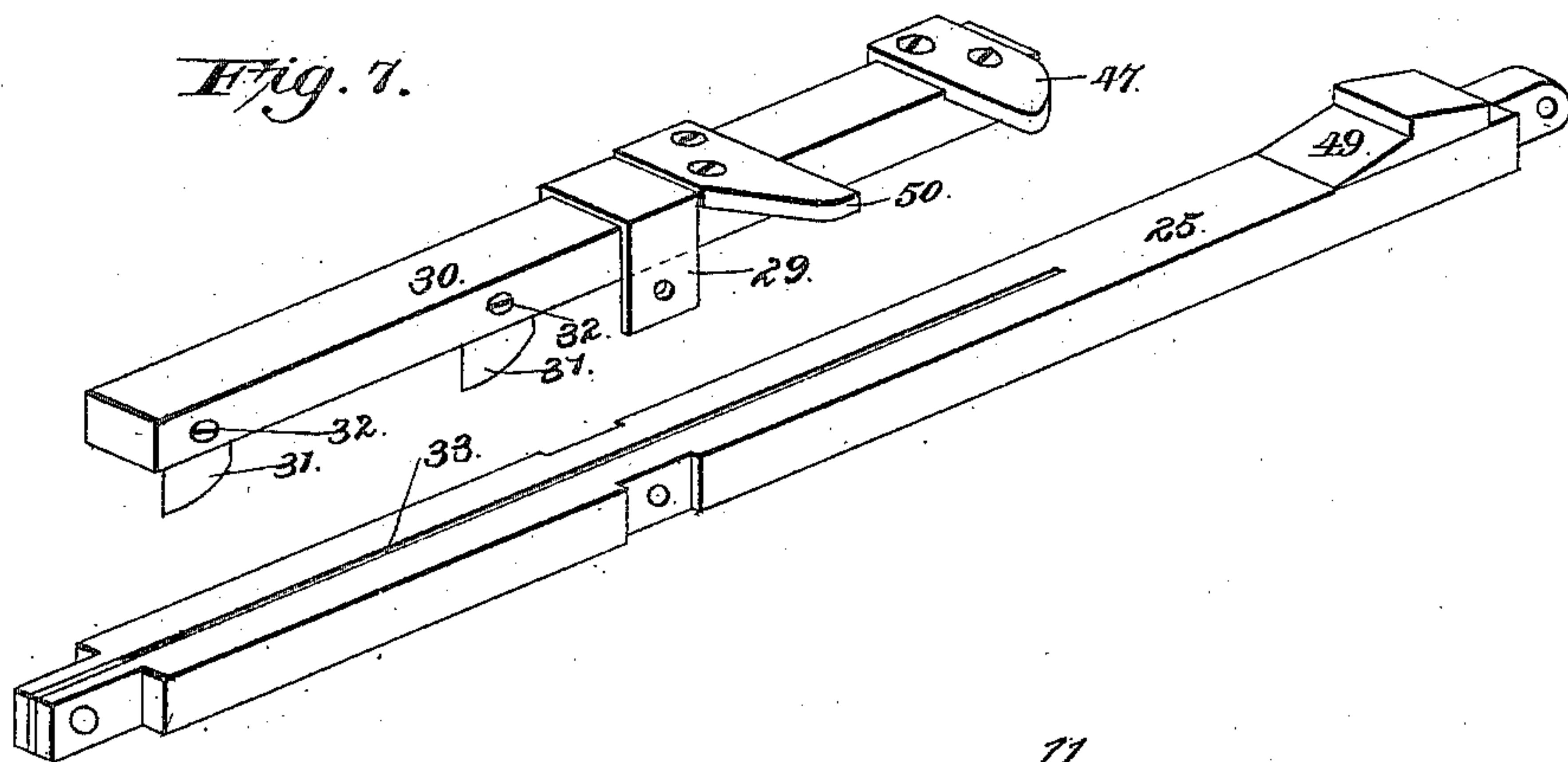
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Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS HIATT, OF LEESBURG, FLORIDA.

MACHINE FOR WRAPPING ORANGES.

SPECIFICATION forming part of Letters Patent No. 446,451, dated February 17, 1891.

Application filed June 15, 1889. Serial No. 314,365. (No model.)

To all whom it may concern:

Be it known that I, THOMAS HIATT, a citizen of the United States, residing at Leesburg, in the county of Lake and State of Florida, have invented new and useful Improvements in Machines for Wrapping Oranges, of which the following is a specification.

This invention relates to machines for wrapping oranges of that class which is shown in an application for Letters Patent filed by myself on the 8th day of March, 1889, Serial No. 302,430, and patented June 10, 1890, No. 429,729; and it has for its object to provide the said machine with an attachment for feeding the wrapping-paper from an endless roll placed in a suitable hopper or receptacle.

The invention furthermore consists in mechanism for cutting or severing the sheets of paper of the proper size and for feeding or dropping the oranges one by one into the wrapping mechanism, the entire mechanism to be operated simultaneously by means of a single reciprocating slide, all substantially in the manner which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a perspective view showing my invention applied to an orange-wrapping machine in position for operation. Fig. 2 is a top view of the same. Fig. 3 is a side elevation showing the operating-slide at the beginning of its stroke and the presser-bar lowered to hold the wrapping-paper in position for being cut. Fig. 4 is a side elevation showing the operating-slide at the end of the stroke and the presser-bar in a raised position. Fig. 5 is a vertical transverse sectional view taken on the line $x x$ in Fig. 2. Fig. 6 is a detail view illustrating the arrangement and operation of the apertured slide which is attached to the wrapping mechanism. Fig. 7 is a detail view of the reciprocating knife or cutter. Fig. 8 is a detail view of the roller by means of which the paper-feeding mechanism is actuated. Fig. 9 is a perspective detail view of the paper-feeding mechanism. Fig. 10 is a sectional detail view taken on the line $z z$ in Fig. 2.

The same numbers refer to the same parts in all the figures.

The wrapping mechanism which is used in

connection with my present invention may be that which has been described and shown in my Letters Patent, to which reference is made above, or any other suitable mechanism may be substituted. Said mechanism, however, forms no part of the present invention, and will therefore not be described in the present application.

In the drawings, 1 designates the box or casing containing said wrapping mechanism, of which only such parts have been shown as necessarily co-operate with my present invention.

2 designates a longitudinal frame-bar suitably attached to one side of the said box or casing and having a longitudinal groove 3 in its inner side to accommodate a longitudinally-sliding bar 4, which is provided at one end with a handle 5, by means of which it may be conveniently operated. The opposite or rear end of the slide 4 is provided with a block 6, having an upwardly-extending arm 7. The latter is connected with the handle 5 by means of a cord or rope 8, which in practice is wrapped around and serves to operate the wrapping mechanism, as shown in my previous application.

The frame-bar or guide-bar 2 is provided on its outer side with bearings 9, in which is journaled a shaft or roller 10, provided with a spirally-coiled rib 11, extending over the entire length of said shaft and forming one complete coil upon the same. At the front end of the shaft and close to the beginning or front end of the rib 11 is a short longitudinal rib 12, and another short spiral rib 13 is secured upon the shaft or roller, extending across or beyond the rear end of the spirally-coiled rib 11. The slide 4, which moves in the longitudinal groove 3 in the front side of the guide-bar 2, is provided with a spur 14, extending through a slot 15 in the said guide-bar, which registers with the shaft 10. The said spur is adapted to engage the ribs formed upon the shaft 10, so as to rotate the latter in the following manner: At the beginning of the stroke the spur 14 is ranged between the front ends of the ribs 11 and 12. When the slide carrying the spur moves in a rearward direction, the spur does not engage the spiral rib 11 and the shaft remains stationary. When the spur 14 reaches the rear end of its

stroke, it engages the diagonal rib 13 and turns the shaft 10 slightly backward until the rear end of the rib 11 reaches a point at which it shall be engaged by the spur 14 on the forward stroke of the latter. When the slide carrying the spur 14 moves forwardly, the spur 14 engages the spirally-coiled rib 11 and causes the shaft 10 to make one complete revolution. When the spur 14 approaches the forward limit of its movement, it enters between the ribs 11 and 12, and the shaft 10 is thus retained in proper position when the spur begins its rearward movement in repeating the operation. It will thus be seen that on the rearward stroke of the slide the shaft 10 remains stationary, while by the forward movement of said slide the shaft is caused to make one complete revolution. It will furthermore be seen that by this method of operating the shaft the latter will not be disturbed by any accidental movement of the slide. This I consider a valuable feature of my invention, inasmuch as the feed mechanism for the wrapping-paper, which is actuated by said shaft, would otherwise be liable to become entangled and out of order.

Suitably secured to the side of the guide-bar 2 above the shaft 10 is a box or hopper 16, in the lower outer end of which is journaled a shaft 17, having at one end a cone-pulley 18, connected by a band 19 with a cone-pulley 20, mounted on one end of the shaft 10. The shaft 17 is connected by an endless web composed of three or more bands 21 21 with a shaft 22, journaled near the upper inner end of the hopper 16. Suitably journaled above the shaft or roller 22 is a pressure-roller 23.

24 designates an endless roll of paper, which is placed in the box or hopper 16 in such a manner that its free end shall rest upon the endless web. It will be seen that the weight of said paper roll tends to carry it down toward the lower outer end of the hopper, thus keeping the paper strip which extends over the web and under the pressure-roller 23 smooth and taut. It will be seen that when the shaft 17 is revolved by means of the band from the shaft 10 the paper is fed by means of the endless web in an upward and forward direction, the pressure-roller serving to hold the paper in contact with the said web.

The guide-bar 2 is provided near its rear end with ears or lugs 24^a, between which is mounted a pivoted bar 25, which constitutes the presser-bar by means of which the paper is held securely in position while it is being cut. The under side of the said presser-bar is provided with a longitudinal strip 26, of rubber or other suitable material, which serves to prevent the paper from slipping out of position while it is being acted upon by the knives or cutters, as will be presently described.

The guide-bar 2 is provided with an upwardly-extending bar 27, having a vertical slot 28 to receive the front end of the presser-bar

25, which is guided in the said slot. The upper side of the presser-bar is provided with a yoke or yokes 29, forming bearings for the longitudinally-sliding cutter-bar 30, the under side of which is provided with two or more downwardly-extending knives or cutters 31 31, which may be held in position by means of transverse screws or bolts 32 or in any other convenient manner. The knives or cutters extend downwardly through a longitudinal slot 33 in the presser-bar 25 and strip 26 upon the under side of the latter, and the extreme lower ends of said knives or cutters are adapted to extend into a slot 34, which extends longitudinally through the guide-bar 2, said slot or groove being merely of sufficient depth to accommodate the downwardly-projecting ends of the knives or cutters.

My object in using two or more knives or cutters, as herein described, is to enable the severing of the paper to be accomplished by a much shorter stroke of the cutter-bar than would otherwise be required, it being obvious that when two cutters are used the length of the stroke need but slightly exceed one-half the width of the sheet of paper to be severed, while when additional cutters are used the length of the stroke of the cutter-bar may be correspondingly decreased.

The presser-bar 25 and cutter-bar 30 are operated by means of the slide 4 in the following manner: Suitably pivoted to the inner side of the guide-bar 2, above the groove 3, are the cams 35 and 36, the former of which is placed a short distance in rear of the box 1, containing the wrapping mechanism, while the latter 36 is placed near the rear end of the guide-bar. The cam 35 consists of an approximately circular disk, which is connected by means of a link or pivoted rod 37 with the pivoted presser-bar 25. The link 37 is so located that when the cam 35 is turned upon its pivot 38 until the link 37 approaches the dead-center, as shown in dotted lines in Fig. 3 of the drawings, it shall draw the presser-bar 25 tightly down upon the upper side of the guide-bar 2, while by turning the cam in the direction indicated by the arrow in Fig. 3 the link 37 shall raise or lift the cutter-bar to the position shown in Fig. 4 of the drawings. The cam 35 is connected by a pivoted link or rod 39 with the cam 36. The latter is provided with a downwardly-extending arm 40, adapted to be engaged by the block 6 at the rear end of the slide 4 when the latter moves in a rearward direction. The cam 35 is also provided with a downwardly-extending lug or projection 41, which is likewise engaged by the block 6 on the rearward stroke of the latter. The cam 35 is furthermore provided with a notch 42, adapted to be engaged by a pawl 43, which is pivoted to the side of the guide-bar 2 and actuated by means of a spring 44, which keeps it in contact with the edge of the cam 35. A pin 43^b is arranged to limit the movement of the pawl 43. The lower end of the pawl 43 is provided with a laterally-

extending arm 45, which is adapted to be engaged by the block 6, attached to the slide 4, on the forward stroke of the latter.

The upwardly-extending arm 7 of the block 5 6 is provided near its upper end with a laterally-extending bracket 46, which, when the slide 4 is moved in a forward direction, is adapted to engage an arm 47, that extends laterally from the cutter-bar 30. The extreme 10 upper end of the arm 7 may be beveled, as shown at 48; but this is not essential. Secured upon the upper side of the presser-bar 25, at the rear end of the latter, is a wedge-shaped stop 49, which, when the cutter-bar 15 approaches the rearward limit of its stroke, raises or lifts the rear end of said cutter-bar, so as to disengage the arm 47 from the bracket 46, extending from the arm 7, which is then 20 allowed to complete its rearward movement without further actuating the cutter-bar. When the slide 4 moves in a forward direction, the arm 7 engages a laterally-extending arm 50 of the cutter-bar, carrying the latter in a forward direction to the limit of its stroke. 25 The initial position of the operating-slide, the cams, and the presser and cutter bars has been shown in Fig. 3 of the drawings. It will be seen that when the slide is moved in a rearward direction the block 6 first engages the 30 downwardly-extending lug 41 of the cam 35, thus turning the latter upon its pivot until the link 37 nearly reaches the dead-center, thereby drawing the presser-bar down tightly upon the guide-bar 2 and serving to hold the 35 paper, which passes between said presser-bar and guide-bar, securely in position. A lug or stud 51, extending laterally from the guide-bar 2, serves as a stop for the lug 41 and prevents the cam from being turned beyond the 40 dead-center. At the same time the link 39, connecting the cam 35 with the cam 36, turns the latter upon its pivot until its arm 40 extends directly across the groove 3 in the path of the slide 4, so as to be engaged with absolute certainty by the block 6, attached to the 45 said slide. As the slide 4 progresses rearwardly, the bracket 46 of the arm 7 operates the cutter-bar, which is thus caused to sever a sheet of paper from the endless roll. When 50 the slide approaches the limit of its rearward stroke, the cutter-bar engages the wedge-shaped stop 49, and the arm 47 is thus thrown out of engagement with the bracket 46, thereby terminating the movement of the cutter-bar. At the same time the block 6 engages 55 the arm 40 of the cam 36, thus turning the latter upon its pivot and causing motion to be communicated through the medium of the link 39 to the cam 35. The latter, being thus 60 oscillated, serves through the medium of the link 37 to raise or elevate the presser-bar to the position shown in Fig. 4, the motion continuing until the spring-actuated pawl 43 engages the notch 42 in the edge of said cam 35, thereby retaining the presser-bar securely in a 65 raised position. The slide 4, having reached the rearward limit of its stroke, now com-

mences the forward movement. The arm 7 first engages the laterally-extending arm 50 of the cutter-bar, thus carrying the latter in a 70 forward direction toward its initial position. The presser-bar meanwhile remains in a raised position, thus enabling the paper to be fed between itself and the guide-bar 2 by the mechanism which has already been described 75 and which is actuated by the slide 4 on its forward stroke. When the slide 4 reaches the forward limit of its stroke, the block 6 engages the arm 45 of the spring-pawl 43, which latter is thus disengaged from the notch 42 in 80 the cam 35. The presser-bar 25 and cutter-bar 30 will then drop by their own weight until the said presser-bar rests upon the guide-bar, as shown in Fig. 3 of the drawings. The operating-slide is now again in a position to be- 85 gin its rearward movement, by which the operation is repeated.

The guide-bar 2 is provided at its rear end with a laterally-extending bracket 52, having an upwardly-extending arm 53, which sup- 90 ports the rear end of a trough or hopper 54, the front end of which is supported by means of a bracket 55, extending upwardly from the rear side of the box 1.

56 designates a horizontal bar connecting 95 the arms or brackets 53 and 55 and provided at its front end with a longitudinally-sliding yoke 57, the arms of which fit against the sides of the said horizontal bar 56 and are connected to the latter by means of suitable 100 straps or cross-pieces 58, which admit of a longitudinally-sliding movement of the said U-shaped yoke. The front or outer end of the latter registers with the lower or discharge end of the hopper 54 and serves to re- 105 ceive the oranges as they are fed from the said hopper one by one. The bracket 52 has a forwardly-extending arm 59, to the inner side of which is pivoted a rock bar or lever 60, the upper end of which is connected by 110 means of a link or connecting-rod 61 with the under side of one of the straps 58 of the longitudinally-sliding yoke 57. The rod or pin 62, by means of which the link 61 is pivoted to the link 60, projects on one side so as to 115 form a lug or stud, against which bears a spring 63, which is suitably secured to the under side of the horizontal bar 56. Said spring serves to normally hold or force the yoke 57 in a rearward direction. The lower 120 end of the lever 60 is provided with a notch 64, adapted to be engaged by a pin or stud 65, extending laterally from the block 6 at the rear end of the longitudinally-moving slide 4. It will be seen that when the latter com- 125 pletes its rearward stroke the stud 65 engages the lower end of the lever 60, throwing the upper end of the latter, and with it the yoke 57, in a forward direction. When the slide is moved forwardly, the position of the lever 60 130 is reversed and the spring 63 then acts to restore the yoke 57 to its normal position.

66 designates a bail, which may be constructed of wire or other suitable material,

and which is connected pivotally to the discharge end of the hopper 54, and which serves when in a lowered position to retain the contents of said hopper. The longitudinally-sliding yoke 57 is provided with upwardly-extending lugs or studs 67, adapted to engage the under sides of the arms of the pivoted bail 66. It will thus be seen that when the yoke 57 is moved in a rearward direction the bail 66 is raised, thus permitting an orange to drop down into the space between the front end of the yoke 57 and the front end of the horizontal bar 56, which latter extends slightly in front of the discharge end of the hopper. When the yoke 57 is moved forwardly, the orange which it supports is permitted to drop between the said yoke and the front end of the bar 56, and at the same time the bail 66 is lowered by its own weight, so as to retain the contents of the hopper 54 in the latter until the yoke 57 has been again moved in a rearward direction.

The box 1, which contains the wrapping mechanism, is provided in its upper side with an opening 68, through which the orange fed from the hopper 54 in the manner described may drop down and be acted upon by the wrapping mechanism. The upper side of the said box is provided with transverse cleats 69, between which is arranged a transversely-movable slide 70, having a central opening or aperture 71. Mounted vertically in the box or casing 1 is a rock-shaft 72, the upper end of which is connected with the slide 70 by means of an arm 73, having an upwardly-extending pin or lug 74, that works in a slot 75 in the under side of the said slide. The lower end of the shaft 72 is provided with an outwardly-extending arm 76, having a slot or loop 77, which is engaged by a pin 78, projecting upwardly from a pawl 79, which is mounted pivotally in the casing 1, and which may be made to serve to support the orange while the latter is being acted upon by the wrapping mechanism. The pawl 79 is actuated by means of the slide 4, which has a notch or recess 80, adapted to engage the free end of the said pawl, which latter is thrown into engagement with the said notch by means of a suitably-arranged spring 81, which normally holds the free end of the said pawl in contact with the face of the slide and in readiness to engage the notch 80 when the slide is in operation.

It will be seen that when the slide 4 in operation moves in a rearward direction the portion of the paper roll which extends over the box 1 contained in the wrapping mechanism is severed by the cutting mechanism already described. At the same time an orange is held between the yoke and the front end of the horizontal bar 56 in readiness to be dropped. By the rearward movement of the slide the pawl 79 is actuated and operates the rock-shaft 72 in such a manner as to move the slide 70 toward the presser-bar until its aperture 71 registers with the opening 68 in the top of the wrapper-box. When the slide

reaches the limit of its rearward movement, the presser-bar and cutter-bar are thrown out of operation in the manner described. At the same time the yoke 57 is moved forwardly, thus causing the orange to drop down upon the severed sheet of paper, which rests upon the slide 70 directly above the openings 71 and 68. The weight of the orange carries the paper down through the said openings and causes it to be enveloped by the said paper in such a manner that it may be acted upon by the wrapping mechanism. The slide 4 now starts in a forward direction, carrying the cutter-bar back to its initial position, operating the paper-feeding mechanism, moving the support of the yoke 57 in a rearward direction, and raising the bail 66, so that another orange may drop down into position upon the said yoke, and at the same time the slide 70 is moved in an outward direction, thus causing any edges of the paper which may project through the openings 68 and 71 to be smoothed down through the said openings, so as not to interfere with the sheet of paper which is at the same time being fed forward by the feed mechanism.

It will be observed from the foregoing that my improved machine serves to automatically feed and cut the wrapping-paper and to feed the oranges one by one and drop them in the desired position upon the wrapping-paper, which is carried by the weight of the oranges into the wrapping-machine, which automatically completes the operation of wrapping the oranges.

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

1. In a machine of the class described, the combination of a guide-bar, a longitudinally-movable slide having a laterally-projecting stud extending through a slot in the said guide-bar, a shaft journaled upon the outer side of the said guide-bar and provided with a spirally-coiled rib extending completely once around the said shaft and adapted to be engaged by the said spur, and the paper-feeding mechanism comprising, essentially, the shafts 17 and 22 and bands 21, all arranged and operating substantially as set forth.

2. In a machine of the class described, the combination of a guide-bar, a longitudinally-movable slide having a spur extending through a slot in the said guide-bar, a longitudinal shaft journaled to the outer side of said guide-bar and having a spirally-coiled rib, a straight longitudinal rib at the front end of said spirally-coiled rib, a short diagonal rib at the rear end of the latter, and the paper-feeding mechanism comprising, essentially, the shafts 17 and 22 and bands 21, all arranged and operating substantially as set forth.

3. The combination of a guide-bar, a longitudinally-movable slide having a spur extending through a slot in the said guide-bar, a longitudinal shaft journaled to the side of

the latter and having a spirally-coiled rib extending through its entire length, a short straight longitudinal rib at the front end of said spirally-coiled rib and a short diagonal rib at the rear end of the latter, a box or hopper secured to the outer side of the guide-bar, shafts journaled in the latter, three or more endless bands connecting the said shafts, an operating-band connecting cone-pulleys mounted upon one of said shafts and upon the end of the ribbed shaft, and a pressure-roller, all arranged and operating substantially in the manner and for the purpose herein set forth.

4. In a machine for wrapping oranges, the herein-described paper-feeding mechanism, comprising a box or hopper, shafts suitably journaled in the same, an inclined endless web composed of bands connecting the said shafts and adapted to support a roll of paper suitably mounted to bear against the said web at the upper end of the latter, and suitable operating mechanism, substantially as set forth.

5. The combination, with a machine for wrapping oranges, of a paper-feeding device comprising a series of inclined endless bands adapted to support a paper roll, mechanism for intermittently operating the said endless bands, and a pressure-roller arranged to bear against the said endless bands at the upper end of the same, substantially as and for the purpose herein set forth.

6. The combination of the guide-bar, the longitudinally-movable slide, a presser-bar connected pivotally to the said guide-bar, the cutter-bar arranged to slide longitudinally upon the said presser-bar, mechanism for operating the presser-bar and cutter-bar from the longitudinally-movable slide, and mechanism for feeding a paper roll intermittently between the said presser-bar and the guide-bar, substantially as and for the purpose set forth.

7. In a machine of the class described, the combination, with mechanism for intermittently feeding a roll of paper, of a reciprocating cutter-bar having a plurality of knives or cutters for severing sheets from the said roll, whereby such sheets may be severed by a movement of the cutter-bar of less extent than the width of the roll, substantially as set forth.

8. The combination of a longitudinal guide-bar, a pivoted presser-bar, a reciprocating cutter-bar mounted to slide upon the said presser-bar and having knives or cutters extending downwardly through a slot in the latter, mechanism for operating the said presser-bar and cutter-bar, and mechanism for feeding a paper strip between the said presser-bar and the guide-bar, substantially as herein set forth and specified.

9. The combination of the longitudinal guide-bar, the pivoted presser-bar having a wedge-shaped stop at its rear end, the longitudinally-reciprocating cutter-bar having a

laterally-extending arm, and a longitudinal reciprocating slide having an upwardly-extending arm provided with a laterally-extending bracket to engage the arm of the cutter-bar, substantially as set forth.

10. The combination of the longitudinal guide-bar, the presser-bar mounted pivotally upon the same, the cutter-bar arranged to slide longitudinally upon the said presser-bar and having laterally-extending arms, and a longitudinally-reciprocating slide having an upwardly-extending arm adapted to engage the laterally-extending arms of the cutter-bar, substantially in the manner and for the purpose set forth.

11. In a machine for wrapping oranges, the combination of the longitudinal guide-bar, the presser-bar mounted pivotally upon the same, a disk or cam mounted pivotally upon the guide-bar, a link or pivoted rod connecting the said cam with the presser-bar, a longitudinally-reciprocating slide adapted to engage a lug extending radially from the said cam, and mechanism for feeding a paper roll between the presser-bar and the guide-bar and for cutting or severing the paper, substantially as set forth.

12. The combination of the longitudinal guide-bar, the pivoted presser-bar having the longitudinally-reciprocating cutter-bar, a cam or disk pivoted to the side of the guide-bar, a pivoted link or rod connecting said cam with the presser-bar, a cam pivoted to the side of the guide-bar and having a downwardly-extending arm, a pivoted link or rod connecting the two cams, and the longitudinally-reciprocating slide having a block adapted to engage the said cams, substantially as herein set forth.

13. The combination of the guide-bar, the presser-bar mounted pivotally upon the same and carrying the longitudinally-reciprocating cutter-bar, a cam mounted pivotally upon the side of the guide-bar and having a radially-extending lug, a link or pivoted rod connecting the said cam with the presser-bar, a stud extending laterally from the guide-bar and forming a stop for the radially-extending lug or the cam, and the longitudinally-reciprocating slide having a block adapted to engage the said lug, substantially as herein set forth.

14. The combination of the longitudinal guide-bar, the presser-bar mounted pivotally upon the same and having the longitudinally-reciprocating cutter-bar, the cam pivoted upon the side of the guide-bar and connected with the presser-bar by the pivoted link, a spring-pawl pivoted to the side of the guide-bar and adapted to engage a notch formed in the rim of the said cam and having a downwardly-extending arm, and a longitudinally-reciprocating slide having a block adapted to engage the arm of the said pawl and a lug extending radially from the said cam, substantially as set forth.

15. The combination of the longitudinal guide-bar, the pivoted longitudinally-slotted

presser-bar provided on its under side with a rubber strip or cushion, the longitudinally-reciprocating cutter-bar mounted upon the said presser-bar and having cutters extending through the slot in the latter and into a longitudinal groove in the guide-bar, a vertically-slotted arm forming a guide for the outer end of the presser-bar, and mechanism for operating the latter and the cutter-bar, substantially in the manner and for the purpose set forth.

16. The combination of the guide-bar, the pivoted presser-bar having a wedge-shaped stop at its rear end, the longitudinally-reciprocating cutter-bar having laterally-extending arms and provided with knives or cutters extending through a slot in the presser-bar, the arms extending laterally from the cutter-bar, the longitudinally-reciprocating slide provided at its rear end with a block having an upwardly-extending arm provided with a laterally-extending bracket, a cam pivoted to the side of the guide-bar, and having a notch and a radially-extending lug, a link connecting the said cam with the pivoted presser-bar, a spring-pawl arranged to engage the notch in the rim of the cam and having a downwardly-extending arm adapted to be engaged by the reciprocating slide, a cam mounted pivotally upon the side of the guide-bar and having a downwardly-extending arm lying in the path of the reciprocating slide, and a link connecting the said cams, all combined and arranged to operate in conjunction with the paper-feeding mechanism and an orange-wrapping machine substantially in the manner and for the purpose set forth.

17. The combination of the inclined trough or hopper, a horizontal bar arranged below the same and projecting slightly in front thereof, and a U-shaped yoke mounted to reciprocate longitudinally upon the said horizontal board, substantially in the manner and for the purpose set forth.

18. The combination of the inclined trough or hopper, the bail mounted pivotally at the discharge end of the same, the longitudinally-reciprocating U-shaped yoke having upwardly-extending studs adapted to bear against the under side of the said bail, and mechanism for imparting an intermittent reciprocating motion to the said U-shaped

yoke, substantially as and for the purpose herein set forth.

19. The combination of the inclined trough or hopper, the horizontal bar arranged below the same, the longitudinally-reciprocating U-shaped yoke having upwardly-extending lugs or studs, the bail mounted pivotally at the discharge end of the hopper, and a spring arranged to move the said U-shaped yoke normally in a rearward direction toward the discharge end of the hopper, substantially as and for the purpose set forth.

20. The combination of the guide-bar, the longitudinally-reciprocating slide having a block provided with a laterally-extending stud, the inclined trough or hopper having the bail mounted pivotally at its discharge end, the horizontal bar arranged below the said hopper and projecting slightly in front of the latter, the U-shaped yoke arranged to slide upon said horizontal board and having upwardly-extending studs bearing against the underside of the pivoted bail, a lever pivoted to a bracket suitably attached to the rear end of the guide-bar and having at its lower end a notch adapted to engage the stud projecting laterally from the longitudinally-reciprocating slide, a link or rod connecting the upper end of said lever with the U-shaped yoke, and a spring arranged to force the latter normally into a rearward direction, substantially as herein set forth.

21. The combination of the wrapper-box, the transversely-movable slide, a vertical rock-shaft having at its upper end an arm provided with an upwardly-extending stud working in a groove in the under side of said slide, a spring-pawl mounted in the wrapper-box and having an upwardly-extending stud engaging a slotted arm extending from the lower end of the rock-shaft, and the longitudinally-reciprocating slide provided with a notch adapted to engage the free end of the said spring-pawl, substantially as herein set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

THOMAS HIATT.

Witnesses:

J. T. GREEN,
J. W. LEES.