

No. 793,396.

PATENTED JUNE 27, 1905.

J. RODRIGUEZ Y FONOLL.  
BAG PRINTING AND NUMBERING MACHINE.

APPLICATION FILED SEPT. 28, 1904.

3 SHEETS—SHEET 1.

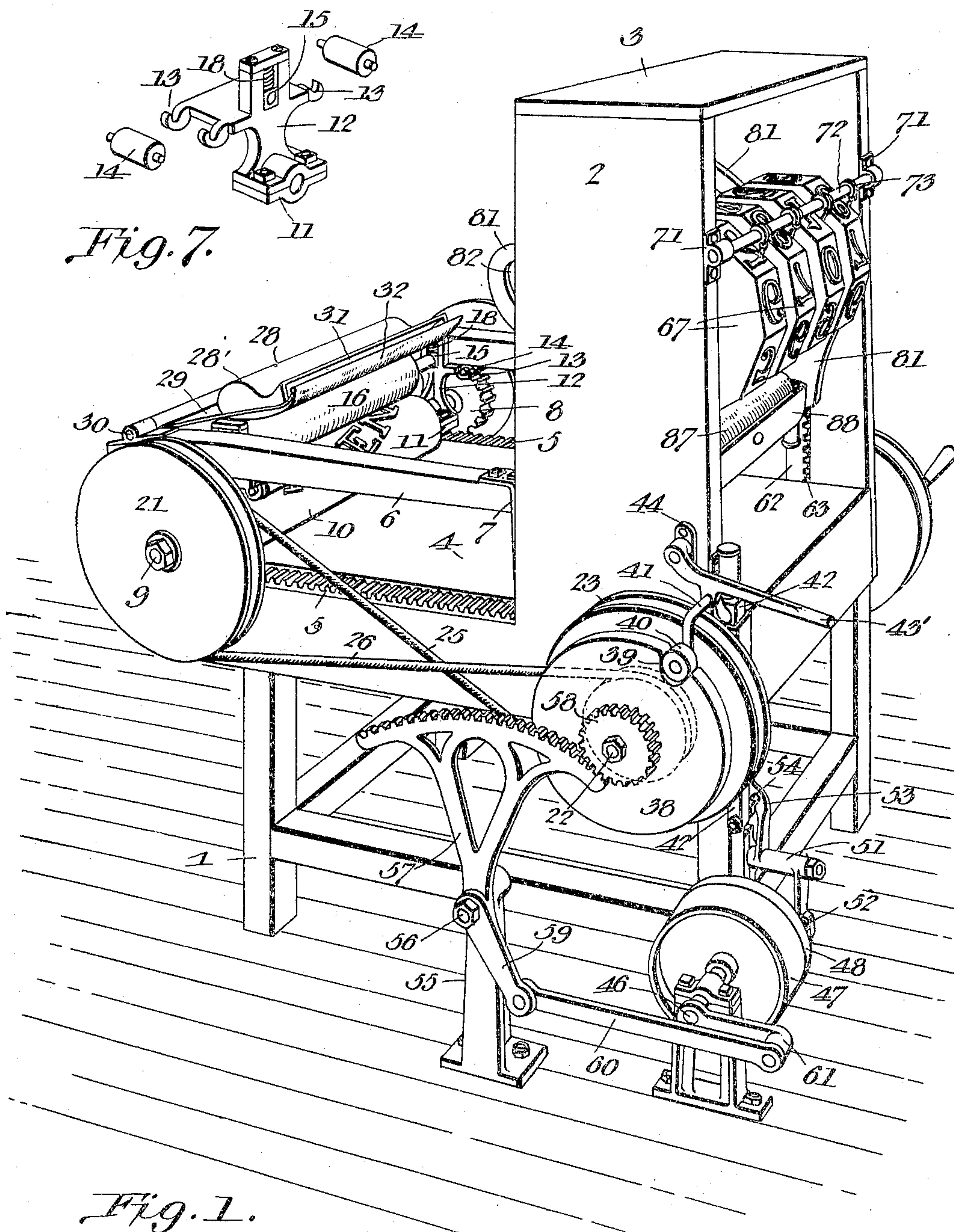


Fig. 1.

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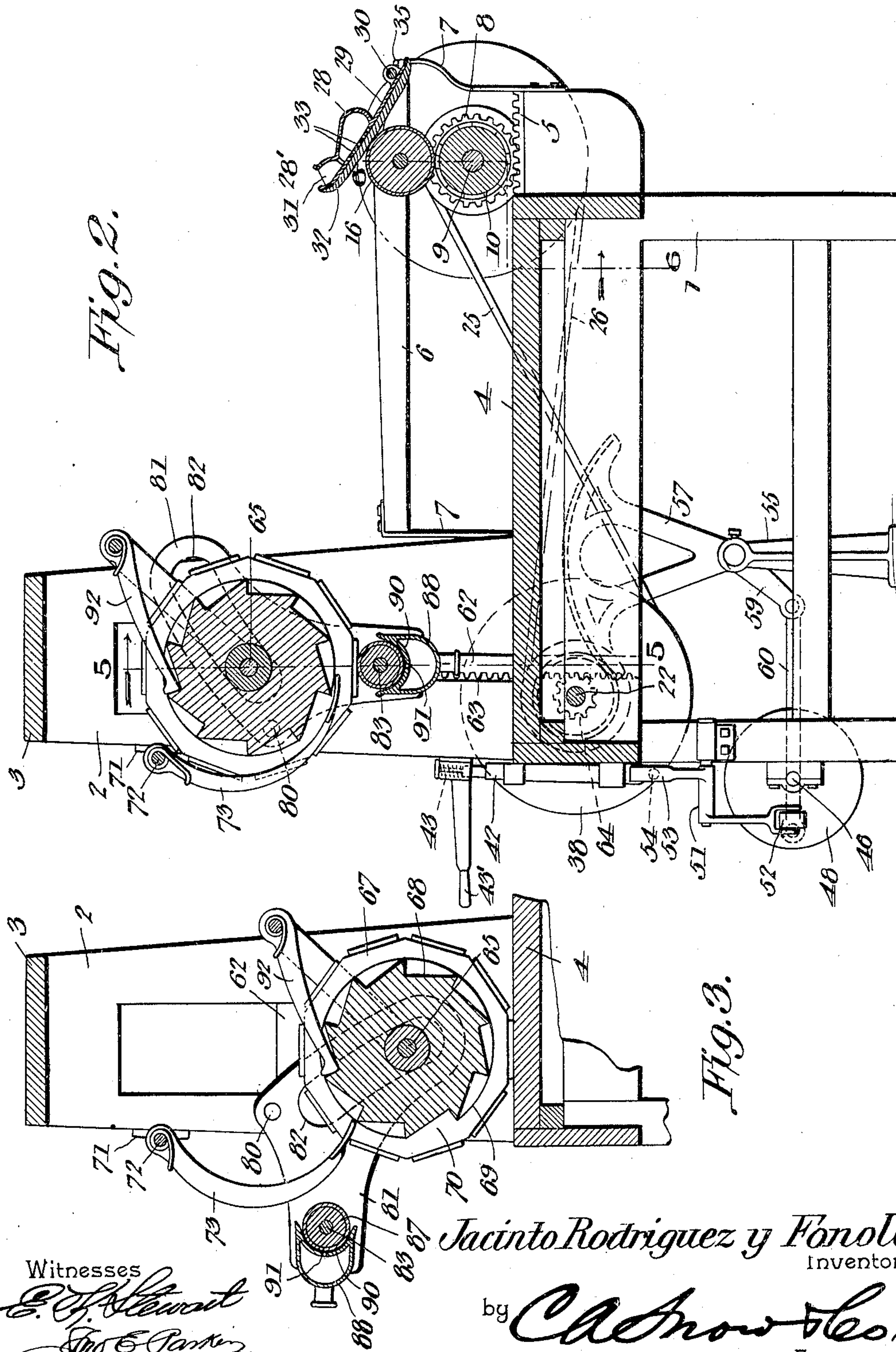
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3 SHEETS—SHEET 2.



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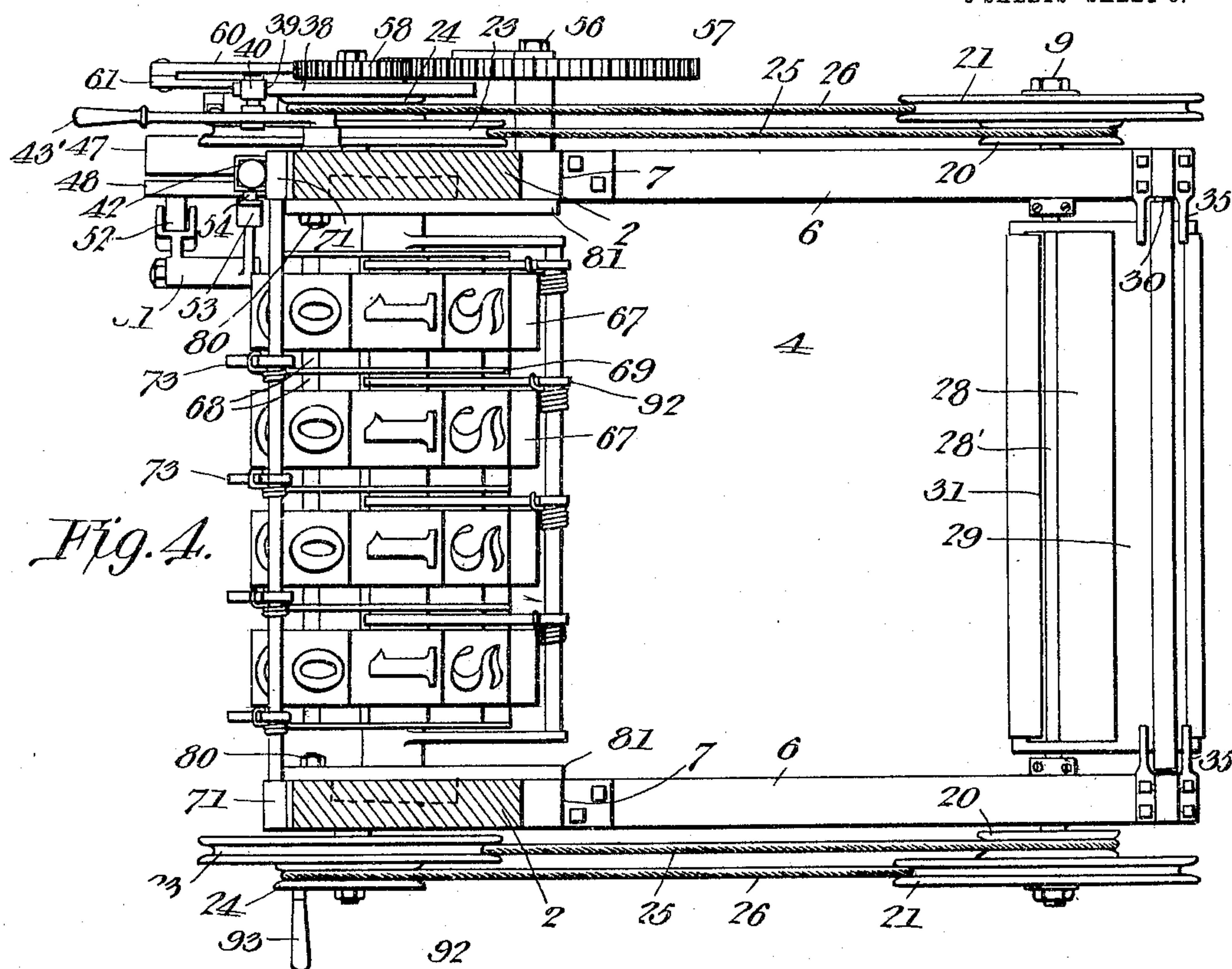


Fig. 4.

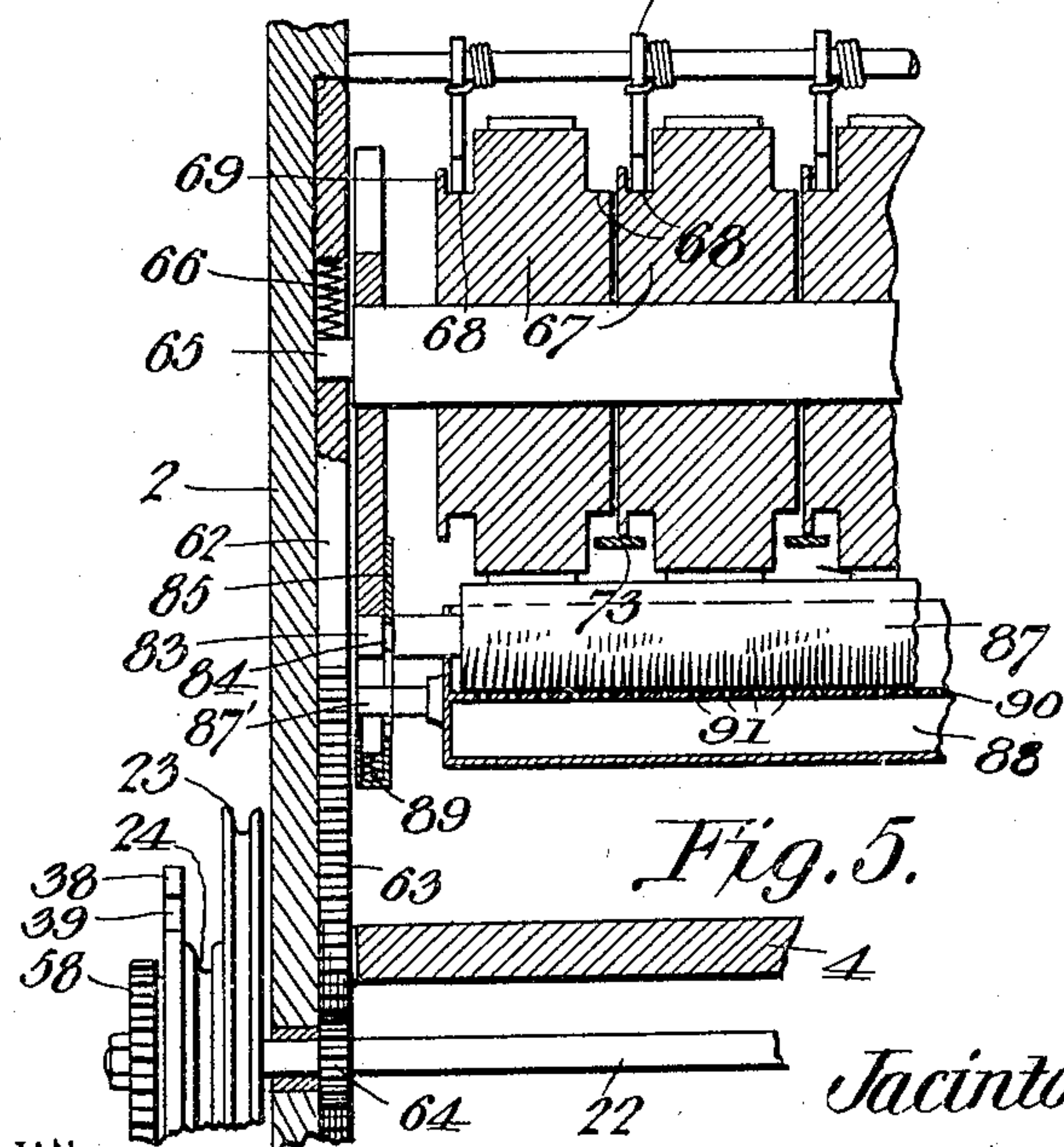


Fig. 5.

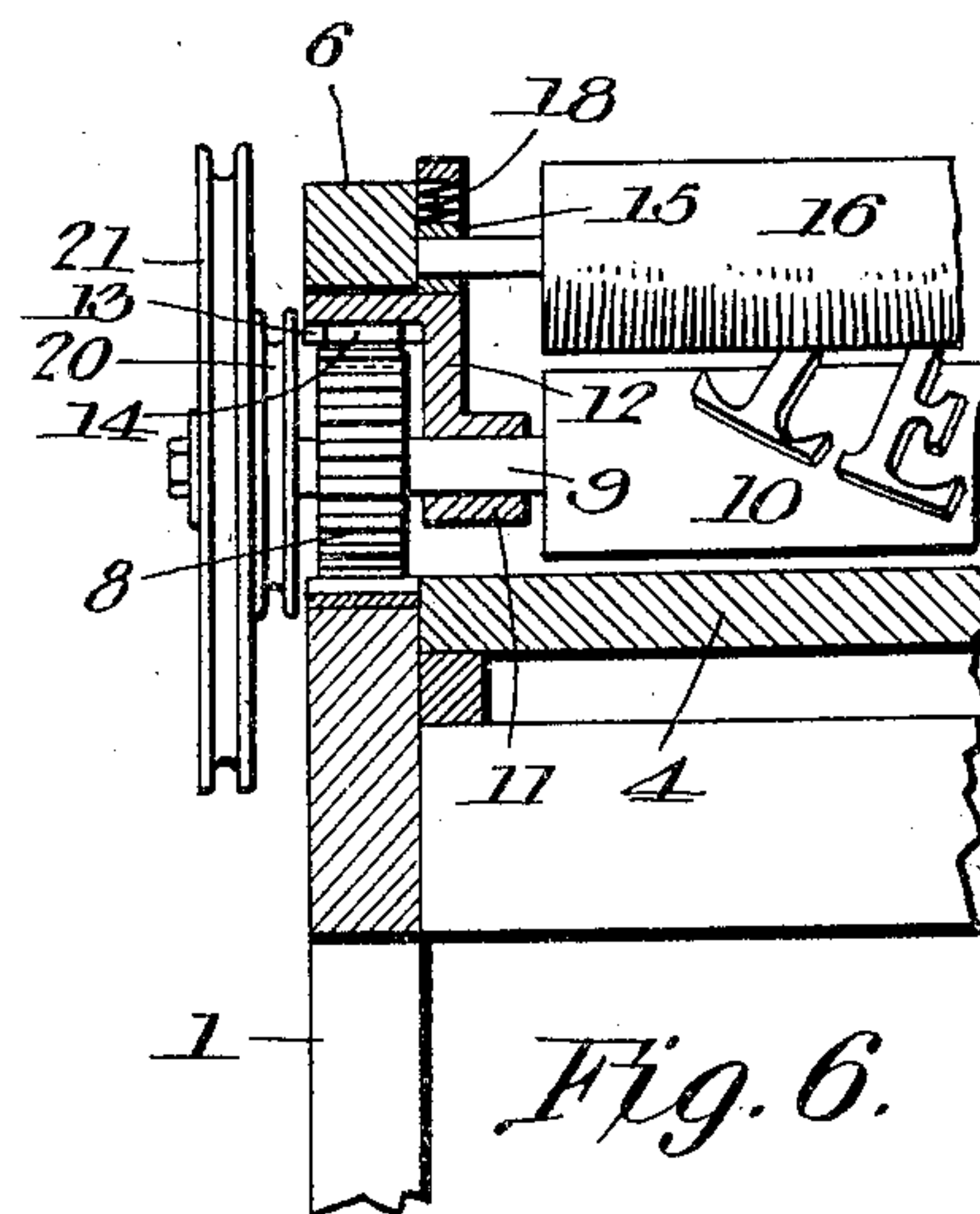


Fig. 6.

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# UNITED STATES PATENT OFFICE.

JACINTO RODRIGUEZ Y FONOLL, OF CIENFUEGOS, CUBA.

## BAG PRINTING AND NUMBERING MACHINE.

SPECIFICATION forming part of Letters Patent No. 793,396, dated June 27, 1905.

Application filed September 28, 1904. Serial No. 226,381.

*To all whom it may concern:*

Be it known that I, JACINTO RODRIGUEZ Y FONOLL, a citizen of the Republic of Cuba, residing at Cienfuegos, Cuba, have invented a new and useful Bag Printing and Numbering Machine, of which the following is a specification.

The present invention relates to printing and numbering mechanisms, and has for its principal object to provide a machine of simple construction for the printing and numbering of bags and other objects.

A further object of the invention is to provide a numbering mechanism including automatically-movable numbering-disks in which provision is made for supplying the necessary ink to the printing-type immediately in advance of each printing operation.

A further object of the invention is to provide a novel means for supplying ink to the main printing-roller.

A still further object of the invention is to provide a simple and effective operating mechanism in which the parts are automatically locked from further movement at the completion of each printing operation.

With these and other objects in view the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the size, form, and proportion may be resorted to without departing from the spirit of the invention.

In the accompanying drawings, Figure 1 is a perspective view of a printing and numbering machine constructed in accordance with my invention. Fig. 2 is a longitudinal sectional elevation of the same, illustrating the numbering-disks in elevated position. Fig. 3 is a similar view of a portion of the mechanism shown in Fig. 2. Fig. 4 is a plan view of the machine. Fig. 5 is a transverse sectional elevation of a portion of the mechanism on the line 5 5 of Fig. 2. Fig. 6 is a similar view on the line 6 6 of Fig. 2. Fig. 7 is a detail perspective view of one of the bearings of the main printing-roller detached.

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

The machine forming the subject of the present invention while capable of general use for printing and numbering articles of various characters is intended principally for the marking of bags, such as those used for packing sugar and similar goods.

The various working parts of the apparatus are supported in a suitable frame 1, including a pair of spaced standards 2, that are united at their upper ends by a cross-bar 3. The frame further supports a table 4, which constitutes a platen on which the bags or other articles to be printed are placed. At each side of the table is a rack 5, and above and parallel with the rack is a guide-bar 6, that preferably is yieldably mounted on elastic supporting-strips 7. With the two racks engage pinions 8, that are secured to the opposite ends of a transverse shaft 9, that supports the main type-roller 10, said roller bearing suitable imprinting-type—as, for instance, the name of the manufacturer, the name of the goods, or other identifying or advertising matter. The shaft 9 is held in suitable bearings 11, formed in a hanger 12, and the latter is provided with two pairs of projecting brackets 13, forming bearings for the end pintles of antifriction-rollers 14, that bear against the under surface of the guides 6. This hanger is further provided with a guide for the reception of a bearing-box 15, which supports an inking-roller 16, there being one of such boxes at each side of the machine. The bearing-boxes are depressed by springs 18 in order to keep the surface of the inking and printing roller in close contact.

At each end of the printing-roller are two grooved wheels or disks 20 and 21, and near the front of the machine is a transversely-disposed shaft carrying at each of its ends a pair of similar wheels or disks 23 24, the disks 21 and 23 being of the same diameter and the disks 20 and 24 being likewise of equal diameter. To the disk 23 is secured one end of a flexible chain or rope 25, that extends partly around said disk 23 and thence to and partly



around the disk 20, its opposite end being secured to the latter. In similar manner a flexible chain or rope 26 extends between and is secured to the disks 21 and 24. When ro-  
 5 tative movement in one direction is imparted to the shaft 22, the two chains or ropes 25 will be wound up on the disks 23 and will gradually unwind from the disks 20, the ro-  
 10 tations of the latter causing forward move- ment of the printing-roller as the pinions move on the racks toward the front of the machine. Any bag or other article placed on the platen will be printed during this forward  
 15 movement of the shaft 22 the chains or ropes 26 will be wound upon the smaller disks 24 and the printing-roller will be moved back to its original position.

For the purpose of supplying ink to the  
 20 roller 16 an ink-font 28 is employed. The font is in the form of an elongated casing 28', that is carried by or forms a part of a plate 29, pivoted to a transversely-extending rod 30, and near the front of the plate is a flaring  
 25 mouth 31, through which the ink may be in- troduced to the font. The bottom of the plate carries a pad 32 of absorbent material, and the plate is provided with a plurality of perforations 33, through which the ink grad-  
 30 ually passes to the pad. The front of the plate is bent or curved upward, so that the inking-roller may readily pass thereunder, and as the roller moves to the rear the plate and font will be gradually raised, the roller  
 35 finally stopping at a point directly under the perforations 33. Excessive downward move- ment of the plate and font is prevented by a pair of stop-pins 35, projecting from the guide-bar 6. The ink-supplying apparatus is  
 40 of such nature that movement of the roller under the absorbent pad will result in an even distribution of the ink, the weight of the plate and font being such as to insure good con- tact with the surface of the roller.

45 At one end of the shaft 22 is a disk 38, in the periphery of which is formed a notch 39 for the reception of a pin or antifriction-roller 40. This roller is carried by an arm 41, that projects from a vertically-guided slide 42 at  
 50 the front of the frame, said slide being nor- mally depressed by a spring 43 in order to hold the pin or antifriction-roller in the notch 39, and thus prevent rotative movement of the disk 38 and shaft 22. When the device is to  
 55 be operated, a lever 43' is raised. This lever is pivoted to a bracket 44 and is connected at an intermediate point to the arm 41.

At one side of the frame are arranged bear- ings for the support of shaft 46, carrying a  
 60 loose pulley 47 for the reception of a suitable driving-belt. The shaft further carries a disk 48, that is feathered on said shaft and has a clutch-face adapted to engage a similar face

on the pulley. Pivoted to the lower portion of the frame is a two-armed lever 51. The 65 lower arm carries an antifriction-roller 52, that engages the clutch-disk 48, and the upper arm terminates in a cam 53, that is disposed in the path of movement of a threaded pin 54, arranged at the lower end of a slide 42, the 70 pin being provided with suitable nuts to se- cure it in any position to which it may be ad- justed. Normally the pulley 47 revolves idly on the shaft; but when lever 43 is raised the slide 42 is also moved upward and pin 54, en- 75 gaging against the cam-face 53, rocks the le- ver 51. The antifriction-roller 52 is forced into engagement with the clutch-disk 48, and the latter moves into contact with and locks the pulley to the shaft. 80

At one side of the machine is a standard 55, carrying a short shaft 56, to which is secured a toothed segment 57, intermeshing with a pinion 58 on the end of the shaft 22. To the shaft 56 is also secured a rocker-arm 59, that 85 is connected by a pitman 60 to a crank 61 on shaft 46. The crank and gearing are so pro- portioned that one complete revolution of the shaft 46 will rotate shaft 22 first in one di- rection and then in the opposite direction in 90 order to move the printing-roller toward the front of the machine and thence back to ini- tial position.

In the inner faces of the standards 2 are formed guides for the reception of a pair of 95 vertically-movable slides 62, having racks 63, which intermesh with gears or pinions 64 on the shaft 22. These slides are provided with bearings for the reception of a transversely-disposed shaft 65, the shaft being non-revo- 100 lute and pressed downward by springs 66. On this shaft are arranged a plurality of num- bering-disks 67, four being shown in the pres- ent instance, although the number may be in- creased to any desired extent. The disks are 105 decagonal in form and each side carries a nu- meral. On each side of each of the disks is a ratchet-wheel 68, having ten teeth, and at the left of each disk is a guard-disk 69, hav- ing a single notch 70. 110

The standards 2 carry bearings 71 for the support of the transversely-disposed bar or spindle 72, to which are pivoted spring-pressed pawls 73, adapted to engage the ratchet-teeth 68. At the right of the initial 115 or primary disk the pawl is in constant en- gagement with the ratchet-teeth, and as the numbering-disks are vertically reciprocated in the manner hereinafter described said pri- mary disk will be rotated a tenth of a revolu- 120 tion at each operation. In the meantime the pawls of the remaining disks ride idly on the disks 69, and it is only after nine operations of the primary disk that the notch 70 of the first disk 69 is moved to such position that 125 the pawl of the secondary disk can engage



the ratchet-teeth of the latter and effect a thirty-six-degree movement thereof. In similar manner the movement of the remaining disks is controlled.

5 On each standard is an inwardly-projecting stud 80, to which is pivoted a plate 81, having an arcuate cam-slot 82, through which extends the non-revoluble shaft 65. The lower end of each plate is slotted for the reception of a shaft 83. Each end of the shaft is provided with an annular groove 84 for the reception of a slotted plate 85, carried by the main plate 81, thus preventing endwise movement of the shaft. On this shaft is secured an ink-  
10 ing-roller 87, formed of or covered with a suitable yieldable material for contact with the imprinting-type on the decagons. The slotted lower ends of the plate 81 serve as guides for the reception of lugs or pins 87, projecting from the opposite ends of an ink-font 88, and said font is pressed upward toward the inking-roller by suitable springs 89. The top of the ink-font is formed by a concaved plate 90, that fits snugly around the ink-re-  
15 ceiving roller, and in said plate are perforations 91, through which the ink may pass to the roller when the parts are in the position shown in Fig. 3. In the operation of this portion of the mechanism the rotation of the shaft 22 serves, through pinion 64 and rack 63, to depress the numbering-disk. During downward movement of the numbering-disk the shaft of the latter, riding in the cam-slot 82 on each plate 81, will cause the plates to swing  
20 outward to the position shown in Fig. 3, and during this movement ink will be distributed to the printing-type immediately in contact with the inking-roller, as well as the succeeding type. The numbering-disks are forced downward in contact with the article resting on the platen and on reverse movement of the shaft 22 are raised. As they move upward the pawls 73 will effect rotative movement of the proper disk in the manner previously de-  
25 scribed, each disk being held in the position to which it is adjusted by a locking-pawl 92.

The device may be operated by power, or, if necessary, a crank 93 may be secured to the end of the shaft 22 in order to permit opera-  
30 tion by hand.

Having thus described the invention, what is claimed is—

1. In a printing and numbering machine, a platen, a type-carrying roller, means for moving the same over the platen, numbering-  
35 disks, and means for moving the same toward and from the platen during the operation of the printing-roller.

2. In a printing and numbering machine, a  
40 platen, a printing-roller, means for moving the same over the platen, numbering-disks, means for moving the numbering-disks toward and from the platen, and means for au-

tomatically turning the numbering-disks as they move from the platen. 65

3. In a printing and numbering machine, the combination with a platen, of a printing-roller, numbering-disks, a pair of vertically-guided slides forming supports for the disks, a main shaft, and means for transmitting move-  
45 ment from said shaft to the printing-roller and the slides. 70

4. In a printing-machine, a platen, a printing-roller, a plurality of sets of grooved winding-disks carried by the roller, pinions also  
50 connected with the roller-racks arranged at the edges of the platen and with which the pinions engage, an operating-shaft having a plurality of sets of grooved winding-disks, and flexible connections between the sets of  
55 winding-disks whereby movement of the shaft will effect both rotative and reciprocatory movement of the printing-roller. 80

5. In a printing-machine, a platen, a printing-roller, means for operating said roller, an  
60 inking-roller, a pair of guide-bars, hangers guided thereby and provided with antifriction-rollers engaging the bars, said hangers having bearings for the support of both rollers. 85

6. The combination with a printing-roller, 90 of a pair of vertically-guided slides, a shaft carried thereby, numbering-disks mounted on the shaft, means for automatically turning the disks, a platen with which both the printing-roller and the disks coöperate during the print-  
95 ing operation, an inking-roller, and roller-carrying plates pivoted to the frame of the machine and having cam-slots for the passage of the shaft.

7. The combination with a printing-roller, 100 of a pair of vertically-guided slides, a shaft carried thereby, numbering-disks mounted on the shaft, means for automatically turning the disks, a platen with which both the printing-roller and the disks coöperate during the print-  
105 ing operation, a pair of pivoted plates having cam-slots for the passage of the shaft, said plates having slotted lower ends, an inking-roller, a shaft carrying the same and having its ends guided within the slots, and a yield-  
110 ably-mounted ink-font having end pins or lugs also guided in said slot.

8. The combination with a printing-roller, of a pair of vertically-guided slides, a shaft  
115 carried thereby, numbering-disks mounted on the shaft, means for turning the disks, a platen with which both the printing-roller and the disks coöperate during the printing operation, a pair of pivotally-mounted plates having cam-slots for the passage of the shaft, said plates  
120 having slotted lower ends, a pair of auxiliary plates carried by the pivoted plates and also provided with slots, a shaft having its end portions extending into the slots and provided with annular grooves for the reception of the  
125 auxiliary plates, an inking-roller carried by

the grooved shaft, an ink-font having end pins  
or lugs also extending within the slots, springs  
bearing on said lugs or pins, and a concave  
plate forming the top of the ink-font and per-  
5 forated to permit the passage of ink to the  
roller.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in  
the presence of two witnesses.

JACINTO RODRIGUEZ Y FONOLÍ.

Witnesses:

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RAFAEL SÁNCHEZ.