

J. COLLISON.  
 PRINTING MACHINE.  
 APPLICATION FILED DEC. 18, 1908.

925,458.

Patented June 22, 1909.

2 SHEETS—SHEET 1.

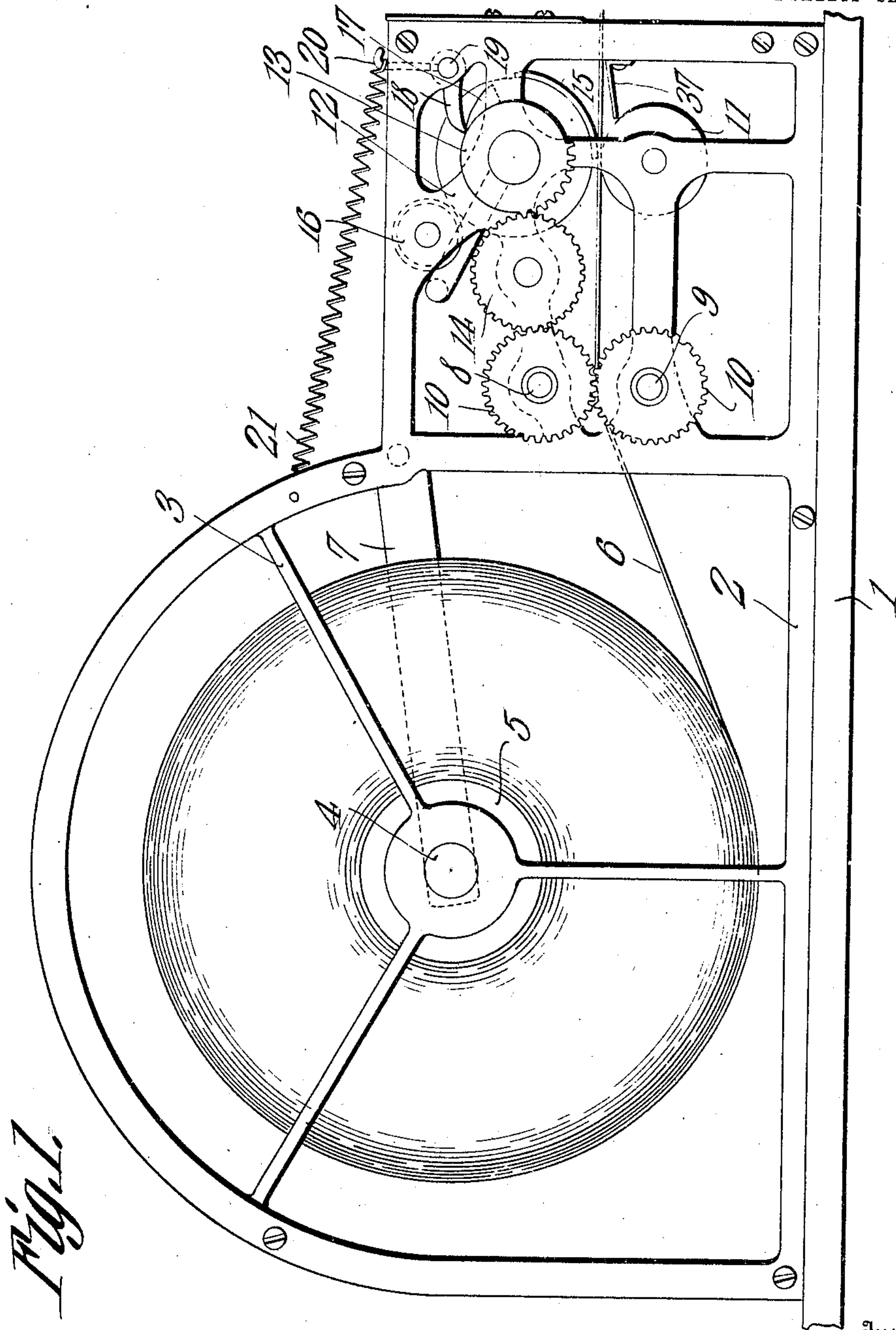


Fig. 1.

Witnesses

*E. J. Stewart*  
*Herbert D. Lawson*

Inventor

*John Collison.*

By

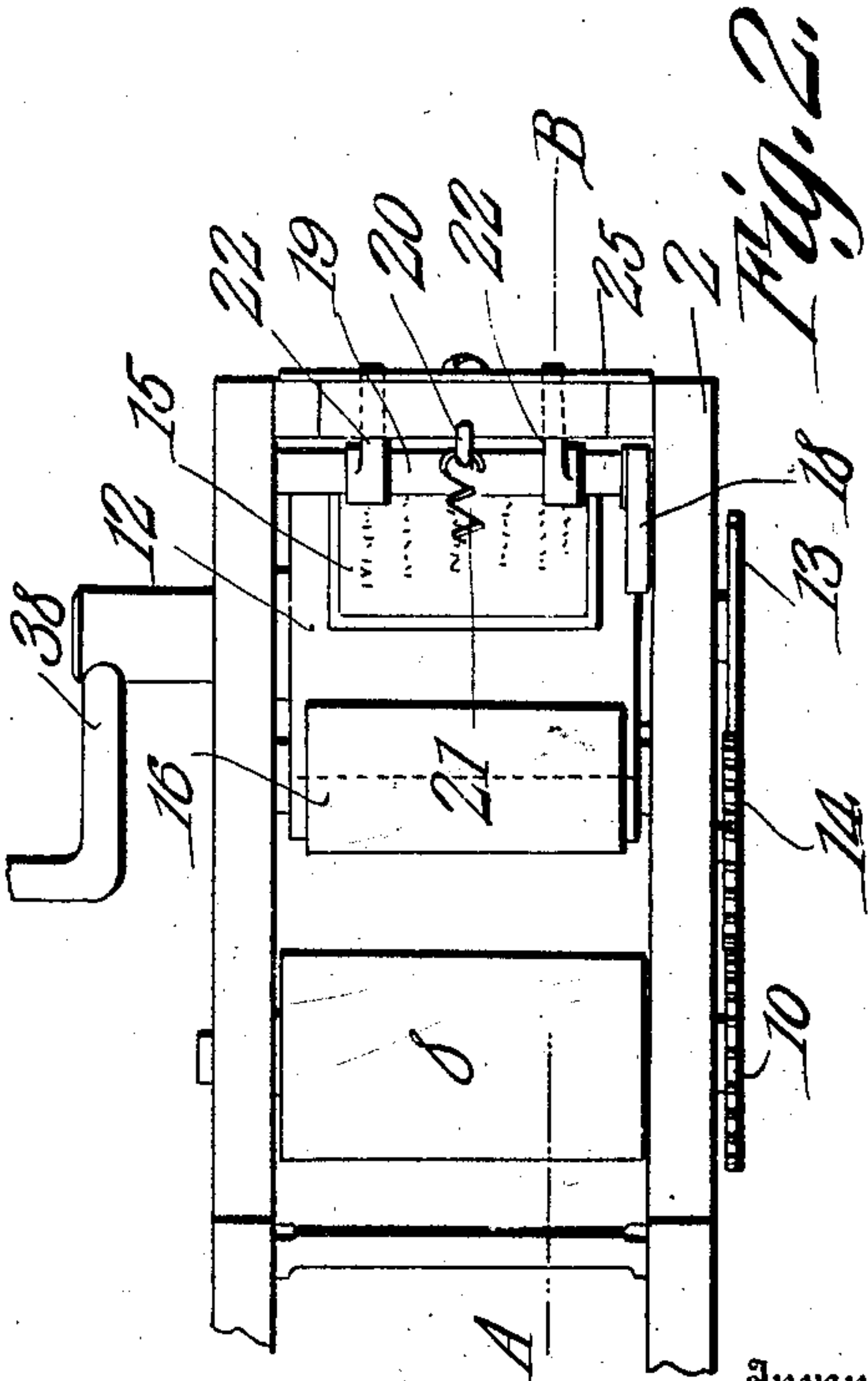
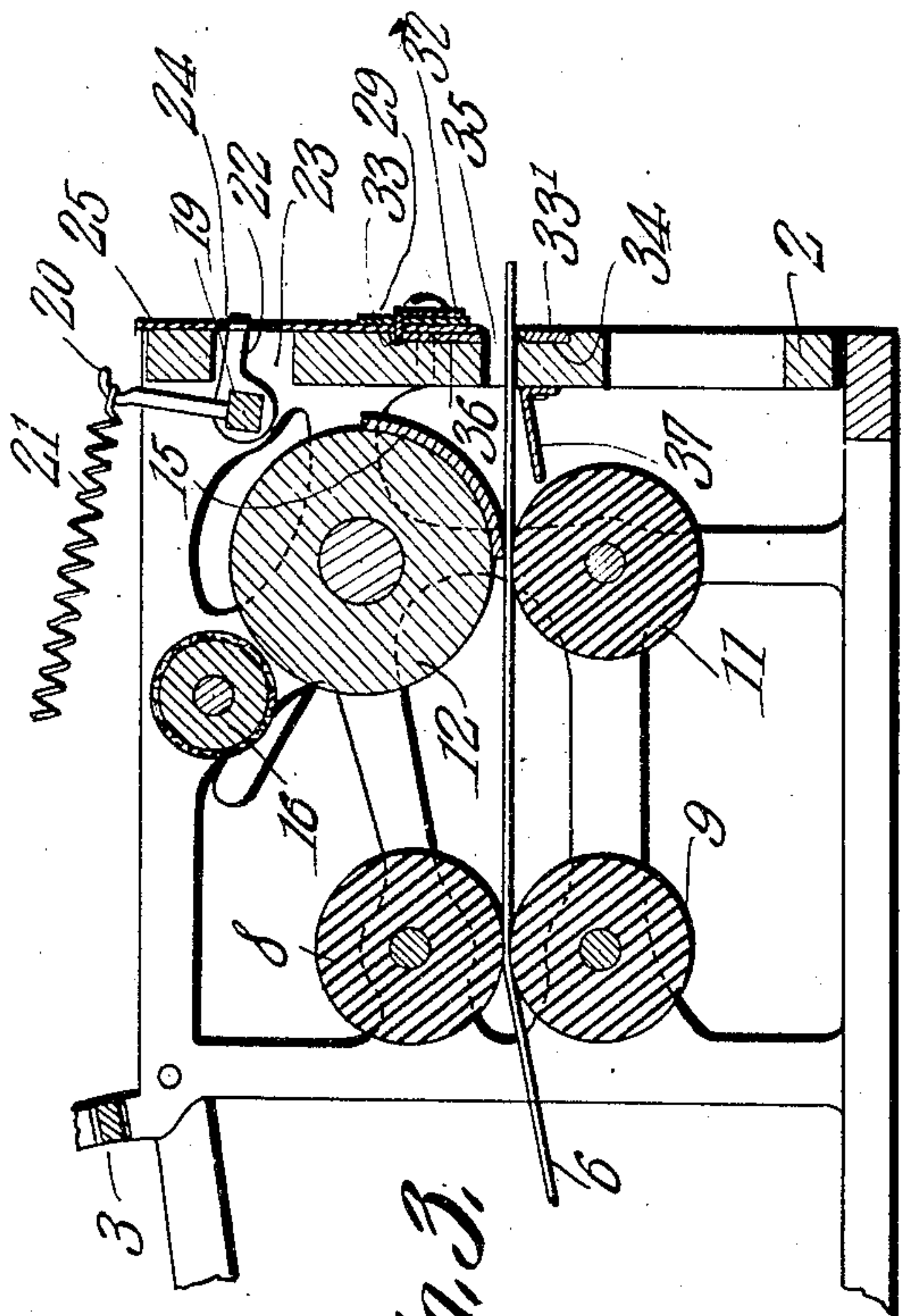
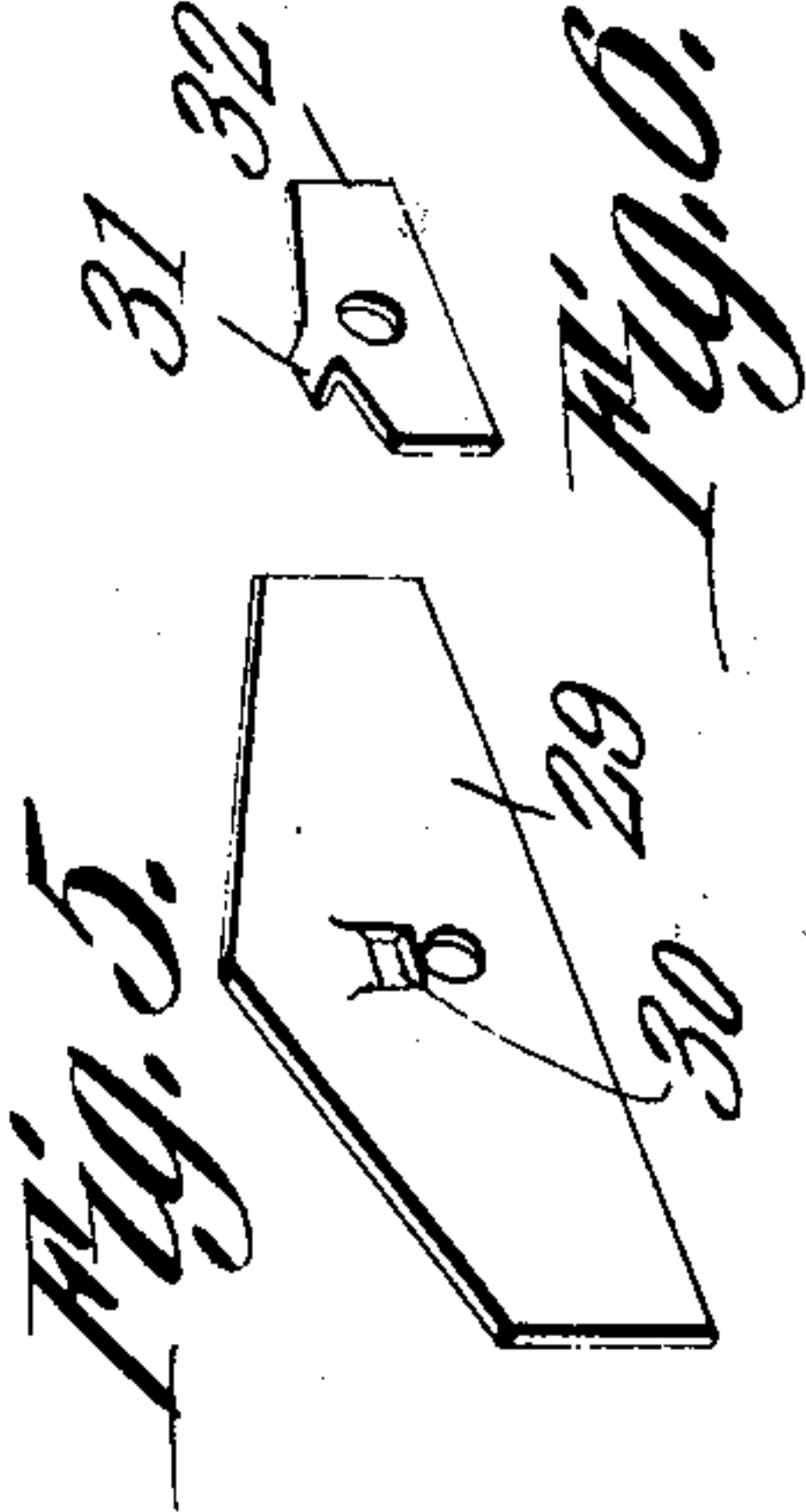
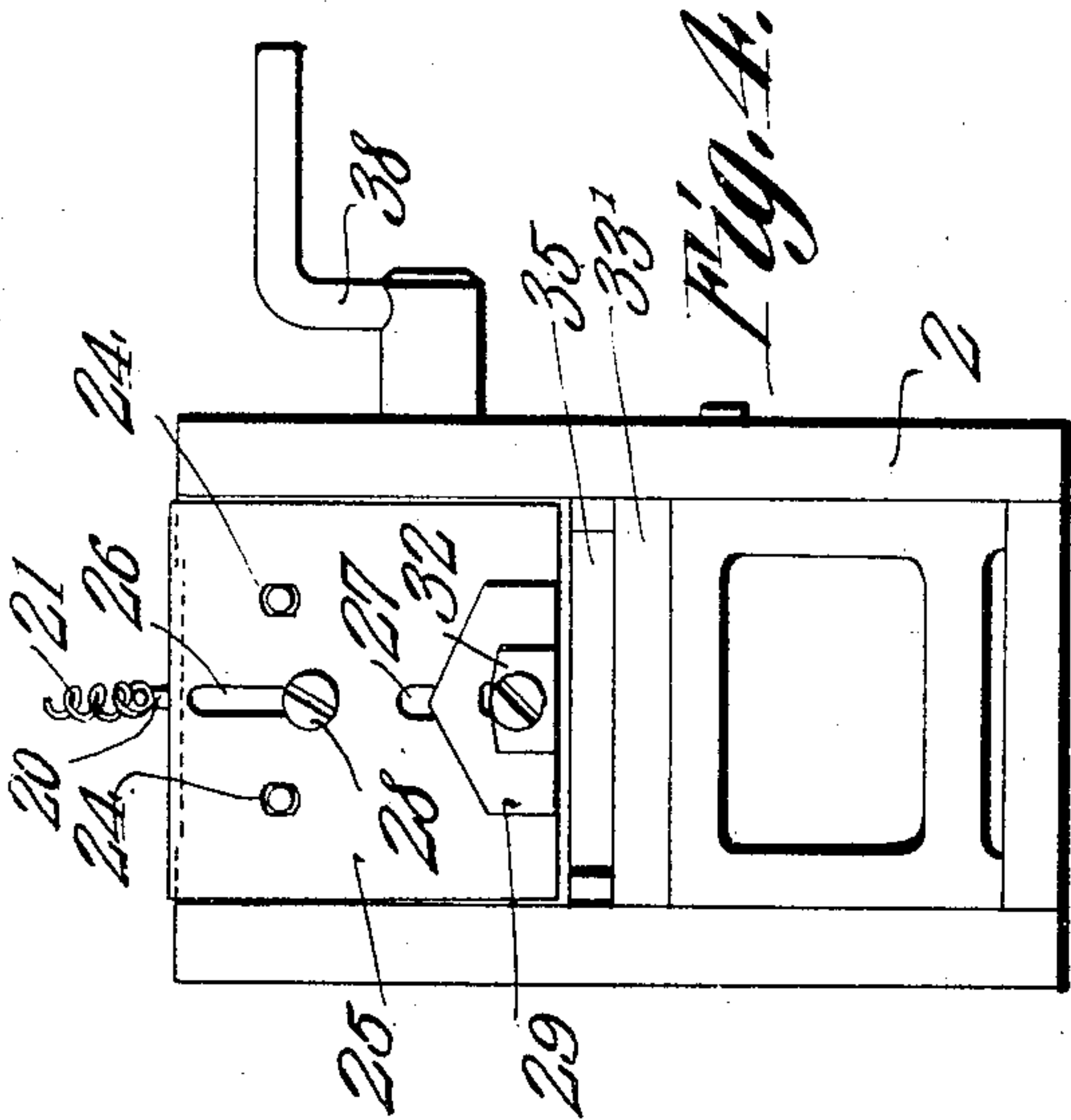
*C. A. Snow & Co.*  
 Attorneys

J. COLLISON.  
PRINTING MACHINE.  
APPLICATION FILED DEC. 18, 1908.

925,458.

Patented June 22, 1909.

2 SHEETS—SHEET 2.



Witnesses

*E. J. Stewart*  
*Herbert D. Lawson*

*John Collison.*

Inventor

By

*C. A. Snow & Co.*

Attorneys



# UNITED STATES PATENT OFFICE.

JOHN COLLISON, OF EVANSVILLE, INDIANA, ASSIGNOR OF ONE-HALF TO BENJAMIN R. CRAYCROFT, OF EVANSVILLE, INDIANA.

## PRINTING-MACHINE.

No. 925,458.

Specification of Letters Patent.

Patented June 22, 1909.

Application filed December 12, 1908. Serial No. 468,200.

*To all whom it may concern:*

Be it known that I, JOHN COLLISON, a citizen of the United States, residing at Evansville, in the county of Vanderburg and State of Indiana, have invented a new and useful Printing-Machine, of which the following is a specification.

This invention relates to printing machines of that type designed to print tickets and the like at the time of sale.

The object of the invention is to provide a machine of this character employing a web or tape designed to be fed to the printing roll only while the impression is being made, said web remaining stationary between the printing operations.

Another object is to provide shearing mechanism designed to be actuated by the printing roll while the web is at rest.

A still further object is to provide improved means for moving the web, said means being positively actuated intermittently by the printing roll.

A further object is to provide a printing roll the printing surface of which extends but partly there-around, and is designed to cooperate with a platen for the purpose of gripping and shifting the web during a portion of the rotation of the printing roll.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a side elevation of the complete machine. Fig. 2 is a plan view of the printing mechanism thereof. Fig. 3 is a section on the line A—B. Fig. 4 is an end elevation of said machine, the shearing blade being shown in its normal position. Figs. 5 and 6 are perspective views of the respective plates of the blade-retaining means.

Referring to the figures by characters of reference 1 designates a base having a frame 2 mounted thereon and including a cage 3. A bearing stud 4 is located centrally within the cage and is designed to support a spool 5 on which a web or tape 6 is wound. Any suitable means such as a spring strip 7 may

be utilized for retaining the spool upon the stud, said strip being preferably secured at one end to the frame 2, while its other end is designed to bear against the spool. This strip 7 can be swung out of position at one side of the cage so as to permit the web to be readily placed in or removed from position upon the stud 4.

Journaled within the frame 2 and close to the cage 3 are upper and lower feed rolls 8 and 9, said rolls having gears 10 mounted to rotate therewith and which mesh so as to cause the rolls to positively rotate in opposite directions. Journaled within the front portion of the frame 2 and in horizontal alinement with the roller 9 is a roller 11 constituting the platen of the press, and directly above this platen is the printing roll 12. A mutilated gear 13 is mounted to rotate with the printing roll 12, and is designed to mesh, for a portion of its rotation, with a gear 14, meshing with the gear 10 of the upper feed roll 8. A stereotype plate 15 is secured upon the peripheral portion of the roll 12, the ends thereof being the same number of degrees apart as the end teeth of the mutilated gear 13. Said gear and the stereotype plate however are so located with relation to each other that the last tooth of the gear 13 moves out of mesh with the gear 14 at the same time that the stereotype plate 15 passes out of the pass between rolls 12 and 11. Moreover the first tooth of gear 13 will move into mesh with the gear 14 simultaneously with the entry of the stereotype plate into said pass. An inking roll 16 is mounted within the frame 2 and above the roll 12. This roll is so located as to contact only with the stereotype plate and not with the exposed peripheral portion of the roll 12.

A cam 17 rotates with the roll 12 and is designed, once during each rotation of the roll 12, to elevate an arm 18 extending from a rock-bar 19 journaled in the frame 2. A finger 20 extends upwardly from said bar and is held normally in a predetermined position by a spring 21 attached to the frame 2. Lifting arms 22 extend from the rock-bar 19 and are designed to work within slots 23, formed within the end of frame 2. The free ends of these arms 22 project loosely into openings 24 formed in the upper portion of a



knife 25 having upper and lower guide slots 26 and 27 respectively. The upper slot 26 has a guide screw 28 projecting therethrough and engaging the end of the frame 2, while the lower slot 27 is lapped by a retaining plate 29, the lower edge of which is normally close to and parallel with the lower or cutting edge of the knife 25. This retaining plate has an opening 30 therein for the reception of a tongue 31 extending at right angles from a locking plate 32. This tongue is designed to be seated within a socket 33 formed in the end of frame 2 and the two plates 29 and 32 may be fastened by means of a screw, or in any other suitable manner to the end of the frame. It is to be understood that these plates 29 and 32 do not move with the blade but constitute guides therefor, the broad retaining plate 29 serving to prevent the edge or side portions of the blade from springing forward during the shearing operation. The stationary blade 33' of the cutting apparatus is preferably secured within a recess 34 in the front end of frame 2 and with its cutting edge projecting slightly above the lower wall of a slot 35 extending transversely within said wall. The blade 25 is held by the arms 22 and spring 21 normally in position above the slot 35. As shown in Fig. 3 a wear plate 36 is preferably secured to the front end of the frame 2 and directly back of the lower portion of the knife blade 25. A guide plate 37 is secured to the frame 2 and practically extends from the front end of the frame 2 to the path between the rolls 11 and 12. Any suitable means may be utilized for actuating the press. In Fig. 2 a crank 38 has been shown connected to the shaft of roll 12.

When it is desired to use the device herein described the web roll is placed within the cage 3 and the end of the web inserted between rolls 8 and 9 and between rolls 11 and 12, the end of the web being permitted to rest upon the guide plate 37. Roll 12 is then rotated by means of the crank 38, and the stereotype will be inked as it passes under the roll 16. As soon as the stereotype plate enters the pass between the rolls 11 and 12 the mutilated gear 13 moves into mesh with the gear 14, and the feeding rolls 8 and 9 are thus set in motion. The web 6 will therefore be drawn forward by the rolls 8 and 9 and also by the stereotype plate 15, which presses the web against the platen 11. As the first impression is made upon the web the printed part of said web will assume a position between the slot 35 and the path between rolls 11 and 12. Upon the completion of the first impression the stereotype 15 moves out of contact with the web, and, at the same time, the mutilated gear 13 moves out of mesh with the gear 14. The feeding mechanism is thus left stationary while the

roll 12 continues to revolve. The cam 17 elevates the arm 18 during this free rotation of the roll 12 and causes the arms 22 to press the blade 25 downwardly so as to cut off the projecting portion of the web 6. As soon as cam 17 passes from under the arm 18 the spring 21 operates to automatically return the blade 25, rock-bar 19, and arm 18 to their normal positions. When the foregoing operation is repeated the mechanism forces the web 6 longitudinally, so as to project the previously printed ticket beyond the frame 2, while the second ticket is being printed, and, during the pause occurring subsequent to this second printing operation, the protruding ticket is severed in the manner hereinbefore described.

It is to be understood of course that various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing the advantages of the invention.

What is claimed is:—

1. In a machine of the class described a drive shaft, a frame supporting the same, said frame having a web receiving opening therein, a longitudinally slotted cutting blade slidably mounted upon the frame and above the opening, guiding and retaining means extending through the slot and engaging the frame, a platen mounted for rotation below the drive shaft, means for guiding a web from the platen to the opening within the frame, a printing roll mounted on the drive shaft and revoluble therewith, said roll and platen cooperating for shifting a web through the opening only while an impression is being made, a rock shaft, means extending therefrom for movably engaging the cutting blade, elastic means for holding the blade and rock shaft normally in predetermined positions, and means actuated by the drive shaft subsequent to the impression by the printing roll to shift the blade longitudinally across the opening in the frame and shear the web therein.

2. A machine of the class described comprising a frame having a web receiving opening, a shearing blade slidably mounted upon the frame above the opening, said blade having longitudinal slots therein, combined guiding and retaining means extending through the slots for engagement with the frame, a rock shaft journaled within the frame, means extending therefrom and movably engaging the blade, elastic means for holding the blade and rock shaft normally in predetermined positions, a drive shaft, a printing roll thereon and movable therewith, a cam upon the shaft, means upon the shaft and cooperating with the cam for actuating the rock shaft and shearing blade subsequent to each impression by the printing roll, a platen below the printing roll and cooperating



therewith to shift a web longitudinally  
through the opening in the frame only while  
an impression is being made, cooperating  
feed rolls and means actuated by the drive  
5 shaft for actuating the feed rolls only while  
an impression is being made.

In testimony that I claim the foregoing as

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

JOHN COLLISON.

Witnesses:

JACOB N. DAUNHAUER,  
ADOLPH J. WRIGHT.