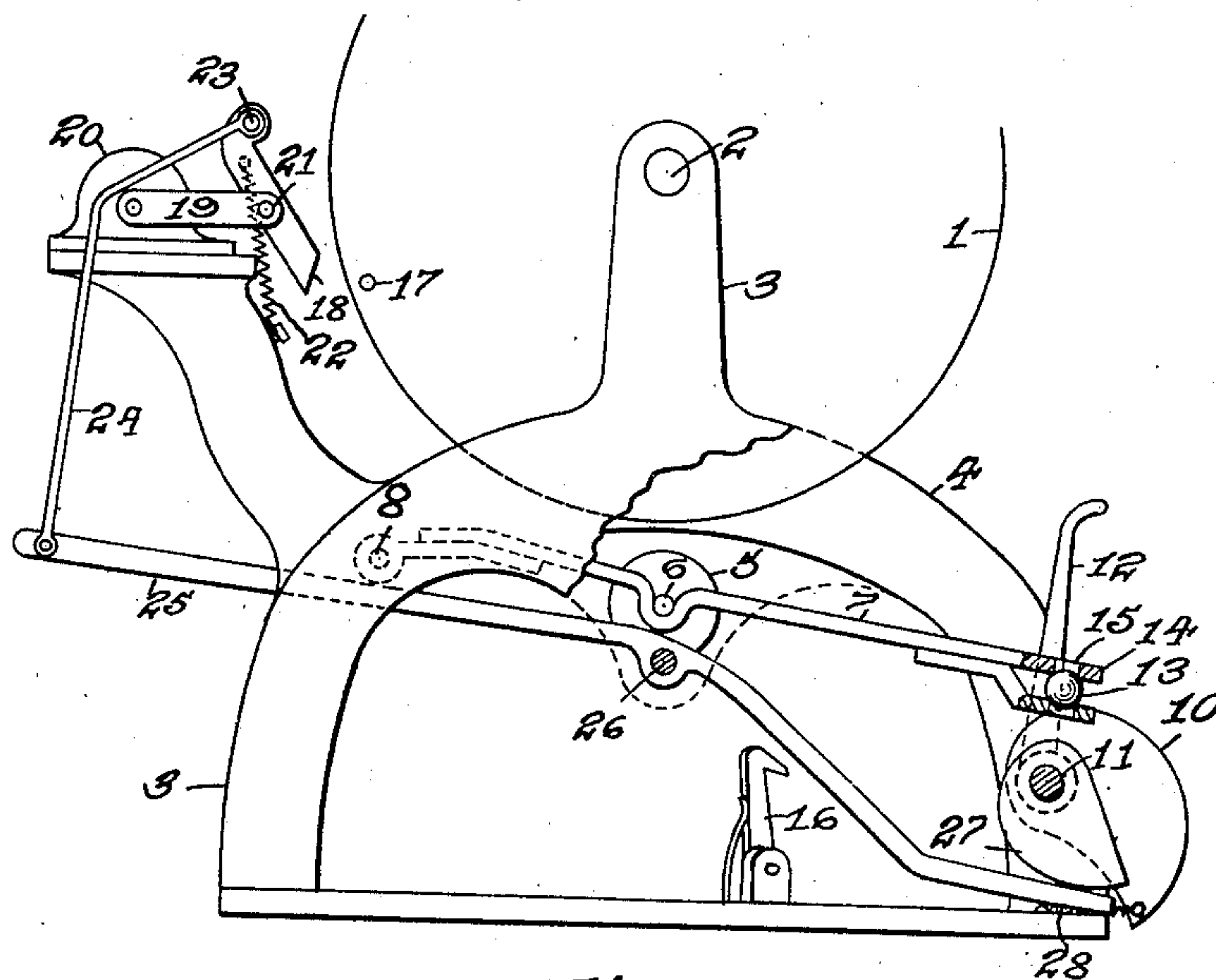
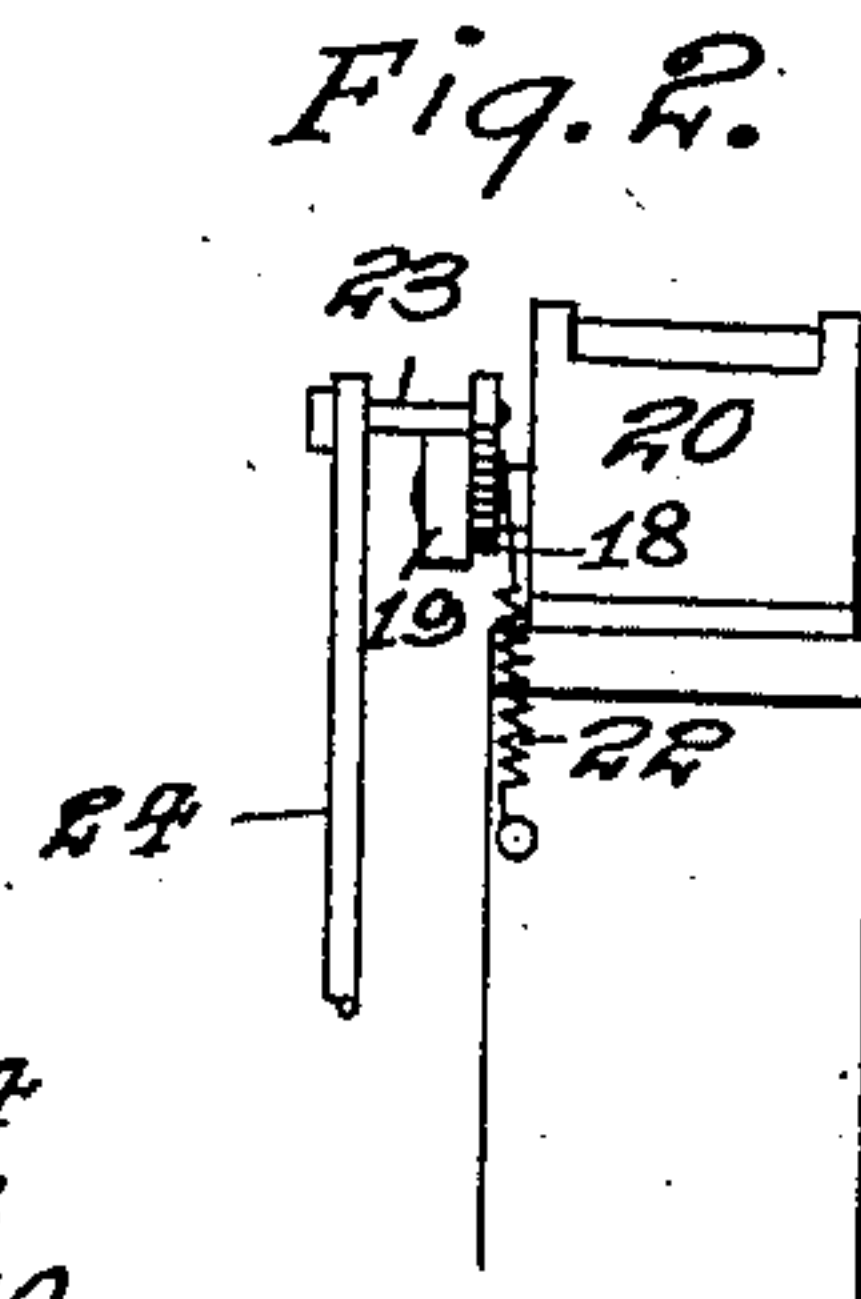
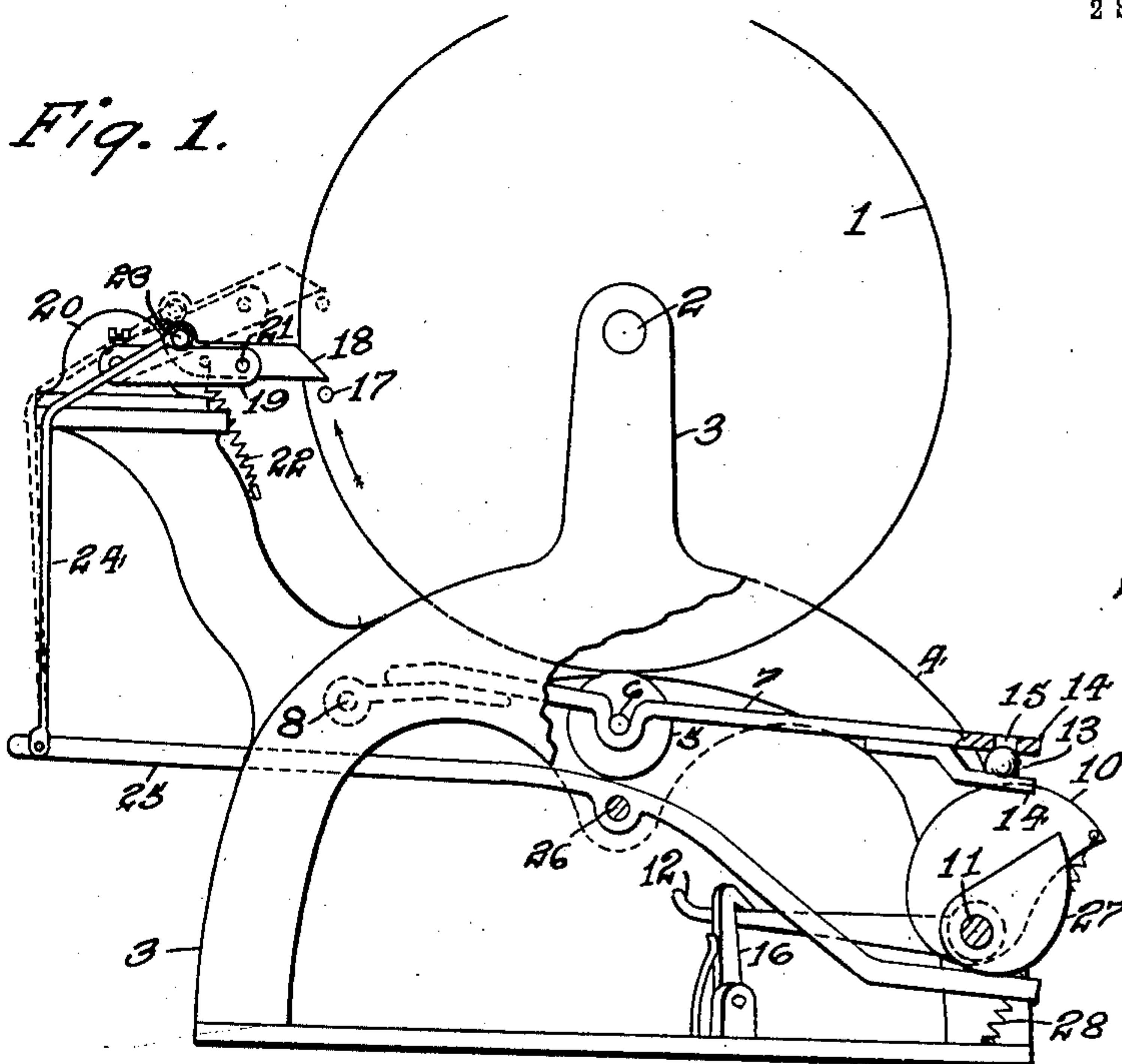


No. 829,531.

PATENTED AUG. 28, 1906.

E. F. KUNATH.
STENCILING MACHINE.
APPLICATION FILED MAY 14, 1906.

2 SHEETS—SHEET 1.



Witnesses.

Kittie Frankfort.
John C. Kopf

Inventor

Edward F. Kunath

By his Attorney

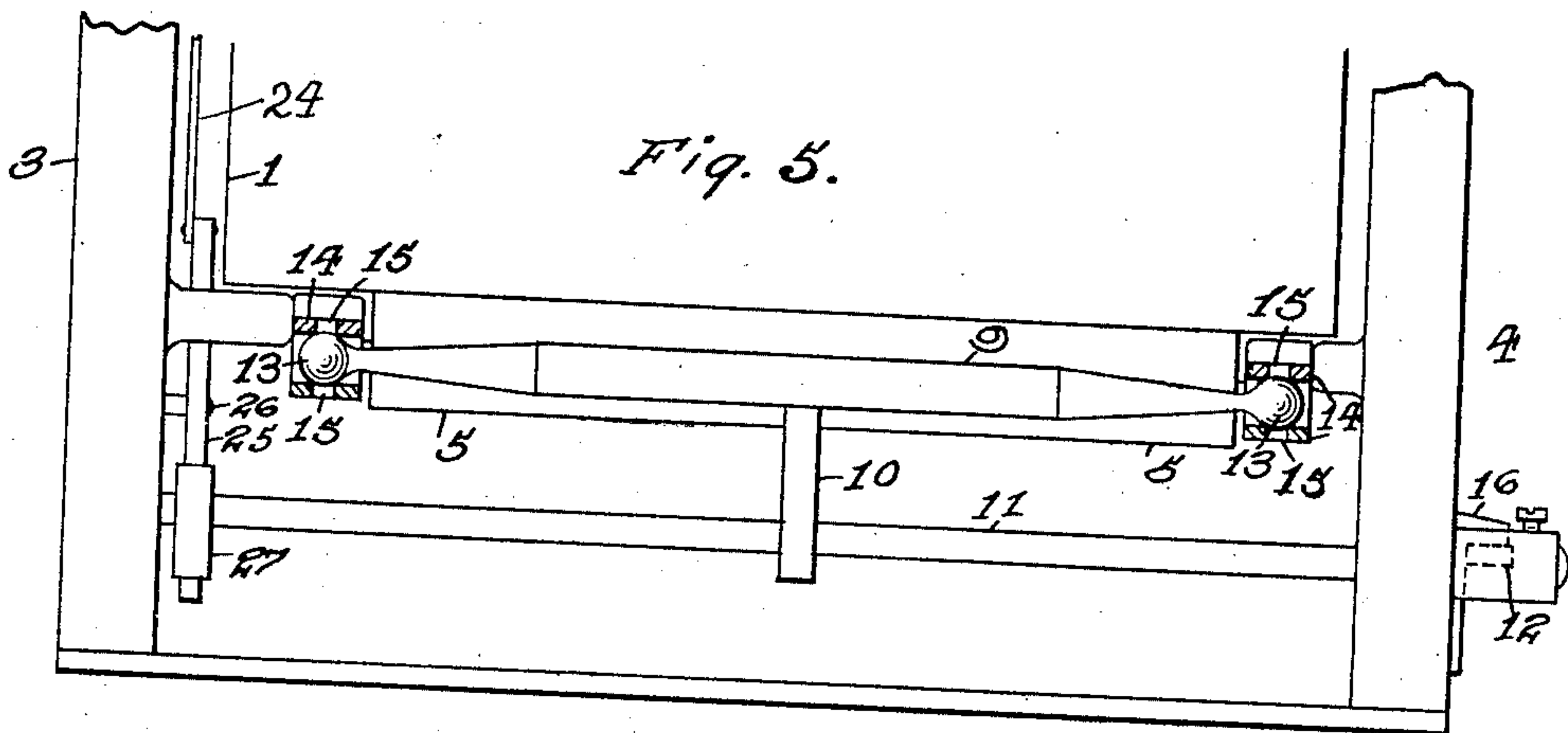
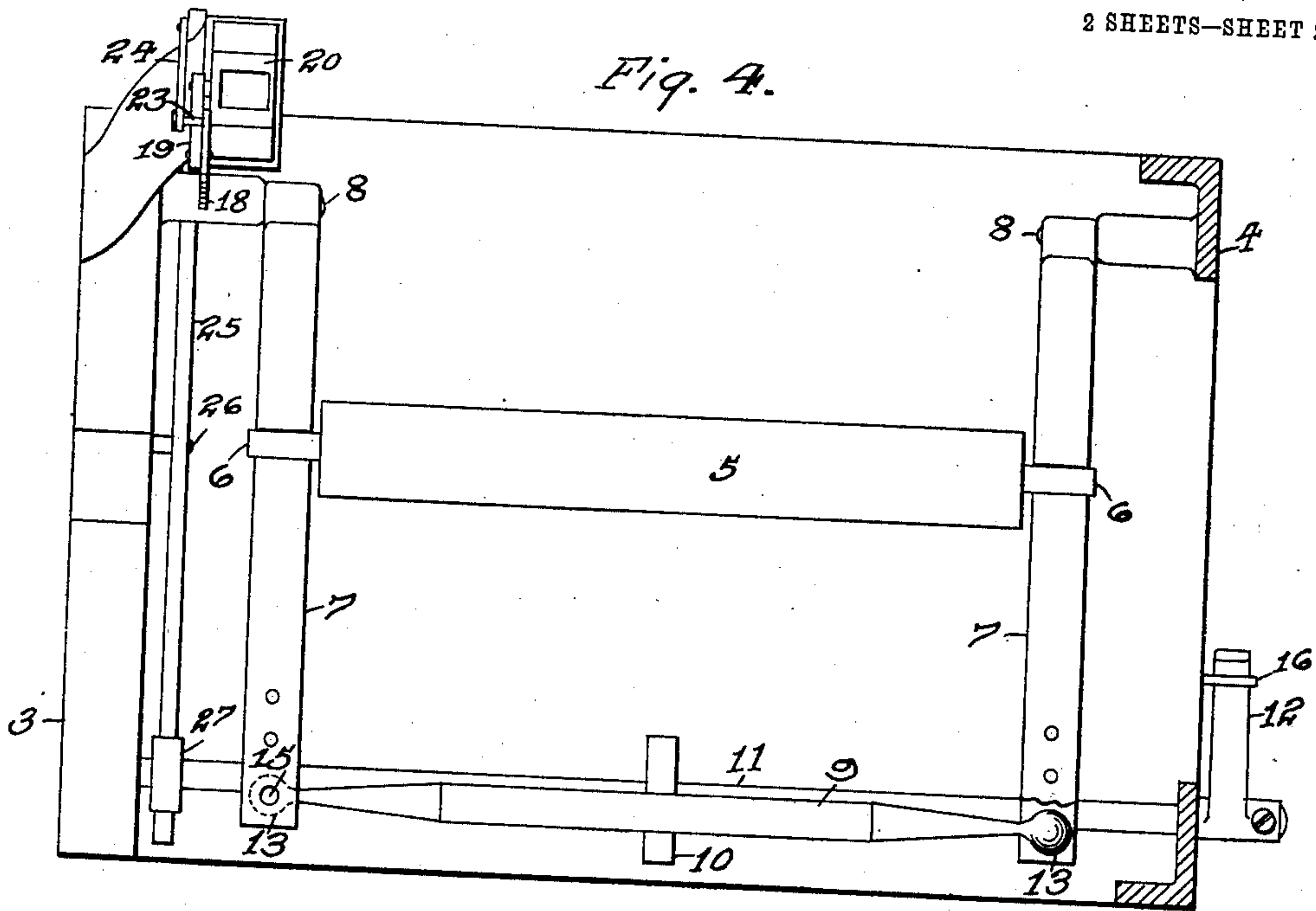
B. Stickney

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2 SHEETS—SHEET 2.



Witnesses
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John C. Kopf

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UNITED STATES PATENT OFFICE.

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STENCILING-MACHINE.

No. 829,531.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed May 14, 1906. Serial No. 316,886.

To all whom it may concern:

Be it known that I, EDWARD F. KUNATH, a citizen of the United States, residing in Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Stenciling-Machines, of which the following is a specification.

This invention relates to rapid-duplicating machines in which an ink-blanket is wrapped upon the cylinder and overlaid by a stencil-sheet and the sheets of paper to be stenciled are pressed against said stencil-sheet.

One of the objects of my invention is to provide improved means for securing an even pressure of the usual soft-rubber roll which presses the paper against the stencil-sheet on the cylinder.

Revolution-counters are commonly employed upon these machines; but it is often found that they give erroneous results because the cylinder is occasionally given many idle rotations for the purpose of distributing the ink, &c.

Another object of my invention is to overcome this trouble and enable the counter to give accurately the number of sheets that have been passed through the machine. Said pressure is usually cast off from the cylinder during the inking or other idle movements of the latter, and in carrying out my invention I contrive to silence the revolution-counter by the same movement that releases the pressure-roll, so that the revolution-counter can operate only when the machine is in condition to receive the paper sheets and stencil them.

In the accompanying drawings, Figure 1 is an end elevation of one form of stenciling-machine provided with my improvements, all the parts being shown in normal positions and the movement of the revolution-counter arm being indicated by dotted lines. Fig. 2 shows a detail of the counting mechanism. Fig. 3 is a view similar to Fig. 1, but showing the pressure-roll cast off from the stencil-cylinder and also showing the revolution-counter as silenced. Fig. 4 shows in plan the mechanism of the lower portion of the machine, and Fig. 5 is an elevation of the same.

The usual perforated stencil-cylinder 1 is journaled by means of a shaft 2 in standards

3 4. A pressure-roll 5 beneath the cylinder is supported by journals 6 in a pair of arms 7, separately hinged at 8. The pressure-roll is supported between the ends of the arms, the free ends of the latter being connected by a cylindrical bar 9, against which bears a cam 10, provided upon a rock-shaft 11, having a handle 12, whereby the roll 5 may be caused to press up against the stencil-cylinder. It is important to secure an even pressure between the cylinder and roll throughout the length of the latter, and to this end I contrive to render the pressure-roll perfectly free to yield at one end independently of the other, while insuring an even pressure upon both ends of its shaft 6. I connect the bar 9 by universal joints to the ends of the levers 7, said joints preferably consisting of balls 13, formed upon the ends of the bar 9 and confined in forks 14, provided upon the lever ends, each fork having opposite perforations 15 to form seats for the balls. Owing to the freedom of turning of the balls in their seats in all directions, the levers may skew relatively to the connecting-bar 9, and hence either end of the pressure-roll may yield without affecting the other end, and, moreover, constant even pressure is secured under all conditions for the entire length of the pressure-roll. The arm 12 is normally held down by a latch 16, Figs. 1 and 5. When the latch is released, the arm 12 flies up and the cam 10 turns back, permitting the bar 9, the lever 7, and the roll 5 to drop, Fig. 3.

Upon one end of the cylinder is a projecting pin or tappet 17 to engage a pawl 18 once in each revolution of the cylinder to lift the arm 19, forming part of a counting mechanism contained in a case 20. The pawl 18 is pivoted at 21 upon said arm 19 and is held in normal position relatively to said arm by means of a spring 22 with a pin 23, provided upon said pawl resting upon the upper edge of said arm, as seen at Figs. 1 and 2 in full lines. At each revolution the tappet 17 lifts the pawl 18 up a trifle past the dotted-line position, Fig. 1, thereby operating the counting mechanism in the case 20, and then the pin 17 trips off the pawl, and the latter is returned to normal position, together with the arm 19, by means of the spring 22. If the cylinder is turned in a direction reverse to the arrow seen at Fig. 1, the tappet 17 simply

pushes the nose of the pawl 18 down out of the way without vibrating the arm 19.

In order to silence the counting mechanism, I connect a link 24 to the pin 23 on the pawl 18; the lower end of said link being pivoted to the rear end of a lever 25, which is fulcrumed at 26 upon the framework, and at its front end underlies a cam 27, fixed upon the roll-tensioning shaft 11. During the stenciling operation the link 24 vibrates idly; but when the handle 12 is released for casting off the pressure-roll 5 the shaft 11 is rotated by means of a spring 28 and swings down the cam 27, which bears down the front end of the lever 25, thrusting up the rear end thereof, together with the link 24, and rocking the pawl 18 upon its pivot 21 out of the path of the tappet 17, Fig. 3. When it is desired to feed paper sheets through the machine, the arm 12 is swung down and reengaged with the latch 16 and the parts brought to the working position. (Seen at Fig. 1.)

Variations may be resorted to within the scope of my invention, and portions of my improvements may be used without others.

Having thus described my invention, I claim—

1. In a stenciling-machine, the combination of a stencil-cylinder, a roll for pressing paper against the cylinder, a pair of yielding levers between which said roll extends and upon which it is journaled, a bar connecting said levers, universal joints being provided between said levers and the ends of said bar, and means for applying force to the middle of said bar to cause the roll to press evenly against the stencil-cylinder.

2. In a stenciling-machine, the combination of a stencil-cylinder, a roll for pressing paper against the cylinder, a pair of yielding levers between which said roll extends and upon which it is journaled, a bar connecting said levers, universal joints being provided between said levers and the ends of said bar, and means for applying force to the middle of said bar to cause the roll to press evenly against the stencil-cylinder; said universal joints being in the form of balls formed upon the end of said bar and confined in seats upon said levers.

3. In a stenciling-machine, the combination of a stencil-cylinder, a roll for pressing paper against the cylinder, a pair of yielding levers between which said roll extends and

upon which it is journaled, a bar connecting said levers, universal joints being provided between said levers and the ends of said bar, and means for applying force to the middle of said bar to cause the roll to press evenly against the stencil-cylinder; said universal joints being in the form of balls formed upon the end of said bar and confined in seats upon said levers; each lever having at its end a depression to receive one side of the balls, and a finger being secured to each lever and having a corresponding depression to receive the other side of the ball; said connecting-bar being cylindrical at its middle portion and a cam being mounted to bear thereagainst, a releasable lever being provided for operating said cam, and means being provided for regulating the position of the cam relatively to said releasable lever.

4. In a stenciling-machine, the combination of a stencil-cylinder, a pressure-roll therefor, a shaft having a handle, and also having means for releasing said pressure-roll, a cam or arm upon said shaft, a lever normally idle during the operation of the machine, but in the path of said cam or arm to be vibrated thereby, at the roll-releasing operation, a link pivoted to said lever, and a revolution-counter having a vibratory arm comprising two parts jointed together, one of said parts pivoted to said link and also extending into the path of a projection upon the stencil-cylinder, but movable out of said path by the vibration of said lever; said pivot-arm having a bevel on one edge to permit said projection to ride idly over the same during reverse revolution of said stencil-cylinder.

5. In a stenciling-machine, the combination of a stencil-cylinder, a pressure-roll therefor, a shaft having a handle and having means for either pressing the roll against the cylinder or releasing the roll at will, a latch holding said shaft in position to press the roll against the stencil-cylinder, a spring for turning said shaft upon being released from said latch, a revolution-counter operated by said stencil-cylinder, and means operated by said shaft during its rotation by said spring for silencing said revolution-counter.

EDWARD F. KUNATH.

Witnesses:

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B. C. STICKNEY.