

(No Model.)

C. L. REDFIELD.

IMPRESSION DEVICE FOR MATRIX MAKING MACHINES.

No. 429,739.

Patented June 10, 1890.

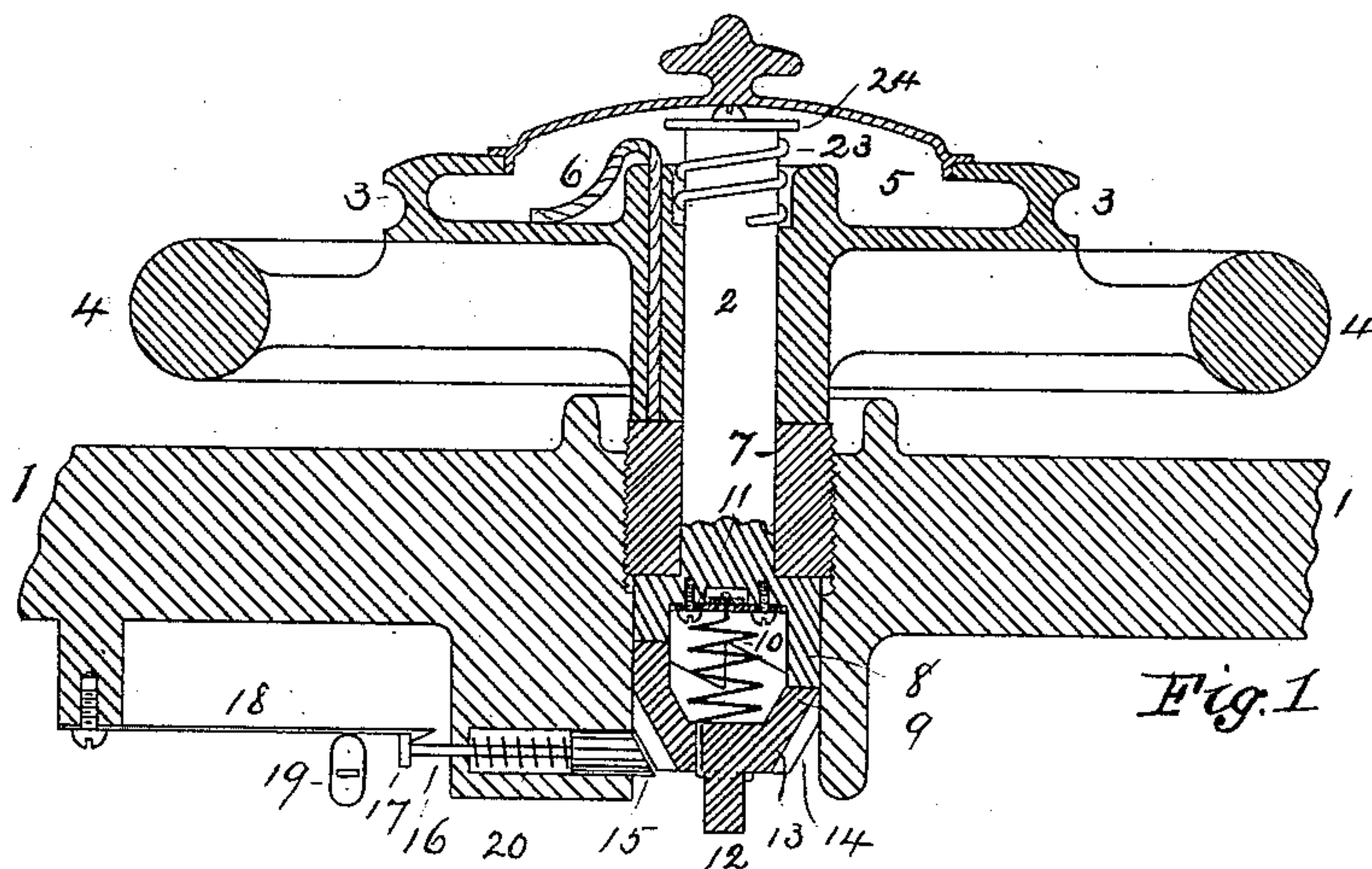


Fig. 1

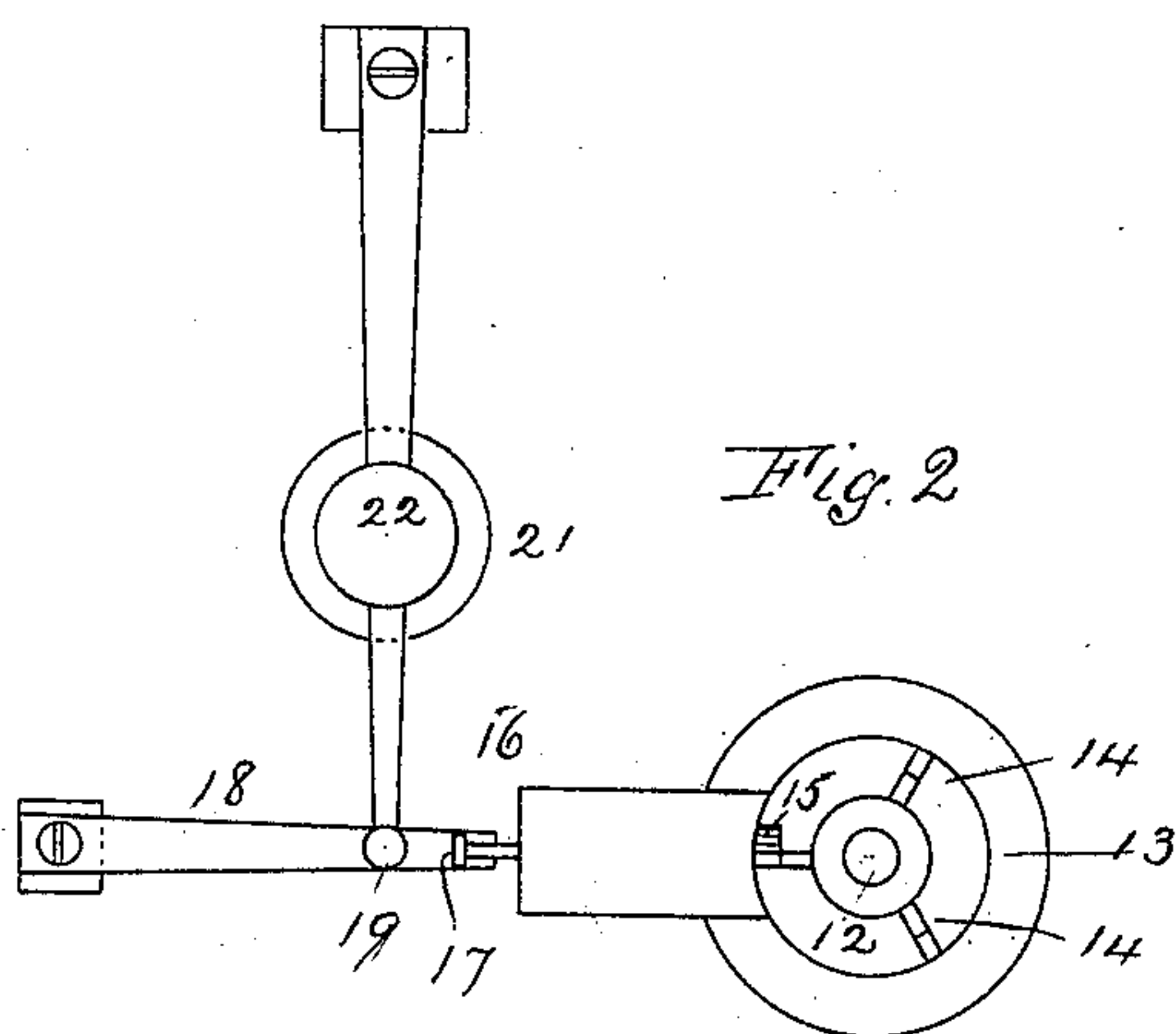
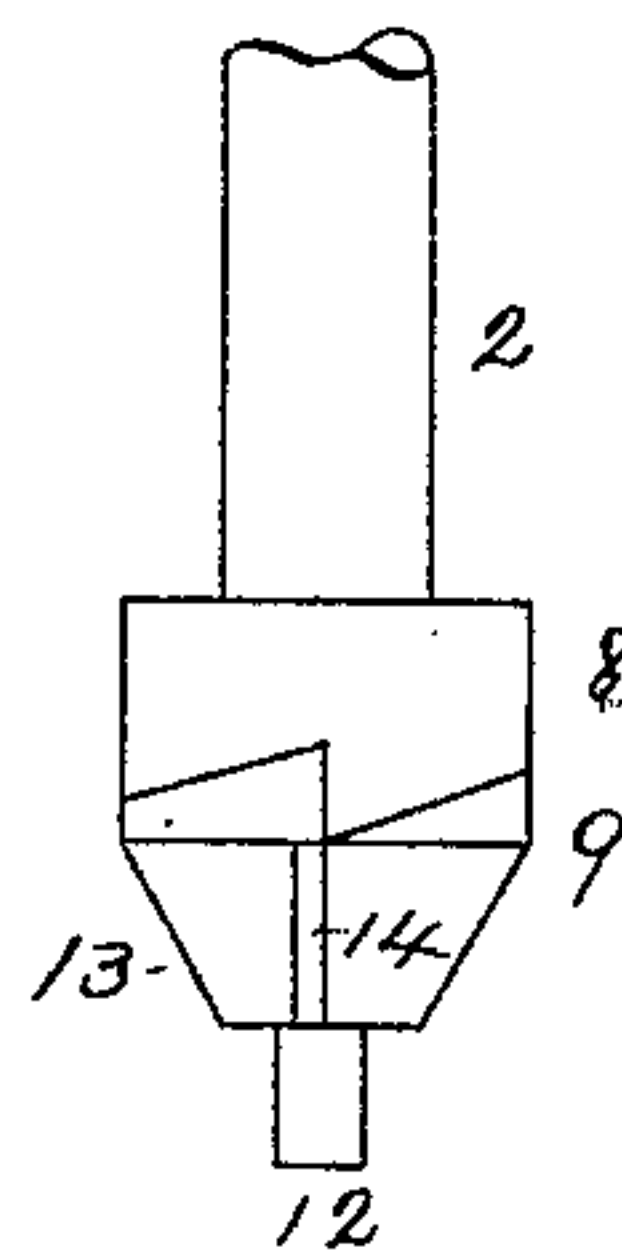


Fig. 2

Fig. 3



Witnesses

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IMPRESSION DEVICE FOR MATRIX-MAKING MACHINES.

SPECIFICATION forming part of Letters Patent No. 429,739, dated June 10, 1890.

Application filed May 27, 1889. Serial No. 312,318. (No model.)

To all whom it may concern:

Be it known that I, CASPER L. REDFIELD, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Impression Devices for Matrix-Making Machines, of which the following is a specification.

My invention relates to the class of devices that are given an intermittent reciprocatory motion for the depression of separate dies as they are severally presented at the printing-point, and the object of the invention is the improvement of the form of devices set forth in a previous application for patent filed by me April 3, 1889, Serial No. 305,882; and it consists in the improved construction and arrangement of parts hereinafter fully described, and pointed out in the claims.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a central sectional elevation of the operative devices and a portion of the machine-frame. Fig. 2 is a detached view of a portion of the devices inverted. Fig. 3 is a detail elevation of the clutch-box and its operating-spindle.

In said drawings, 1 designates a portion of the upper casing of the machine, and 2 an upright spindle rotated by means of a joint-pulley and fly-wheel 3 and 4. The pulley is hollow, and in its chamber 5 a lubricant may be provided for lubricating the bearing-surfaces by means of a wick 6, which has one of its ends in the chamber 5 and the other extending downward through the hub of the pulley and fly-wheel to the horizontal bearing-surfaces. The spindle and the pulley and fly-wheel are connected to the casing 1 by means of a bushing 7, that is screwed into the latter. On its lower end the spindle 2 carries a clutch-box composed of an upper portion 8, rigidly secured to the spindle, and a reciprocating portion 9. These two portions or members have their contact-faces correspondingly inclined and shouldered. The member 9 is held in position on the other member by a spring 10, that has its lower end attached to the lower member and its upper end swiveled in a plate 11, that is attached to the upper wall of the member 8. The mem-

ber 9 carries on its lower end a plunger 12, arranged to engage the type-dies to depress them. The lower exterior portion of the member 9 is beveled, as shown at 13, and on these beveled sides are longitudinal ribs 14, (one or more,) adapted to be engaged by a stop 15, to intercept the lower member in its rotation and cause it to be thrust downward by reason of the continued rotation of the upper member. The stop 15 has its face beveled to correspond with the bevel 13 on the clutch-box member, and is carried on a stem 16, that has a head 17, which is engaged by a spring-catch 18, to hold it away from engagement with the ribs 14. A spring-hammer 19 is provided for striking the catch 18 to release the head 17 and permit the stop 15 to be thrust toward the clutch-box by a spring 20, placed around the stem 16. An electro-magnet 21 is shown as a means for operating the hammer 19 by means of an armature 22, to which the hammer is attached.

In operation, the clutch-box being continuously rotated, upon the release of the catch 18 by the operation of the hammer 19, the stop-pin 15 is thrust against the beveled face 13 of the clutch-box and engages a rib 14, which stops further rotation of the lower member 9. The continued rotation of the other member 8 causes the former to descend until its inclined surface has been passed by that of the other, whereupon the spring 10 operates to lift the lower member axially to its initial position before its rotation is resumed. The stop-pin meanwhile will have been pressed back by the downward movement of the bevel-face 13 to position to be re-engaged and held by the catch 18. The spindle 2 is supported in position by a spring 23, that seats on the hub of the fly-wheel and bears against a plate 24 on the head of the spindle. This plate may be removed and the spindle can then be withdrawn downward. The two members of the clutch-box can be separated for inspection by loosening the projecting end of the spring 10, which is secured at the outside. The bushing 7 can be adjusted by screwing it inward or outward to regulate the depth of the plunger thrusts.

The subject-matter of invention disclosed and not claimed in the subjoined claims, re-

lating generically to the thrusting mechanism and the means for intercepting rotation, is reserved to be claimed in a pending application for patent by me filed April 3, 1889, No. 5 305,882.

What I claim herein is—

1. An impression device for a matrix-machine, comprising a rotating spindle, a clutch-box thereon consisting of upper and lower 10 members having inclines and shoulders, a swiveled spring for holding them in engagement, and means for stopping rotation of the lower member, substantially as set forth.
2. In an impression device for a matrix-machine, a two-part clutch-box having a beveled end and ribs on its reciprocating member, a stop for engaging the same, and a swiveled spring for retracting the engaged member, substantially as set forth.
- 20 3. The combination, with the clutch-box having its two members provided with correspondingly inclined and shouldered faces, of the swiveled retracting-spring connecting the two members, substantially as set forth.
- 25 4. The combination, with the clutch-box having coinciding inclined and shouldered faces on its two members, and a beveled surface and projections on the lower member, of a swiveled spring connecting them, and a 30 spring-actuated stop for engaging said projections to cause reciprocations of the engaged member, substantially as set forth.
5. The combination, with a clutch-box having inclined and shouldered faces on its members and a swiveled connecting-spring, of the 35 beveled surface, and ribs on the reciprocating members, and the spring-actuated stop for engaging the same, substantially as set forth.
- 40 6. The combination, with the clutch-box having a beveled surface with shoulders thereon on its reciprocating member, of a reciprocating stop adapted to engage said surface,

and a shoulder to produce a thrust and to be thereby returned to initial position, substantially as set forth.

7. In an impression device for a matrix-machine, a continuously-rotating member, a member connected therewith adapted to be thereby rotated and reciprocated in alternation, and having its lower margin formed into 50 a circular bevel provided with ribs at intervals, and means for engaging the same to stop rotation and cause reciprocations, substantially as set forth.

8. The combination, with a plunger-operating device composed of a two-part clutch-box having the outer margin of the reciprocating member formed into a circular bevel provided with a rib or ribs, of a stopping device having its engaging face beveled at a 60 like angle and arranged to engage said ribs to stop rotation and to be removed therefrom by the wedge force of said reciprocating member, substantially as set forth.

9. The combination, with a plunger-operating device consisting of a two-part clutch-box, one member of which is adapted to make thrusts of a definite length, a spindle carrying the same, a pulley and its hub, and a frame, of a bushing connecting said parts and 70 adapted to adjust their position relatively to the frame to regulate the depth of the plunger thrusts, substantially as set forth.

10. The combination, with the frame, the spindle and clutch-box, the chamber-pulley 75 and its hub, and the adjustable bushing, of a lubricating-wick extending from said chamber through the pulley-hub to the bushing, substantially as set forth.

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Witnesses:

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