

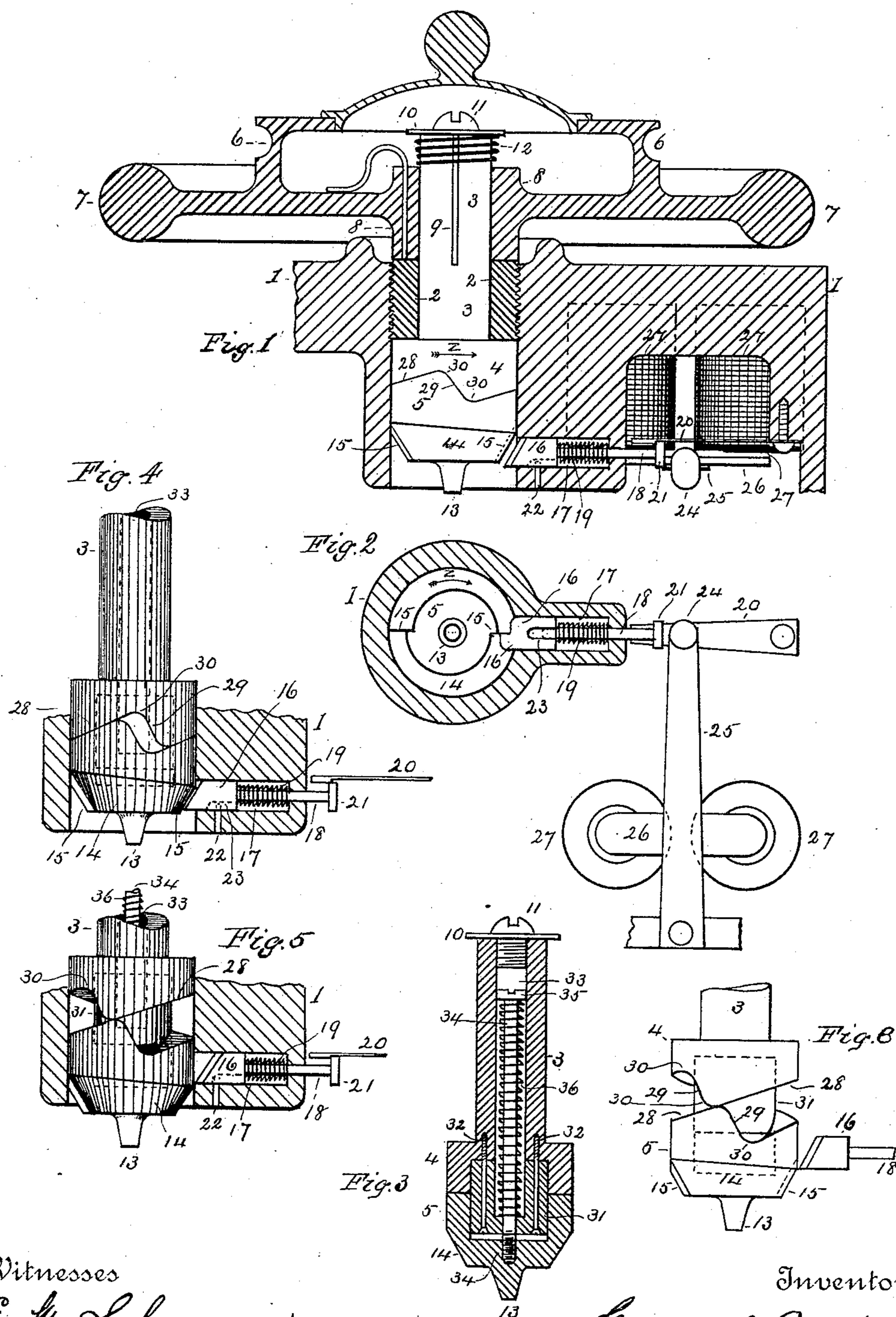
(No Model.)

C. L. REDFIELD.

IMPRESSION DEVICE FOR MATRIX MAKING MACHINES.

No. 429,742.

Patented June 10, 1890.



Witnesses

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IMPRESSION DEVICE FOR MATRIX-MAKING MACHINES.

SPECIFICATION forming part of Letters Patent No. 429,742, dated June 10, 1890.

Application filed August 5, 1889. Serial No. 319,770. (No model.)

To all whom it may concern:

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

My invention relates to die-impressing devices for matrix-machines, and specifically to the clutch-box form of devices described in earlier applications for patent made by me and hereinafter definitely referred to.

The objects of the present improvements are perfection of operation, simplification of construction, and adaptation of the devices to be easily taken apart for inspection or repairs.

My improvements are illustrated in the accompanying drawings, in which—

Figure 1 is an exterior view of the devices with part of the supporting-frame and driving-wheel shown in section. Fig. 2 is a bottom view of the same. Fig. 3 is a vertical section of the impression device detached. Fig. 4 shows the position of the parts at the commencement of a downward thrust, and Figs. 5 and 6 the positions at the moment of completion of the thrust.

In said drawings, 1 designates part of the upper portion of the machine, which is bored out and threaded to receive an adjustable bushing 2. Through the bushing passes a stem 3, that carries the two-part clutch-box 4 and 5. The clutch-box member 4, being attached rigidly to the stem, is rotated continuously in the direction indicated by the arrow z by means of the combined pulley 6 and fly-wheel 7, the hub 8 of which is provided with a feather working in the keyway 9 of the stem 3. On the upper end of the stem is a washer 10, held thereon by a screw 11, and between the washer and the hub 8 is a spring 12, which holds the clutch-box member 4 against the lower surface of the bushing 2 with a uniform pressure, thus preventing any lost motion.

The lower or reciprocating clutch-box member 5, which is provided on its under side with a pin 13 for engaging a die presented beneath it, has beveled sides 14, on which are provided lugs or ribs 15, adapted to be engaged by the

stop-pin 16, which has its end beveled to correspond with the bevel on the clutch member to prevent further rotation of the latter member and cause it to make a downward thrust of the pin 13. The stop-pin 16 is arranged to be reciprocated in a cylindrical recess 17 in the frame 1, and is carried by a stem 18, on which is a spring 19, tending to force the stop toward the clutch. The forward movement is restrained by the engagement of a spring-catch 20 with a head 21 on the rear end of the stem 18. A dowel-pin 22, fastened in the frame 1, projects into a groove 23 in the stop-pin and prevents its turning.

The disengagement of the spring-catch 20 and the stem-head 21 is effected by hammer 24, carried on a spring-bar 25, which is connected to an armature 26, to be actuated by an electro-magnet 27.

The clutch-box members have their contact-faces 28 correspondingly inclined, and the head of one incline is joined to the foot of the next by a shoulder or face 29, inclined in opposite direction, and the junctures 30 of the two inclines are curves, of which the inclines are tangential continuations. The object of such construction is to facilitate manufacture, prevent wear of the contact-faces, and insure smoothness of operation. The interiors of the two clutch members are accurately bored out, and a guide-block 31 is fitted in them and held to the member 4 by screws 32. A hole 33 passes axially through the stem 3 and part way through the guide-block 31. A pin 34, provided with a slotted head 35, extends centrally in this opening and through the bottom of the guide-block and is firmly screwed into the clutch-box member 5. Surrounding this pin and intermediate its head and the guide-block is a spiral spring 36, which serves to hold the two clutch-box members together and to retract the lower after it makes a thrust. By removing the screw 11 and washer 10 the central pin 34 may be reached and the whole device quickly taken apart.

Patentable subject-matter of a generic character herein disclosed and not herein claimed, relating to the construction and operation of a clutch-box form of die-impressing device, and to the controlling and releasing devices therefor, are reserved to be claimed in my

pending applications, Serial No. 304,675, filed March 25, 1889, Serial No. 305,882, filed April 3, 1889, Serial No. 309,289, filed May 1, 1889, and Serial No. 312,318, filed May 27, 1889.

5 Having described my invention, what I claim is—

1. In a two-part clutch-box impression device having one member continuously rotating and the other rotating and reciprocating
10 intermittingly, a pin attached to the latter member and sliding in the former, a spring arranged to oppose its force to the pin-reciprocations for holding in place and retracting said reciprocating member, and means, substantially as described, for intercepting rota-
15 tion of the latter to cause its reciprocation.

2. In a two-part clutch-box impression device having one member continuously rotating and the other rotating and reciprocating
20 intermittingly, a pin attached to the latter member and sliding in the former and adapted to be readily detached and removed, substantially in the manner described, a spring arranged to be given tension by the pin-reciprocations, and devices for engaging said
25 reciprocating member to intercept its rotation and cause it to be reciprocated, substantially as set forth.

3. A two-part clutch-box impression device
30 having a continuously-rotating and an intermittingly rotating and reciprocating member, and having their working-faces inclined and terminating in curves, and their stopping-shoulders tangential continuations of
35 such curves at suitable inclination to the working-faces, substantially as set forth.

4. In an impression device of the character described, a rotating clutch-box member having an axial chamber, a second member carrying a pin therein and adapted to reciprocate, a guide-block attached to the former and filling a chamber in the latter member, and a spring connected to the pin and guide-block,
40 for the purpose set forth.

5. The combination, with a clutch-box impression device having a continuously-rotating and an intermittingly rotating and reciprocating member, the former carrying a guide-block for the latter and having an axial chamber and the latter member having projections on its surface, of a pin sliding in said
45 chamber and secured to the reciprocating member, a spring engaged by said pin to hold the clutch-box members in working contact, and a reciprocating stop for engaging
50 said projections to retard rotation and cause reciprocations of the retarded member, substantially as set forth.

6. A two-part clutch-box impression device having a continuously-rotating and an intermittingly rotating and reciprocating member, and having their working-faces inclined and terminating in curves and their stopping-shoulders tangential continuations of
60 such curves at suitable inclination to the working-faces, in combination with guides, and a retracting-spring for holding the two members in constant contact, substantially
65 as set forth.

7. A two-part clutch-box impression device
70 having a continuously-rotating and an intermittingly rotating and reciprocating member, and having their working-faces inclined and terminating in curves and their stopping-shoulders tangential continuations of
75 such curves at suitable inclination to the working-faces, the reciprocating member being provided with projections on its surface, in combination with guides, a spring for holding the two members in constant con-
80 tact, and a reciprocating stop and means for actuating it to engage said projections and cause thrusts of the impression device, substantially as set forth.

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Witnesses:

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