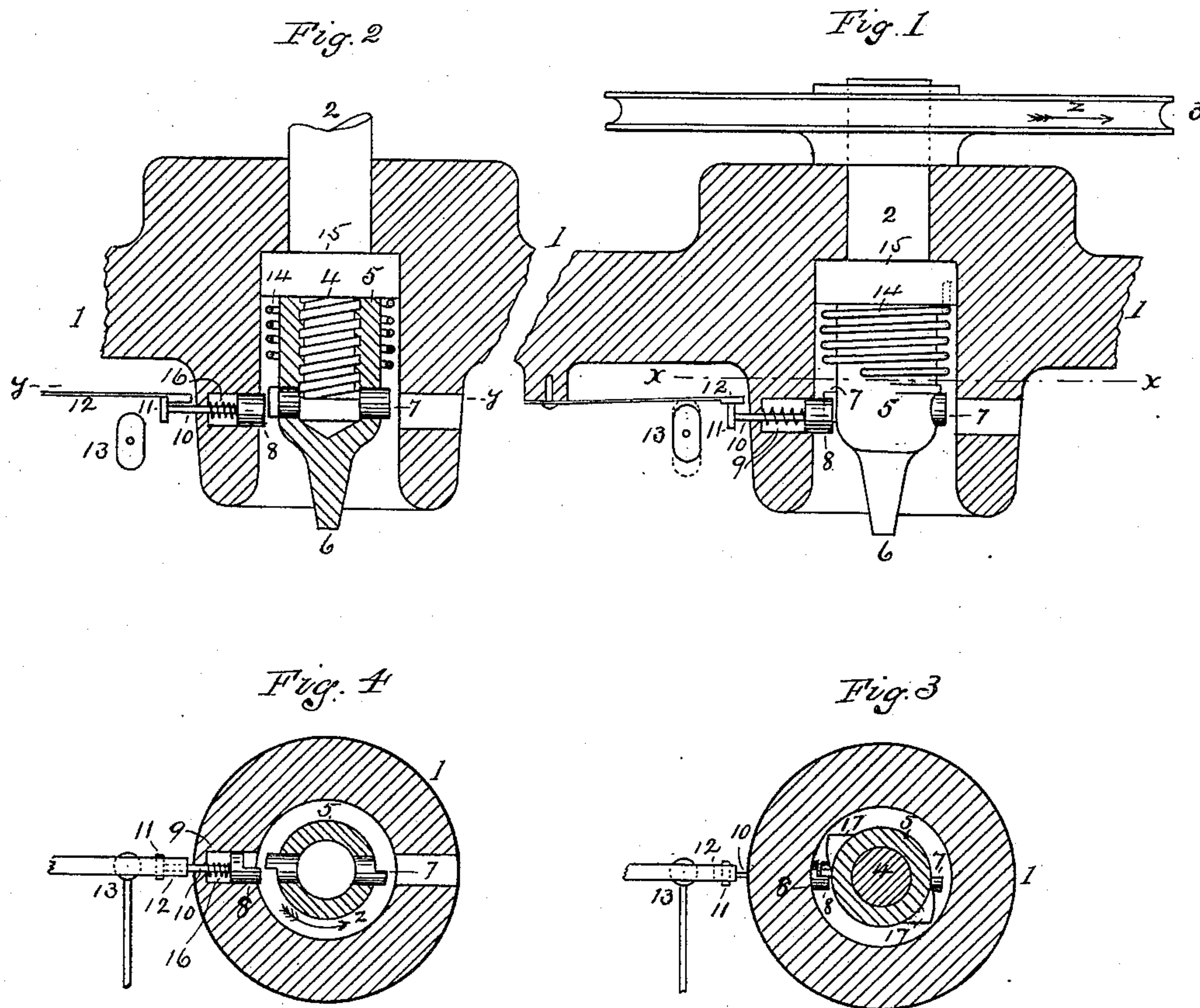


(No Model.)

C. L. REDFIELD.
IMPRESSION DEVICE FOR MATRIX MACHINES.

No. 429,738.

Patented June 10, 1890.



Witnesses

E. M. Schumann
G. E. LaChapelle

Inventor

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UNITED STATES PATENT OFFICE.

CASPER L. REDFIELD, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE CHICAGO MATRIX MACHINE COMPANY.

IMPRESSION DEVICE FOR MATRIX-MACHINES.

SPECIFICATION forming part of Letters Patent No. 429,738, dated June 10, 1890.

Application filed May 1, 1889. Serial No. 309,289. (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 machines for forming matrices by the successive impressions of separate type-dies; and its object is improvement of the devices for thrusting a plunger upon the dies to form the impressions in the matrix-body.

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

Figure 1 is a vertical sectional view of the portion of the machine-frame, showing the impression devices in elevation. Fig. 2 is a similar section showing a portion of the impression devices in the vertical section. Fig. 3 is a horizontal sectional view on the line xx of Fig. 1, and Fig. 4 is also a horizontal section on the line yy of Fig. 2.

In said drawings, 1 designates a portion of the machine-frame; 2, a vertical shaft rotated by means of a pulley 3. The lower portion 4 of the shaft 2 is screw-threaded, and around it is a nut 5, and on the nut is formed a plunger 6 for striking the type-dies (not shown) upon the descent of the nut. The shaft 2 and its screw 4 being rotated in the direction indicated by the arrow z , and being suitably prevented from rising and the nut turning with it, it is obvious that upon the nut being stopped in its rotation and the screw continuing to turn the nut will be forced downward. As a means of stopping the rotation of the nut, there are provided at its sides pins 7, having flat surfaces at the one side, and to engage these pins a spring-actuated stop 8 is located in the recess 9 in the wall of the frame. The stop 8 is carried on a rod 10, that has a head 11, which is engaged by a spring-catch 12. The spring-catch is released from engagement with the head by means of a knocker 13, that may be actuated at the desired moment by any suitable mechanism connected with the operative parts of the machine. The nut 5 is connected to one end of a spring 14, and the other end of the spring is attached

to a collar 15 on the shaft 2, and its function is to return the nut to its initial position after it has been restrained in its rotation and is again released. As will be obvious, the stop 8, being released from its catch and thrust forward by its spring 16, will engage one of the pins 7, as shown in Fig. 1, and stop the rotation of the nut. The shaft and screw continuing to rotate will carry the nut downward until the engaged pin has passed below the engaging stop 8, when the nut will again be free to rotate. The shaft rotation, assisted by the force of the spring 14, will then carry the nut forward, and a projection 17, in the rear of and immediately above the pin 7, will engage the stop-pin 8, and the projection having an inclined face will force the stop-pin 8 backward until it has reached the position to be re-engaged by the catch 12 and held free from further contact with the nut or its projection. Thus the plunger-carrying nut is permitted constant rotation without reciprocatory motion until in the operation of the machine the hammer 13 is operated to free the catch and permit the stop-pin 8 to engage one of the pins on the nut, when immediately a reciprocatory motion is produced that will continue during the time the nut is prevented from rotation, and when the single downward reciprocation has been made the engaging pins will have been released and avoid a second reciprocation for the one blow of the hammer 13.

The generic features of invention herein disclosed are reserved to be claimed in an earlier pending application filed by me April 3, 1889, and Serial No. 305,882.

What I claim is—

1. In an impression device for a matrix-machine, a screw-threaded shaft, a nut thereon carrying a plunger, means for stopping the nut rotations to produce plunger thrusts, and a spring connecting the shaft and nut, adapted to return the latter to its initial position upon the completion of a thrust, substantially as set forth.

2. In an impression device for matrix-making machine, a rotary shaft having a threaded end, a nut thereon carrying a plunger, a spring connecting the nut and shaft, projections on the nut, a spring-stop for engaging the nut,

and projections on the nut for engaging and removing the stop, substantially as set forth.

3. In an impression device for a matrix-machine, a rotating shaft having a threaded
5 end, a nut thereon carrying a plunger, a reciprocating stop for engaging the nut to cause it to make plunger thrusts, a spring for re-

tracting the nut, and suitable means provided on the nut to return the stop to initial position, substantially as set forth.

CASPER L. REDFIELD.

Witnesses:

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