

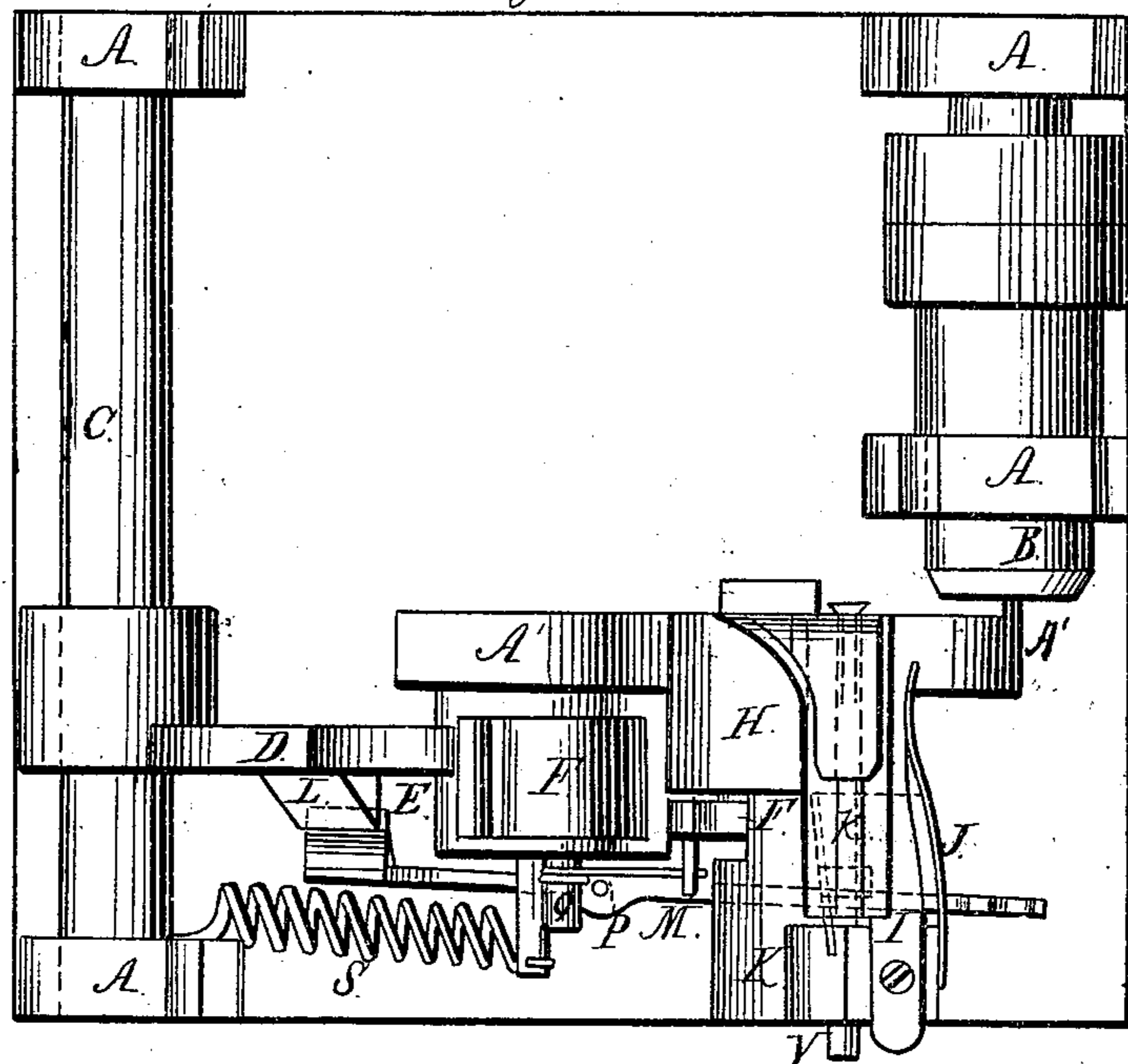
*E. S. Pierce. Sheet 1, 2 Sheets*

*Screw Blank Feeder*

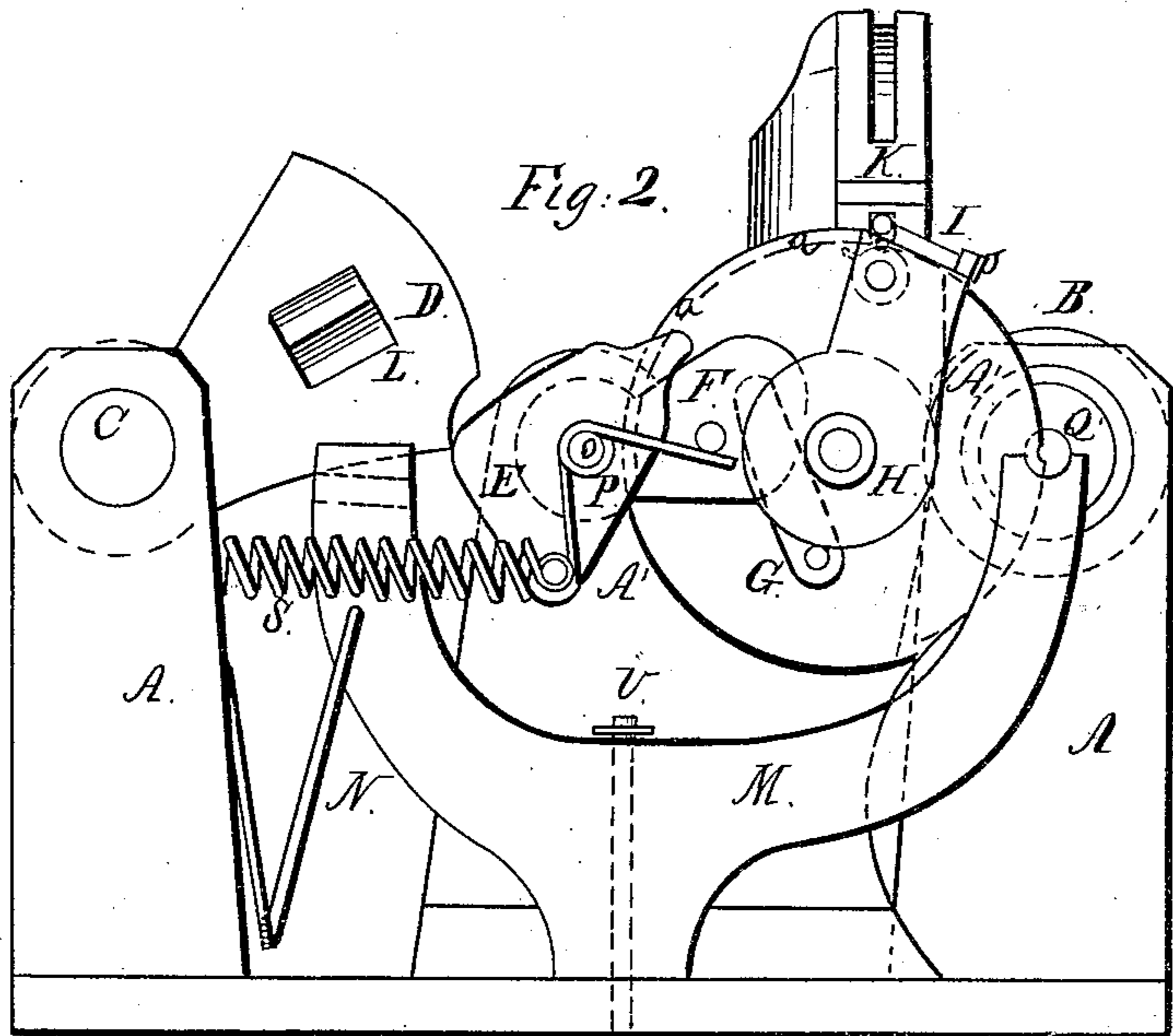
*N<sup>o</sup> 89,598.*

*Patented May 4, 1869.*

*Fig. 1.*



*Fig. 2.*



*Witnesses:*

*L. Kaplan*

*Theo. G. Ellis.*

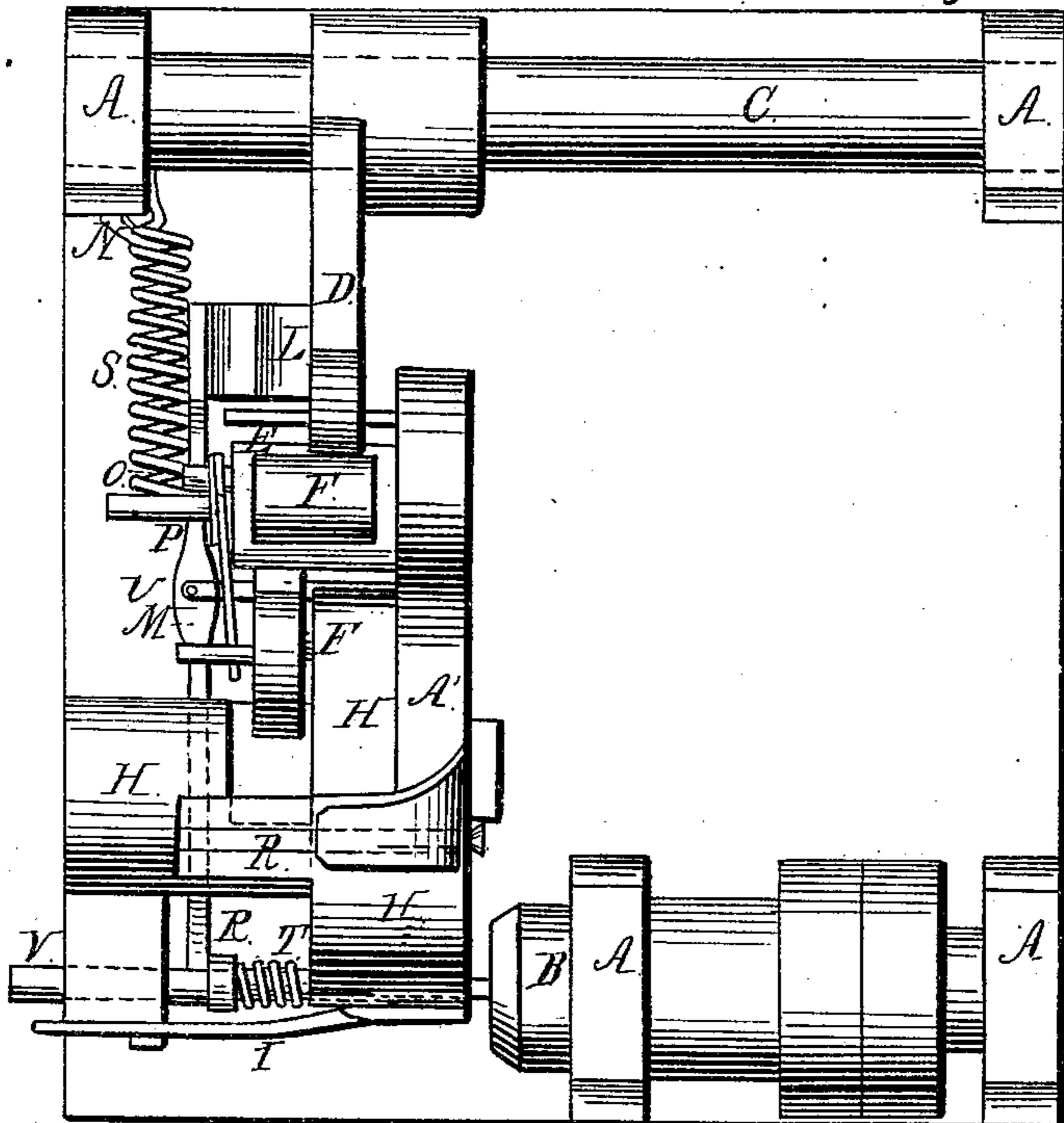
*Inventor:*

*Elijah S. Pierce*

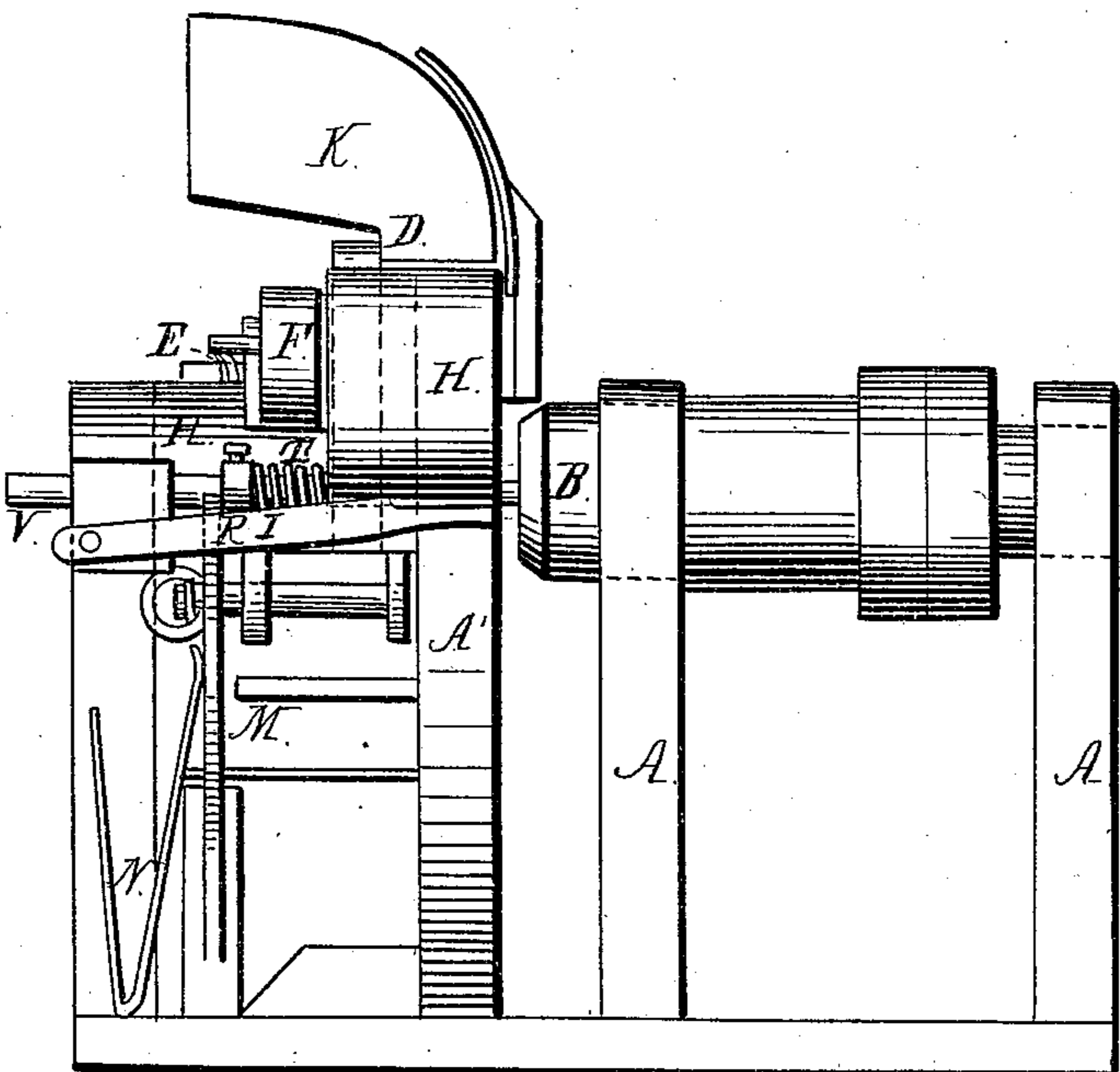
*E. S. Pierce. Sheet 2, 2 Sheets.*

*Screw Blank Feeder*

*N<sup>o</sup> 89,598. Patented May 4, 1869.*



*Fig. 3.*



*Fig. 4.*

*Witnesses:*

*J. Hafelin  
Thos. G. Ellis*

*Inventor:*

*Elijah S. Pierce*

# United States Patent Office.

ELIJAH S. PIERCE, OF HARTFORD, CONNECTICUT, ASSIGNOR TO  
NATIONAL SCREW COMPANY, OF SAME PLACE.

*Letters Patent No. 89,598, dated May 4, 1869.*

## IMPROVED APPARATUS FOR CONVEYING SCREW-BLANKS.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern:*

Be it known that I, ELIJAH S. PIERCE, of Hartford, in the county of Hartford, and State of Connecticut, have invented certain new and useful Improvements in Mechanism for Feeding Screw-Blanks into a Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

Figure 1 is a top view of my improved mechanism, showing the position of the parts just before a blank is fed into the jaws.

Figure 2 is an end view, showing the parts in the same position.

Figure 3 is a top view, showing the position of the parts after the blank has been fed into the jaws, and just before they return to the first position.

Figure 4 is a side view from the bottom of fig. 3, with the parts in the same position.

My invention consists in a mechanism, by which screw-blanks are taken from the conducting-ways, and passed around an arc of about a quadrant of a circle, and then pressed into the jaws, which revolve them, to cut the thread of the screw, or perform some other operation upon them.

A A A are parts of the frame of the machine which sustain the working-parts.

B is the revolving spindle, containing the jaws for holding the screw.

C is an arbor of the machine, carrying the cam D, which operates the feeding-mechanism.

E and F form the two arms of a lever, which turns on the centre O.

These two arms are connected by a safety-spring, P, pressing the part F against a rest on E, so that, in case of clogging of any part, the arm E can be moved, by the cam D, against the spring, and leave F stationary.

The part E is drawn forcibly, by the spring S, in the direction opposite to that in which it is moved by the cam D, so as to bring all the parts back to their original position after the cam has passed.

The arm F is connected, by means of the link G, with the rotating feeder-block H, which passes the blanks around, from the trough K to the nick Q, in the part A', which forms part of the frame of the machine.

The part of H that lies over the curved-top surface of A', is hollowed out, so as to leave only a thin shell, *a a*, fig. 2, which works over the outside of the top of A', to carry the blanks around, and to interpose its thickness between the top of A' and the bottom of the conducting-ways K, to prevent the blanks from falling out.

I is a finger, for holding the blank between it and the end of the shell *a*, while passing from under K to the nick Q.

This finger is held in its position by the spring J, which yields when the part H returns to its first position, and allows the finger I to pass over the blank, which is left in the jaws B, ready to have the thread cut upon it, the nick Q serving as a rest during the operation.

L is a subsidiary cam, attached to the large cam D, and operating the lever M.

This lever turns on the fulcrum U. Its end farthest from the cam is forked, and serves to press the blank into the jaws.

This is done by means of the pin V, which has the dog R upon it for the crotch of the lever to act against, and is furnished with a spring, T, to retract it after the blank has been entered.

N is a spring, for returning the lever to its place after the cam L has passed.

The operation of my invention is as follows:

Blanks are received from the hopper, through the conducting-ways K, and one falls down into the space between the end of *a* and the finger I, resting upon the curved-top surface of A'.

The cam D, in revolving, makes one turn for each blank fed into the machine. When it arrives at the position shown in figs. 1 and 2, it strikes the part E, and presses it down, thereby communicating a rotating motion to the part H, by means of the arm F and link G.

The end of the shell *a*, and the finger I carry the blank around the curved circumference of A', to the nick Q.

The shell *a*, interposing its thickness under the opening of K, prevents another blank from falling out.

As the cam D revolves, the cam L comes in contact with the lever M, which pushes in the pin V, and presses the blank into the jaws B.

D, still revolving, allows the levers M and E to return to their former positions by the influence of the springs N and S.

The pin V is retracted by its spring, and the block H returns to its first position.

The finger I passes over the blank, and is carried back with H. Another blank now drops from the ways K, ready to be carried by the next movement of the cam.

The screw is cut while turned by the jaws, and resting in the nick Q, during the revolution of the cam D, until it comes again in contact with E, when another blank is fed into the jaws, as before described.

The finished screws are thrown out, by a proper contrivance, before the next blank is introduced.

### Claims.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination and arrangement of the devices D, E, F, G, and S, and spring-lever P, for the purpose of moving and operating the rotating block H, substantially as described.

2. The combination and arrangement of the rotating carrier-block H, the spring-finger I, and the part A', with the conducting-ways K, for the purpose of conveying the blanks, substantially as described.

3. The combination of the cam L, lever M, spring N, and spring-pin V, all arranged, and operating together substantially in the manner set forth.

4. The combination and arrangement of the rotating-mechanism, moved by the cam D, and the push-

ing-mechanism, operated by the cam L, with the stationary rest A, for the purpose of conveying a blank from the ways to the jaws, substantially as herein set forth.

ELIJAH S. PIERCE.

Witnesses:

L. HAFELIN,

THEO. G. ELLIS.