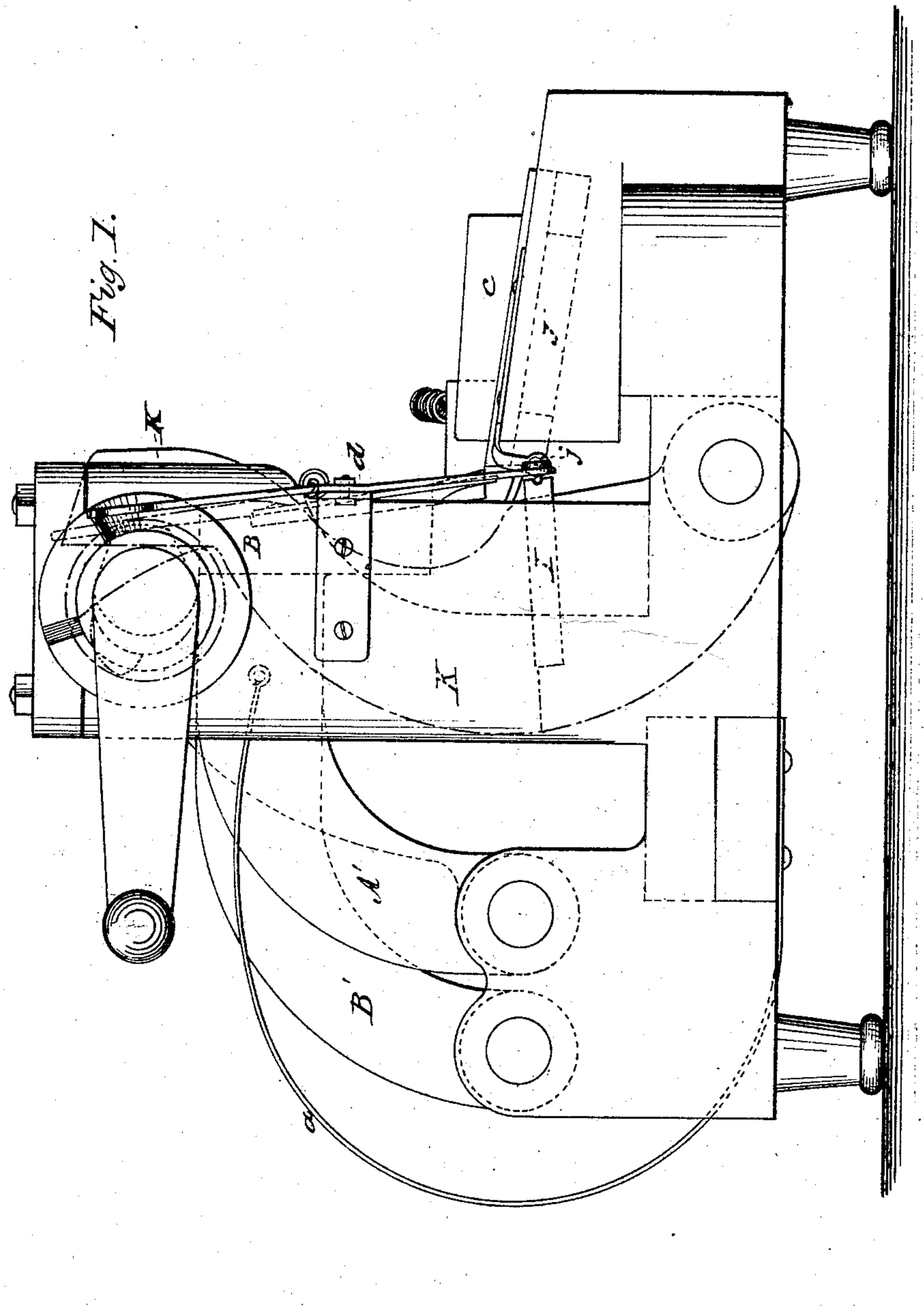
3 Sheets—Sheet 1.

# B. C. QUINBY.

## MACHINES FOR MAKING RIVETS.

No. 170,112. Patented Nov. 16, 1875.

*Fig. 1.*




Witnesses:
Eugene C. Souten.
L. A. Luce

Inventor:
Byron C. Quinby
by
Bonnie & Brooks
his attys

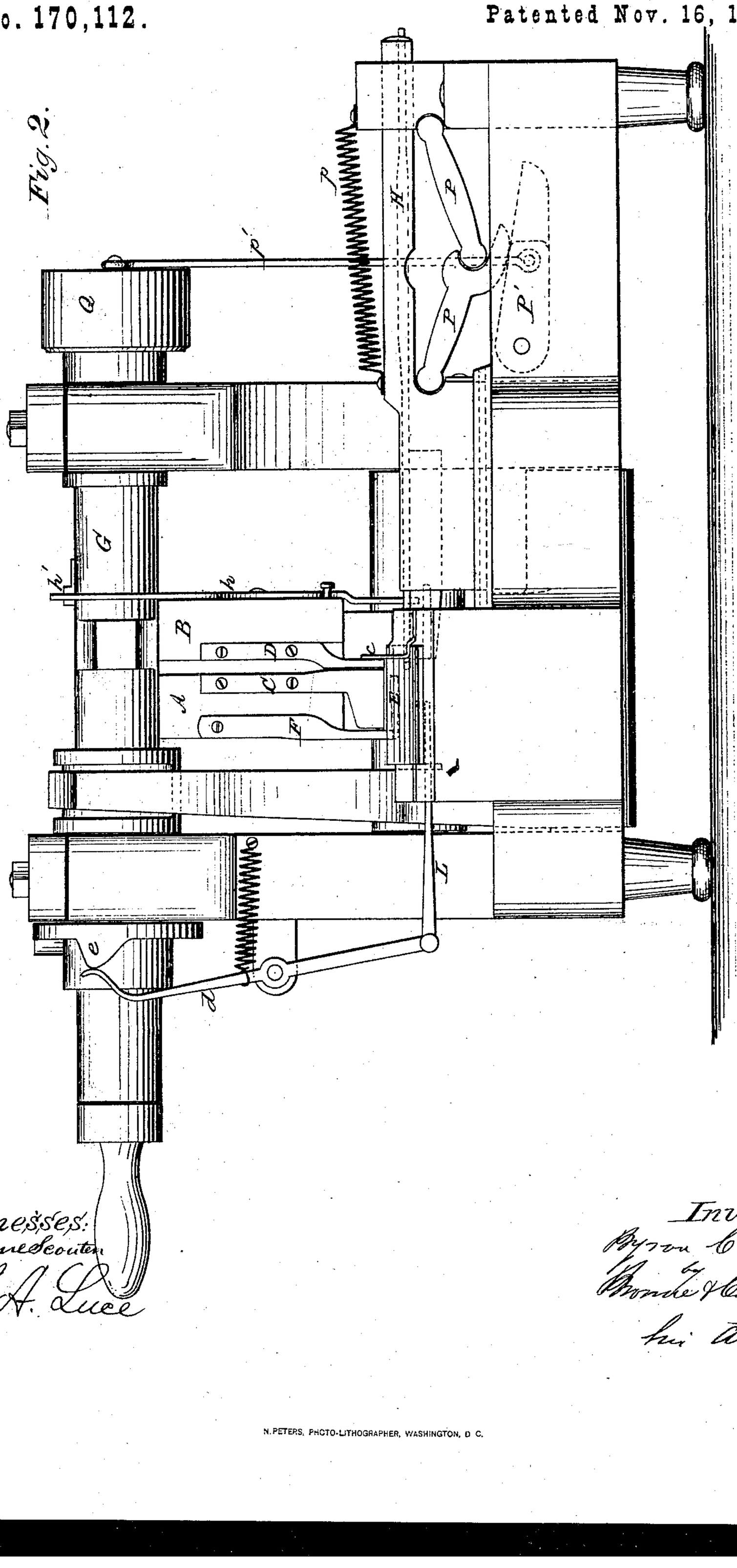
3 Sheets—Sheet 2.

# B. C. QUINBY

## MACHINES FOR MAKING RIVETS.

No. 170,112. Patented Nov. 16, 1875.

Fig. 2.




Witnesses:
Eugene Scouten
L. A. Luce

Inventor.
Byron C. Quinby
by Munn & Co
his Attys

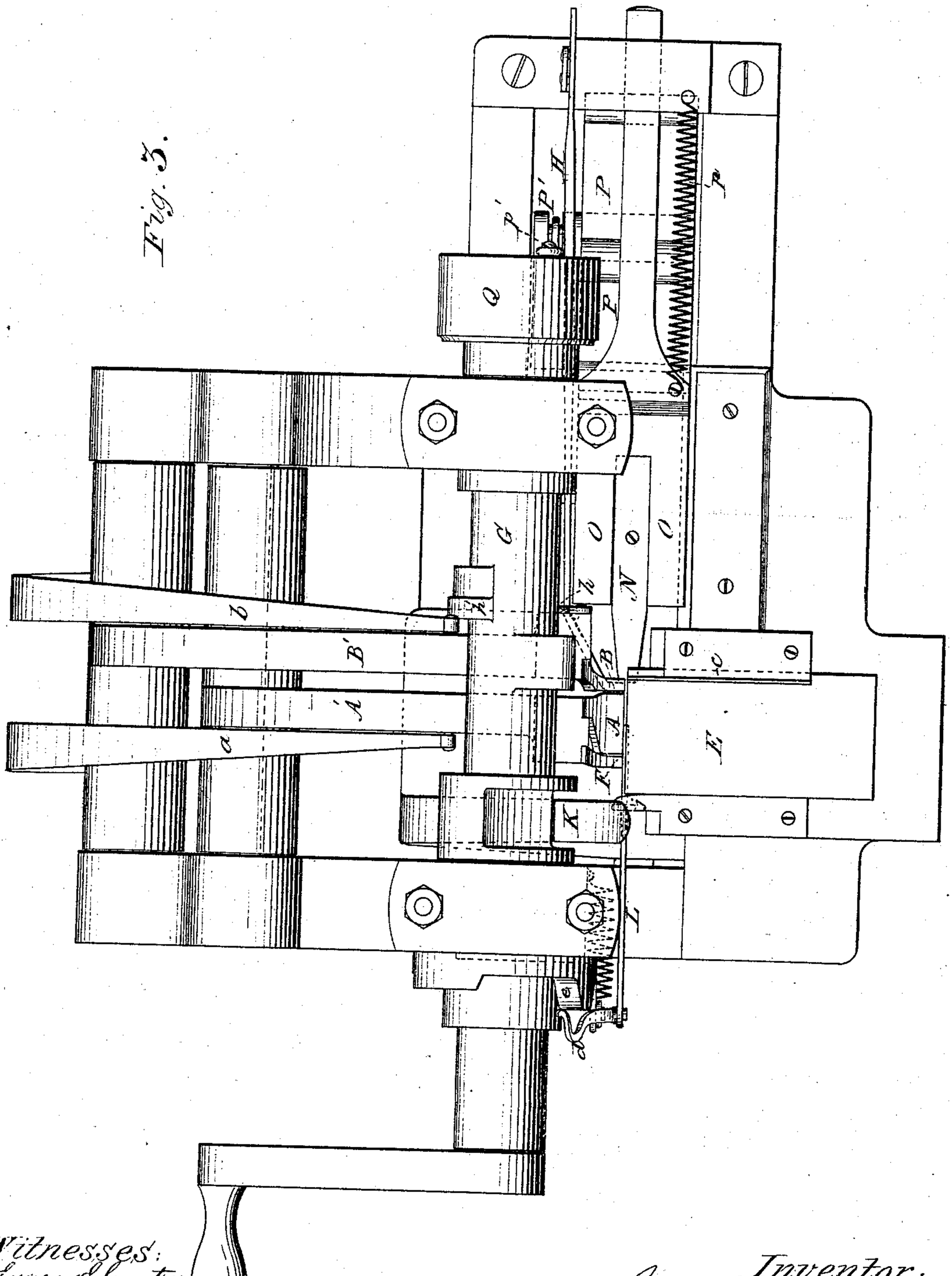
3 Sheets—Sheet 3.

# B. C. QUINBY.

## MACHINES FOR MAKING RIVETS.

No. 170,112. Patented Nov. 16, 1875.

Fig. 3.




Witnesses:
Eugene Semmes.
L. A. Luce

Inventor:
Byron C. Quinby
by
Bowers & Crosby
his Attys

# UNITED STATES PATENT OFFICE.

BYRON C. QUINBY, OF PLYMOUTH, MASSACHUSETTS.

## IMPROVEMENT IN MACHINES FOR MAKING RIVETS.

Specification forming part of Letters Patent No. **170,112**, dated November 16, 1875; application filed July 1, 1875.

*To all whom it may concern:*

Be it known that I, BYRON C. QUINBY, of Plymouth, in the county of Plymouth and State of Massachusetts, have invented a new and useful Improvement in Machinery for Making Rivets, &c., which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

The object of my invention is to rapidly form rivets, or similar articles, from blanks or strips of metal by combining in an otherwise ordinary nail-cutting machine a pair of grooved griping-dies equal in breadth to the length of the blank, less that portion required to form the head, as will be hereinafter mentioned, and described and shown in the drawings.

A and B are cutting-jaws, secured on the rocking levers A′ B′, which hold cutters C and D. These rocking levers are brought back to this normal position by the springs *a b*. E is a bed-cutter; and F is a gage, which regulates the distance in feeding the strips of metal under the cutting-jaws. G is a spindle or shaft with cams. H is a spring-lever, operated by the pivoted lever *h*, which is actuated by the cam *h′*, which presses the blank of metal against the face of the cutter D. I and J are griping-dies with grooves, whereby the blank is swaged into cylindrical form, the griping-die I being operated by the rocking lever K, which is actuated by a cam on the shaft G. L is a punch, which is held in the groove of the stationary griping-die J, passing through a suitable guide, *j*, and is operated by a pivoted lever, *d*. N is a header, secured in block O, which is operated by the toggle-levers P, and drawn back again by spring *p* and rocking lever P′, connected by connecting-rods *p′* with the crank Q upon the shaft G. Letter *c* is a guide, against which the plates are placed before they are cut.

Having thus named the principal parts of my machine, I will now explain its mode of operation.

Sheet metal, having been cut into strips, in widths according to the lengths of rivets or other articles required to be made, is fed under the cutting-jaws A and B; and the strips of metal are forced downward by a cam on a spindle or shaft, G, and a blank of rectilinear shape is cut off, of a width regulated by the gage. The spring-lever H presses the blank against the face of cutter D, which passes downward, while cutting-jaw C stands still. This movement of cutter D carries the blank, so that it is held between griping-dies I and J, the die I being worked longitudinally by the rocking lever K, operated by cam on spindle or shaft G, and the die J is secured under bed-cutter E, and remains at rest. While the die I is working and pressing or swaging the blank into a cylindrical form, the punch L, held in the groove of stationary griping-die J, which is operated by lever *d* from the cam *e* on shaft G, is pressed against the end of the blank, and regulates the length of the portion swaged. That part of the blanks held by the cutter D and spring-lever H is not swaged by dies I and J, but is struck by the header N, which is secured in block O, and is worked by toggle-joint levers P from spindle G, the cutter D and spring-lever H moving out of the way. This forms the head of the rivet, after which the griping-die I moves backward, and working forward, and at the same time punch L forces the rivet just made from between the dies.

The foregoing is sufficient to enable any person skilled in the art to easily understand the construction and mode of operation of my machine.

I claim as my invention—

In combination with the cutters, heading-tool, gage, punch, and spring-lever of a nail-cutting machine, constructed and operating substantially as described, the griping and swaging dies I J, each of breadth equal to the length of the blank severed by the cutters, minus that portion required to be upset to form the head, and each provided with a semi-cylindrical groove in its edge extending over its entire breadth, in virtue of which the dies, in compressing the blank, shall swage the same to a cylindrical form, as set forth.

B. C. QUINBY.

Witnesses:
L. S. COLE,
PHILANDER COBB.