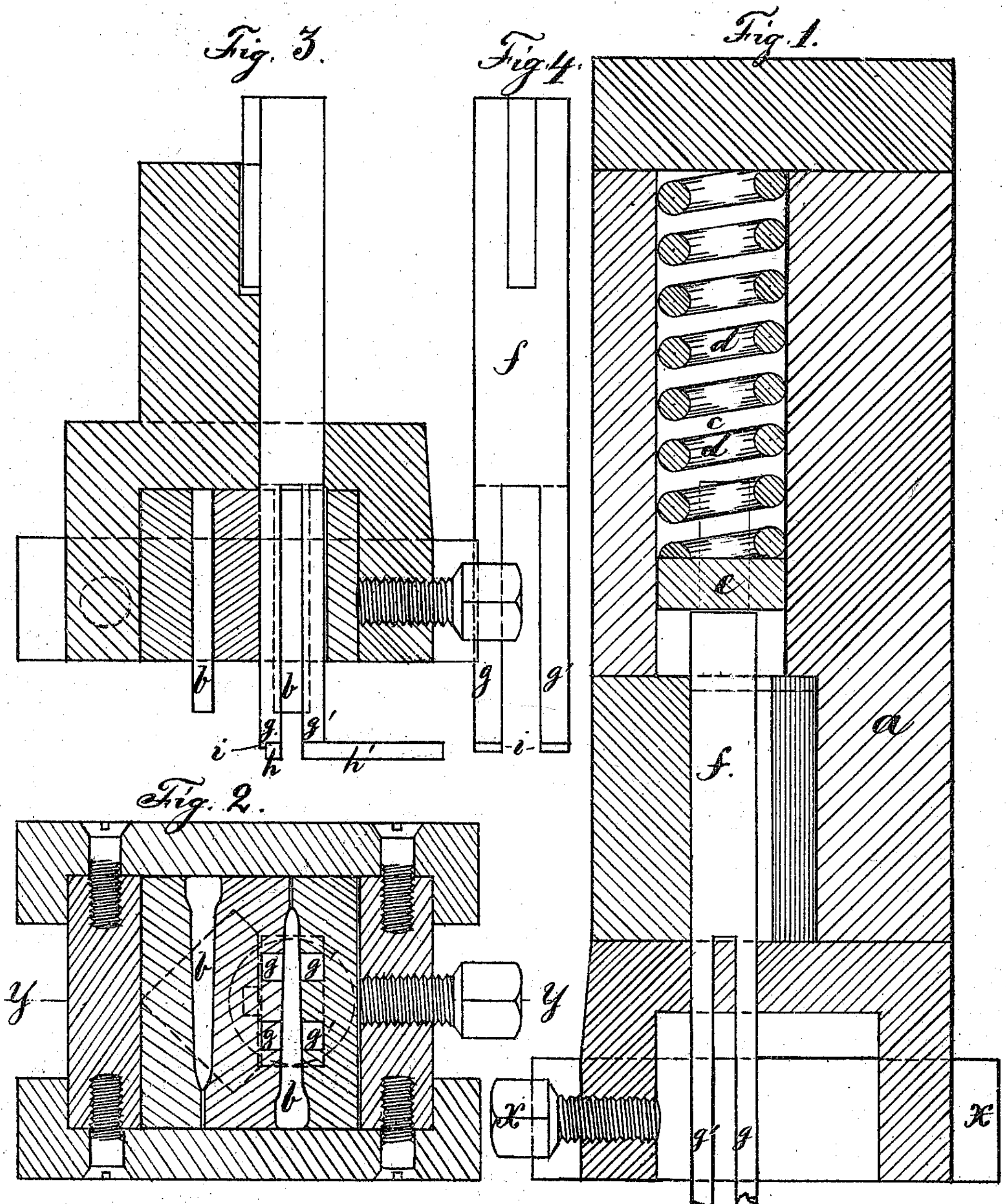
J. M. LAUGHLIN.

Punching-Machines.

No. 142,403.

Patented September 2, 1873.



Witnesses:

Alban Andrén.

George E. Phelps.

Inventor

Joseph M. Laughlin.

UNITED STATES PATENT OFFICE.

JOSEPH M. LAUGHLIN, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN PUNCHING-MACHINES.

Specification forming part of Letters Patent No. **142,403**, dated September 2, 1873; application filed November 18, 1872.

To all whom it may concern:

Be it known that I, JOSEPH M. LAUGHLIN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Stock-Holders for Punching-Machines, of which the following is a specification:

My invention consists, in combination with the presser-foot or stock-holder, operated automatically by means of a suitable spring or springs, or their equivalents, inclosed or attached in a suitable manner to the head or plunger to which the dies are secured, of a lip upon the stock-holder to limit the extent to which the stock shall be introduced, and to hold the stock in its proper position during the punching of the same.

On the drawing, Figure 1 is a longitudinal section of the plunger, to which the dies are secured. Fig. 2 is a cross-section over the line *x x* taken on Fig. 1. Fig. 3 is a section over the line *y y* taken on Fig. 2. Fig. 4 is a side view of the presser-foot.

Similar letters refer to similar parts wherever they occur on the drawings.

a is the head or plunger on an ordinary punching-machine, to the lower end of which is secured one or more dies, *b b*, in a suitable manner, as shown. The drawing shows the dies as made for the purpose of punching horseshoe-nails, but my invention is likewise adapted for the punching of any other stock to equal advantage. In the head *a* is made a recess, *c*, in which the coiled spring *d* is placed that presses on a plate, *e*, attached to or slipped over the presser-foot bar *f*, as shown. The lower end of the presser-foot bar *f* is made forked, and projects below the dies *b b* when in its lowest position, as shown at *g g'* on Fig. 3. *h h'* represent the stock. *h* is a punched nail, and *h'* is the stock that is to be punched.

As the head *a*, with the dies *b b* and the presser-feet or stock-holder *g g'*, descends, the stock *h h'* comes first in contact with the stock-holder *g g'* that keeps the stock firmly in position by the pressure from the spring *d*, and holds it so during the punching of the stock. When the head *a* is raised the dies *b b* first rise above the stock *h h'*, but the presser-foot *g g'* continues to press on the stock, and only releases its pressure thereon during the time when the stock is fed; and as soon as this is done the head *a* moves downward, when the presser-foot *g g'* comes again in contact with the stock, and holds it in position during the punching of the same.

For certain kinds of work it may be necessary to provide one or all of the presser-feet *g g g' g'* with a lip, *i*, as shown in Fig. 3, by the use of which the stock is prevented from spreading out during the punching of the same.

I do not confine myself to the exact position of the presser-foot *g g'* in relation to the dies or punches *b b*, as I may place the said presser-foot on one or both sides of the dies, as may be desired for different kinds of work. I do likewise not confine myself to the exact position of the coiled spring *d*, as I may, to the same advantage, use one or more springs, or their equivalents, arranged in a different manner, so as to serve the same purpose.

What I wish to secure by Letters Patent, and claim, is—

In combination with the stock-holder *g g' f* and the spring *d*, the lip *i*, one or more, for the purpose as herein set forth and described.

JOSEPH M. LAUGHLIN.

Witnesses:
ALBAN ANDRÉN,
GEORGE E. PHELPS.