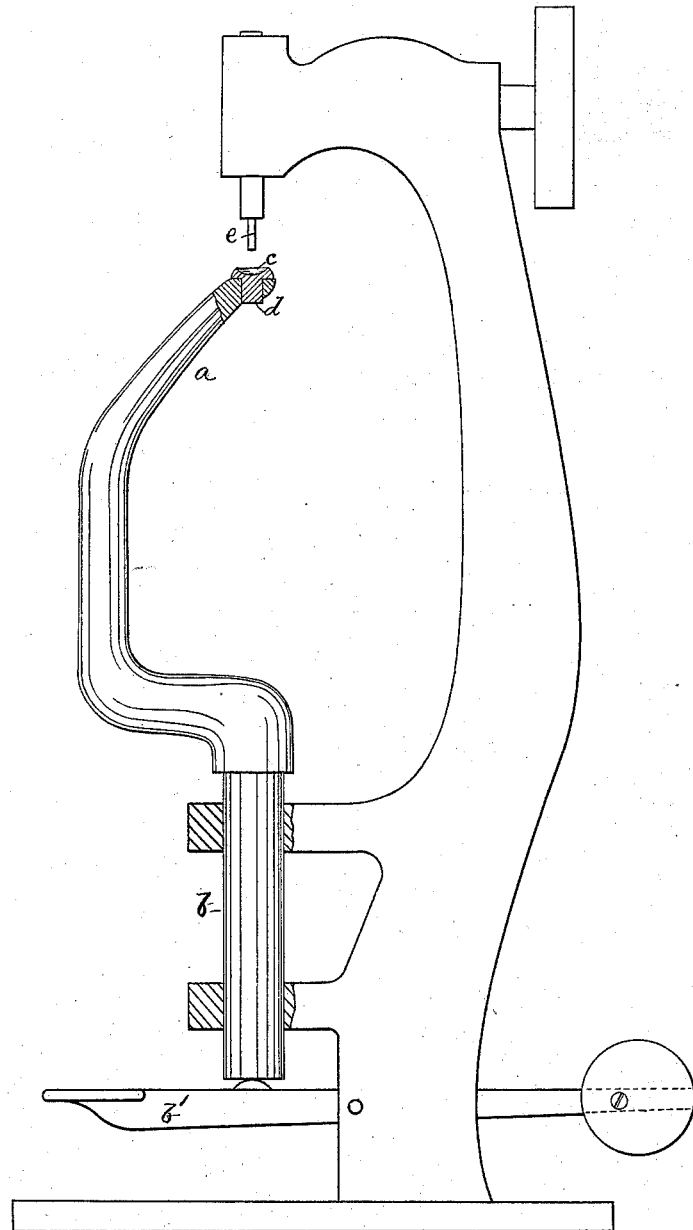


L. R. BLAKE.  
Boot and Shoe Nailing-Machines.

No. 217,324.

Patented July 8, 1879.



Witnesses.

*L. F. Connor.*  
*Geo. P. Livermore.*

Inventor.

*Lyman R. Blake.*  
*by Cooley & Gregory, Attys.*

# UNITED STATES PATENT OFFICE.

LYMAN R. BLAKE, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN BOOT AND SHOE NAILING MACHINES.

Specification forming part of Letters Patent No. **217,324**, dated July 8, 1879; application filed June 16, 1879.

*To all whom it may concern:*

Be it known that I, LYMAN R. BLAKE, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Nailing-Machines for Boots and Shoes, of which the following description, in connection with the accompanying drawing, is a specification.

This invention relates to improvements in nailing-machines for boots and shoes; and consists in a horn, the salient or upper end of which is provided with a concavity made therein, or in a point turning or clinching anvil let into the horn, and against which the points of the nails or tacks driven through the sole strike, the points of the said nails protruding more or less through the sole, being thereby bent, clinched, and embedded into the under side of the sole material, the clinch or bend at the end of the nail or tack being more or less according to the excess of its length beyond the thickness of the stock.

With a horn of this class extended into the shoe the latter may be held while the horn is being reversed, any portion of the sole may be nailed with equal facility, and the horn may be held pressed upward in contact with the material to permit the nails to be driven therein.

The drawing represents, in side elevation, enough of a nailing-machine to illustrate my invention, the top of the horn being in section.

The frame-work of the machine and mechanism for operating the driver and for supporting the horn may be of any usual construction—as, for instance, in United States Patent No. 76,150, March 31, 1868, or United States Patent No. 87,473, to which reference may be had.

The horn *a*, of usual shape, has a cylindrical lower end or base, *b*, which may turn in any usual support for it and rest upon a lever, *b'*, weighted or otherwise, so as to keep the horn in proper position during the nailing operation.

The upper end of the horn is provided with a concavity, *c*, herein shown as made in a separate anvil-piece, *d*, of steel fitted in a hole made at the top of the horn; but it is obvious that the concavity *c* may be made directly at

the upper surface of the horn, it being suitably hardened. This horn shown in this invention will be held as is the horn in the usual McKay sewing-machine, or as in nailing-machines, and will preferably be locked in position when the nail or tack is being driven, so as to insure the clinching of its point.

With a horn of this kind a shoe differing in thickness at its sole and shank may be nailed with nails of one length, all excess in the length of the nails being taken up or thrown into the clinch, the concaved surface *c* starting and curling the points of the nails or tacks, causing a perfect clinch.

When the horn end is flat the nails are liable to cripple and break off, and with a horn end such as herein described the perfect clinching of the points is always insured.

The single concavity *c* of the horn and the nail-driver *e*, operated in any usual way, occupy and always retain, when a nail is being driven, the same positions with relation to each other, and the material being nailed is moved between them, the one single concavity at the end of the horn serving to clinch the driven nails for a shoe of any size, whereas if the concavities were made in the bottom of a last or an iron plate a separate last or plate must be used for each sized shoe, which entails great expense.

In the present drawing the horn and other parts of the machine are not drawn to the same scale, the scale of the horn being largest.

I claim—

1. In a nailing-machine for leather work, a horn provided with a concavity at its upper end to receive the points of and clinch the nails or tacks; substantially as described.

2. The horn having the movable anvil-block provided with a nail-clinching concavity, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LYMAN R. BLAKE.

Witnesses:

G. W. GREGORY,  
N. E. WHITNEY,