G. L. HALL.

MACHINE FOR ROLLING HORSESHOE NAILS.

No. 182,923. Patented Oct. 3, 1876.

Fig. 1

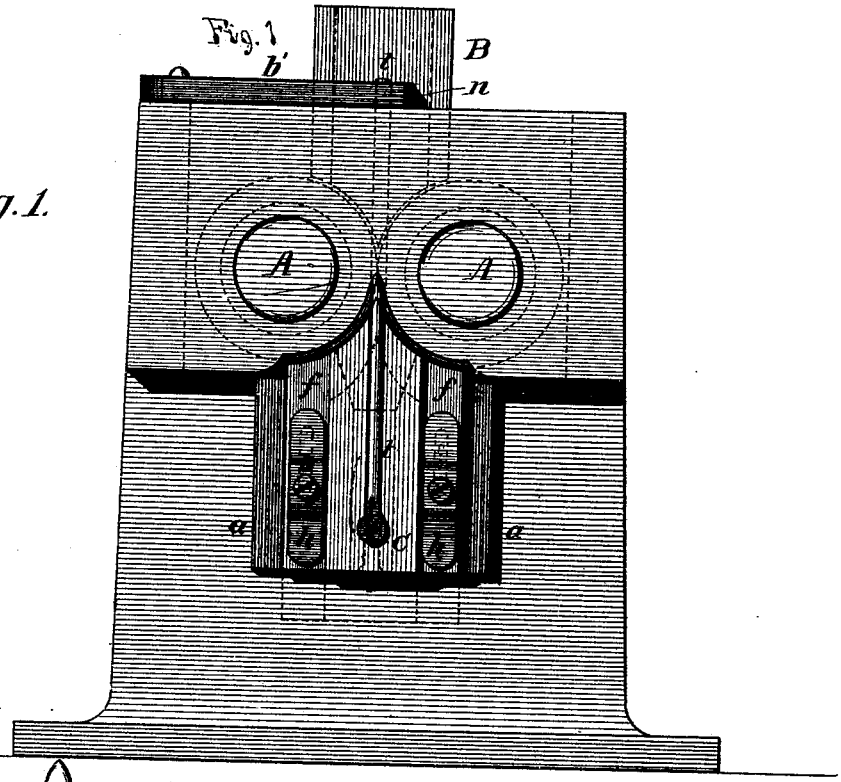

Fig. 1.

Fig. 2

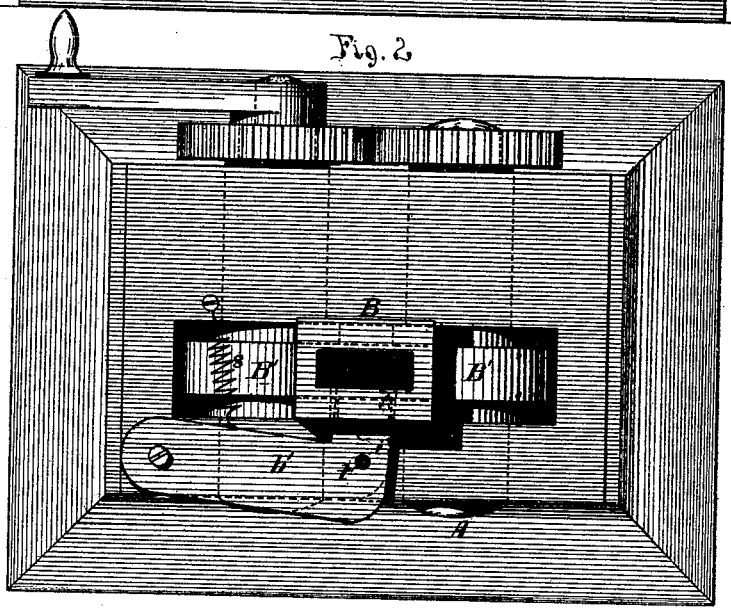

Fig. 2.

Witnesses.

Courtney A. Cooper.

George Thom.

Inventor

Geo. L. Hall

By his atty

Charles E. Foster

UNITED STATES PATENT OFFICE.

GEORGE L. HALL, OF BOSTON, MASS., ASSIGNOR TO THE NARRAGANSETT HORSE-NAIL COMPANY, OF HARTFORD, CONNECTICUT.

IMPROVEMENT IN MACHINES FOR ROLLING HORSESHOE-NAILS.

Specification forming part of Letters Patent No. **182,923**, dated October 3, 1876; application filed June 28, 1876.

To all whom it may concern:

Be it known that I, GEORGE L. HALL, of Boston, Suffolk county, Massachusetts, have invented Improvements in Nail-Making Machines, of which the following is the specification:

My invention relates to that class of horseshoe-nail machines in which the nails are formed by passing blanks between revolving dies; and my invention consists in combining with the dies certain devices, fully described hereafter, whereby the feeding of the blanks is arrested when an imperfect nail becomes jammed in the machine.

In the accompanying drawing, Figure 1 is an elevation of sufficient of a horseshoe-nail machine to illustrate my invention; and Fig. 2 a plan view.

A A are parallel shafts carrying circular disks or dies B′ B′, which revolve with their edges in contact, the said edges being recessed to form the nail, and the shafts being geared to turn simultaneously, as in the machine described in the Letters Patent granted to me November 2, 1875.

A vertical conductor is arranged above and between the two dies, its lower end being beveled to conform to their peripheries; and in a line with the said conductor, below the dies, is a discharge-tube, C, sliding between guides *a* and confined to the face-plate of the machine by bolts *b* passing through slots in side flanges *f* projecting from the tube. Flat springs *h*, confined between the heads of the bolts *b*, and the flanges *f* by their friction, retain the tube in any position to which it may be adjusted, but permit it to slide when excessive pressure is brought against it. The arm of a lever, *b′*, pivoted to the frame of the machine, projects into a slot in the feed-tube B, a spring, *s*, tending to maintain the arm in its inward position; and to an opening, *i*, in the arm is adapted the end of a rod, *t*, bolted to the discharge-tube C.

The nail-blanks are fed through the upper tube B to the dies, in passing between the latter have the required shape imparted to them, and are discharged through the tube C, which prevents them from adhering to the dies, straightens them, and conducts them to any suitable receptacle. Should a nail adhere to either of the dies, or become so bent as to prevent its passing through the channel in the tube C, it will be forced against the end of said tube, the latter will be pushed downward, the rod *t* will be removed from the opening *i* in the lever *b′*, which will move inward, its end obstructing the upper channel and preventing the feeding of additional blanks, and the breakage of the dies which would result therefrom.

After the withdrawal of the bent or adhering nail the lever *b′* is drawn back, the tube C raised, and the feeding continued. A valve, damper, or other device may be substituted for the lever *b′* for obstructing the tube B, and different means may be employed for operating said device from the sliding tube C. Without, therefore, confining myself to the precise construction and arrangement of parts described,

I claim—

1. In a nail-machine, the tube C, having a limited vertical sliding motion in a direct line, combined with appliances, substantially as described, for closing the feeding tube, all as set forth.

2. The combination of the rotating dies, feed-tube B, lever *b′*, and sliding tube C, and rod *t*, arranged and operating as specified.

3. The springs *h* and bolts *b*, combined with the sliding tube C, and its slotted flanges, as set forth.

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

GEO. L. HALL.

Witnesses:

SAML. J. SANGER,

L. O. ROBERTSON.