No. 658,203. Patented Sept. 18, 1900.

A. H. BRIGHAM.

APPARATUS FOR HEADING NAILS OR TACKS.

(Application filed Feb. 5, 1900.)

(No Model.)

Fig: 1.

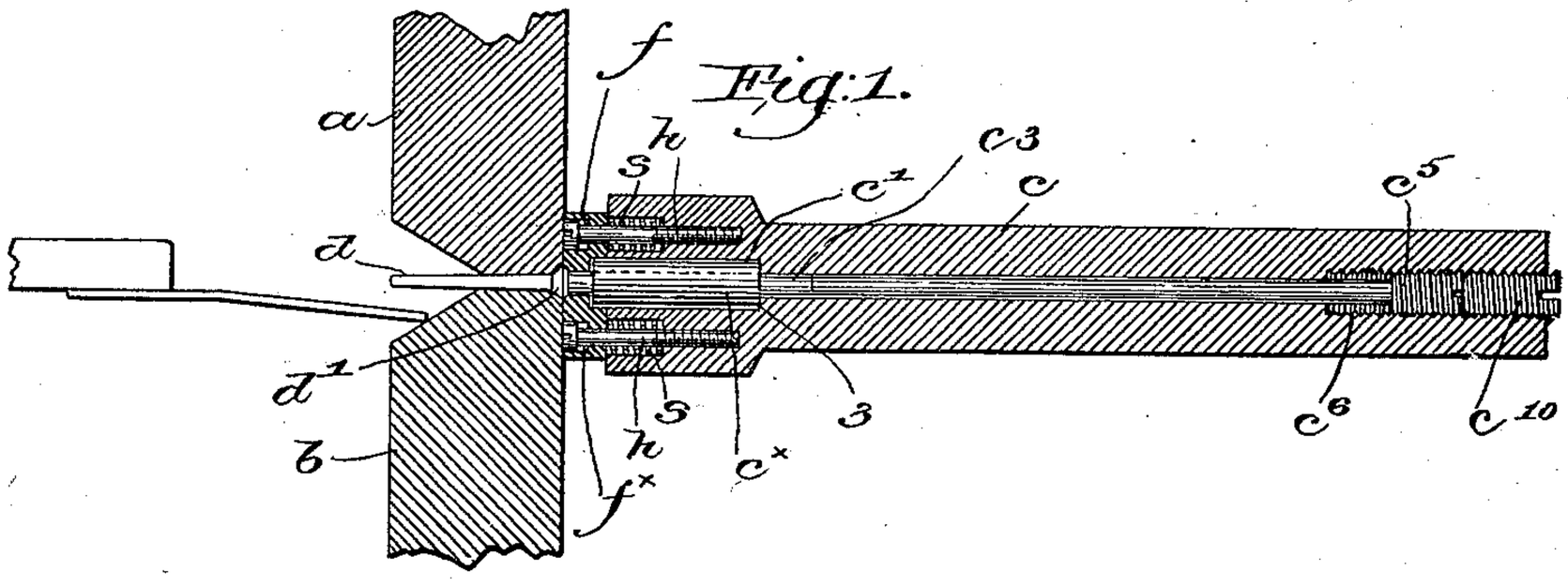


Fig: 2.

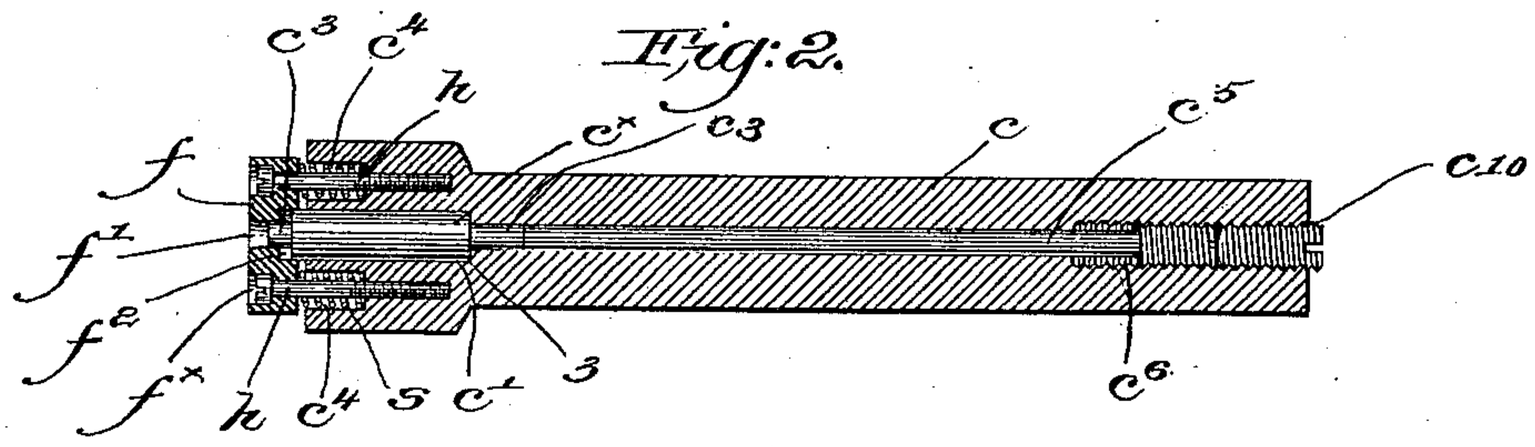


Fig: 3.

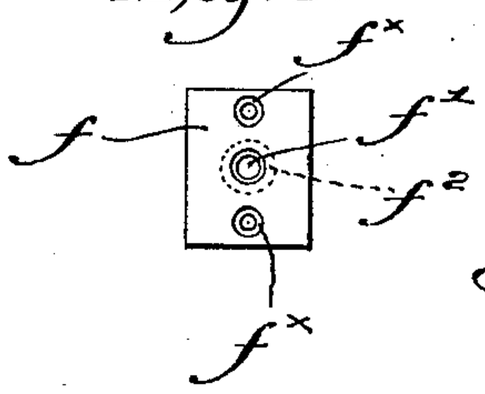


Fig: 5.

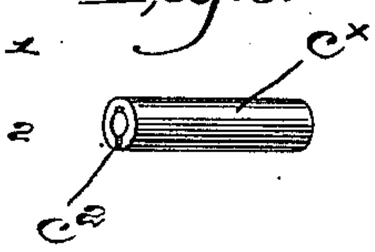


Fig: 4.

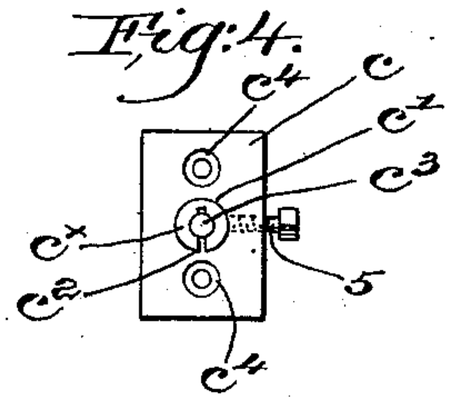
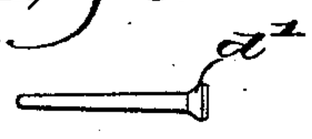


Fig: 6.



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UNITED STATES PATENT OFFICE.

ALBERT H. BRIGHAM, OF WHITMAN, MASSACHUSETTS.

APPARATUS FOR HEADING NAILS OR TACKS.

SPECIFICATION forming part of Letters Patent No. 658,203, dated September 18, 1900.

Application filed February 5, 1900. Serial No. 3,947. (No model.)

To all whom it may concern:

Be it known that I, ALBERT H. BRIGHAM, a citizen of the United States, and a resident of Whitman, county of Plymouth, and State of Massachusetts, have invented an Improvement in Apparatus for Heading Nails or Tacks, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

My present invention has for its object the improvement of heading apparatus for nails or tacks forming the subject-matter of United States Patent No. 589,495, granted to me on September 7, 1897, the particular features of my present invention providing for a more convenient and adjustable apparatus having a wider range of work and also providing for the more accurate positioning of the die proper in the operation of the apparatus.

Figure 1 is a longitudinal sectional view of a portion of a nail or tack making machine with my invention embodied therein. Fig. 2 is a similar view of the header detached and in normal position. Fig. 3 is a face view of the face-plate or die proper. Fig. 4 is a front view of the die-carrier, heading-pin, and holder therefor. Fig. 5 is a perspective view, detached, of the removable holder for the heading-pin; and Fig. 6 is a side elevation of a nail or tack headed by my invention.

The coöperating dies *a b*, Fig. 1, to receive and grip the blank *d* between them and having suitable depressions or seats to form or shape the under side of the head *d'* of the blank are of usual construction.

As in my patent referred to, the heading-die comprises, essentially, a shank or die-carrier *c*, longitudinally bored to receive the heading-pin c^3; but herein I have shown the front end of the bore as enlarged in diameter, as at *c'*, to receive a removable hollow bushing or heading-pin holder $c^\times$, preferably split longitudinally, as at c^2, the inner end of the holder when in place resting firmly upon the shoulder 3, Figs. 1 and 2.

The front end of the holder projects beyond the face of the die-carrier *c* for a purpose to be described, the heading-pin c^3 passing through and beyond the holder and being firmly held therein by one or more set-screws 5, Fig. 4, extended into the die-carrier *c* and bearing upon the holder to clamp it upon the heading-pin.

By using holders with bores of different diameters different heading-pins can be used with the same die-carrier *c*, which could not be done in the apparatus shown in my patent.

Longitudinal adjustment of the heading-pin is effected by a threaded rod c^5, screwed into the enlarged threaded rear end c^6 of the central bore in the shank or die-carrier *c*, said rod also serving to take up end thrust of the heading-pin.

In my present invention the die proper or face-plate *f* has an opening *f'* therein, its outer end being shaped to correspond to the desired shape of the upper portion of the head of the completed nail or tack, the opening receiving the projecting end of the heading-pin, Figs. 1 and 2, while said opening is counterbored at its inner end at f^2 to receive the projecting end of the holder $c^\times$. The latter acts as a large center guide for the die *f* in the operation of the apparatus, absolutely preventing any lateral movement thereof and relieving the heading-pin of any side strain, so that any bending or distortion thereof is prevented.

As in my patent, headed guides *h* are extended loosely through counterbored holes $f^\times$ in the die *f* and are threaded into the end of the die-carrier, springs *s*, resting in sockets c^4 in the shank, being interposed between the inner side of the die and the shank, the springs normally maintaining the die in the position shown in Fig. 2. At such time the end of the heading-pin extends into the hole *f'* and the end of the holder $c^\times$ is within the counterbored portion f^2.

The counterbored holes $f^\times$ are deep enough to receive the heads of the guide-screws *h* when the die *f* is pressed against the end of the die-carrier, Fig. 1, and the center guide formed by the end of the holder at such time does not bottom in the counterbore f^2 in order that the die may firmly seat itself on the die-carrier.

The operation of the apparatus will be manifest, the heading-die being moved toward the dies *a b* until the end of the blank *d* enters the opening *f'* in the die *f*, which moves forward until stopped by the dies *a b*. Thereupon the shank or die-carrier continu-

ing to move, the springs *s* are compressed and the heading-pin c^3 is brought up against the end of the blank, upsetting it into the recess *f'* of the die *f* and into the shaping or forming recesses in the dies *a b*. After forming the head on the blank the die-carrier *c* is withdrawn, with the heading-pin, and thereafter the die *f* is withdrawn, the springs *s* expanding as the pressure decreases. The die *f* is self-positioning against the clamping-dies *a b*, while at the same time centrally supported and guided by the projecting end of the holder $c^{\times}$.

I have herein shown a check-screw c^{10} inserted in the threaded portion c^6 of the bore of the carrier and engaging the end of the rod c^5, acting to securely lock the same in position when adjusted.

The check-screw prevents any loosening of the rod c^5 which might occur from repeated blows thereupon due to the heading operation.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a heading-die, a die-carrier having a central, longitudinal bore, a removable holder held therein and projecting from the front of the die-carrier to form a guide, headed side guides rigidly secured to the die-carrier, a die freely movable upon said side guides and recessed to receive the projecting end of the holder, said die having a head-forming opening, a heading-pin extended through the holder, and means to secure the heading-pin therein, the projecting end of the holder guiding and preventing lateral movement of the die.

2. In a heading-die, a die-carrier having a longitudinal bore, a holder removably seated therein and projecting from the front of the carrier, headed guides at the sides of the holder, rigidly secured to the die-carrier, a spring-controlled die freely movable upon said guides and the projecting end of the holder and having a head-forming opening, a heading-pin inserted in the holder, and means to retain said heading-pin therein, the projecting end of the holder guiding and preventing lateral movement of the die.

3. In a heading-die, a die-carrier having a central bore, a removable tubular holder seated therein, headed side guides rigidly secured to the die-carrier, a die freely movable upon said guides and having a head-forming opening, a heading-pin inserted in the holder, and means to retain said pin therein.

4. In a heading-die, a die-carrier having a central bore, a removable tubular compressible holder seated therein, headed side guides rigidly secured to the die-carrier, a die freely movable upon said guides and having a head-forming opening, a heading-pin inserted in the holder, means to compress the holder upon the heading-pin, and means to longitudinally adjust and take up end thrust of the heading-pin.

5. In a heading-die, a die-carrier having a central bore, a removable tubular holder seated therein and projecting beyond the end of the carrier, headed side guides rigidly secured to the carrier adjacent the holder, a spring-controlled die freely movable upon the side guides, having a head-forming opening and counterbored to receive the end of the holder, a heading-pin inserted in and projecting beyond the end of the holder, to enter the die, and means to retain the heading-pin in position in the holder.

6. In a heading-die, a die-carrier having a central bore threaded at its rear end, a removable tubular holder seated in the front end of the bore, a heading-pin inserted in the holder, means to retain the pin therein, means to longitudinally adjust and take up end thrust of the heading-pin, and a check-screw in the threaded part of the bore to lock said latter means in adjusted position.

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

ALBERT H. BRIGHAM.

Witnesses:
NATHAN C. BOSWORTH,
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