(No Model.)

A. SAMSON.

MACHINE FOR ATTACHING EYE BOLTS TO HAME RINGS.

No. 410,771. Patented Sept. 10, 1889.

Fig. 1.

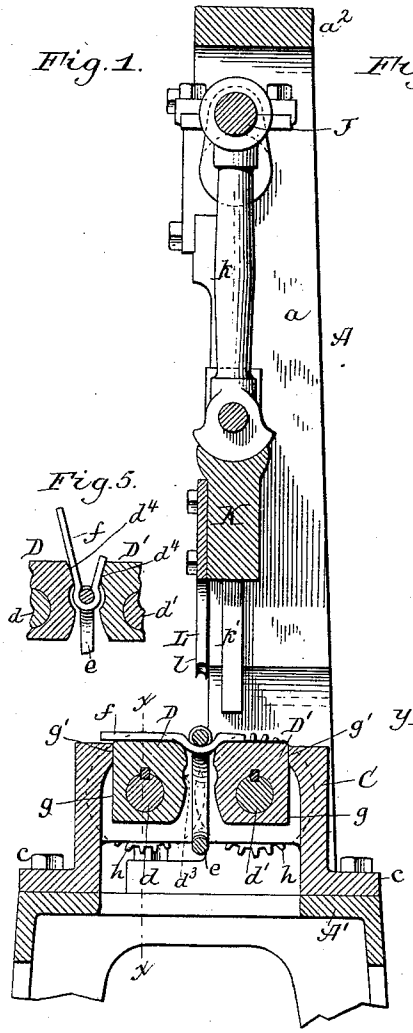


Fig. 2.

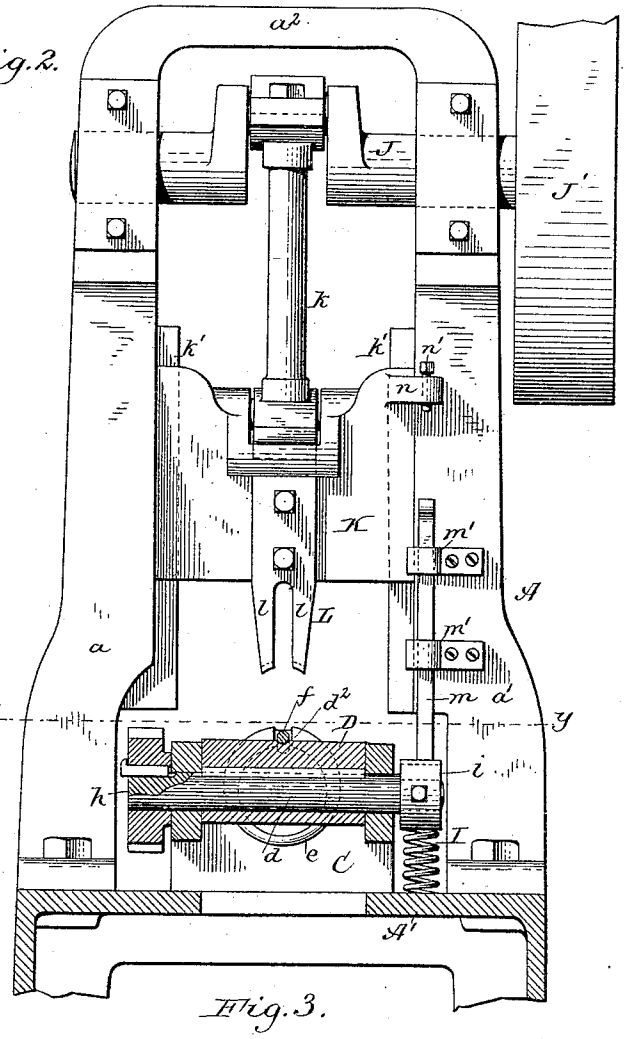


Fig. 3.

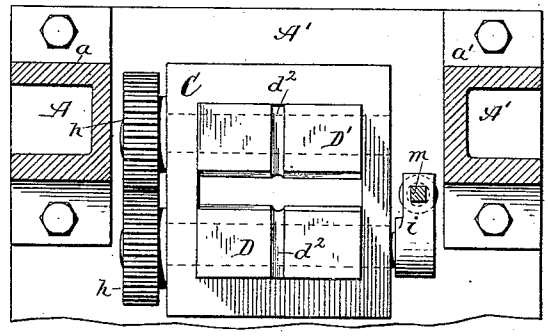


Fig. 4.

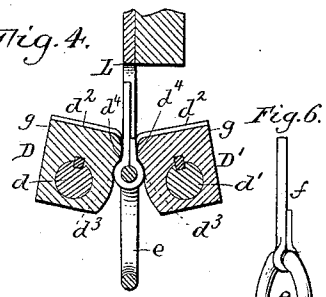


Fig. 5.

Fig. 6.

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UNITED STATES PATENT OFFICE.

ADOLPH SAMSON, OF BUFFALO, NEW YORK, ASSIGNOR TO PRATT & LETCHWORTH, OF SAME PLACE.

MACHINE FOR ATTACHING EYEBOLTS TO HAME-RINGS.

SPECIFICATION forming part of Letters Patent No. 410,771, dated September 10, 1889.

Application filed April 12, 1889. Serial No. 307,009. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH SAMSON, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Machines for Attaching Studs or Eyebolts to Hame-Rings, of which the following is a specification.

This invention relates to that class of machines which are designed more especially for attaching the studs or eyebolts to hame-rings, whereby the rings are secured to the body of the hame.

The object of my invention is to produce a simple and compact machine of this character; and the invention consists of the improvements which will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical sectional elevation of my improved machine. Fig. 2 is a longitudinal section in line $x\ x$, Fig. 1. Fig. 3 is a horizontal section in line $y\ y$, Fig. 2. Fig. 4 is a detached cross-sectional elevation of the compressing-dies and the reciprocating follower, showing the stud or eyebolt attached to the hame-ring. Fig. 5 is a fragmentary sectional elevation showing the stud or eyebolt in position ready to be pressed by the dies. Fig. 6 is a perspective view of a hame-ring with the stud or eyebolt attached thereto.

Like letters of reference refer to like parts in the several figures.

A represents the vertical frame of the machine, consisting of two vertical standards a a', connected at their upper ends by a cross-bar a^2 and supported at their lower ends upon a bed or table A'.

C represents a hollow rectangular frame secured to the bed A', between the standards of the frame A, by flanges c, formed on the front and rear walls of the frame C and bolted to the bed A'.

D D' represent rectangular blocks or dies secured, respectively, to rock-shafts d d', which are journaled in the end walls of the rectangular frame C. The dies D D' are arranged side by side and at a sufficient distance from each other to permit the ready insertion of a hame-ring e between the two dies, as shown in Fig. 1. The dies D D' are each provided with a flat upper face having a transverse groove d^2 for the reception of the stud-blank f. The back or rear sides of the dies D D' are provided with vertical shoulders g, which bear against shoulders g', formed on the upper ends of the front and rear walls of the frame C, when the upper faces of the dies are in a horizontal position, as shown in Fig. 1. The inner or adjacent face of each die is provided with a semicircular recess or groove d^3, and above this recess the adjacent face of each die is slightly tapered or rounded off, forming a compressing-face d^4.

The shafts d d' of the dies D D' are provided with suitable gears h, whereby the dies are caused to rock toward and from each other by the movement of a rock-arm i, secured to the shaft of one of said dies. The upper faces of the dies D D' are held in a horizontal position by means of a spring I, which rests upon the bed A' and bears against the under side of the rock-arm i, secured to one end of the shaft of one of the dies. The spring I, bearing upwardly against the free end of the arm i, holds the dies with their rear shoulders g in contact with the shoulders g' of the frame C and the compressing-faces of the dies apart, to permit the ready insertion of a hame-ring between the two dies.

J represents a crank-shaft journaled in the upper portion of the standards of the main frame A and provided with a driving-wheel J'.

K represents a vertically-reciprocating cross-head arranged between the standards a a' and connected with the crank-shaft J by a rod k. The cross-head K is guided between ways k', secured to the inner sides of the standards.

L represents a pusher plate or follower secured to the front side of the cross-head K, centrally above the dies D D'. The follower L is bifurcated at its lower end, so as to form two depending fingers l l, which descend between the two dies D D' upon the downward stroke of the cross-head K.

m represents a vertical slide-rod, which is guided in ways or brackets m', secured to the front side of the standard a' of the main

frame and rests with its lower end upon the free end of the rock-arm *i*.

n represents a forwardly-projecting lug or arm formed on one side of the cross-head K and overhanging the upper end of the slide-rod *m*. The lug *n* is provided with an adjustable screw-bolt *n'*, which engages against the upper end of the slide-rod at the last portion of each downward stroke of the cross-head, causing the slide-rod to move downwardly with the cross-head. During the downward movement of the slide-rod the free end of the arm *i* is moved downwardly, causing the compressing-faces of the two dies to be moved toward each other until the slide-rod is released by the upward movement of the cross-head, when the dies are returned to their former position by the spring I. During the upward movement of the cross-head the stud-blank *f* is placed in the groove d^2, formed in the top faces of the two dies with the hame-ring suspended therefrom and hanging downwardly between the dies, as shown in Fig. 1. As the cross-head descends, the depending fingers *l l* of the follower come in contact with the hame-ring on opposite sides of the stud-blank and force the hame-ring downwardly between the dies, which movement bends the stud-blank partly around the ring, as shown in Fig. 5. During the last part of the downward movement of the follower the dies are turned inwardly with their compressing-faces toward each other, which movement closes the eye or loop of the stud around the ring and firmly attaches the stud to the ring. Upon the upward movement of the follower and cross-head the dies are turned backwardly by the spring bearing against the under side of the arm *i*, and the hame-ring with the stud attached thereto allowed to drop from between the dies.

By the use of my improved machine the studs or eyebolts can be attached to hame-rings very rapidly and at a single operation.

I claim as my invention—

1. The combination, with the dies D D', provided with flat upper faces adapted to support a stud-blank, and a ring suspended from said blank, of a vertically-movable follower provided with depending fingers engaging over said ring on opposite sides of the blank, substantially as set forth.

2. The combination, with the dies D D', provided with flat upper faces adapted to support a stud-blank, and a ring suspended from said blank, of a vertically-movable follower engaging over said ring on opposite sides of the blank, and mechanism whereby the inner adjacent faces of the two dies are closed against the blank, substantially as set forth.

3. The combination, with the dies D D', provided with flat upper faces adapted to support a stud-blank, and a ring suspended from said blank, of a follower engaging over said ring on opposite sides of the blank, and mechanism whereby the blank is bent between the dies by the movement of the follower, substantially as set forth.

4. The combination, with the dies D D', provided with flat upper faces adapted to support a stud-blank, and a ring suspended from said blank, of a follower engaging over said ring on opposite sides of the blank, mechanism whereby the blank is bent between the dies by the movement of the follower, and mechanism for closing the dies against the bent blank, substantially as set forth.

5. The combination, with the rectangular frame, and the dies D D', journaled in said frame, and provided with gear-wheels whereby the dies are geared together, of a rock-arm secured to the journal of one of said dies, and a spring bearing against said arm, whereby both dies are held in an open position to receive a blank, substantially as set forth.

6. The combination, with the rectangular frame C, and the dies D D', journaled in said frame, and provided with suitable gear-wheels, whereby the dies are geared together, of a rock-arm secured to the journal of one of said dies, a spring bearing against said arm for holding the dies in an open position to receive a blank between the dies, and a vertically-movable slide-rod bearing against the opposite side of said arm for compressing said spring and closing the dies against the blank, substantially as set forth.

7. The combination, with the vertical frame A, provided with a crank-shaft J and a vertically-reciprocating follower L, connected with said crank-shaft, of the dies D D', journaled in a frame arranged below the follower, gear-wheels mounted upon the journals of said dies, whereby the dies are geared together, a rock-arm *i*, mounted on the journal of one of said dies, a spring I, bearing against the arm *i*, and a vertically-movable slide-rod bearing against said arm for compressing said spring and operated by the downward movement of the follower, substantially as set forth.

8. The combination, with the vertical frame A, provided with a crank-shaft J and a cross-head K, guided in vertical ways formed on said frame and connected with said crank-shaft, and a follower L, secured to said cross-head and provided with depending fingers *l*, of a pair of rectangular dies D D', having upper flat faces and journaled in a supporting-frame arranged centrally below the follower L, gear-wheels mounted on the journal of said dies, whereby the dies are geared together, a rock-arm mounted on the journal of one of said dies and held in a horizontal position by a spring I, a vertically-movable slide-rod *m*, guided in ways secured to the frame A and resting upon the arm *i*, and a lug or bracket *n*, secured to the cross-head and engaging with the slide-rod upon the downward movement of the cross-head and follower, substantially as set forth.

9. The combination, with the rectangular frame C, provided with shoulders *g*, formed

on the front and rear walls of said frame, of the dies D D′, journaled in said frame between its front and rear walls, with the rear or back sides of said dies abutting against the shoulders *g*, substantially as set forth.

10. The combination, with the supporting-frame, of the rectangular dies D D′, journaled in said frame and provided with flat upper faces, and a transverse recess or groove extending across the upper faces of said dies, substantially as set forth.

11. The combination, with the supporting-frame, of the dies D D′, journaled in said frame and provided with flat upper faces, a transverse groove or recess extending across the upper faces of said dies, and a semicircular recess or groove formed on the inner or adjacent face of each die, substantially as set forth.

Witness my hand this 19th day of March, 1889.

ADOLPH SAMSON.

Witnesses:
GEO. W. PEAT,
ALBERT F. WIEDRICH.