

GALEN ORR.

Improvement in Machines for making Blind Hinge Hooks.

No. 119,945.

Patented Oct. 17, 1871.

Fig. 1.

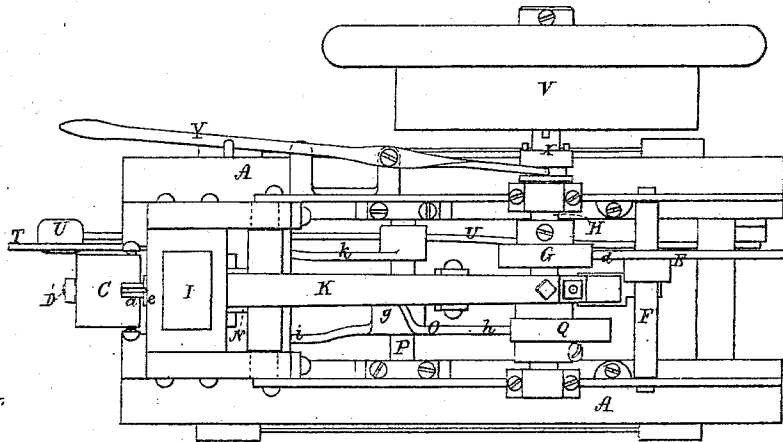


Fig. 4.



Fig. 6



Fig. 5.

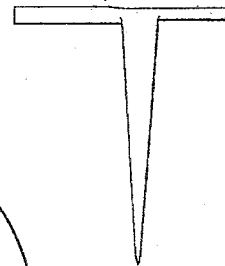
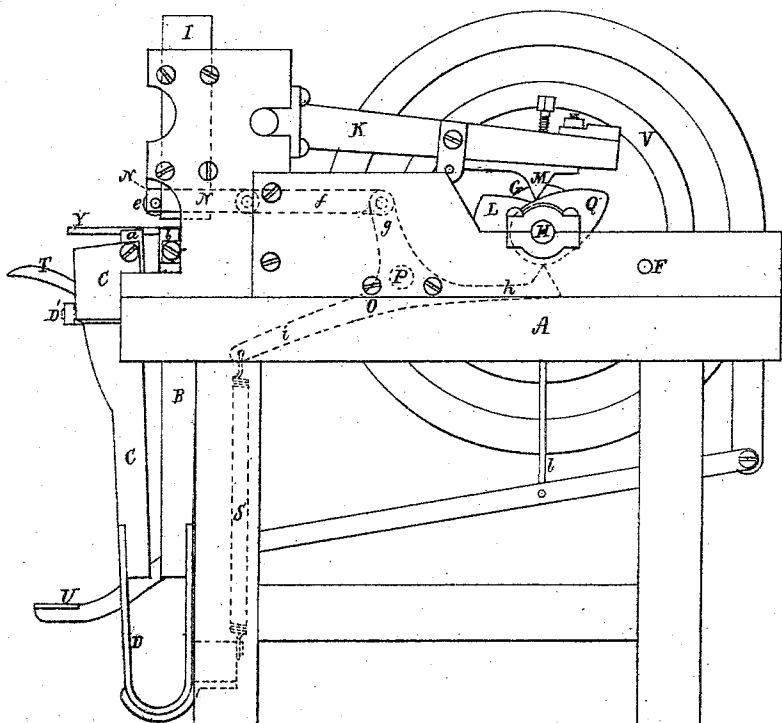


Fig. 9.



Witnessed

S. N. Piper

L. A. Miller.

Galen Orr.

by his attorney

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Fig. 2.

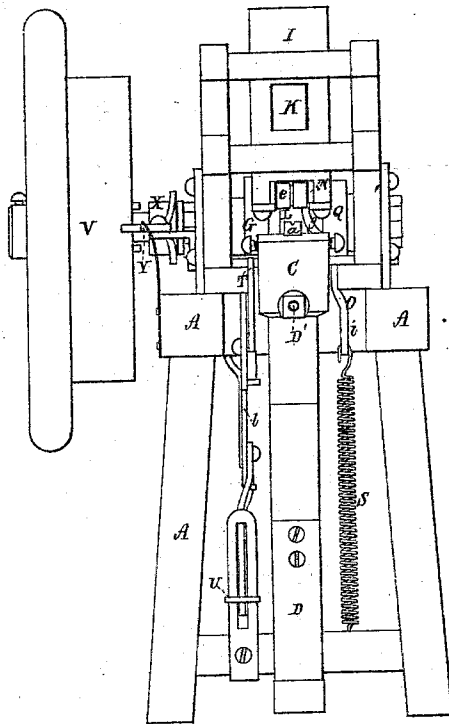


Fig. 7.



Fig. 8.



Fig. 10.

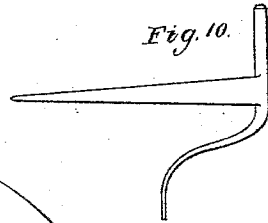
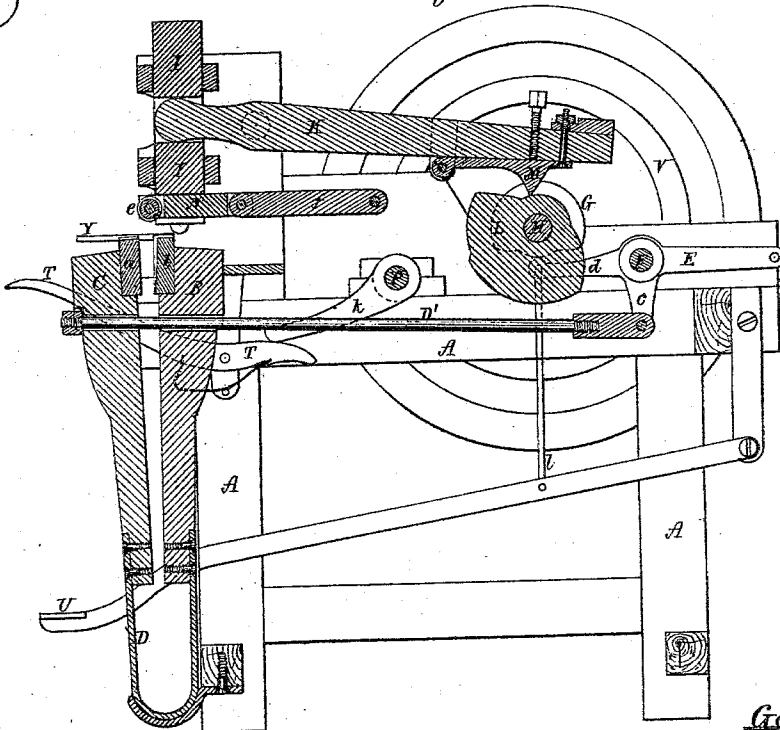


Fig. 3.



Witnesses.

S. W. Piper
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R. H. Ewing

UNITED STATES PATENT OFFICE.

GALEN ORR, OF NEEDHAM, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR MAKING BLIND-HINGE HOOKS.

Specification forming part of Letters Patent No. 119,945, dated October 17, 1871.

To all whom it may concern:

Be it known that I, GALEN ORR, of Needham, of the county of Norfolk and State of Massachusetts, have invented a new and useful Machine for use in the Manufacture of Blind-Hinge Hooks, or in the bending down and rounding the parts composing the pintles of such hooks; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figure 1 is a top view, Fig. 2 a front-end elevation, Fig. 3 a longitudinal section, and Fig. 9 a side elevation of it. Fig. 4 is a view of a blind-hinge hook blank as made for being treated by the said machine. Fig. 5 is a side view of such blank as it appears after having been operated on by the machine.

The blank is stamped from a sheet or strip of metal, as wrought-iron, for instance, by means of a die or dies, in a manner well known and practiced. Heretofore it has been customary to bend down the pintle and brace parts of the blank at right angles to the shank thereof by first heating the whole blank in a fire, and accomplishing the bending by a hammer and anvil, the hammer being wielded by manual power. The purpose of my machine is to accomplish the whole by mechanism, so as thereby to effect a great saving of labor and the production of a better article of manufacture. The nature of my invention consists in the combination of a pair of jawed dies provided with mechanism for operating one of them with a grooved roller and two slides furnished with mechanisms for actuating them, as hereinafter explained, all being substantially as and for the object or objects as herein set forth.

In the drawing, A denotes the frame of the machine, it being provided with a stationary jaw-carrier, B, and a movable jaw-carrier, C, they being arranged as shown, and connected at their feet by a bow-spring, D. These carriers support a pair of jawed dies, *a b*, arranged as represented, they being grooved on their upper surfaces, as exhibited in Fig. 3, and more especially in Fig. 6, which is a top view of the two jawed dies. From the outer jaw-carrier a rod, D', extends through the inner one to, and is jointed to, the arm *c* of a lever, E, fixed on a transverse shaft, F, arranged in the frame, in manner as shown. A cam, G, fixed on the driving-shaft, H, and

formed as represented in side view in Fig. 7, is arranged over and to operate another arm, *d*, of the lever E, the object of the cam G, the said lever E, and the rod D' being to effect the movement of the outer jaw-carrier toward the inner one, and the consequent closing of the jaws upon an article or blank when between them. Over the jaws is a vertical slide or head, I, which is pivoted to a lever, K, whose longer arm rests on or extends over another cam, L, fixed on the driving-shaft, there being attached to the lever an adjustable cam-rest or tooth, M, as shown. Within the lower part of the slider or head I is a movable carriage or slider, N, provided with a grooved roller, *e*; such slider N to be so applied to the slider I, before mentioned, as to be capable of being moved therein horizontally, and in directions lengthwise of the machine. The slider N, at its rear end, is pivoted to a rod or bar, *f*, which, at its rear part, is pivoted to the arm *g* of a tri-armed lever, O, fixed upon a cross-shaft, P. The rear lower arm *h* of the said lever is extended under and against the periphery of a cam, Q, fixed on the driving-shaft, such cam being formed as shown in side view in Fig. 8. A spring, S, is fixed to the frame A and the front lower arm *i* of the lever O. Furthermore, an arm, *k*, projecting from the shaft, P, extends directly over and upon the inner arm of a lever, T, arranged as shown. By laying hold of the outer arm of the lever T and pressing it downward the roller-slide N, with its roller, will be retracted so as to enable the tail or shank of a blank to be inserted between the dies *a b*. A pedal, U, connected by a rod, *l*, with the front arm *d* of the lever E, serves to enable an attendant to move the lever and effect the closing of the jaws or dies *a b* upon the said tail or shank, they, by the action of the cam G, being caused to firmly grip such shank preparatory to the descent of the grooved roller and its movement rearward. A fly-wheel driving-pulley, V, arranged in the driving-shaft, provided with a clutch, X, to be operated by a hand-lever, Y, serves, when clutched to the shaft and driven by a belt, to put such shaft in revolution, and, as a matter of course, the machine in action. The outer jawed die will first be moved away from the inner one to enable a blank to be inserted between the jaws. This latter having been accomplished, the attendant should put his foot on the pedal and depress it so as to close

the movable jaw upon the blank. Next, the slider or head I will be depressed so as to force the grooved roller between those parts of the blank which are to constitute the pintle and brace and bend them down toward the dies, after which the head I will be held firmly in position, and the roller-slide will be retracted so as to cause the roller to force down the top of the rear die of the pintle and give form thereto. The roller in descending will crowd the brace part over and more or less upon the top of the front die, and will round the blank at the outer end of the shank. The brace is afterward to be bent and finished by a smith, so as to give the whole the form as represented in Fig. 10. The upward movement of the head I is effected by the weight of the longer arm of the lever connected with such

head, the advance movement of the roller-carrier being produced by the spring S.

I claim—

In combination with the jawed dies *a b* provided with mechanism for operating on one of them, as described, the grooved roller *e* and its slides I N provided with mechanism for actuating them, substantially as set forth, so as to move the roller with reciprocating vertical and horizontal movements, in manner and with respect to the dies, and for the purpose or objects as explained.

GALEN ORR.

Witnesses:

R. H. EDDY,
J. R. SNOW.

(100)