No. 648,383. Patented May 1, 1900.

J. R. BLAKESLEE.

BOLT HEADING MACHINE.

(Application filed Nov. 28, 1898. Renewed Sept. 29, 1899.)

(No Model.) 2 Sheets—Sheet 1.

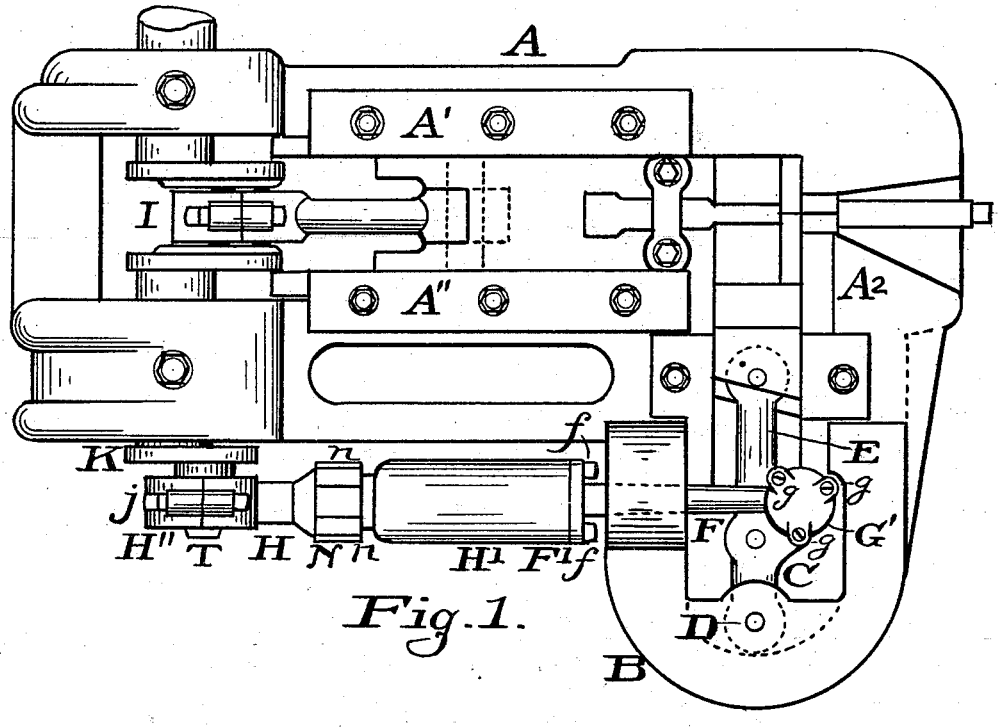

Fig. 1.

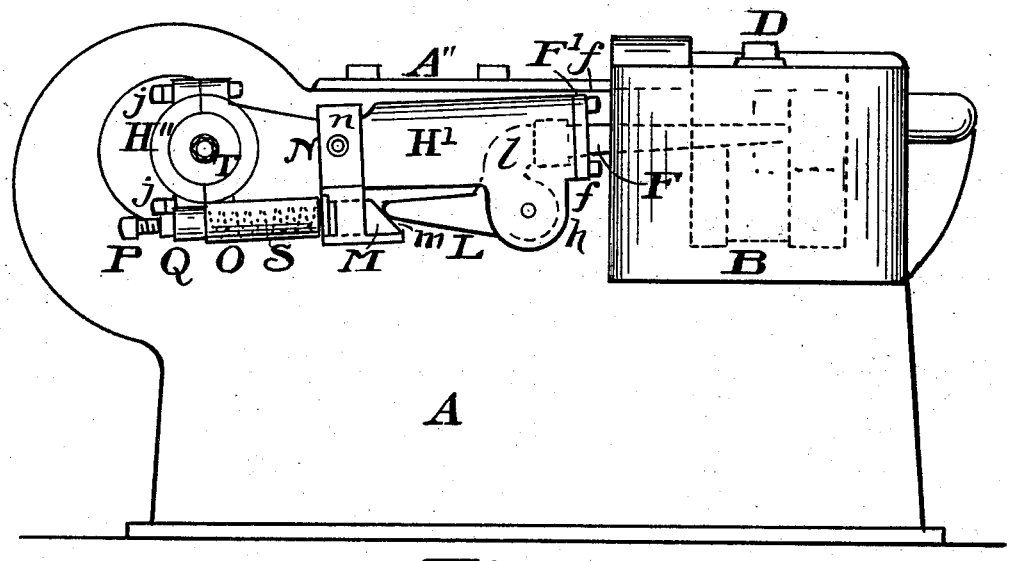

Fig. 2.

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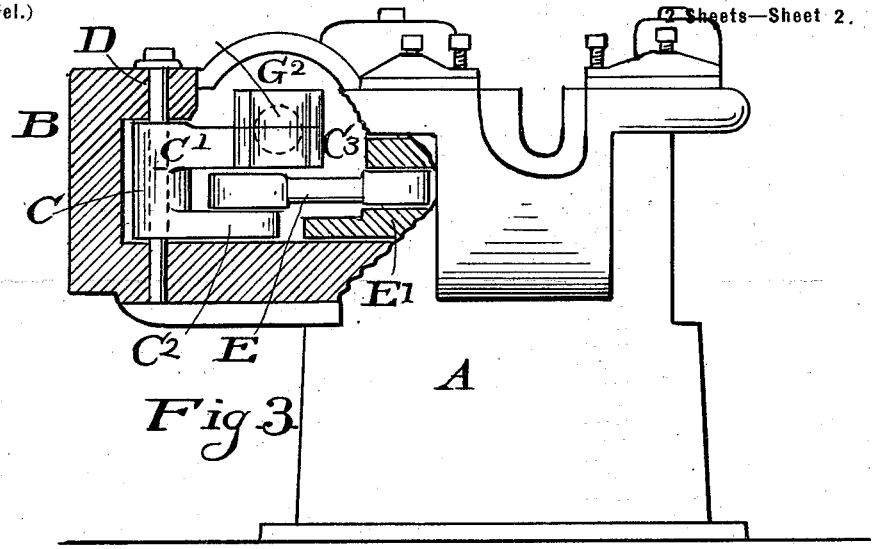

Fig 3.

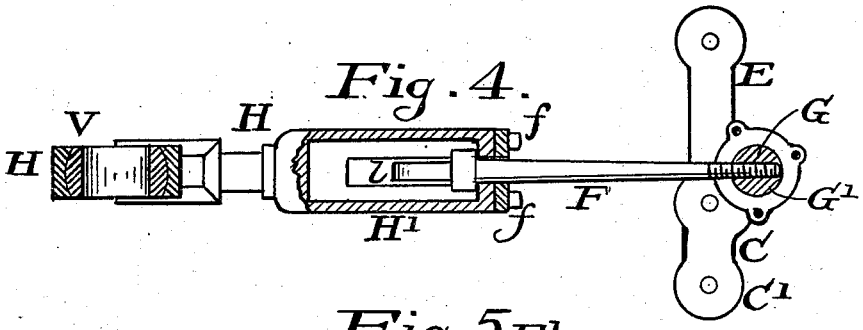

Fig. 4.

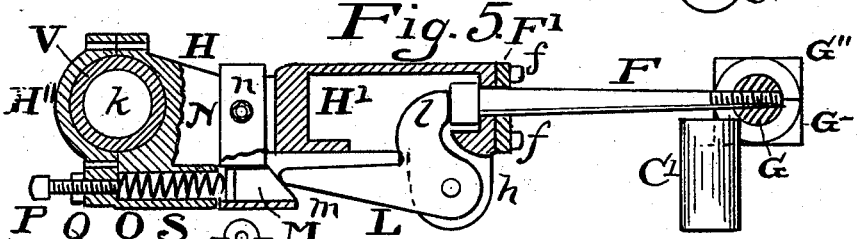

Fig. 5.

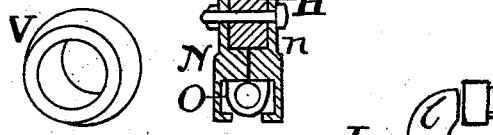

Fig. 9.

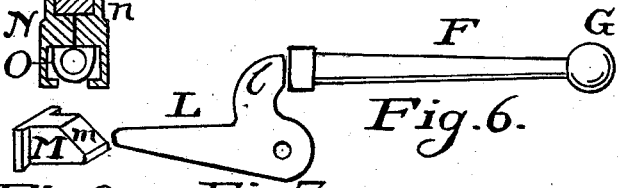

Fig. 8. Fig. 7. Fig. 6.

Witnesses,
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Inventor,
John R. Blakeslee
by Geo. W. Tibbitts Attorney

UNITED STATES PATENT OFFICE.

JOHN R. BLAKESLEE, OF GLENVILLE, OHIO.

BOLT-HEADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 648,383, dated May 1, 1900.

Application filed November 28, 1898. Renewed September 29, 1899. Serial No. 732,132. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. BLAKESLEE, a citizen of the United States of America, and a resident of Glenville, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Bolt-Heading Machines, of which the following is a specification.

This invention relates to machines for heading bolts; and it consists of a new construction and adaptation of a safety-pitman connecting the crank-operating shaft with the gripping-die mechanism.

The object of the invention is to provide against the danger of breakage or damage to said mechanism by reason of the misplacement of a blank or the accidental falling of any other object between the gripping-dies.

The nature of this invention and in what manner the same is to be performed will fully appear from the subjoined description and in and by the accompanying drawings, in which—

Sheet 1: Figure 1 is a top or plan view of a bolt-heading machine having my improvement embodied therein. Fig. 2 is a side elevation of the same. Sheet 2: Fig. 3 is an end elevation of the machine, partly in section, showing the new construction of a knuckle-joint which operates the movable gripping-die. Fig. 4 is a horizontal section of the new safety-pitman. Fig. 5 is a vertical section of the same. Figs. 6, 7, 8, and 9 are details of parts of the mechanism comprising said safety-pitman.

Like letters of reference indicate like parts throughout the several views.

A represents the bed and supporting-frame for the operating mechanisms of the machine, which may be of one integral casting. A′ and A″ are the ways or slides for the movable die-holding heads. These parts do not constitute any part of my invention, but are introduced to show the connection of my improvement with the same.

The first part of my invention consists in the peculiar construction of the knuckle-joint which operates the movable gripping-die. B is a chambered projection on the bed A, in which this knuckle-joint is supported and operated. C is one member of the joint, consisting of a hollow or tubular post C′, having arms C^2 and C^3. This member is supported on a pin or bolt D, passing through said post and fixed in the rounded portion of said chamber. E is a link connecting the arm C^2 with the movable die-head E′. The arm C^3 contains a ball-joint connection with the rod F, comprising a part of the new pitman. G is a ball on the end of rod F. G′ is a half-spherical cavity in the arm C^3, in which the ball G rests, and G″ is a half-spherical cap covering the ball and is secured onto the arm by screws or bolts *g g*.

The second part of my invention consists in the peculiar construction of the pitman which operates in conjunction with the said knuckle-joint. H is the main portion of the pitman, consisting of a hollow or tubular part H′ and the eye part H″, which connects it with the crank K on the driving crank-shaft I. The rod F is inserted in the open end of said hollow part H′ and is held therein by a ring F′, secured to the part H′ by the screws *f f*. On the under side of said part H′ are provided lugs or ears *h h*, and in these lugs is pivoted an angle-lever L, the short curved arm *l* of which bears against the end of the said rod F. The lever L is held up in its working position by a block M, having a beveled or inclined front *m*, upon which the end of the lever rests. The block M is supported in the lower end of a bracket N, consisting of the plates *n n*, bolted onto the pitman H. O is a tubular projection on the under side of the pitman, in which is contained a spring S, which bears against the back end of the block M. P is a screw-threaded pin screwed into the smaller part of the projection O for the purpose of regulating the tension of the spring S. Q is a jam-nut on said pin P for tightening the pin in place. The eye H″ on the pitman H is made in two parts, which are secured together with bolts *j j*. The inside surfaces of said parts H″ are made concave. V is a ring having a convex outer surface which fits within the said concavity of the eye H″. Through the said ring V the wrist-pin *k* on the crank K is inserted and is held therein by a plate T, bolted onto its end.

The working of this device is as follows: Should a blank become misplaced or other

obstruction intervene between the gripping-dies, the resistance against the knuckle-joint and the rod F would cause the lever L to turn on its pivot, and this would cause the block M to be forced inward by the point of said lever pushing on the incline *m*, the spring also yielding. This would release the point of the lever from its support and allow the lever to fall into the position seen in dotted lines in Fig. 2. When this takes place, the rod F would slide back and forth in the hollow part of the pitman during its further movements until stopped. To replace the lever L, the point of a hand-bar is inserted at *x*, Fig. 2, against the flange on the block M and the block pushed inward, the spring yielding against the pressure. The point of the lever is again raised, the hand-bar removed, and the block assumes its normal position for retaining the lever in its working position.

Having described my invention, what I claim is—

1. In combination with pitman H F, of the knuckle-joint consisting of post member C′, fulcrumed in the chamber B, having member C^2, link E connecting said member with moving die-head E′, member C^3 having ball-socket G′ and cap G″, constructed to operate as described.

2. In a bolt-heading machine provided with heading and gripping-die mechanisms, the combination with the driving crank-shaft I, of the pitman H comprising the hollow part H′, rod F supported in said hollow part H′, angle-lever L pivotally suspended in the lugs *h h* on the under side of said part H′, and having its short arm *l* bearing against the end of rod F, bracket N attached to the pitman, block M supported in said bracket and adapted for supporting the movable end of said lever L, tubular projection O on the under side of eye H′, spring S in said tubular projection and bearing against the back of said block M, and the regulating-screw P back of the spring S, and the eye H″ provided with ring V, constructed and adapted to operate substantially as and for the purpose set forth.

Signed by me at Cleveland, Ohio, this 15th day of November, 1898.

JOHN R. BLAKESLEE.

Witnesses:
GEO. W. TIBBITTS,
F. J. PATTERSON.