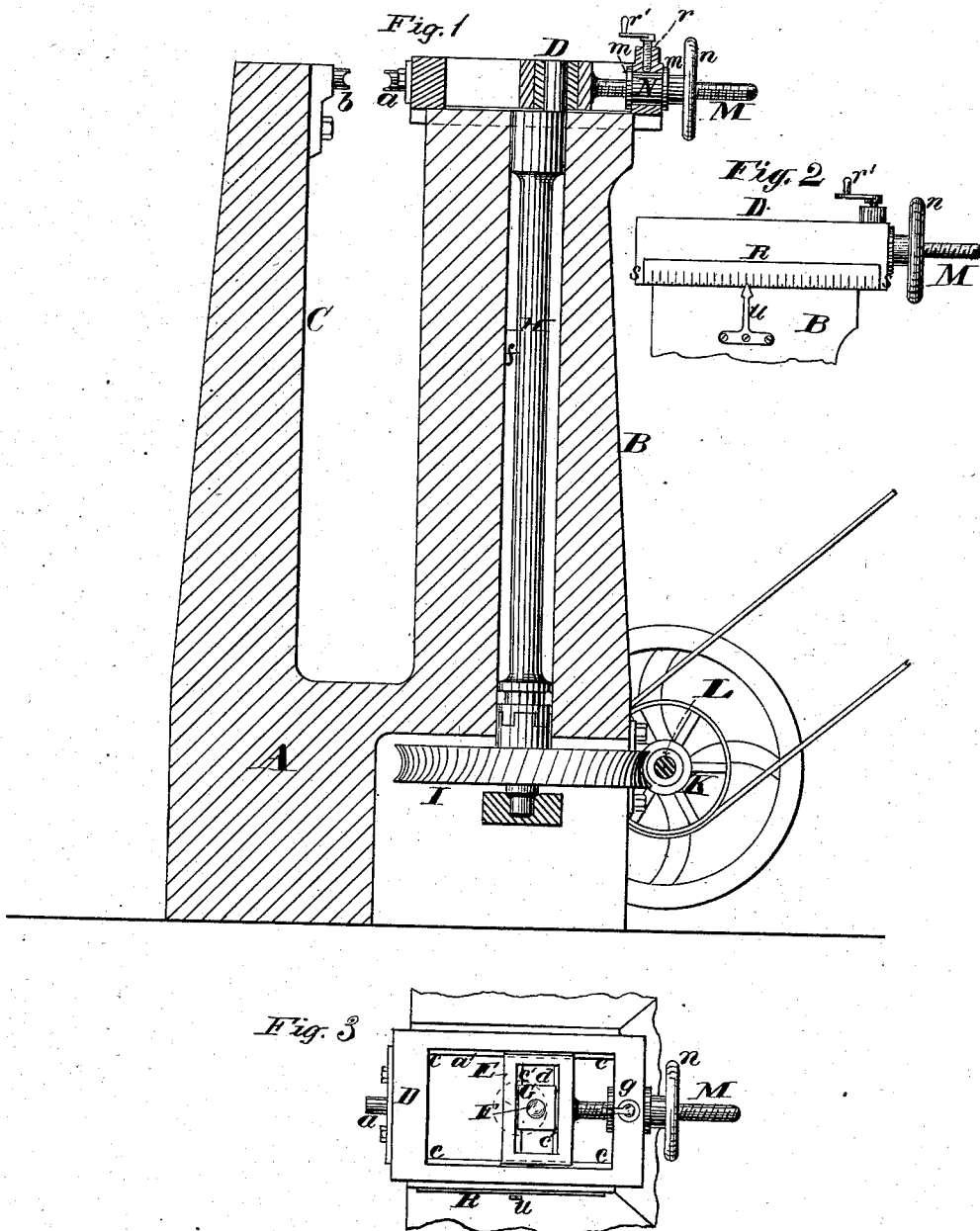


(No Model.)

R. KENT.  
RIVETING MACHINE.

No. 257,589.

Patented May 9, 1882.



Witnesses  
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# UNITED STATES PATENT OFFICE.

ROBERT KENT, OF BROOKLYN, NEW YORK.

## RIVETING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 257,589, dated May 9, 1882.

Application filed October 19, 1881. (No model.)

To all whom it may concern:

Be it known that I, ROBERT KENT, of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Riveting-Machines, of which the following is a specification.

This invention is designed to provide a novel, simple, and effective means for regulating the throw of the punch in a power-press, and also to readily indicate to the eye of the operator the exact distance between the end of the punch and its corresponding die.

Figure 1 is a central vertical sectional view of an apparatus embraced in my said invention. Fig. 2 is a side view, and Fig. 3 a plan view, of certain parts thereof.

A is a strong vertical supporting-frame, of the form shown in Fig. 1, and which, instead of being built up in the manner of the frame of an ordinary riveting-machine, is made in a single iron casting, thereby giving it greatly increased strength and permanence, B being the standard which supports the moving parts which carry the punch *a*, and C being the standard which supports the stationary die *b*, against or in conjunction with which the punch *a* is intended to act.

D is a head arranged to have a reciprocating movement toward and away from the die *b*, and for that purpose secured upon the top of the standard B, and attached thereto by suitable guides or ways. The attachment of the head D to the top of the standard B may be accomplished by various mechanical devices, all of which are within the ordinary workshop skill of machinists of average ability and experience. The head itself, however, is constructed with a large central opening, *c*, the longitudinal or longest sides *a'* of which are V-shaped in order to fit into correspondingly-shaped grooves in the ends of the block E, as more fully represented in Fig. 3, so that the said block may be moved lengthwise of the opening *c* when required. This block E is itself provided with a long transverse opening, *d*, in which is placed a crank-block, G, this crank-block having its edges grooved to fit upon V-shaped guides *c'*, provided at the longest sides of the opening *d*. A crank, F, extends through a suitable socket or bearing in the crank-block G. The said crank F is formed upon the upper end of a vertical shaft, H, which

extends through a suitable bore, *f*, provided in the standard B, and which is supported in suitable bearings provided at top and bottom of said bore *f*. The shaft H, and consequently the crank G, is rotated by means of a worm-wheel, I, into which gears a worm, K, on a driving-shaft, L, which may be rotated by a suitable belt and pulley, as indicated in Fig. 1. The block E is provided with a screw-threaded stem, M, which extends backward therefrom through a nut, N, which externally is of cylindrical form and situated in a cylindrical socket formed in the rearmost end, *g*, of the head B, the said nut N having at each end a flange, *m*, one of which bears against the inner and the other against the outer surface of the end *g* of the head B aforesaid. To this nut N, furthermore, is provided a hand-wheel, *n*, whereby it may be turned when occasion requires. A set-screw, *r*, turned by a crank, *r'*, works through a vertical nut provided in the end *g* of the frame B, above the nut, in such manner that when desired the said set-screw *r* may be tightened down upon the nut N to keep the same from being accidentally or casually rotated.

Extended through one side of the head D, over the adjacent portion of its bearing upon the standard B, and extended down past the upper outer side of said standard, is a plate, R, along the lower edge of which is provided a scale of inches and fractions thereof, or of any other standard of measurement and fractions thereof; and placed in suitable relation with this scale S, and affixed to the adjacent surface of the standard B, is an index, U.

When the block E is fixed at any place along the length of the opening *c* of the head D the rotation of the crank G will communicate a reciprocating movement to the said block E, and consequently to the head D and its punch *a*, thereby operating the latter in due relation with the die *b*.

When it is desired to adjust the punch *a* so that its backward stroke will be limited to any given distance from the face of the die *b*, it is only necessary, by loosening the screws *r* and turning the nut N, to move the block E one way or the other in the opening *c* in order to bring the crank-block G at a greater or less distance from the punch *a*, whereupon by tightening the screws *r* the nut is prevented

from being casually turned, and the block E, and of course the crank-block G, are fixed at the desired location with reference to the head D; and inasmuch as the relative longitudinal position of the head D with reference to the die *b* is indicated by the index U and scale S, it follows that the maximum distance between the faces of the punch *a* and of the die *b* may be readily and accurately adjusted for any desired thickness of plate to be punched, or for any of the exigencies of the work in which such accuracy of adjustment may be desirable.

What I claim as my invention is—

1. The combination of the head D, constructed with the opening *c*, the block E, having the opening *d* and the threaded stem M and placed in the opening *c*, the crank-block G, placed in the opening *d* of the block E, the crank F, working through a suitable socket or bearing in the crank-block G, the nut N, working in the bearing provided to the head D, the punch *a*, attached to the head D, and the die

*b*, coincident with the punch *a*, the said parts being constructed and arranged for joint use and operation substantially in the manner herein described, for the purpose specified.

2. The combination of the tightening-screw *r*, the flanged collar N, the block E, having the threaded stem M, the crank-block G, crank F, and head D, carrying the punch *a*, the said parts being constructed and arranged substantially in the manner herein described, for the purpose specified.

3. The reciprocating head D, having the punch *a*, constructed with the plate R, marked to the gage S, the index U, and the die *b*, placed axially coincident with the punch *a*, all substantially as and for the purpose herein set forth.

ROBERT KENT.

Witnesses:

THOMAS E. CROSSMAN,  
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