J. Adt.

Riveting Machine.

No. 54,837. Patented May 22, 1866.

Fig: 1.

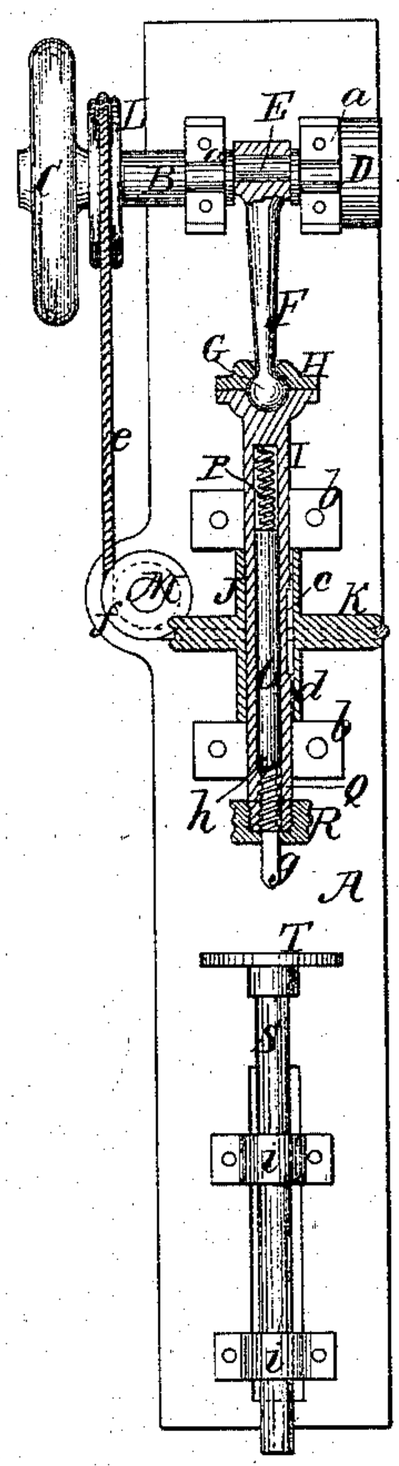
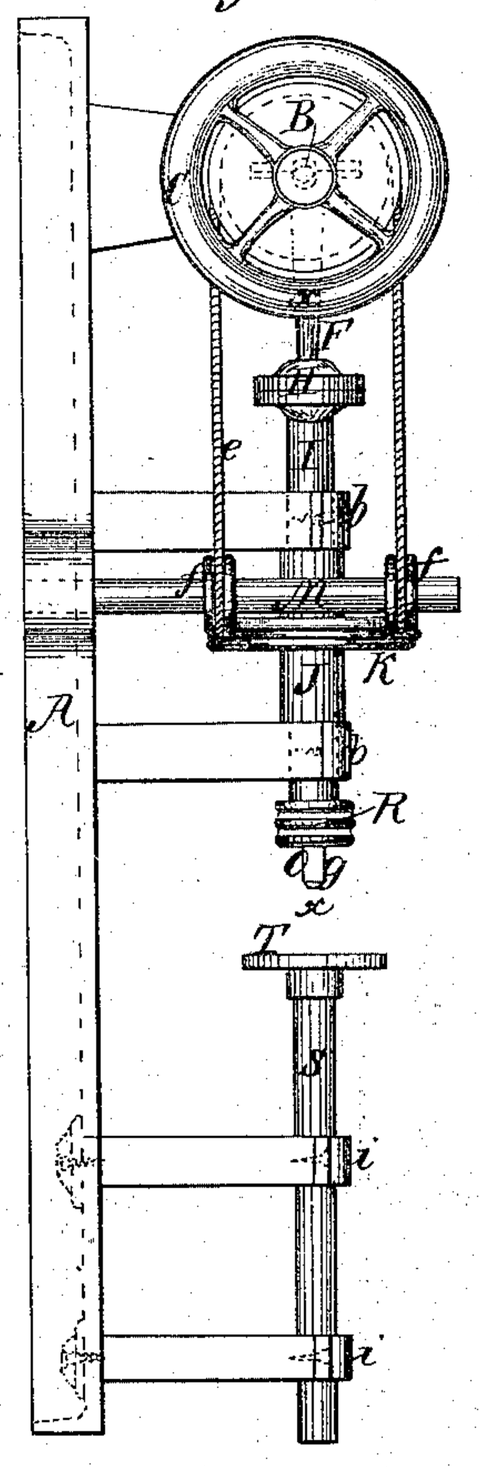


Fig: 2.



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UNITED STATES PATENT OFFICE.

JOHN ADT, OF WOLCOTTVILLE, CONNECTICUT.

IMPROVEMENT IN RIVETING-MACHINES.

Specification forming part of Letters Patent No. **54,837**, dated May 22, 1866.

To all whom it may concern:

Be it known that I, JOHN ADT, of Wolcottville, in the county of Litchfield and State of Connecticut, have invented a new and Improved Riveting-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front sectional view of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a side view of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved machine for riveting; and it consists in the employment or use of a reciprocating tube containing a hammer, rods, and springs, and operated through the medium of a crank and pitman, the tube having a pulley upon it, which is rotated by a belt from the driving-shaft, and the pulley connected with the tube by means of a feather and groove, all being aranged in such manner that a rapid reciprocating motion is given the drill-rod and a moderately-rotating one, and the operation of riveting rapidly performed.

A represents an upright plate, to which the bearings *a a* of the driving-shaft B are attached, the latter having a fly-wheel, C, upon it at the opposite end. On this shaft B, between the two bearings *a a*, there is a crank, E, to which a pitman, F, is attached, said pitman having a ball, G, on its lower end, which ball is fitted in a socket, H, at the upper end of a tube, I, as shown clearly in Fig. 1. This tube I is fitted in bearings *b b*, attached to the plate A, the tube being allowed to slide freely in said bearings, and on the tube I, between said bearings, there is fitted loosely a collar, J, having a pulley, K, upon it, the tube I having a feather, *c*, on its exterior, which fits in a groove, *d*, in the collar J, said feather and groove admitting of the tube rising and falling freely within the collar, while the latter is connected with the tube, so as to rotate it.

The collar J, and consequently the tube I, are rotated from the driving-shaft B by means of a belt, *e*, which passes around a pulley, L, on B, and underneath guide-pulleys *f f*, placed loosely on a fixed shaft, M, projecting horizontally from the plate A, and around the pulley K on the collar J, the relative dimensions of the pulleys K and L being such as to cause a moderate rotation of the tube I.

Within the tube I there is placed a rod, O, the lower part, *g*, of which is made of rectangular form, and has its end beveled to form a surface similar to a riveting-hammer. In the upper part of said tube, above rod O, there is placed a spiral spring, P, and a similar but lighter or weaker spring, Q, is placed on the lower part of said rod in the lower part of the tube, the upper end of said spring bearing against a shoulder, *h*, on rod O, and the lower end bearing against a nut, R, which is screwed on the lower end of the tube I, and has a rectangular opening in it for the lower rectangular part of the rod O to pass through, said nut insuring the rotation of rod O with tube I.

S represents a rising-and-falling rod, which is fitted in guides *i i*, attached to the plate A, and has a circular disk or bed, T, on its upper end, on which the work to be riveted is placed. This rod S may have a treadle connected with it, for the purpose of conveniently raising and lowering the work, as may be required.

The riveting is performed by the hammer-rod O, which has a rapid reciprocating motion communicated to it by the tube I, the downward stroke being communicated to rod O from the tube through the medium of the stiff spring P, while the light spring Q prevents any unnecessary play of the rod in the tube, keeping the upper end of rod O always in contact with the lower end of spring P. The gradual rotation of the rod O insures an equal action of the lower end of the latter on all parts of the work, which is held stationary on the disk or bed T by any suitable contrivance.

By this simple device the operation of riveting may be rapidly performed, and in a perfect manner. It is designed more especially for light work, and will, it is believed, be a valuable acquisition to the machine-shop.

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

1. The reciprocating and rotating tube I, op-

erated substantially as shown, in combination with the internal hammer-rod O, arranged, with the springs P Q and the nut R, or its equivalent, substantially as and for the purpose set forth.

2. The adjustable or rising-and-falling disk or bed T, in combination with the reciprocating tube I and hammer-rod O and spring P, all constructed and arranged substantially as and for the purpose specified.

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