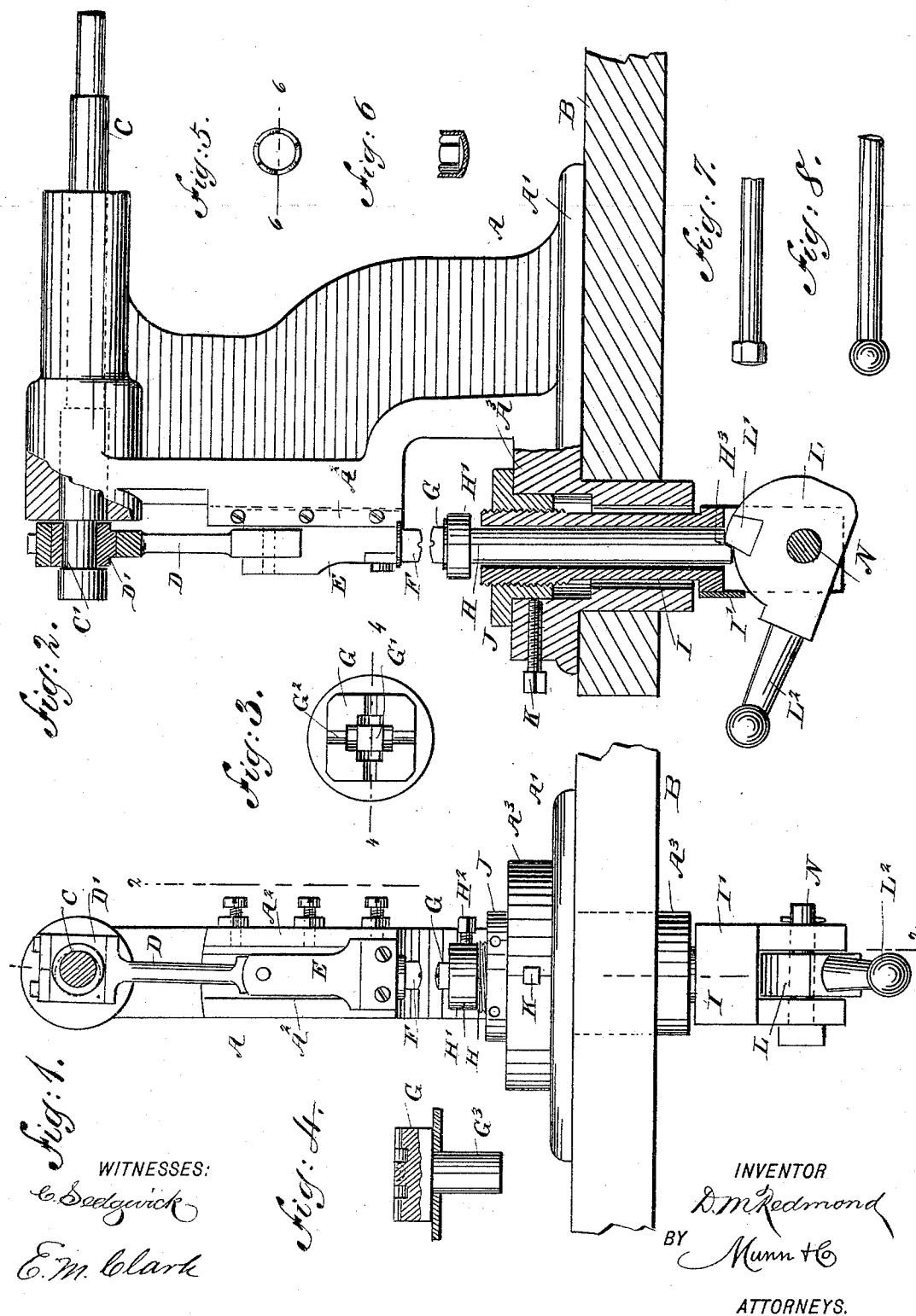


(No Model.)

D. M. REDMOND.
MACHINE FOR SECURING HEADS TO RODS.

No. 509,683.

Patented Nov. 28, 1893.



UNITED STATES PATENT OFFICE.

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MACHINE FOR SECURING HEADS TO RODS.

SPECIFICATION forming part of Letters Patent No. 509,683, dated November 28, 1893.

Application filed February 6, 1893. Serial No. 461,190. (No model.)

To all whom it may concern:

Be it known that I, DANIEL M. REDMOND, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Machine for Heading Rods, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved machine for rapidly and securely fastening heads or tips on the outer ends of rods, used in the manufacture of key rings and other articles.

The invention consists of certain parts and details, and combinations of the same, as will be hereinafter described and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front view of the improvement. Fig. 2 is a transverse section of the same on the line 2—2 of Fig. 1. Fig. 3 is an enlarged plan view of one of the dies. Fig. 4 is a side elevation of the same with parts in section on the line 4—4 of Fig. 3. Fig. 5 is an enlarged plan view of one of the tips or heads. Fig. 6 is a sectional side elevation of the same on the line 6—6 of Fig. 5; and Figs. 7 and 8 are side elevations of the finished rods.

The improved machine for heading or tipping rods is provided with a suitably-constructed frame A, formed with the base A', fastened on a bench B, or other suitable support.

In the upper end of the frame A is journaled a main driving shaft C, connected with other suitable machinery for imparting a continuous rotary motion to the said shaft. On the front end of the shaft C is formed a crank pin C', engaged by the head D' of a pitman D, pivotally-connected with a cross head E, mounted to slide vertically in suitable guide-ways A² arranged on the front end of the frame A, as plainly illustrated in Figs. 1 and 2.

In the lower end of the cross head E is secured a die F, opposite which is arranged a similar die G, each of the said dies F and G being alike in construction, that is, the face of each die is formed with a central recess G' from which extends rearwardly arranged re-

cesses G² to the outer edges of the die. The radial recesses G² are of sufficient size to accommodate the rod to be headed, while the central recess G' is adapted to receive the head or tip, and when the two dies are moved toward each other, the die compresses the sides of the head or tip to fasten the same onto the rod.

As shown in Figs. 5 and 6, the sides of each cup-shaped head may be slotted so that the individual sections of the head can be readily compressed onto the end of the rod to fasten the head in place by the pressure of the dies. The lower die G is formed with a shank G³, held in the head H' of a rod H, and adapted to be fastened in the said head by a set screw H². See Fig. 1. The rod H is mounted to slide loosely in a vertically-disposed sleeve I, formed near its upper end with exterior screw threads engaged by a nut J, mounted to turn in a suitable socket formed in an offset A³, arranged on the base A' of the frame A. The nut J is normally held in place in the socket A³ by a set screw K, screwing in one of the said sockets, as plainly shown in Fig. 2.

The head H' of the rod H is adapted to be seated on the upper end of the sleeve I so that the latter, when moved up or down, regulates the lowermost position of the die. The lower end of the rod H is formed with a shoulder H³, adapted to be engaged by a wedge L', secured in the rim of a cam L, mounted to turn on a pin N, secured in the head I', formed on the lower end of the sleeve I, the said cam L being provided with a suitable handle L², for conveniently turning the said cam L on the pin N to raise the rod H so as to move the die G toward the die F. When the handle L² is moved into an uppermost position, as shown in Fig. 2, then the shoulder H³ of the rod H drops off one side of the wedge L' so that the rod H assumes a lowermost position by its own weight thereby moving the die G away from the die F a suitable distance below the lowermost position of the said die F. It is understood that when the sleeve I is raised or lowered by turning the nut J, as above described, the head I' is likewise raised or lowered with the cam L, so that the die G may be moved nearer to or farther from the die F when the latter is in a lowermost position. Now, in order to fasten the head or tip onto

the end of the rod, I place the loose cup shown in Figs. 5 and 6 onto the end of the rod and then place the latter into one of the recesses G², so that the head rests in the central recess G' of the die G. The operator then presses the handle L² downward so that the cam L forces the rod H to slide upward, whereby the die G with the rod and head on its top surface, is moved upward toward the reciprocating die F, which latter on account of its movement hammers or presses the sides of the head or tip onto the rod, so that the head is securely fastened to the rod. The operator then swings the handle L² upward to permit the rod H to drop a sufficient distance below the upper die F when the latter is in a lowermost position, to conveniently remove the finished rod and insert another die. Another rod with a head loosely placed thereon is then placed into the die G and the above described operation is repeated.

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

1. A machine for heading rods comprising a frame, a vertically reciprocating die carrier, a second die carrier opposite the first, and a pivoted vertically turning cam on the periphery of which rests the lower end of the second die carrier, substantially as set forth.

2. A machine of the class described, comprising a reciprocating die with a central recess and branch recesses leading from the central recess, a second die mounted to slide toward and from the said reciprocating die and provided with recesses registering with the recesses of the reciprocating die, a rod carrying the said second die, and a cam for

moving the said rod upward to bring the rod and head held on the second die in contact with the reciprocating die, substantially as shown and described.

3. A machine of the class described, comprising a reciprocating die with a central recess and branch recesses leading from the central recess, a second die mounted to slide toward and from the said reciprocating die and provided with recesses registering with the recesses of the reciprocating die, a rod carrying the said second die, a cam for moving the said rod upward to bring the rod and head held on the second die in contact with the reciprocating die, a sleeve carrying the said cam and forming a bearing for the said rod, and means, substantially as described, for vertically-adjusting the said sleeve, as set forth.

4. The combination with the frame of a vertically reciprocating upper die-holder, a sleeve thereunder provided with an externally threaded upper end, a nut on said end for supporting and adjusting the sleeve, a cam mounted on the lower end of the sleeve and a die carrying rod extending down through the sleeve and resting on the cam, substantially as set forth.

5. The combination with the upper reciprocating die holder, of the lower die-carrying rod having a shouldered lower end, and a pivoted vertically turning cam having a shouldered periphery on which said rod rests, substantially as set forth.

DANIEL M. REDMOND.

Witnesses:

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