(No Model.)

R. A. CARL.

RIVETING MACHINE.

No. 424,668. Patented Apr. 1, 1890.

Fig. 2

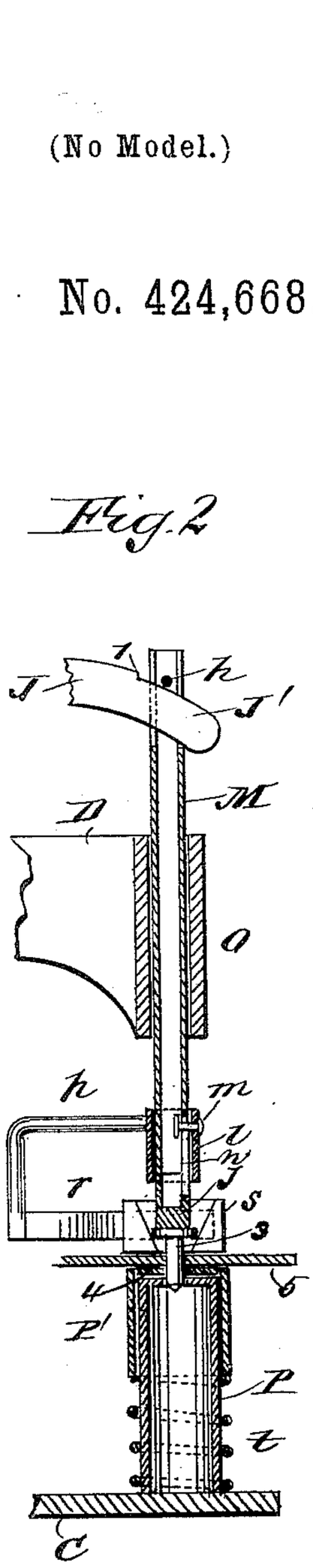


Fig. 1

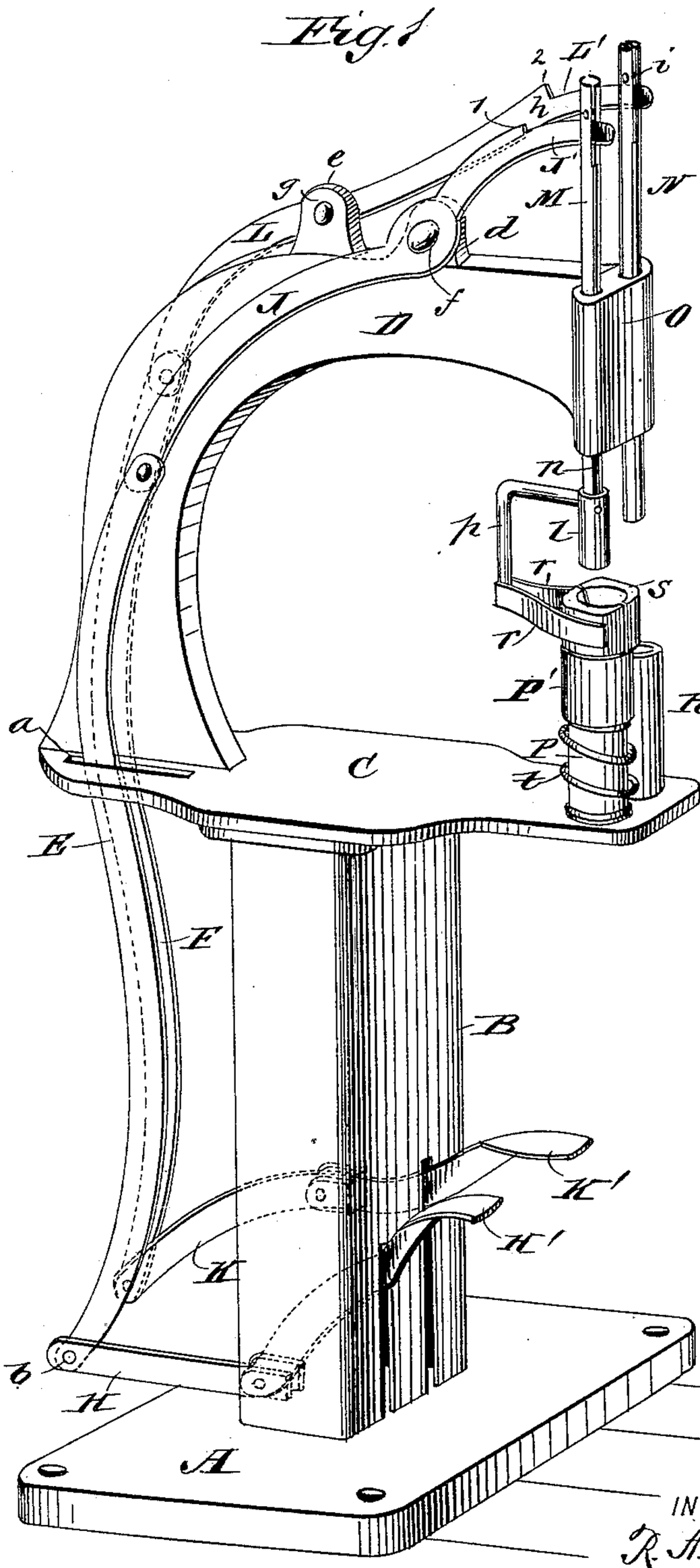
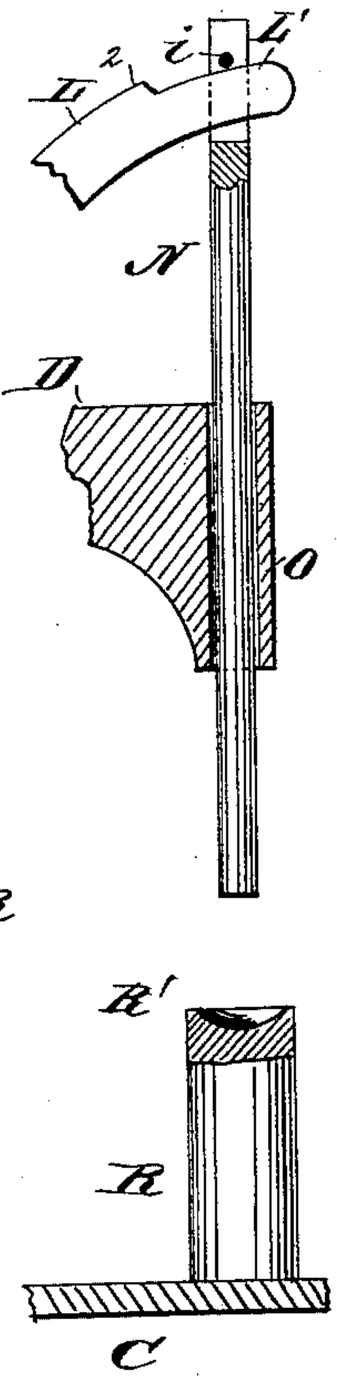


Fig. 3



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REINHOLD A. CARL, OF HEARNE, TEXAS.

RIVETING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 424,668, dated April 1, 1890.

Application filed January 3, 1890. Serial No. 335,738. (No model.)

To all whom it may concern:

Be it known that I, REINHOLD A. CARL, of Hearne, in the county of Robertson and State of Texas, have invented a new and Improved Riveting-Machine, of which the following is a full, clear, and exact description.

My invention relates to improvements in riveting-machines; and the object of my invention is to provide a simple, strong, durable, and efficient machine for attaching metal rivets to leather or other material to fasten said materials together.

To this end my invention consists of certain features of construction and combinations of parts, that will be hereinafter fully described, and specifically pointed out in the claims.

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

Figure 1 is a perspective view of the machine; Fig. 2, a vertical section of the rivet-driving mechanism, and Fig. 3 a vertical section of the rivet-heading mechanism.

The flat base A, upon which the machine rests, the upright standard or column B, attached thereto, the oblong flat plate C, attached to the column B, and the curved arm D, attached to the top of the plate C, constitute the frame of the machine.

At the rear of the machine, and extending upwardly upon each side of the arm D through slots *a* in the plate C, are vertical connecting-rods E and F, the rod E being pivoted at the lower end to the treadle-lever H by the pin *b* and at the top to the driving-lever J, and the rod F being pivoted at the bottom to the treadle-lever K and at the top to the lever L. The treadle-levers H and K are pivoted between ears upon the back side of the column B, the ears being indicated in the drawings by dotted lines, and are then curved upwardly and extend through slots in the column B to the front of the column, where they are provided with treadles H′ and K′ to receive the foot of the operator and actuate the machine, the lever K being arranged to give greater power and more play than the lever H, as it is by means of this lever that the rivets are headed. The levers J and L have a double curve, and they are pivoted to the ears *d* and *e*, respectively, at the top of the arm D by the pins *f* and *g*, the pins passing through the levers at the elbows of the curves, so that each end will curve upwardly from the point where they are pivoted.

The rear ends of the levers J and L are pivotally attached to the upper ends of the connecting-rods E and F, and they are provided with curved and reduced forward ends J′ and L′, having shoulders 1 and 2, which reduce the ends of the levers, and which will strike against the pins *h* and *i* of the driving-rods M and N and limit the forward movement of the levers, the reduced ends entering the upper split ends of the driving-rods M and N, where they are retained by the pins *h* and *i*, which pass through said rods, respectively, near the upper ends thereof.

The rods M and N work vertically in the cross-head O at the outer end of the arm D. The rod M is hollow, except at the lower end *j*, which is solid, and the rod N is solid throughout, but may be hollow with a solid lower end like the rod M. The rod M at the lower end is provided with a sleeve *l*, which is attached to the rod by the rivet *m*, which moves in a slot *n* in the front of the rod M, so that the sleeve may move upon the rod or the rod within the sleeve, as the case may be. Attached to the rear of the sleeve *l* is an angular frame *p*, which extends inwardly and downwardly, and the lower end of which is provided with two forwardly-extending spring-arms *r*, which support the separable rivet-holder S, the arms *r* being of a length that will bring the rivet-holder directly beneath the driving-rod M. The rivet-holder S is split vertically from front to rear, and is provided with a central vertical recess to receive the stem of a rivet, the upper part of said recess being flaring, as shown, to receive the head of the rivet.

The rivet-holder S is supported by the arms *r* and frame *p*, so that it will rest normally just above the upright P, which is of tubular form, and is attached to the frame-plate C, so as to be in a vertical line with the driving-rod M. The upright P is of about the same diameter as an ordinary rivet-burr, and is closed at the top, except for a central perforation, which receives the point of a rivet when it is

driven home, as will be explained hereinafter. The upright P is provided with a sleeve P′, which extends normally a little above the top of the upright, and is supported in this position by a spiral spring *t*, which is coiled around the upright below the sleeve, the upper end bearing against the sleeve and the lower end resting upon the plate C.

At the side of the upright P and in vertical line with the rod N is an upright R, which also rests upon the plate C, and is provided with a slightly-dishing solid metal top R′, upon which the rivet is headed.

The machine is operated as follows: The rivet-holder S, the frame *p*, to which it is attached, and the sleeve *l*, connected therewith, are raised vertically, the sleeve sliding down upon the driving-rod M. A rivet 3 is then inserted in the rivet-holder S and the rivet-burr 4 in the top of the sleeve P′. The hole in the rivet-burr will thus be directly above the perforation in the top of the upright P. A piece of leather 5 to be riveted is then placed between the rivet-holder S and the top of the upright P. The operator then presses with the foot upon the treadle H′. This depresses the front end of the treadle-lever H and raises the rear end, thus raising the connecting-rod E and the rear end of the lever J. When the rear end of the lever J is raised, its forward end J′ will be forced downwardly and will act upon the driving-rod M, and the driving-rod will be forced downwardly until the rivet-holder rests upon the leather, when, the rod acting upon the rivet 3, the rivet-head forces apart the holder S and is driven through the leather 5 and into the burr 4, as shown in Fig. 2. The leather 5, with the rivet and burr thereon, is then placed upon the upright R with the rivet resting upon the metal top R′. The operator then steps upon the treadle K′, which operates connecting-levers like those already described and forces the rod N upon the rivet, thus heading the same and attaching it to the burr. The rear ends of the treadle-levers H and K and the lower ends of the connecting-rods E and F should be sufficiently heavy to drop back into place and raise the rods M and N when the pressure is removed from the treadles H′ and K′. The leather 5, with the rivet and burr attached, is then pulled from between the rivet-holder S and sleeve P′.

The rivet used in this machine has a flat head, a round stem, and a sharp point, and I claim the same as my invention, and am about to apply for Letters Patent therefor.

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

1. A riveting-machine consisting, essentially, of the upright frame A B C D, having the cross-head O in the upper front part thereof, the vertical driving-rods M and N, adapted to move in said cross-head, the upright P, with perforated top and spring-actuated sleeve P′, attached to the frame below the rod M, the separable rivet-holder S, attached to said rod by the arms *r*, the frame *p*, and the sleeve *l*, as shown, the upright R, with solid top R′, attached to the frame below the rod N, and means, as pivoted levers J and L at the top of the machine, connecting-rods E and F, and treadle-levers H and K, for actuating the driving-rods M and N, substantially as described.

2. In a riveting-machine, the combination, with the frame of the machine, and with the driving-rods M and N, adapted to move in the cross-head O thereof, of the levers J and L, pivoted to the top of the frame, having reduced ends J′ and L′ to engage the split ends of the driving-rods, and having connecting-rods E and F and treadle-levers H and K, for actuating the same and imparting motion to said driving-rods, substantially as described.

REINHOLD A. CARL.

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