

(No Model.)

2 Sheets—Sheet 1.

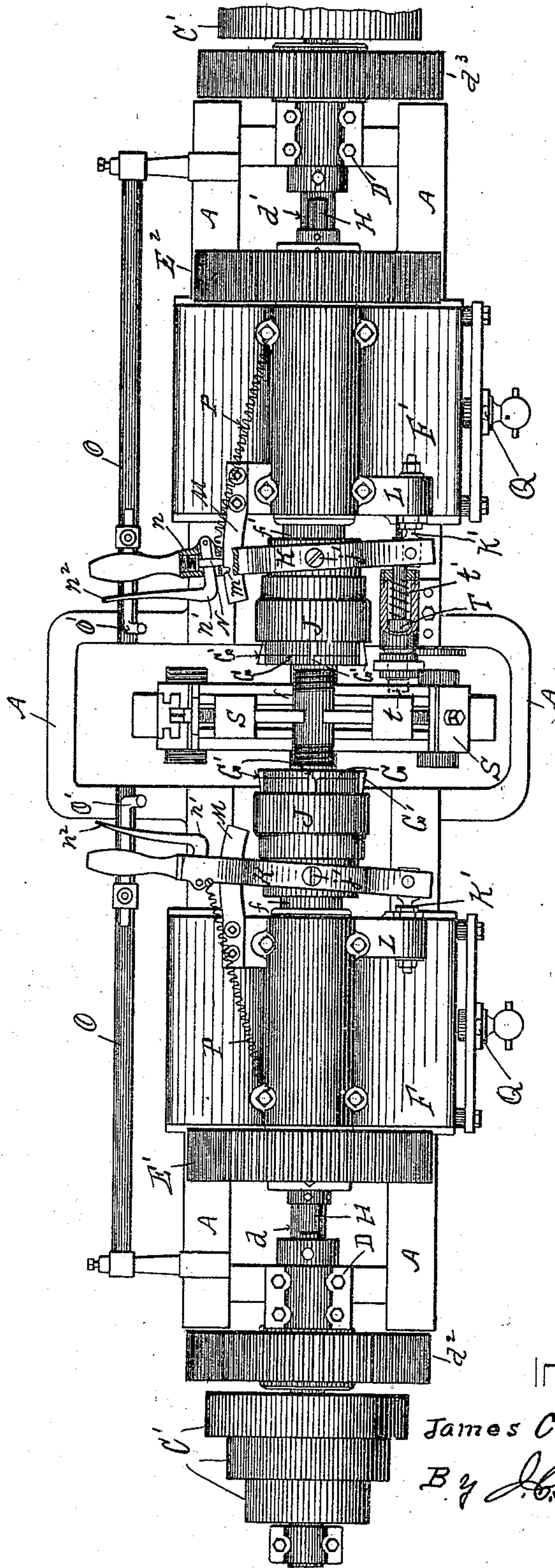
J. C. WILLIAMS.

DOUBLE ENDED PIPE NIPPLE THREADING MACHINE.

No. 553,144.

Patented Jan. 14, 1896.

Fig. 1.



WITNESSES.

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(No Model.)

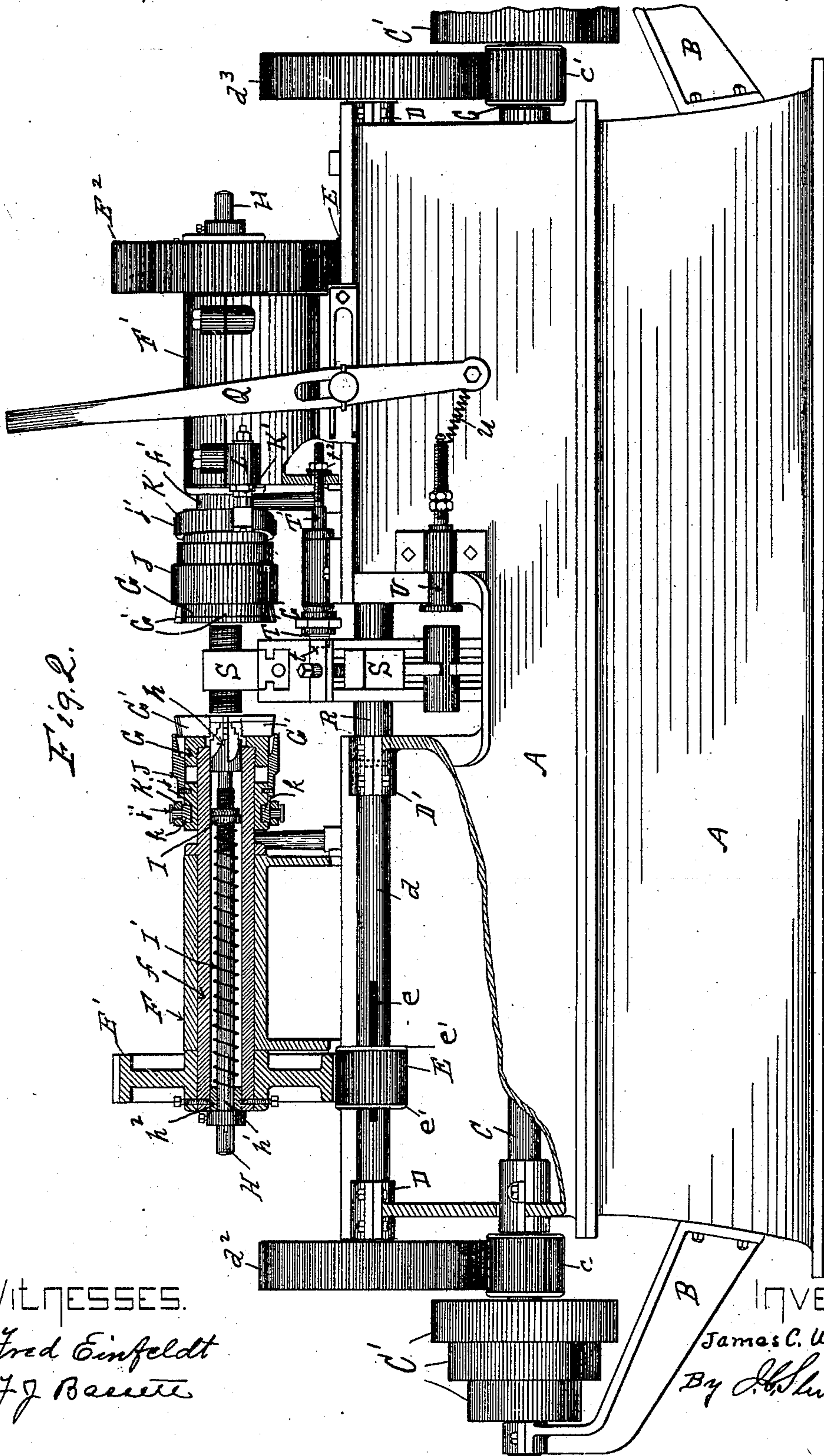
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# UNITED STATES PATENT OFFICE.

JAMES C. WILLIAMS, OF ERIE, PENNSYLVANIA, ASSIGNOR TO THE JARECKI MANUFACTURING COMPANY, LIMITED, OF SAME PLACE.

## DOUBLE-ENDED PIPE-NIPPLE-THREADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 553,144, dated January 14, 1896.

Application filed December 24, 1894. Serial No. 532,831. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES C. WILLIAMS, a citizen of the United States, residing at the city of Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Double-Ended Pipe-Nipple-Threading Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

My invention consists in the improvements in double-ended pipe-nipple-threading machines hereinafter set forth and explained and illustrated in the accompanying drawings, in which—

Figure 1 is a top or plan view of my improved double-ended pipe-nipple-threading machine, part of the driving-pulleys being broken away at one end thereof. Fig. 2 is a front view of the same, partially in elevation and partially in section.

In the construction of my improved double-ended nipple-threading machine illustrated in the accompanying drawings, A is the frame of the machine, and B B arms extending from the ends thereof for supporting the outer ends of the shafts C, upon which cone driving-pulleys C' are mounted. In boxes D D' on the frame A are mounted shafts  $d$   $d'$ , these shafts being driven by pinions  $c$   $c'$  on the shafts C, intermeshing with gear-wheels  $d^2$  and  $d^3$  on the ends of the shafts  $d$  and  $d'$ . On the shafts  $d$  and  $d'$  are pinions E secured to said shafts by means of ordinary splines and grooves  $e$ , so that they will travel freely longitudinally on the shafts  $d$  and  $d'$ . (See Fig. 2.)

On the top of the frame A are two sliding tool-heads F and F' adapted to travel longitudinally on ways on said frame A, and in these heads F and F' are mounted hollow shafts  $f$  and  $f'$ , to the outer ends of which hollow shafts are secured gear-wheels E' and E<sup>2</sup>, which intermesh with and are driven by the pinions E on the shafts  $d$  and  $d'$ , these pinions E being provided with collars  $e'$ , by

means whereof they are moved along the shafts  $d$  and  $d'$  by the travel of the gear-wheels E' and E<sup>2</sup> as they are carried along by the traveling tool-heads F and F'.

On the inner ends of the shafts  $f$  and  $f'$  are secured hollow die-heads G, in which are threading-dies G' adapted to open to allow them to be moved back after a thread is cut on a nipple and be closed up ready to cut a new thread when the head is moved back from the nipple, as hereinafter set forth.

In each of the hollow shafts  $f$  and  $f'$  there is a rod H, which is provided on the inner end thereof with stepped reamer  $h$ , adapted to enter the ends of different-sized nipples which are being threaded and ream them sufficiently to remove any bur left thereon by the cutting of the pipe from which they are made. The rods H are prevented from turning relatively to the shafts  $f$   $f'$ , so as to make the reamers  $h$  thereon operative, by means of a spline and groove  $h'$  communicating with fixed collars  $h^2$  secured in the outer ends of the hollow shafts  $f$  and  $f'$ , through which collars the rods H slide freely. On these rods H are also adjustable screw-collars I, between which and the fixed collars  $h^2$  are spiral springs I', which operate to force the rods H forward, so as to make the reamers  $h$  thereon operative.

The threading-dies G' move in and out in radial grooves in the die-heads G, secured to the inner ends of the hollow shafts  $f$  and  $f'$ , and for operating these dies G' in and out of said heads G sliding collars J are provided on the shafts  $f$  and  $f'$ , which slide over and engage the dies G', so that the movement of the collars J longitudinally on the said shafts operates to move the dies G' in and out of the heads G, as desired. To these sliding collars are connected levers K by means of loose rings  $k$ , operating in grooves  $j$  in the collars J, the levers K being pivoted to said collars by means of stud-pins  $j'$ . One end of each of said levers K is pivoted to an adjustable bearing K' in a projection L on each of the tool-heads F and F', and is so arranged that this fulcrum can be moved in and out for the adjusting of the movement of the dies G'.

To the opposite sides of the sliding tool-heads F and F' are secured segments M, each provided with a notch  $m$ , and on each of the



levers K there is a spring-dog N adapted to engage the notch *m*, these spring-dogs N being operated in one direction by a spring *n* and in the other by a bell-crank lever *n'*, and on the back of the frame A are rods O, to which are secured adjustable stops O', adapted to engage the arms *n*<sup>2</sup> of the bell-crank levers *n'* and withdraw the spring-dogs N from the notches *m* just at the time the tool-heads F and F' have traveled toward each other the full length of the threads being cut on the ends of a nipple, and when the dog N has been so withdrawn from the notch *m* retracting-springs P, extending from the tool-heads F and F' to the levers K, operate on said levers to draw them back, which operation moves the sliding collars J on the shafts *f* and *f'* back, so as to open and release the threading-dies G' from the threads being cut, when the tool-heads F and F' can be moved back by the operator, so as to clear the ends of the nipple, by means of levers Q pivoted to the frame A and adjustably pivoted to the sliding tool-heads F and F'.

On a short shaft or bearing R, mounted in the inner ends of the boxes D' and between the tool-heads F and F', is a revolving multiple chuck S, adapted to hold the nipples being cut in proper position between the die-heads G G. This chuck S is adapted to hold three or more nipple-blanks, so that the operator can remove a finished nipple and replace it with a new blank while another blank is being threaded. To provide a stop for holding the chuck in proper position until the ends of the nipple-blank enter the threading-dies, a spring-catch T is mounted on the frame A, adapted to enter depressions *t* (shown in dotted lines) in one side of the revolving chuck S, a spring *t'* operating on the catch T to force it into engagement with the chuck S, and on the rear end of the catch T is a rod T', which passes through an opening in the frame of the sliding tool-head F', (see Fig. 2,) where it is provided with adjusting-nuts, so that when the tool-head F' is moved back from the nipple the catch T is withdrawn thereby from the opening *t* in the chuck S, so that the chuck S can be freely rotated to bring another nipple-blank into position to be threaded.

On the side of the frame A is also mounted an adjustable guide U, against which one end of the nipple-blank is placed when being secured in the chuck S, so as to insure its being clamped centrally in the clutch, a retracting-spring *u* operating on said guide U to draw it back when not in use.

It will be observed that in operating this machine a crossed driving-belt is used on one

set of the driving-pulleys C', while a straight belt is used on the other.

Having thus fully described my invention, so as to enable others to construct and use the same, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a screw threading machine, the combination, with a longitudinally-slidable tool head, a revoluble shaft journaled in the tool head and provided with a die head and radially movable dies carried thereby; of means for sliding the said tool head, a slidable collar mounted on the said shaft and operating to move the said dies, a lever pivoted to the tool head and operatively connected to the said collar and provided with a spring-actuated retaining catch, a spring for moving the said lever and collar in one direction, and a stationary stop arranged in the path of the said catch and operating to release it and permit the lever to move the dies automatically when the said tool head arrives at a prearranged position, substantially as set forth.

2. In a screw threading machine, the combination, with a revoluble chuck for holding pipe nipples, of a slidable tool head, a shaft journaled in the said tool head parallel with the axis of the said chuck, screw cutting dies carried by the said shaft, and a catch operatively connected to the said tool head and engaging with a recess in the said chuck when the tool head is slid forward, whereby the said chuck is prevented from revolving during the cutting of the screwthread, substantially as set forth.

3. The combination in a double pipe nipple threading machine, of a central revoluble multiple chuck for holding pipe nipples, a sliding tool-head traveling on ways on the machine frame toward and from each side of said chuck, hollow shafts mounted in said tool-heads, hollow die heads on said shafts, radially moving threading dies in said heads, collars on said heads engaging and operating said threading dies, lever stop and spring mechanism for automatically opening said dies, reamers operating through said hollow shafts and die heads for automatically reaming the ends of nipples being threaded, and lever mechanism for moving the tool-heads back after the dies are opened, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES C. WILLIAMS.

Witnesses:

FRED EINFELDT,  
H. J. CURTZE.