

No. 723,403.

PATENTED MAR. 24, 1903.

T. MURRAY.
SELF ADJUSTING SCREW CUTTING MACHINE.

APPLICATION FILED NOV. 13, 1902.

NO MODEL.

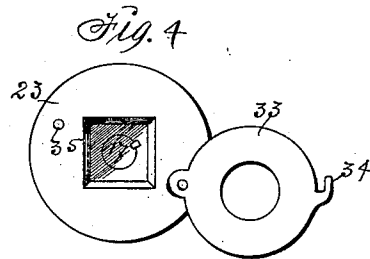
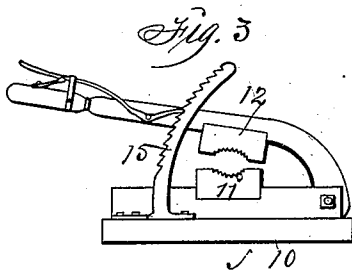
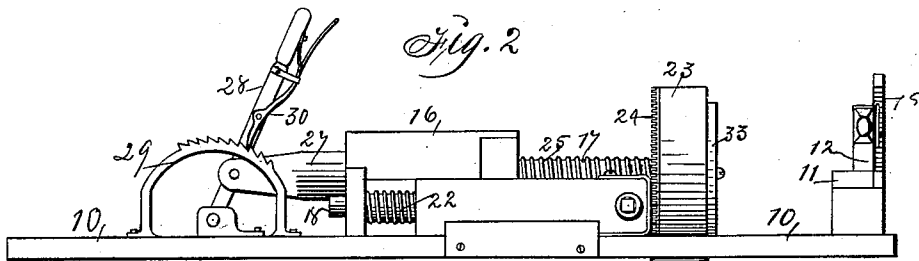
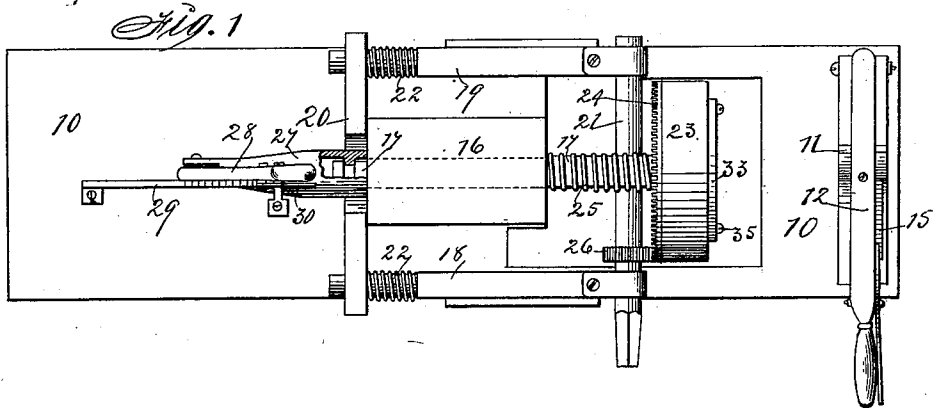
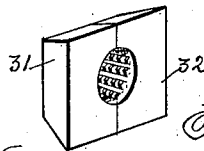


Fig. 5



Witnesses:
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UNITED STATES PATENT OFFICE.

THOMPSON MURRAY, OF DES MOINES, IOWA.

SELF-ADJUSTING SCREW-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 723,403, dated March 24, 1903.

Application filed November 13, 1902. Serial No. 131,285. (No model.)

To all whom it may concern:

Be it known that I, THOMPSON MURRAY, a citizen of the United States, residing at Des Moines, in the county of Polk and State of Iowa, have invented a new and useful Self-Adjusting Screw-Cutting Machine, of which the following is a specification.

My object is to provide a portable self-adjusting screw-cutting machine adapted for securely fastening one end of a tube, bar, or bolt thereto, connecting interchangeable dies therewith, and manually rotating the dies and advancing them by simply turning a crank by hand.

My invention consists in the construction, arrangement, and combination of parts, as hereinafter set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a top view that shows the relative positions of the operative elements as combined with a flat-bottomed base. Fig. 2 is a side elevation of the machine. Fig. 3 is an end view showing the clamp for detachably fastening a tube or bolt. Fig. 4 is a face view of a wheel adapted to serve as a lathe-chuck on a rotary shaft for holding and operating dies and also adapted to serve as a face-wheel for rotating a shaft. Fig. 5 is a perspective view of a die formed in two separable parts and adapted to be placed in the chuck loosely and secured therein in such a manner that it will be self-adjusting relative to the chuck as required to cut threads on a tube, rod, or bolt extended in the chuck.

The numeral 10 designates a flat metal base of oblong shape, that may vary in size and weight as desired. The lower member 11 of a clamp for fastening a tube or rod in the machine is fixed across the top of one end of the machine, and the mating member 12 is hinged thereto, as shown in Fig. 3 or in any suitable way, and terminates at its free end in a handle to engage a rack 15, fixed to the base as required to lock the hinged member fast upon an object extended across and resting upon the lower fixed member of the clamps.

On top of the central portion of the base 10 is fixed a block or frame 16 to serve as a bearer for a rotatable shaft 17, extended through the bearer, and also to serve as a guide for two parallel shaft-bearers 18 and 19, slidably mount-

ed in bearings formed in or fixed to a cross-piece 20, fixed to the base in rear of the bearer 16, as shown in Fig. 1 or in any suitable way, for carrying a rotatable shaft 21 at their front ends. Coil-springs 22 are placed on the bearers 18 and 19 to normally press the shaft 21 forward. A die-chuck 23, that has a face-wheel 24 formed on or fixed thereto, is fixed to the front end of the shaft 17, and a coil-spring 25 is placed on the shaft to normally press the die-chuck forward, and a gear-wheel 26 is fixed on the shaft 21 to engage the face-wheel 24 in such a manner that when a crank-handle is placed on the end of the shaft the die-chuck can be rotated as required for operating dies placed in the chuck. The rear end of the shaft 17 is rotatably connected with a movable holder 27, as shown in Fig. 1 or in any suitable way, so that the shaft can rotate and also move longitudinally. A lever 28 is fulcrumed to the base 10 and pivotally connected with the end of the holder as required for thereby moving the holder longitudinally. A rack 29 is fixed to the base in position as required to be engaged by a pawl 30, carried by the lever for locking the lever and retaining the holder 27 and shaft 17 stationary, while the end of a tube or rod is adjusted in the jaws of the clamping device preparatory to cutting a screw on its end.

The die-chuck 23 has a tapering angular cavity at its center to admit dies formed in separable parts 31 and 32 and corresponding in form and size with the cavity in the chuck. A disk 33 is pivoted to the front face of the chuck and provided with a hook 34 to engage a fixed stud 35 to serve as a means of retaining the dies in the chuck 23 in such a manner that they will rotate with the chuck as required to cut threads on the end of the tube or rod that extends into the cavity as the shaft 21 and chuck 23 are rotated and advanced by power stored in the coil-springs 22 and 25, that serve as a means of feeding the dies relative to a stationary tube or rod upon which they operate.

Having thus described my invention, its purpose, and operation, its practical utility will be readily understood by persons familiar with the art to which it pertains, and what I claim as new, and desire to secure by Letters Patent, is—

1. In a screw-cutting machine, a base, a rotatable shaft slidably mounted on the base, a die-chuck fixed to the front end of said shaft, a face-wheel fixed to said shaft on the rear side of the chuck, a rotatable shaft mounted in sliding bearers on the base and a gear-wheel on said shaft to engage the face-wheel, arranged and combined to operate in the manner set forth.
2. In a screw-cutting machine, a base, a rotatable shaft slidably mounted on the base, a die-chuck fixed to the front end of the shaft, an angular cavity in the front face of the chuck, a face-wheel fixed to said shaft on the rear side of the chuck, a rotatable shaft mounted in sliding bearers on the base and a gear-wheel on said shaft to engage the face-wheel, means for moving the shaft that carries the die-chuck longitudinally and means for rotating the shaft in sliding bearings and having a fixed gear-wheel, arranged and combined to operate in the manner set forth.
3. In a screw-cutting machine, a rotatable shaft slidably mounted in fixed bearings, a tool-holder connected with the rear end of the shaft; a lever pivoted to the tool-holder and means for locking the lever to retain the holder and rotatable shaft stationary, and a clamping device for fastening a tube or rod, arranged and combined to operate in the manner set forth for the purposes stated.
4. A portable screw-cutting machine comprising a base, a shaft-bearer fixed to the central portion of the base, a rotatable shaft slidably mounted in said bearer, a die-chuck fixed to the front end of said shaft, a face-wheel on the rear side of the die-chuck, a rotatable shaft mounted in sliding bearings, coil-springs on the sliding bearings, a coil-spring on the rotatable and sliding shaft that carries the die-chuck, a gear-wheel on the rotatable shaft in the sliding bearings, a holder connected with the rear end of the shaft that carries the chuck, means for moving the holder longitudinally, means for retaining the holder stationary and means for fastening a tube or rod to the base to extend into the die-chuck, arranged and combined to operate in the manner set forth for the purposes stated.

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Witnesses:

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