(No Model.)

J. A. BECHER.

SCREW CUTTING MACHINE.

No. 599,924. Patented Mar. 1, 1898.

Fig. 1.

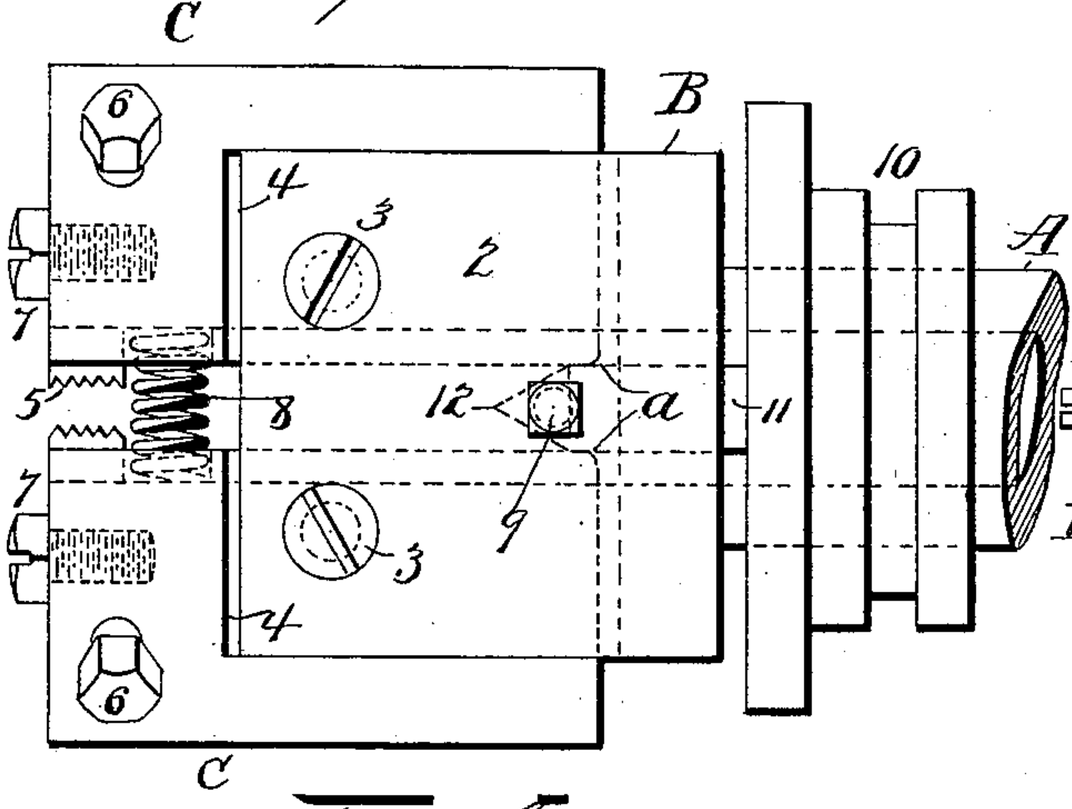


Fig. 2.

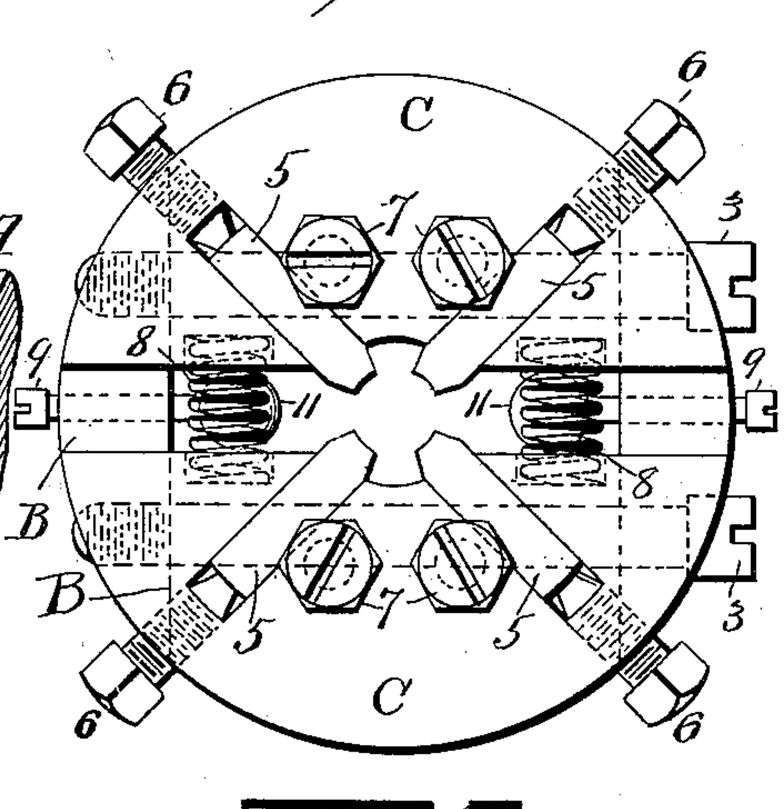


Fig. 4.

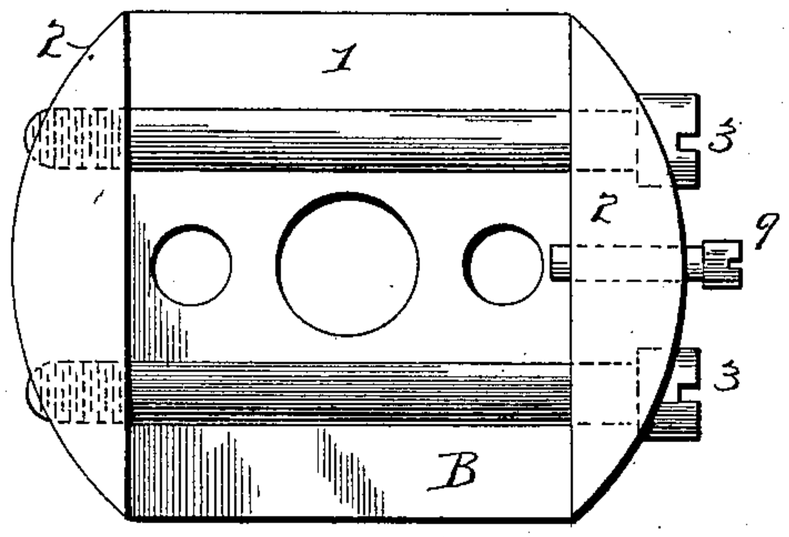


Fig. 5.

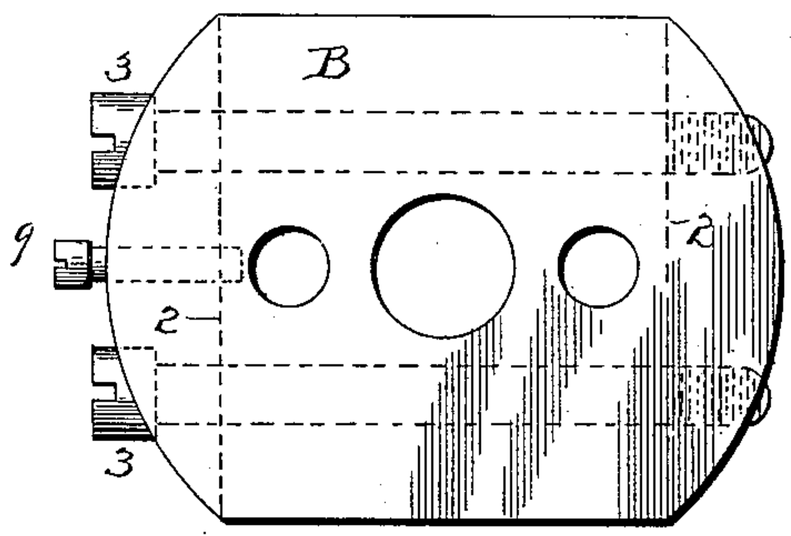
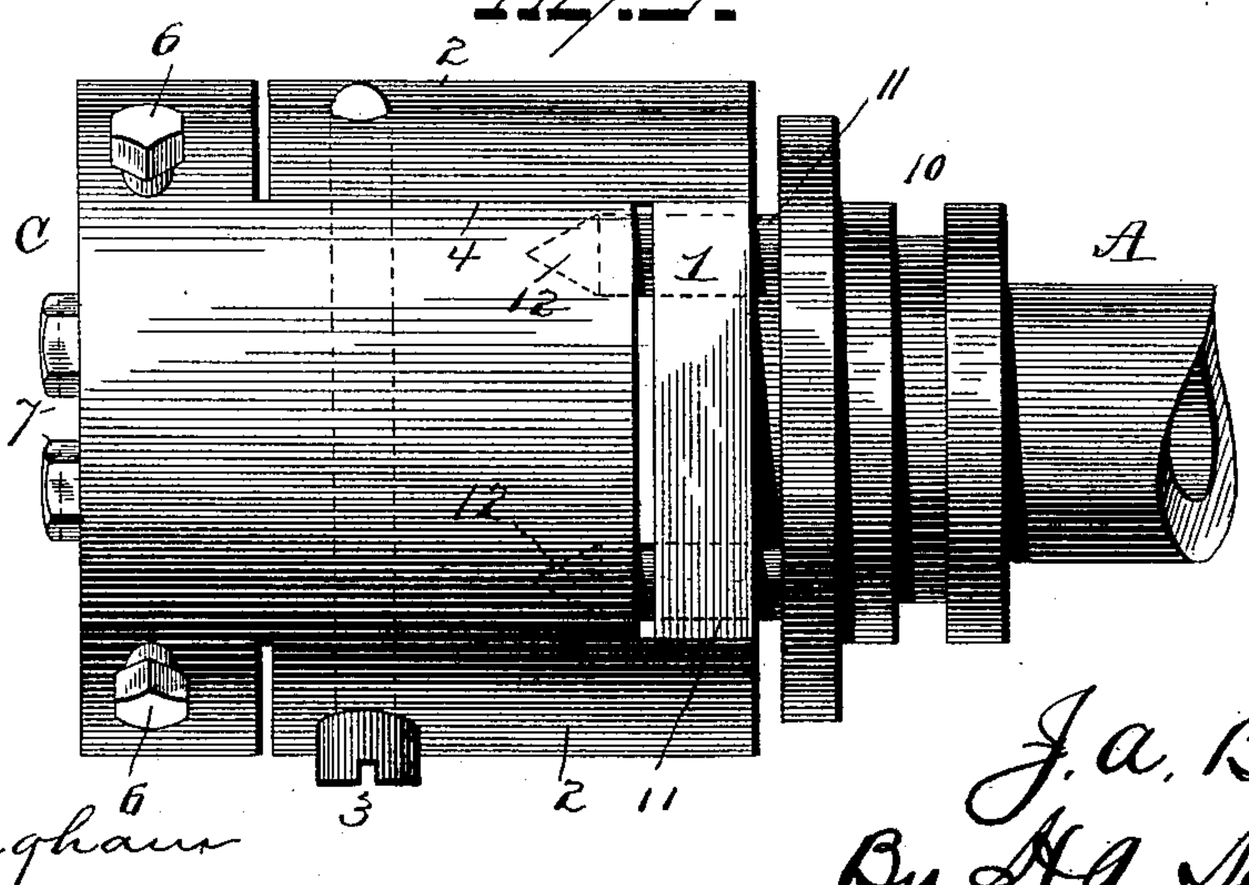


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES A. BECHER, OF MISHAWAKA, INDIANA.

SCREW-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 599,924, dated March 1, 1898.

Application filed June 22, 1897. Serial No. 641,789. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. BECHER, a resident of Mishawaka, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Screw-Cutting 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.

My invention relates to an improvement in screw-cutting machines, the object of the invention being to so construct a screw-cutting machine that the pivoted jaws which carry the cutting-dies shall possess great strength and be capable of withstanding great strain without liability of affecting in any manner their form and rigidity and without detracting in the slightest degree from their efficiency in accurately cutting threads during the operation of the apparatus and without rendering the jaws ineffectual in the proper performance of their office during subsequent operation of the machine.

A further object is to provide a screw-cutting machine which shall be simple in construction and which shall be effectual in all respects in the performance of its functions.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claim.

In the accompanying drawings, Figure 1 is an elevation of a screw-cutting machine embodying my improvements. Fig. 2 is an end view. Fig. 3 is a plan view. Fig. 4 is a front end view of the yoke or head, and Fig. 5 is a rear end view showing the yoke or head.

A represents a shaft to which my improvements are connected, any suitable means being provided for rotating the same. To the end of the shaft A a head or yoke B is secured, said head or yoke comprising a base 1 and parallel arms 2 2, projecting forwardly from said base, the latter being rigidly secured to the end of the shaft A in any suitable manner.

Between the parallel arms 2 2 of the yoke A two jaws C C are disposed and pivotally supported by means of transverse pins 3 3, the ends of which are mounted in the arms 2 of the head or yoke. The general form of each jaw C is semicircular, the front end thereof marking a complete semicircle, while the body portion is flattened at diametrically opposite sides, as at 4, and these flattened sides lie parallel with the inner faces of the arms 2 of yoke B. The pivotal points of the jaws within the yoke or head are approximately in the center of the former and near the free ends of the arms 2 of the latter.

From the above it will be seen that the yoke or head B consists of a comparatively small amount of stock, while the jaws C consist of a very large amount of stock, and the body portions thereof fill the wide space between the arms 2 of the yoke. Thus by means of my construction I am enabled to employ large, stout, and durable jaws capable of withstanding any pressure to which they may be subjected without the slightest liability of being strained or in any manner incapacitated for the proper performance of their functions throughout numerous operations of the apparatus.

The semicircular ends of the jaws C are each made with two or more grooves for the reception of a corresponding number of cutting-dies 5, and with each die, groove, or socket a screw-threaded hole communicates for the reception of a screw 6 by means of which to retain the die in proper longitudinal adjustment. The dies will be retained in their grooves or sockets by means of the heads of screw 7, inserted in the ends of the jaws C.

The front ends of the jaws which carry the dies will be normally forced apart by means of coiled springs 8 and will be maintained normally an equal distance from the longitudinal axis of the apparatus by means of a pin or screw 9 passing through one or both of the arms 2 of the yoke and terminating between the rear ends of the jaws.

In order to provide simple and efficient means whereby to close the forward ends of the jaws to bring the dies into engagement with the bolt or other device to be threaded, I may mount a grooved collar 10 on the shaft A, so as to rotate therewith and be capable of sliding thereon, and with said grooved collar a suitable lever is adapted to engage in a manner similar to the arrangement employed in the operation of clutches. The sleeve or collar 10 is provided with two or more arms

or pins 11, which project loosely through holes in the base-plate 1 of the yoke B and have beveled forward ends 12, adapted to wedge or crowd between the rear ends of the jaws C and force said rear ends apart, so as to cause the forward ends carrying the dies to approach each other, said rear ends of the jaws being beveled, as at *a*, to facilitate the entrance of the pins or arms 11.

My improvements are simple in construction, are effectual in the performance of their functions, and result in rendering the apparatus strong and durable.

Slight changes might be made in the details of construction of my invention without departing from the spirit thereof or limiting its scope, and hence I do not wish to limit myself to the precise details herein set forth.

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

In a screw-cutting machine, the combination with a shaft and a yoke secured to the end thereof, of jaws adapted to receive dies and having their body portions pivotally supported between the arms of said yoke, springs between the forward ends of the jaws, a collar mounted to slide on said shaft and pins or arms having beveled or wedge-shaped free ends adapted to pass through the base of the yoke and enter between the rear ends of the jaws whereby to force the forward ends thereof toward each other against the resistance of said springs, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JAMES A. BECHER.

Witnesses:
KELCEY NORTON,
EVA A. MCMICHAEL.