

C. W. SMITH.
MACHINE FOR MAKING SCREW BLANKS.

No. 45,352.

Patented Dec. 6, 1864.

Fig. 1.

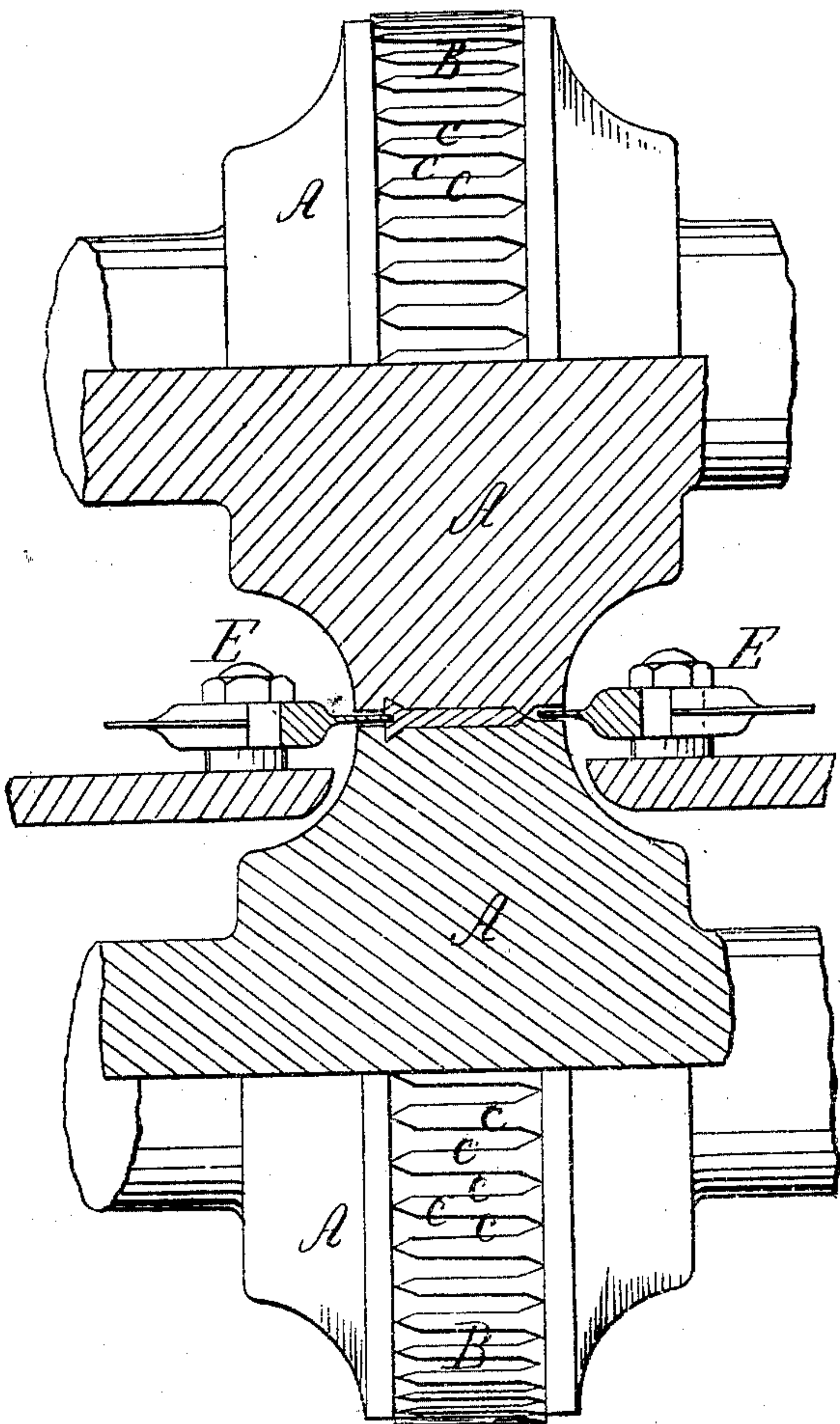
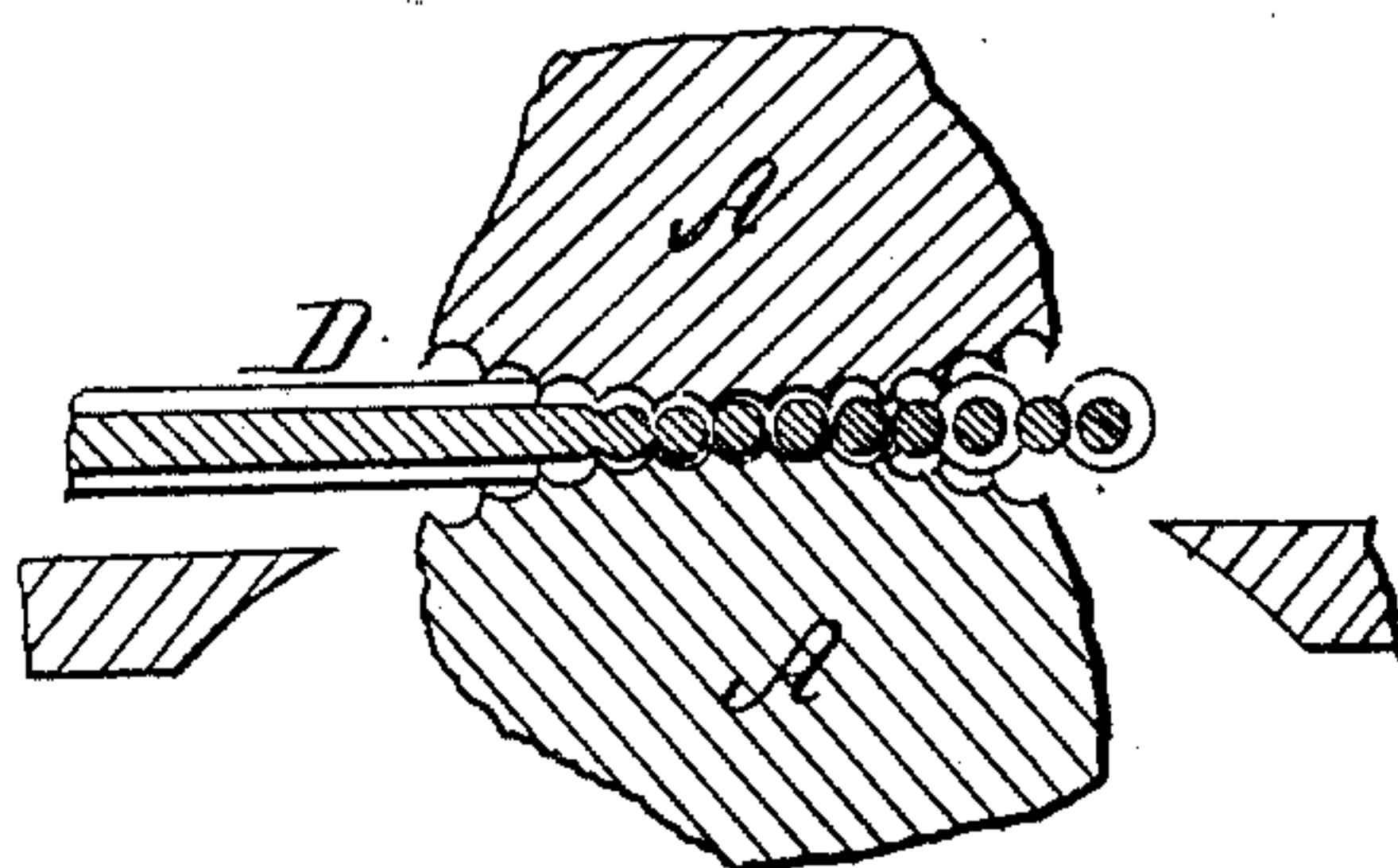


Fig. 2.



Witnesses;

My Thomas D. Stetson

Inventor;

Charles W. Smith

UNITED STATES PATENT OFFICE.

CHARLES W. SMITH, OF NEW YORK, N. Y.

MACHINE FOR MAKING SCREW-BLANKS.

Specification of Letters Patent No. 45,352, dated December 6, 1864.

To all whom it may concern:

Be it known that I, CHARLES W. SMITH, of the city, county, and State of New York, have invented a new and useful Improvement in Machines for Making Screw-Blanks and Analogous Articles; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and the letters of reference marked thereon.

My invention consists in a new method of arranging and operating the dies or swedges by means of which that class of metallic articles are formed, which consist essentially of a shank or body, with an enlarged portion or head at one extremity, and a point more or less acute at the other. Many of these articles, as screw blanks, rivets and pins, have been heretofore formed of wire the head being upset thereon by suitable pressure and the point when acute formed by removing the superfluous metal. Nails are now usually cut from strips of sheet metal by the action of knives, and the heads afterward upset. Brads have been cut from sheet metal and the head left on one or two sides of the body by properly constructing the form of the knives. Nails have been also cut, I believe, from strips of metal, having a rib on each edge in such a manner as to leave a head on all their sides. My invention differs essentially from all these devices; from the former of them, in the fact that I form those articles heretofore made only of wire or metallic rods, from strips of sheet metal; from the latter, in the important fact that while they cut across the metal by means of knives or shears, thus impairing its tenacity and rendering it liable to split, I swedge them from the metal while hot, in such a manner as to press the fibers of the metal closely together, thus increasing rather than diminishing its strength.

My machine also has the important advantage of being operated in all its parts with a rotary motion thus enabling it to work with astonishing rapidity.

Its construction and operation will be readily understood by reference to the ac-

companying drawings forming part of this specification. A, A, Figure 1 are two metallic rollers in the periphery of which two steel rings B, B, are inserted with the dies C, C, C, formed in their surface. These rollers are operated by gearing in the ordinary manner, and strips of metal suitably prepared and properly heated (D Fig. 2) are fed in at one side and after receiving the impression of the dies or swedges drop out at the other. The distance of the rollers is made adjustable so that the blanks may be cut entirely apart, or left hanging together by means of a thin film of metal as in the case of screws for convenience of feeding to the finishing machine as is explained in another application for Letters Patent bearing even date herewith. In the case of screw blanks the niche is formed in the head at the same time by the operation of the additional rollers or disks E E Fig. 1, which are rotated by the forward motion of the metal.

When the article to be formed has a head on all its sides the strip of metal is previously prepared with a rib on each of its edges to furnish the required quantity of metal. If the head is on two sides only the strips of metal are used plain. In forming nails and other articles with a rectangular section the dies are so arranged that their edges are in contact.

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

1. Forming screw blanks, rivets, nails, pins, and other analogous articles, by means of a series of rotary swedges, arranged with their heads and points alternating and operating substantially as herein set forth.

2. Forming the niches in the head of screw blanks substantially as herein set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CHARLES W. SMITH.

Witnesses:

THOMAS D. STETSON,
G. H. BABCOCK.