

(No Model.)

A. E. BRION.
SCREW CUTTING DIE.

No. 395,810

Patented Jan. 8, 1889.

Fig. 1

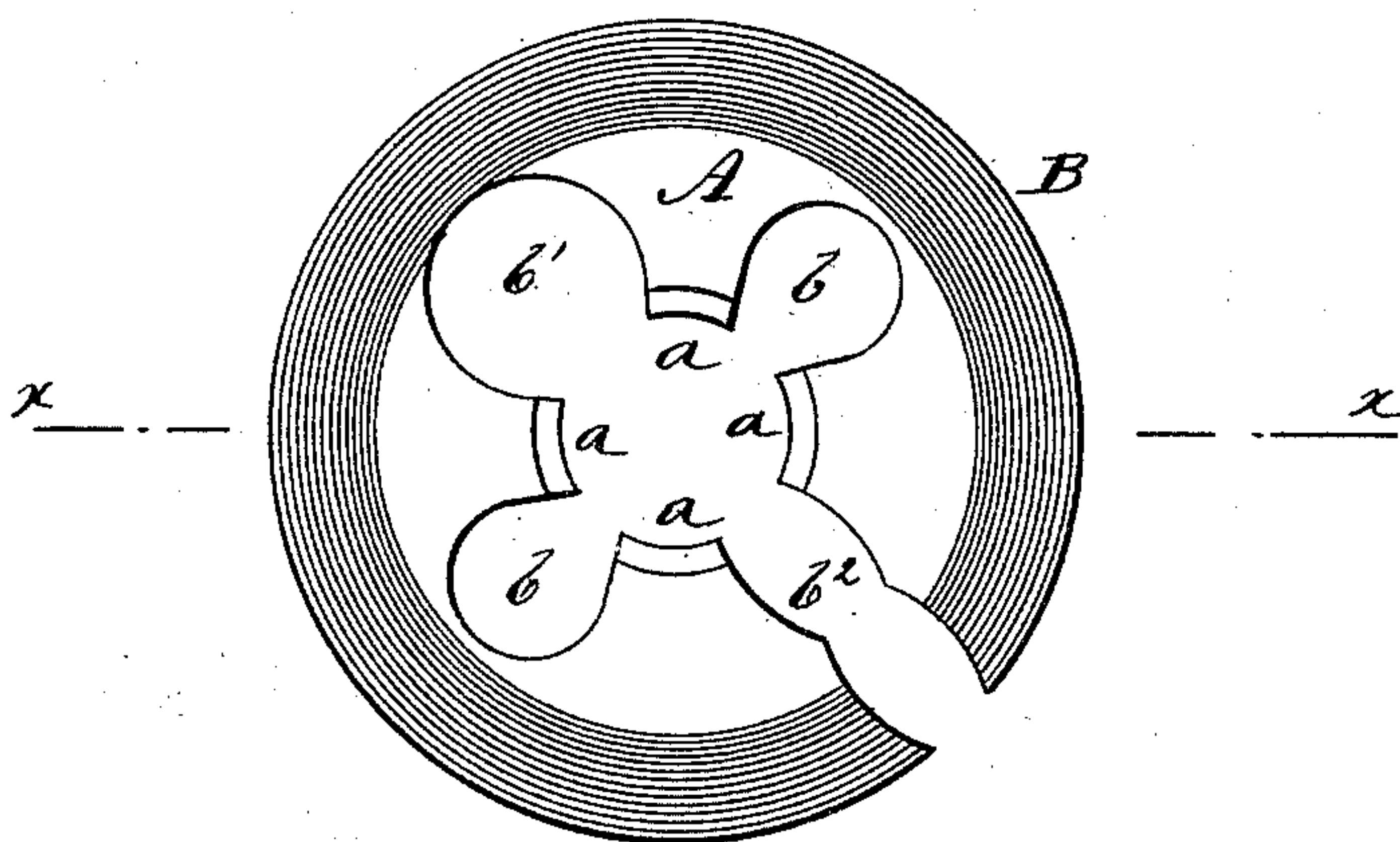


Fig. 2

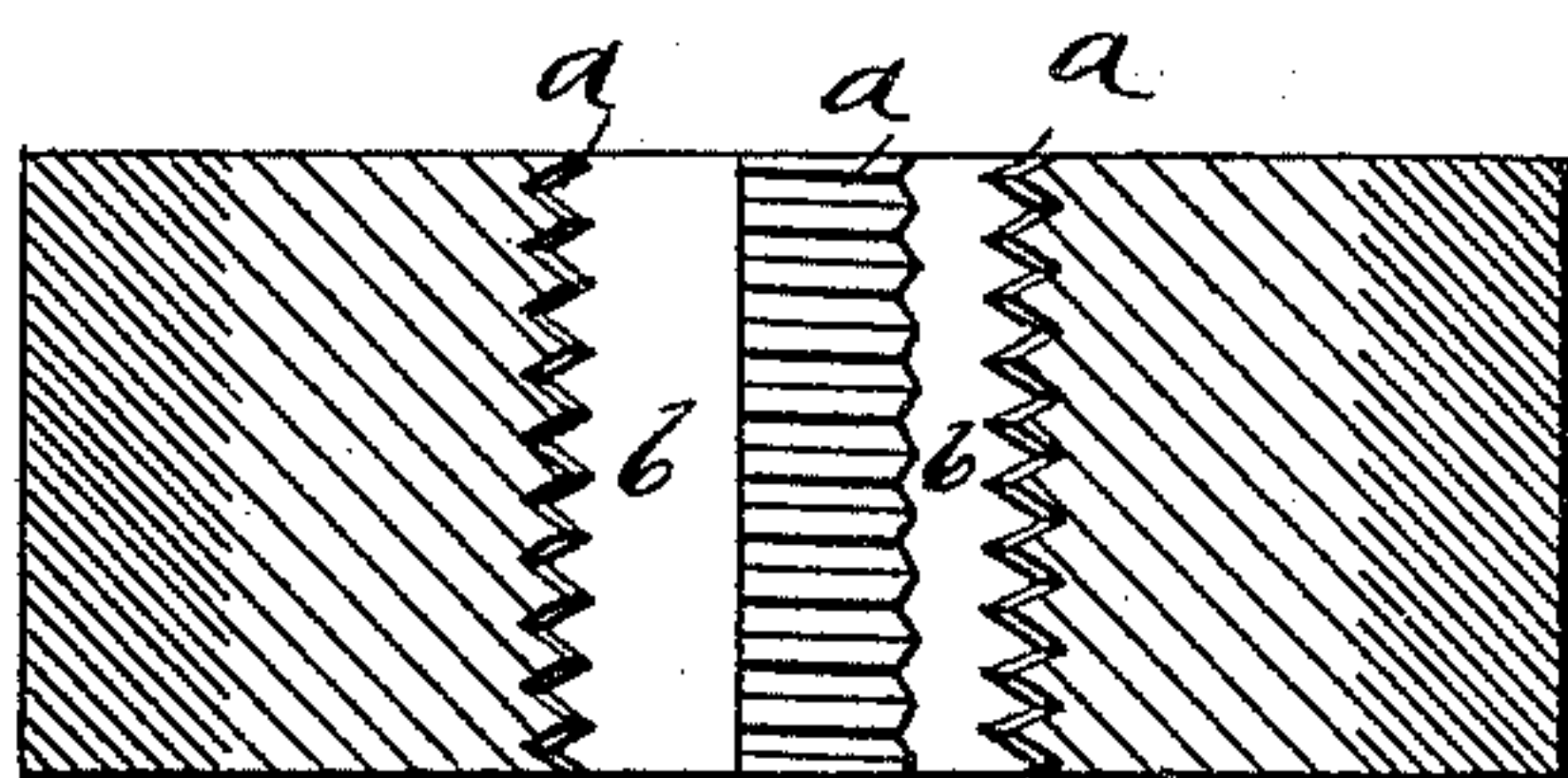
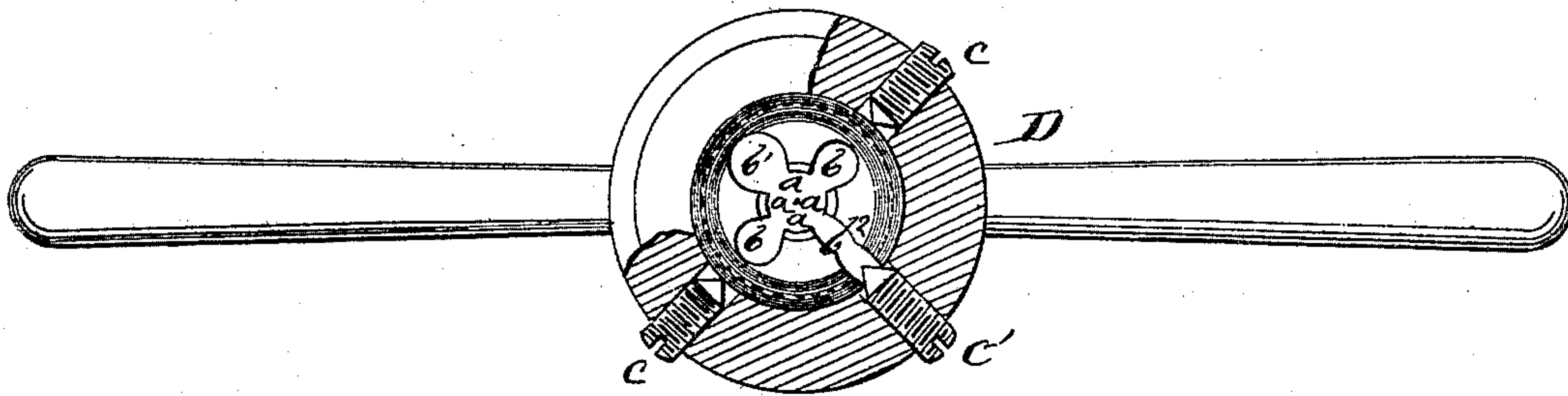


Fig. 3



WITNESSES:

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UNITED STATES PATENT OFFICE.

ADOLPH E. BRION, OF BROOKLYN, NEW YORK.

SCREW-CUTTING DIE.

SPECIFICATION forming part of Letters Patent No. 395,810, dated January 8, 1889.

Application filed June 29, 1888. Serial No. 278,552. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH E. BRION, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Screw-Cutting Die, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a side elevation of my improved screw-cutting die. Fig. 2 is a transverse section taken on line xx in Fig. 1; and Fig. 3 is a side elevation, partly in section, of a die holder or stock containing my improved die.

Similar letters of reference indicate corresponding parts in all the views.

My invention relates to the class of screw-cutting dies known as "solid dies."

The object of my invention is to provide a screw-cutting die having an internal hardened portion and an exterior portion of soft metal which cannot be hardened.

My invention consists in a die formed of a circular blank of steel of a quality suitable for hardening and a rim of low steel or iron which cannot be hardened, the soft rim being attached to the hard interior by welding.

In carrying out my invention I produce a bar formed of a central core of high steel enveloped in a tube of low steel or soft iron, the soft envelope being attached to the high steel by welding, and from the bar so made I cut circular blanks, which are drilled, tapped, and otherwise treated like an ordinary die, the die being provided with clearance-spaces and intervening cutting portions in the usual way.

The high-steel part A is surrounded by a rim, B, of soft iron or low steel, and the center of the part A is provided with cutting-edges a and with intervening clearance-spaces, b b' b^2 . The space b^2 is continued through the edge of the die, to permit of ad-

justing the die to the required size, and the space b^2 is continued down to the soft rim B.

The die thus formed is designed for use in a solid die holder or stock, D, provided with adjusting-screws c , by which it may be contracted, and a conical screw, c' , adapted to enter into the space b^2 for the purpose of expanding the die, the portion of the soft rim B opposite the clearance-space b' being bent in the operation of adjusting the die. The material of the rim B is without temper. Therefore the die retains its size and form after it is removed from the stock, thus saving the trouble of readjusting the die.

The principal advantages claimed for my improvement are that the die may be contracted or expanded without being broken, and it will retain its size after adjustment.

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

1. As an improved article of manufacture, a screw-cutting die consisting in the outer soft iron or low-steel rim, B, and the central high-steel cutter, A, having cutting-edges a and clearance-spaces, substantially as set forth.

2. As an improved article of manufacture, an adjustable screw-cutting die consisting in the outer soft iron or low-steel rim, B, and the central high-steel cutter, A, having cutting-edges a and clearance-spaces, one of which extends through the cutter and rim, whereby when the die is compressed it will retain its position by reason of the soft-iron rim, substantially as set forth.

ADOLPH E. BRION.

Witnesses:

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