

(No Model.)

H. J. FOERTSCH & A. H. WILHELM.
COOPER'S COMBINED HOWEL AND CROZE.

No. 551,160.

Patented Dec. 10, 1895.

Fig. 1.

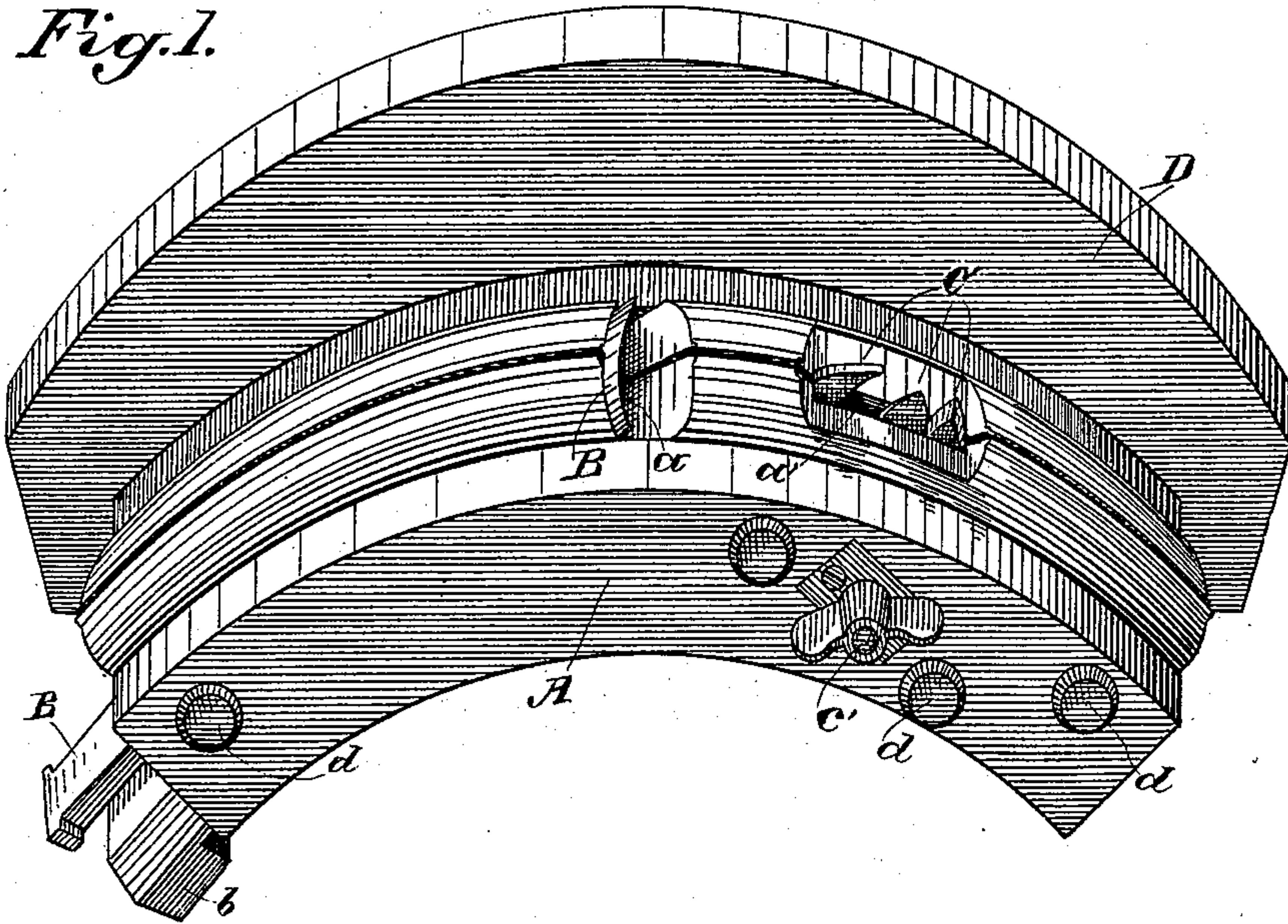


Fig. 2.

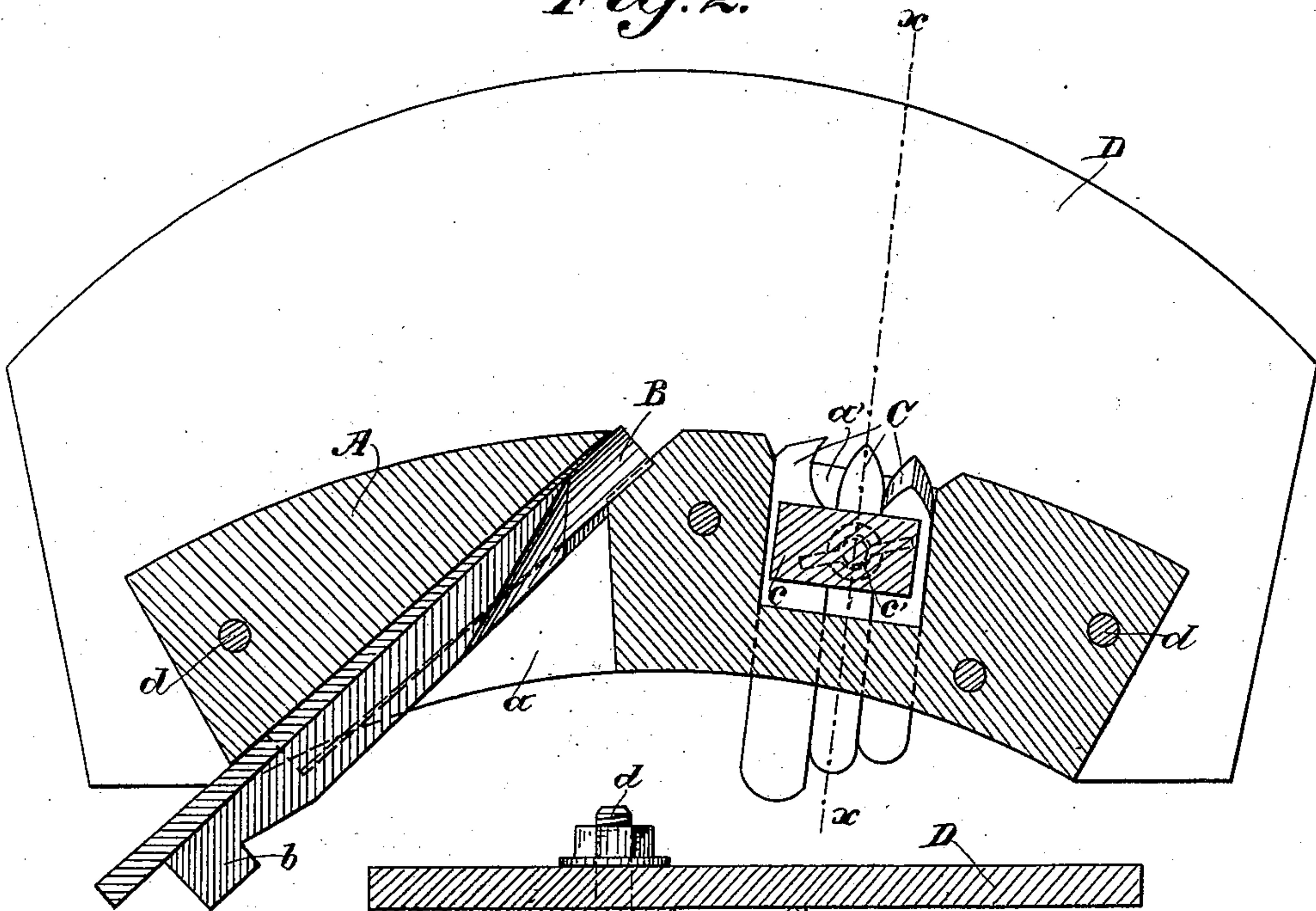
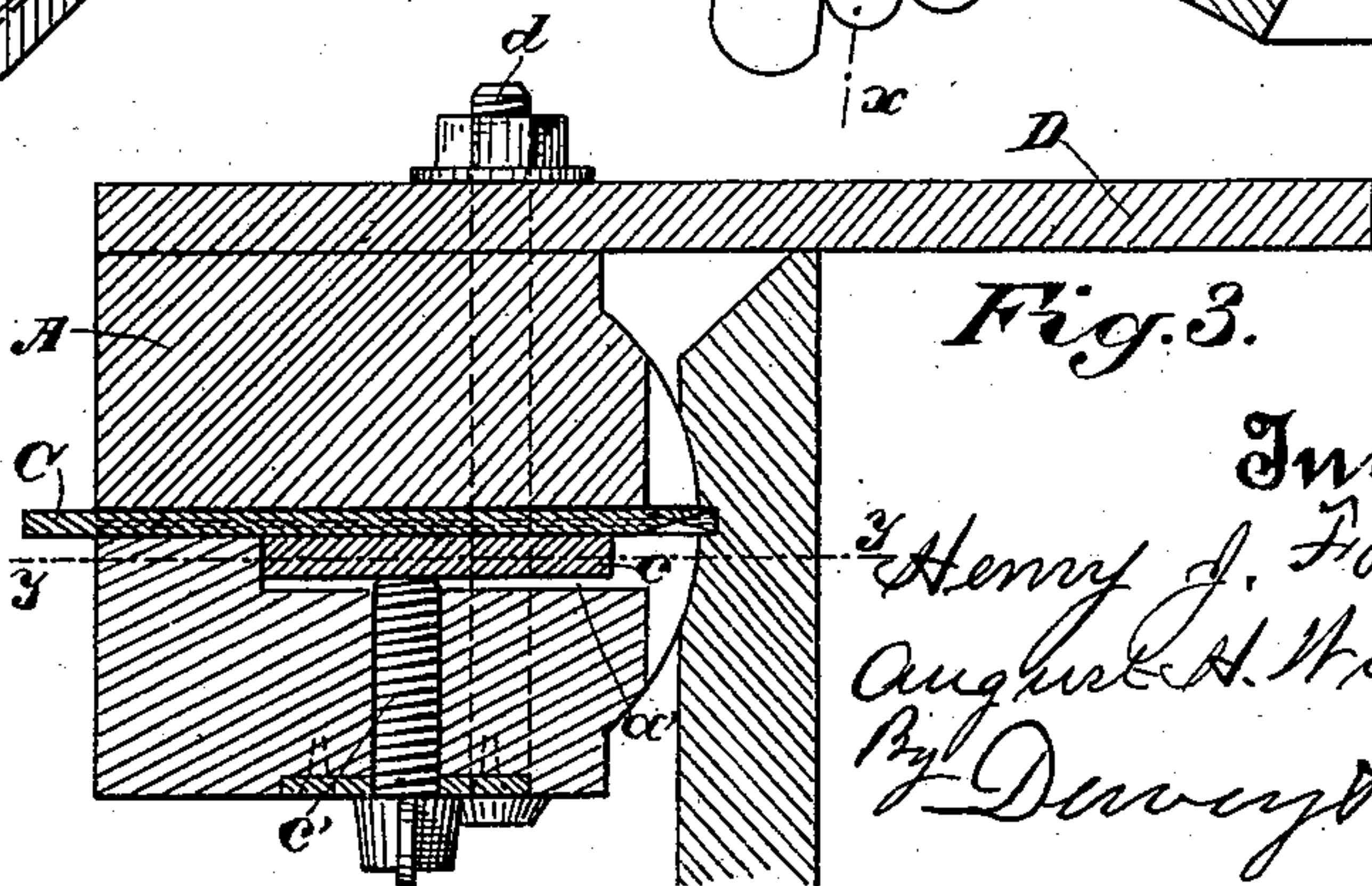


Fig. 3.



Witnesses,
J. St. Anne
J. F. Aschbeck

Inventors,
Henry J. Foertsch
August H. Wilhelm
By Dwyer & Co. attys

UNITED STATES PATENT OFFICE.

HENRY J. FOERTSCH AND AUGUST H. WILHELM, OF SAN FRANCISCO,
CALIFORNIA.

COOPER'S COMBINED HOWEL AND CROZE.

SPECIFICATION forming part of Letters Patent No. 551,160, dated December 10, 1895.

Application filed March 12, 1895. Serial No. 541,474. (No model.)

To all whom it may concern:

Be it known that we, HENRY J. FOERTSCH and AUGUST H. WILHELM, citizens of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in a Cooper's Combined Howel and Croze; and we hereby declare the following to be a full, clear, and exact description of the same.

Our invention relates to the general class of coopers' tools, and especially to the tools by which the howel and croze are made on the inside of barrels or casks.

Our invention consists in a combined howel and croze, the curved stock of which is provided with a socket adapted to receive the howel-bit and its holding-key, said stock having also a second seat for the reception of the croze-bits, to lie in line with the howel-bit, both the howel and croze bits projecting suitably from the convex sole of the stick.

The object of our invention is to provide a single implement adapted, by one operation, to form the howel and croze, thereby saving time and labor.

Referring to the accompanying drawings for a more complete explanation of our invention, Figure 1 is a perspective view of our howel and croze, looking at it from its under side. Fig. 2 is a longitudinal section on line *yy* of Fig. 3. Fig. 3 is a cross-section on line *xx* of Fig. 2, the tool being here shown as operating against a stave.

A is the curved stock of the tool. In it is made the socket *a*, which forms the seat for the howel-bit B and its holding-key *b*. In the stock is also formed a suitable seat *a'*, in which is seated the crozing-bit C, which is usually formed in three separate parts, one projecting each way, and a third lying in a plane between the other two to push out the material cut by the two in advance.

We have here shown the crozing bit or bits

in advance of the howel-bit, though that is not essential, as they may be behind said howel-bit, the only requirement being that they shall lie in line with said howel-bit so as to cut the croze in the proper place in the bottom of the howel. These several bits project as usual from the convex sole of the stock. The seats for these bits may be formed in any suitable manner, though we have here shown the stock as divided longitudinally and the crozing-bits held in place by a chuck *c* set up by a thumb-screw *c'*.

The halves of the stock are clamped together, and the whole stock is, itself, clamped to the gaging-board D by means of suitable bolts *d*.

By the use of this tool the howel and croze are formed at a single operation, thereby saving time and labor over the usual method of using two separate tools in double the length of time.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

An improved cooper's combined howel and croze, consisting of the curved stock divided longitudinally, the meeting faces of the two-part stock being recessed at *a* to form seats for the croze bits, a chuck mounted transversely in said recess and bearing against the croze bits, an adjusting screw for the chuck, a howel bit and holding key mounted between the parts of the stock in line with the croze bits, means for securing the parts of the stock together and a gage board fixed to one side of the stock.

In witness whereof we have hereunto set our hands.

HENRY J. FOERTSCH.
AUGUST H. WILHELM.

Witnesses:

S. H. NOURSE,
JESSIE C. BRODIE.