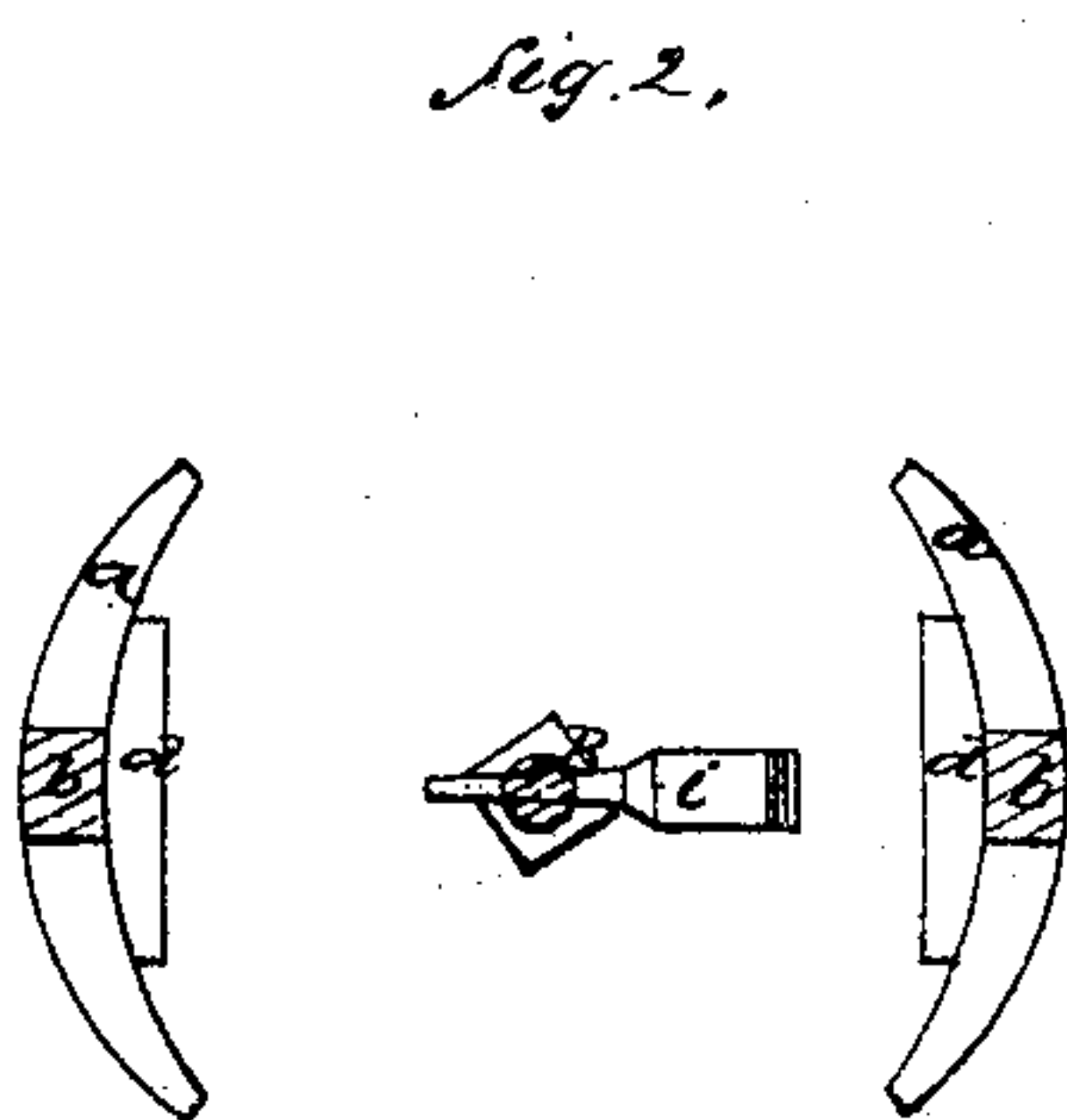
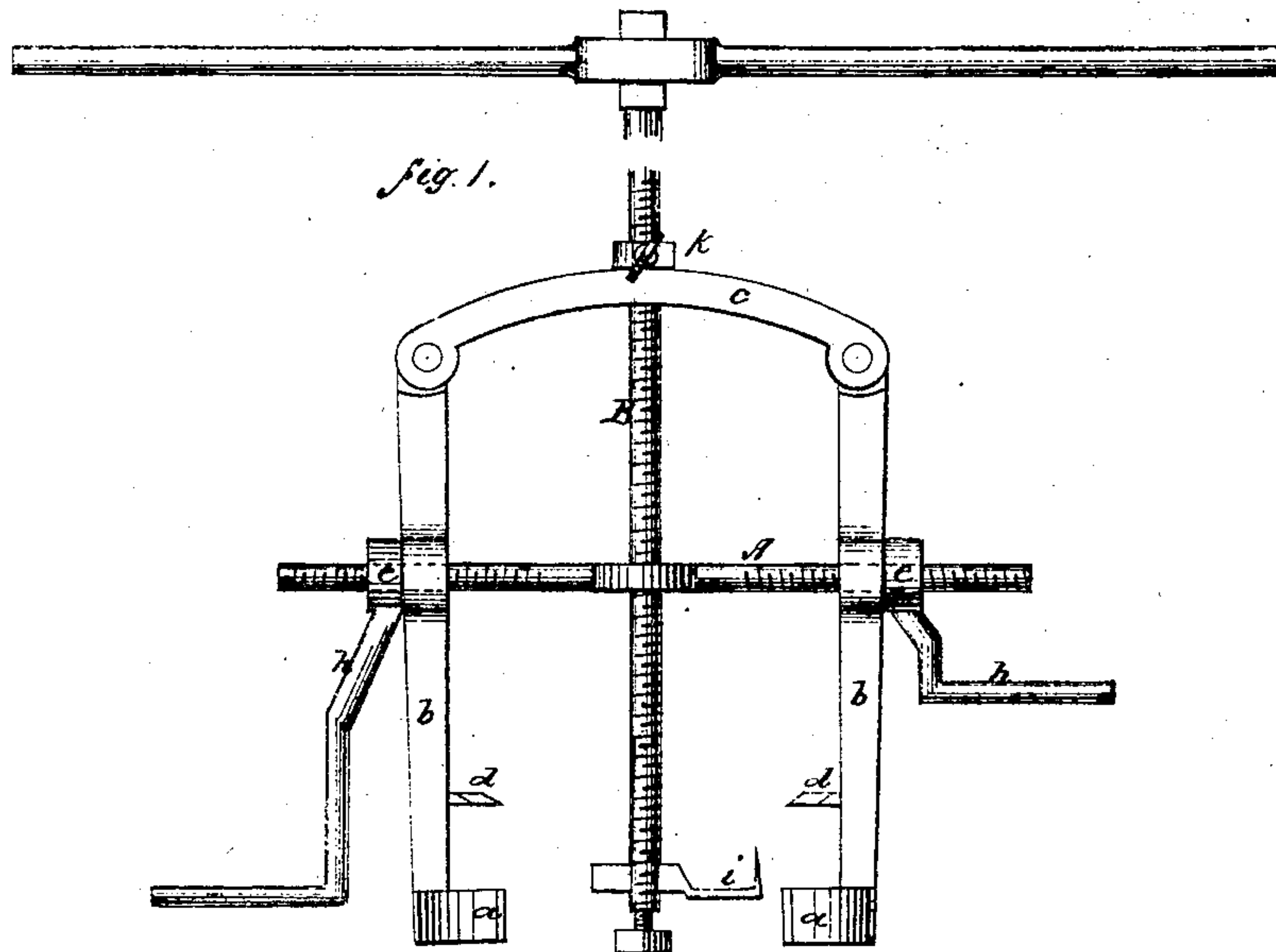


*A. Troup,*  
*Boring Hubs,*  
*No. 102625.      Patented May 3. 1870.*



Witnesses:  
*Victor Hagonam*  
*C. A. Pettit*

Inventor:  
*A. Troup*  
*per Messrs. & Co.*  
*Attorneys.*

# United States Patent Office.

ABRAHAM TROUP, OF LEWISBERRY, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND HERMAN KIRK, OF SAME PLACE.

*Letters Patent No. 102,625, dated May 3, 1870.*

## IMPROVEMENT IN MACHINE FOR BORING HUBS.

The Schedule referred to in these Letters Patent and making part of the same

*To all whom it may concern:*

Be it known that I, ABRAHAM TROUP, of Lewisberry, in the county of York and State of Pennsylvania, have invented a new and Improved Hub-Boring and Box-Setting Machine; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 is a side elevation, and

Figure 2 is a transverse horizontal section.

This invention consists of a pair of clamps for embracing the sides of a hub, provided with feet for resting on the top of the same, and combined with an instrument for boring a recess in the end of the hub suitable to receive a box, in such manner that said instrument may be accurately adjusted to the center of any hub.

In the drawings—

*a a* are concave convex clamps, attached crosswise of the lower ends of arms *b b*, which are jointed at their upper extremities to the ends of a bow, *c*.

*d d* are feet, attached crosswise of the arms *b* to their inner sides, at a suitable distance above the clamps *a*, which feet are intended to rest on the top of the hub while the clamps clasp its sides.

*A* is a cross-bar passing through the arms *b*, and having exterior screw-threads and nuts, *e e*, furnished

with handles, *h*, by turning which the clamps are advanced against the sides of the hub.

*B* is a mandrel, passing perpendicularly through the center of the bow *c* and cross-bar *A*, and bearing a cutter, *i*, at its lower end, by which, when the mandrel is put in revolution by any suitable machinery, to cut a recess in the top of the hub for the reception of the box.

On turning the nut *e* in the proper direction, the clamps may be set at equal distances from the mandrel, so as to center the latter upon the hub.

A gauge-nut, *k*, furnished with a set-screw, is placed on the mandrel, and being set at a given distance above the bow, shows, by coming in contact with the latter, when the box-recess has been bored to the same depth.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

The combination of the bow *c*, mandrel *B*, cross-bar *A*, nuts *e*, and arms *b*, provided with the clamps *a*, and feet *d*, all constructed and arranged to operate as described.

his  
ABRAHAM + TROUP.  
mark.

Witnesses:

M. P. NEBINGER,  
LEWIS WIRE.