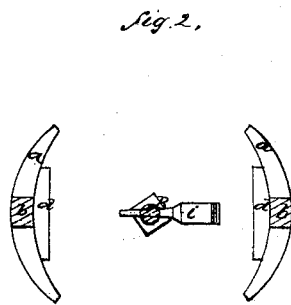
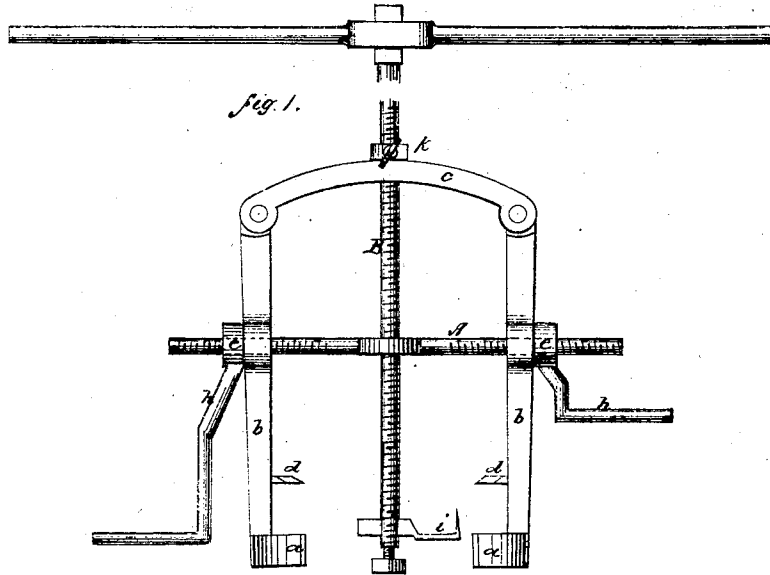


A. Troup,
Boring Hubs,
No. 102625. Patented May 3, 1870.



Witnesses:
Victor Hagmann
C. A. Pettit

Inventor.
A. Troup
per *Heum & 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.