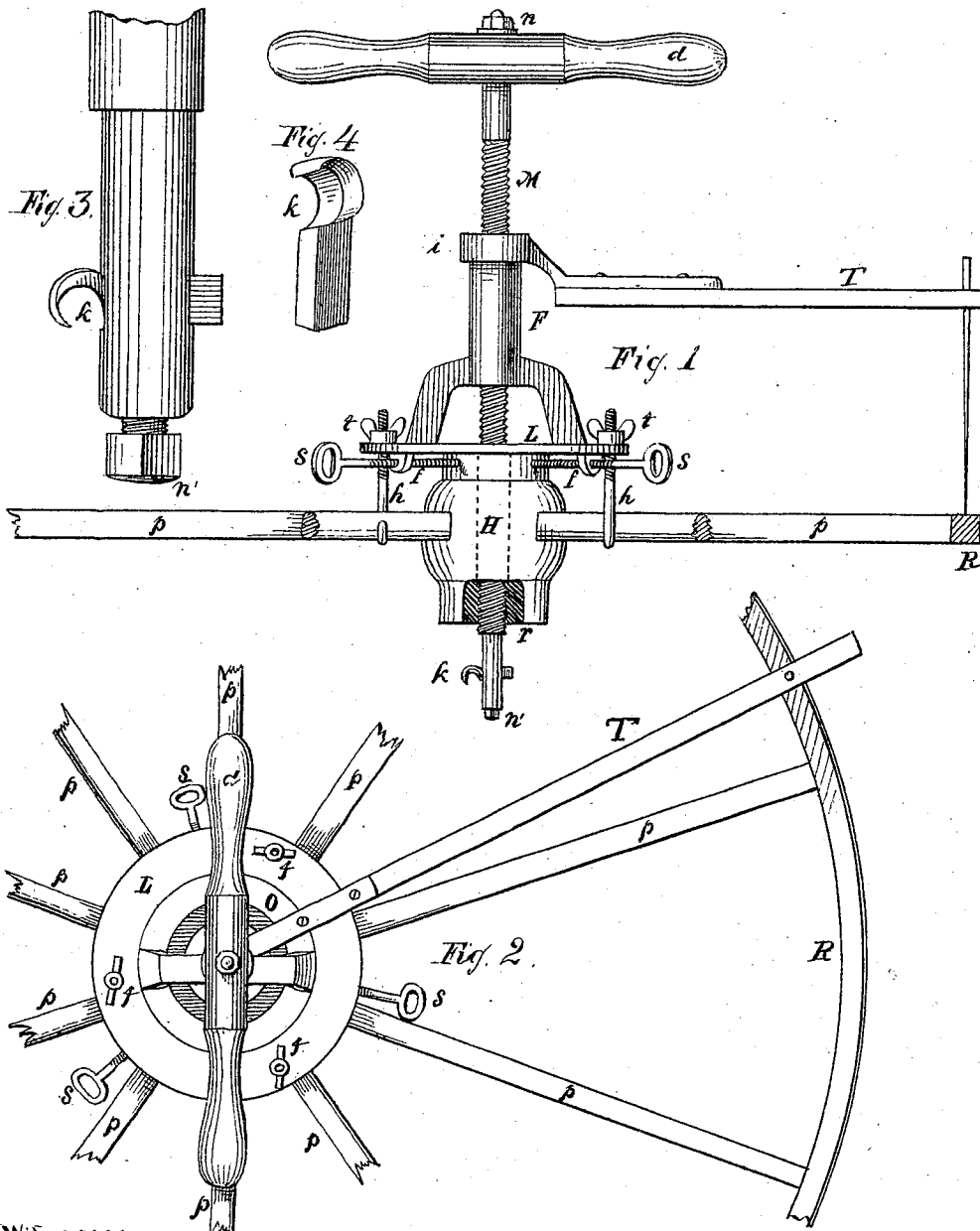


E. CASWELL.
Machines for Boring Hubs.

No. 141,425.

Patented August 5, 1873.



Witnesses:

B. F. Parsons
Wiley & Barnes

Inventor.

Ezra Caswell
Peck and Parsons attys

UNITED STATES PATENT OFFICE.

EZRA CASWELL, OF LYONS, NEW YORK, ASSIGNOR OF ONE-HALF HIS
RIGHT TO A. H. TOWER, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR BORING HUBS.

Specification forming part of Letters Patent No. **141,425**, dated August 5, 1873; application filed
May 1, 1873.

To all whom it may concern:

Be it known that I, EZRA CASWELL, of Lyons, in the county of Wayne and State of New York, have invented a new and useful Improvement in Machines for Boring Hubs; and I do hereby declare that the following is a full, clear, and exact description of the same, sufficient to enable those skilled in the art to which it appertains to understand, construct, and make use of the same, reference being had to the drawings accompanying this specification, and to the figures and letters of reference marked thereon, like letters referring to like parts throughout the same.

Figure 1 represents a side view, partly in section, of my improvement. Fig. 2 shows a sectional plan of the same, and Fig. 3 is an enlarged view of the lower end of the stem of the borer. Fig. 4 shows the cutter, which is affixed to the shank of the borer.

A want has long been felt by wheelwrights of an implement or machine that would bore for the box of a wheel-hub through the length of the same at right angles to the plane of its rim or felly. The difficulty has not been so much to adjust a borer to perform this operation as to hold the borer to its true course through the whole length of the hub.

The object of my improvement is to remedy this defect and to supply this want. It consists in a tram that traverses the rim of the wheel, by which the external screw is brought to a perpendicular with the plane of the rim; three set-screws, to adjust the borer to the center of the hub laterally; and three hooks, taking hold of the spokes, having their shanks passing up through the main plate and secured by thumb-screws—arranged in combination with an external screw about twenty inches long, having a thread cut about its whole length, an internal screw about six inches long, a main plate, and a cutter.

H, Fig. 1, represents the ordinary hub of a wagon-wheel; *p p*, the spokes of the same; and R, the felly. L is the main plate, to which the several parts are connected, shown as resting on the end of the hub H. M is the shank or screw of the borer, represented as

having passed through the hub. F is the tube or female screw, and is raised above the plate L, and rests on two legs for the purpose of giving space, so as to give room at this point for adjusting the cutter *k* and using a wrench for the same. It is attached to, and is cast solid with, the main plate L. *s s s* are set-screws, for adjusting the borer or plate L to the center of the hub or centering the borer laterally. *h h h* are hooks, the lower ends of which clasp the spokes firmly, while their shanks extend up through the plate L and are secured by the thumb-screws *t t t*, whose object is to hold the borer to the end of the hub firmly and to adjust the same vertically. T is a tram revolving on the tube F, which tube is turned down and leaving a shoulder, so that the bore of the tram exactly fits the prepared tube.

The tram traverses the felly of the wheel, and shows when the borer is at right angles or is perpendicular to the plane of the felly; and when the shank M is at the right point it is rigidly secured by the hooks *h h h* and the screws *t t t*.

The plate L is perforated for common work; but for large wheel-hubs there is an inner removable plate, O, Fig. 2, rabbeted so as to come even with the plate, and secured to the same with screws.

Circles are made on the under side of the plate, equidistant from the center, for a guide for centering the borer to the hub laterally, which is done by the screws *s s s*. The flanges *fff* have threaded perforations, through which act the adjusting-screws *s s s*. The shank of the cutter *k* passes through a mortise in the lower end of the borer-shank M, and is adjusted and fastened by a screw entering the shank longitudinally, as seen at *n'*, Fig. 3.

When adjusted as desired, this cutter is run through the hub up or down by turning the shank M by the handle *d*. As it is reversible it is made to cut both ways, and forms any desired sized bore.

r is a recess, made in the same manner as the bore for the box, for the axle-nut at the outward end of the hub.

If desired to pack these borers for transportation, the different parts may be all separated by unscrewing the nuts of the same.

Having described my improvement, what I claim as my invention, and wish to secure by Letters Patent, is—

The tram T, hooks *h h h*, screws *s s s*, and adjusting removable plate O, in combination with the shank M, tube F, plate L, and cutter

k, when constructed and arranged substantially as herein shown and described, and for the purposes specified.

In testimony whereof I have hereunto set my hand this 26th day of April, A. D. 1873.

EZRA CASWELL.

Witnesses:

B. F. PARSONS,

A. BUTTON.