

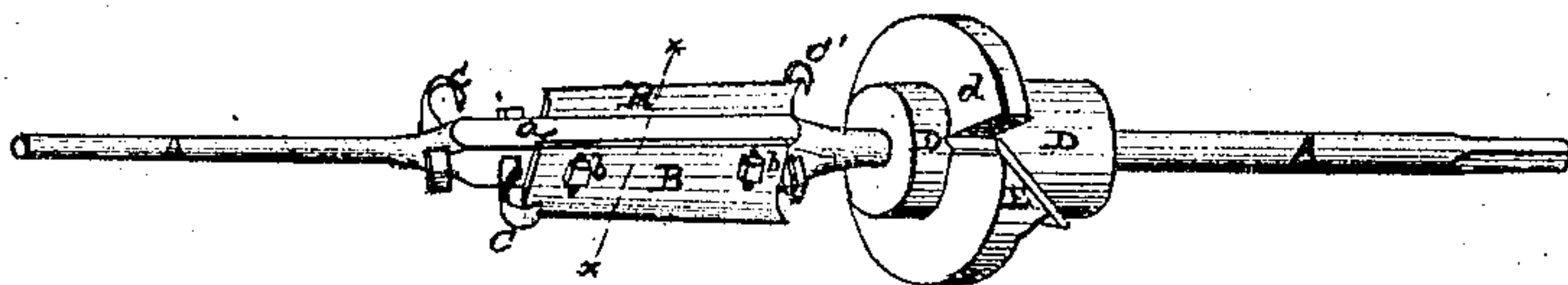
*J. G. Robinson,*

*Hub Reamer.*

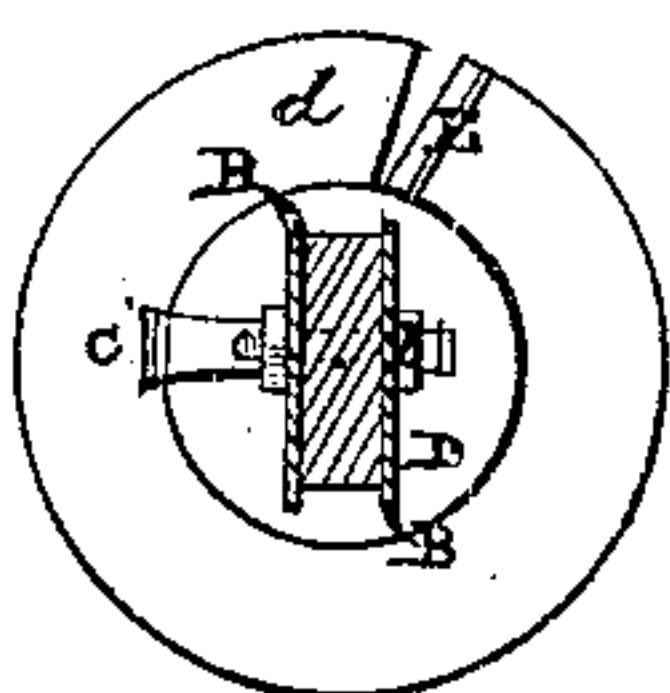
*No. 101,164.*

*Patented Mar. 22. 1870.*

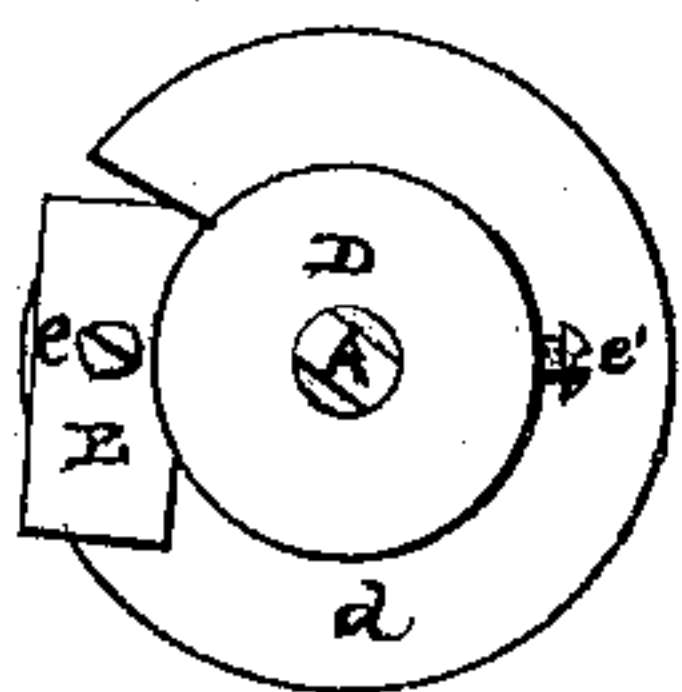
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Witnesses.*

*A. E. Moore*  
*Sam. J. Mart.*

*Inventor.*

*J. G. Robinson*  
*by Prindle & Dyer, Attys.*

# United States Patent Office.

JOHN G. ROBINSON, OF SPRINGFIELD, ILLINOIS, ASSIGNOR TO AUGUST KESSBERGER, OF SAME PLACE.

*Letters Patent No. 101,164, dated March 22, 1870.*

## IMPROVEMENT IN HUB-REAMER.

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, JOHN G. ROBINSON, of Springfield, in the county of Sangamon and in the State of Illinois, have invented an Improved Reamer for Shaping Holes in Wagon-Hubs; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a perspective view of my device;

Figure 2 is a cross-section on the line *x x* of fig. 1; and

Figure 3 is an end view of the same.

Letters of like name and kind refer to like parts in each of the figures.

My invention has for its object the reaming or forming of the interior of the wagon-hub, so as to fit it for the reception of the thimble-skein; and to this end

It consists in the employment of a metal bar, having secured thereon a number of cutters or knives, so arranged as to cut away the surplus material of the hub, and, at one operation, perfect its interior, as is hereinafter fully set forth.

In the annexed drawing—

A represents a metal bar, having an enlarged or flattened portion, *a*, near its center, lengthwise, upon each side of which is secured an oblong cutter, B, by means of two bolts, *b*, passing through both cutters and bar.

One edge of each of said cutters is sharpened and curved upward at a suitable angle, so as to cut a shaving from the wood when the bar is revolved, and each cutter is made adjustable readily upon said bar, by having the holes, through which the bolts *b* pass, elongated.

Secured radially within suitable slots in the bar A, by means of keys, are three round-lipped cutters C, two of which project from opposite sides of said bar, immediately in front of the cutters B, while the third, C', is placed at their rear end.

D represents a cylinder, having secured thereto and forming a part of the same a projecting flange or disk,

*d*, in which is provided a radial slot, having one of its sides at a right angle to the face of said disk, or in line with the bar, while its opposite side is suitably beveled so as to receive a cutter, E, which is attached thereto by means of a screw, *e*, passing through said cutter, and into said disk, the whole forming a heading-bit for reducing the length of the hub.

The heading-bit being secured upon the bar A, in rear of the other cutters, by means of a screw, *e'*, and said cutters suitably adjusted, the device is complete, and its operation is as follows:

The small end being passed through the opening in the hub, and the reamer caused to revolve, the round-lipped cutters C remove the surplus wood and "rough out" the hole, which is finished as to size and taper by the straight cutters B, while the cutter C' chambers or recesses out the inner end of the hub, and the heading-bit or cutter reduces said hub to a proper length, thus completing at one operation work that has heretofore required from two to three tools, and as many distinct operations.

Having thus fully set forth the nature and merits of my improvement,

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

The heading-bit, composed of the cylinder and disk D and *d*, respectively, the cutter E and the screws *e* and *e'*, constructed as described, and for the purpose specified.

Also, the within-described reamer, consisting of the shaft A, provided with the enlarged or flattened portion *a*, the curved-edged knives B, the round-lipped cutters C and C', the cylinder and disk D and *d*, respectively, the cutter E and the screws *e* and *e'*, all constructed and arranged as and for the purpose specified.

In testimony that I claim the foregoing, I have hereunto set my hand this 24th day of August, 1869.

JOHN G. ROBINSON.

Witnesses:

GEO. O. MARCY,

GEO. CHARLESWORTH.