F. Bremerman,

Boring Hubs,

No. 51,688, Patented Dec. 26, 1865.

Fig: 2.

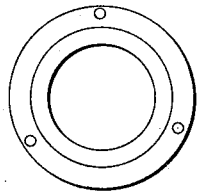


Fig: 3.

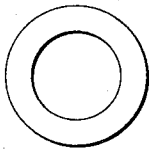


Fig: 4.

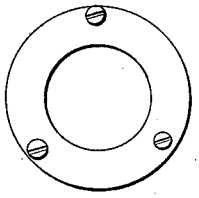
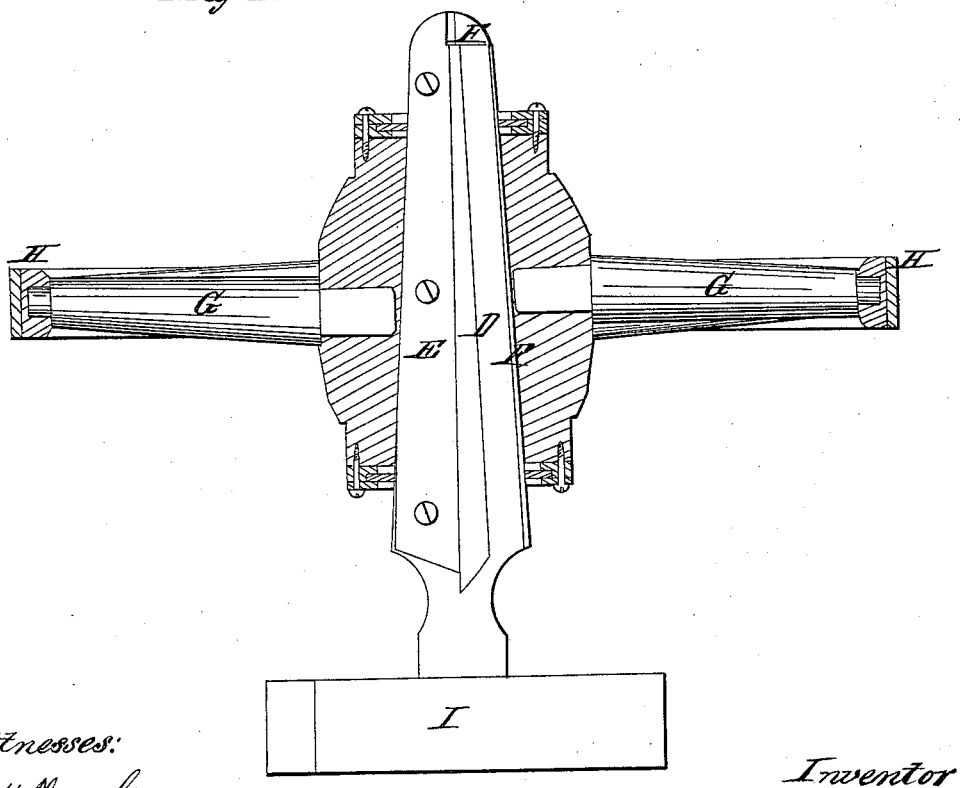


Fig: 1.



Witnesses:

John H. Radcliffe

Inventor

Frederick Bremerman

UNITED STATES PATENT OFFICE.

FREDRICK BREMERMAN, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN MACHINES FOR BORING WAGON-HUBS.

Specification forming part of Letters Patent No. **51,688**, dated December 26, 1865.

To all whom it may concern:

Be it known that I, FREDRICK BREMERMAN, of Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in the Construction and Arrangement of Machinery for Boring Wagon and Carriage Wheel Hubs; and I do hereby declare that the following is a full and exact description, reference being had to the accompanying drawings, and the letters marked thereon.

Figure 1 is a section showing the wheel cut across the center, and showing the position of the tool when the wheel is being bored, and the manner in which the same is centered in the hub. Fig. 2 is a plan top view of the recessed plate forming the part of the guide B or C in which the revolving ring or disk shown in Fig. 3 revolves while the hub is being bored. Fig. 3 is a ring or disk, the opening in the center being a gage regulating the extent to which the tool or cutters is to enter the hub when the same is being bored out. Fig. 4 is the cup or disk which holds the gage or revolving ring in position.

A is the wheel-hub; B, the guide, which is attached to the small end of the hub, and is composed of three rings, (shown in Figs. 2, 3, and 4.) The top one, (shown in Fig. 4) serves as a cap, and holds the middle or guide ring (shown in Fig. 3) in the gain which is formed to receive the same in the bed-ring, (shown in Fig. 2,) and in which it revolves. The gage ring or disk is designed to be taken out and replaced by one of larger or smaller opening in the center, as the wheel to be bored is larger or smaller, or as the boxes are larger.

C is the lower guide, which is attached to the large end of the hub, and corresponds with the top one, B, except that it is larger, and receives the larger part of the mandrel. D is the mandrel, which serves as a cutter bar or holder, and assists in gaging the size of the hole to be bored by means of the rings, which rest upon the same and revolve in the guides B and C, as described.

E and F are cutters, which are constructed and arranged to suit the taper of the boxes to be inserted.

G are the spokes of the wheel, and H is the rim of the same.

I represents the pedestal for holding the tool when the same is stationary, and the wheel is revolved in the operation of cutting out the hole for the boxing.

The following is the operation of boring out a wheel-hub: A hole is bored through the hub in the usual manner, sufficiently large to admit the small end of the mandrel D with the cutters E and F. The guides B and C being attached to the ends of the hub, the hub is placed on the mandrel D. The wheel being revolved by the hands taking hold of the rim H, the bits or cutters E and F cut away the wood until the mandrel D rests or bears against the disks or plate-rings, when they revolve in the guides B and C, being stationary upon the mandrel D until the bits or cutters ceases to cut, when the cut is complete to receive the box. The same effect is produced when the tool or cutter is revolved instead of the wheel.

The advantages of this arrangement are seen not only in rapidity of execution, but in the certainty of securing a perfectly-formed hole for the boxes, leaving no splinters, and in no way weakening the wood by bruising and splintering the same.

When a larger or smaller box is to be put in a hub it is only necessary to select a corresponding plate or disk having the opening of the required size to allow the mandrel D to enter to the required depth in the wheel-hub, the outer edge of all the disks which rest upon the mandrel D being all turned to fit in the gain of the bed plate or disk shown in Fig. 2, so as to revolve freely in the same.

What I claim is—

The tool-guide for boring out wheel-hubs for boxes when the same is constructed and operated substantially as and for the purposes set forth.

FREDRICK BREMERMAN.

Witnesses:
JOHN H. REDSTONE,
WM. SULLIVAN.