

J. A. NEWELL.

Machines for Boring Hubs.

No. 145,521.

Patented Dec. 16, 1873.

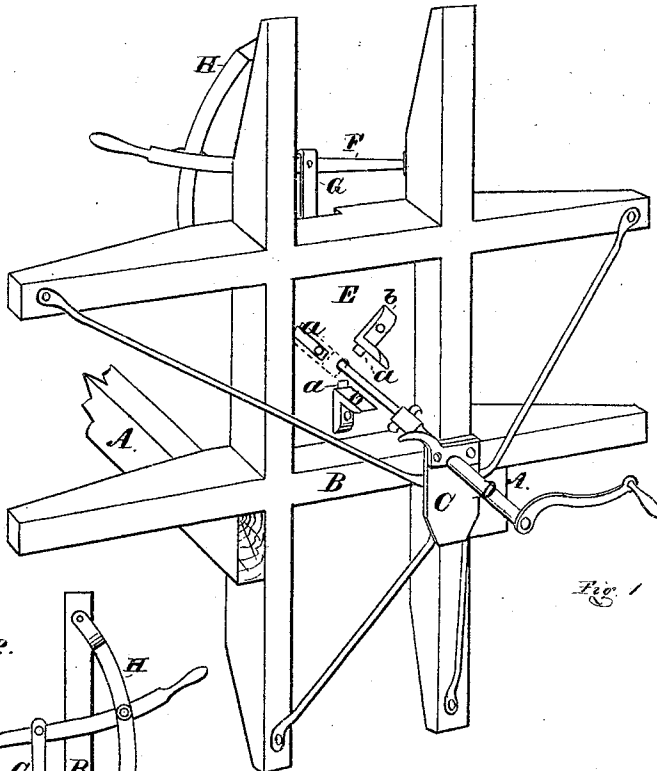


Fig. 1

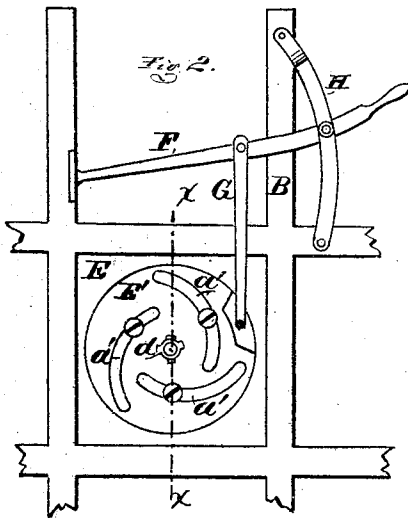


Fig. 2

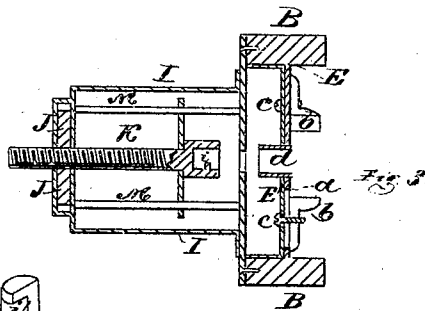


Fig. 3



Fig. 4



Fig. 5

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JOHN A. NEWELL, OF KALAMAZOO, MICHIGAN.

IMPROVEMENT IN MACHINES FOR BORING HUBS.

Specification forming part of Letters Patent No. **145,521**, dated December 16, 1873; application filed March 8, 1873.

To all whom it may concern:

Be it known that I, JOHN A. NEWELL, of Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented a new and useful Improvement in Machines for Boring Hubs; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1 is a perspective view of my device as in operation—the wheel being operated upon is, however, omitted, and one of the chuck-jaws shown in dotted outline. Fig. 2 is an elevation of the chuck at the other side of the frame, omitting the frame which carries the feed-screw. Fig. 3 is a cross-section of the frame and chuck, and a longitudinal vertical section of the feed-screw frame attached to the back thereof, taken on the line *x x* in Fig. 2. Fig. 4 is a perspective view of the cutters attached to the boring-bar. Fig. 5 is a perspective view of the end of the boring-bar.

Similar letters of reference indicate corresponding parts in the several figures.

The nature of this invention relates to an improvement in machines for setting boxes in wheel-hubs; and has for its object to provide a ready, easy, and accurate means for chucking and centering the hub to be bored or reamed, and is more especially designed as an improvement upon the machine for which Letters Patent, No. 134,091, were issued to me on December 17, 1872. The invention consists in the peculiar construction of the chuck for centering and holding the hub, and in the peculiar construction and arrangement of the feed-screw which draws the boring-bar through the hub.

In the drawing, A A represent the top timbers of a horizontal frame, to the ends of which is hinged a cruciform frame, B, composed of two pairs of timbers crossing each other at right angles, where they are halved together, and to the face of the frame B is secured a tool-rest, C, for sustaining the outer end of the boring-bar D, as described in the said Letters Patent. In the rectangular space in the center of the frame B is secured a chuck-plate, E, in which are cut three equidistant radial slots, *a*, in each of which is a sliding jaw, *b*, secured therein by a screw-bolt, *c*, inserted from the back side of the plate, in

the center of which a pipe, *d*, projects to the rear. On this pipe is sleeved a disk, E', in which is cut three equidistant eccentric segment-slots, *a'*, through which the screws *c* pass which hold the jaws to the outer plate. F is a lever pivoted at one end to one of the bars of the frame B, and is coupled, by a link, G, to the disk E'. By raising this lever from the positions shown in Figs. 1 and 2, the disk in its rotation will move the jaws *b* inwardly and cause them to grasp the band of a hub concentrically with the axis of the pipe *d* and boring-bar, and vice versa. The lever F may be secured at any point by a set-screw, *e*, which locks it to a quadrant, H. The boring-bar carries one or more cutters, *f*, which are intended to bore the hub, and with a tapered reamer, not shown, to fit the hub to receive its box. To the back of the frame B is secured a metallic frame, I, the back or vertical end of which is double, between whose walls is arranged a divided nut, J, as described in the said Letters Patent. In this nut is threaded a feed-screw, K, at whose head there is a vertical guide-plate, L, which is sleeved at top and bottom on a pair of guide-bars, M, horizontally arranged in the upper and lower parts of the frame I. The head of this feed-screw has a circular socket, in which there is an inwardly-projecting stud, *i*. The end of the boring-bar is halved to enter this socket, and the end which enters it is partially grooved, as at *i'*, to allow of its partial rotation in the socket, to bring the extreme end behind the stud *i*, and thus lock the boring-bar to the feed-screw while it is rotating in the forward direction of the feed. A reverse movement of the boring-bar unlocks it from the feed-screw, allowing it to be withdrawn therefrom.

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

1. The frame I, nut J, feed-screw K, guide-plate L, and guide-bars M, arranged and operating with relation to the frame B, substantially as and for the purpose set forth.

2. In a hub-boxing machine, the semicircular end of the boring-bar having a circumferential slot, *i'*, and the internal stud *i* in the socket of the feed-screw, arranged and operating as and for the purpose set forth.

JOHN A. NEWELL.

Witnesses:

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H. S. SPRAGUE.