T. Place,

Boring and Tenoning Machine.

No. 62,883. Patented Mar. 12, 1867.

Fig 1

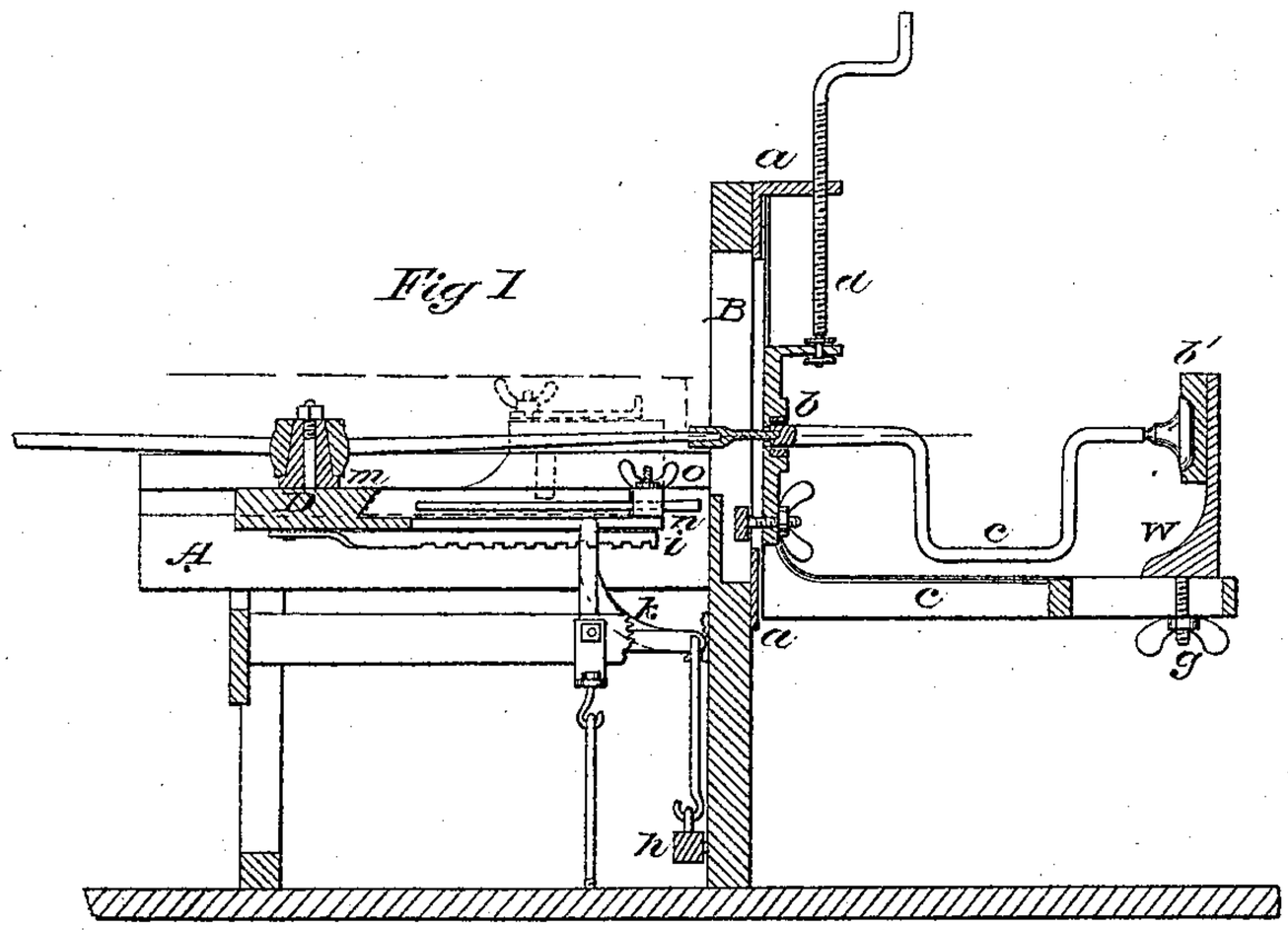


Fig 2

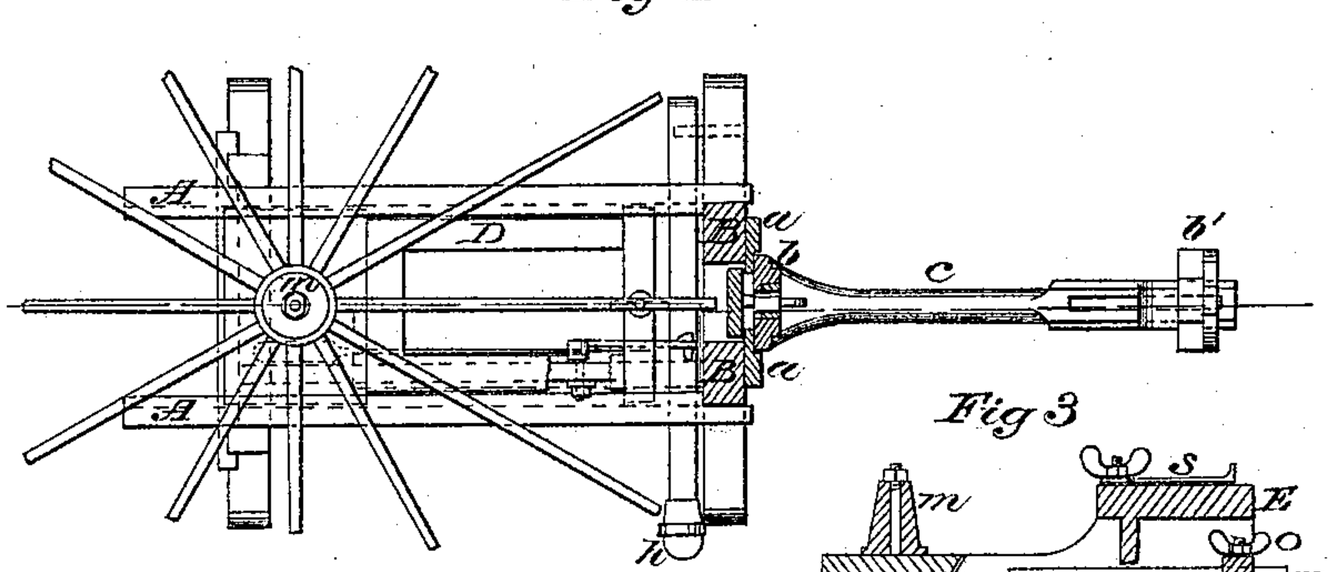
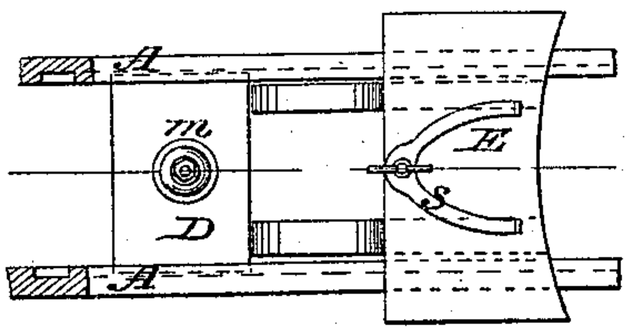


Fig 3

Fig 4



Witnesses:

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THOMAS PLACE, OF ALFRED CENTRE, NEW YORK.

Letters Patent No. 62,883, *dated March* 12, 1867.

IMPROVEMENT IN MACHINES FOR BORING AND TENONING.

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, THOMAS PLACE, of Alfred Centre, in the county of Allegany, and State of New York, have invented a new and improved Machine for Boring and Tenoning; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical longitudinal section, taken in the line *x x*, fig. 2.

Figure 2 is a top view of my improved boring and tenoning machine.

Figure 3 is a detached view of a part of the machine for holding felloes to be bored.

Figure 4 is a top view of the same.

Similar letters of reference indicate like parts.

The object of this invention is to provide a labor-saving machine for the use of wheelwrights, by which, with the ordinary tools of the shop, the tenons may be cut on spokes, and the holes bored in felloes, with dispatch and accuracy, so that they will fit exactly, and may be put together to form a perfect wheel.

A is an ordinary rectangular bench frame, having at the right-hand end a high standard, B, on the front side of which is fastened a cast-iron frame, C, for supporting a bit-stock, to be used for boring and tenoning. The plate *a* is bolted to the standard B in front; it is slotted and grooved to serve as a guide to the block *b*, which holds the front end of the bit-stock *c*, and is moved up and down for adjustment by means of the screw *d*, as shown in fig. 1. By means of a set-screw, *e*, the block *b* is held firmly at any height on the plate *a*, when adjusted to suit the work in hand. The head of the bit-stock *c* is held in a block, *b'*, fixed on a short standard, *w*, set in grooves on the outer end of the frame C. The standard *w* moves to adjust the blocks *b b* to suit bit-stocks of different sizes, and the set-screw *g* holds it in place. The head end of the bit-stock is fitted into the block *b'*, and the front end has lead or other soft metal run in around it, to form a bearing in the block *b*. In the block *b* a slot is provided on one side, for the play of the bit-catch or spring. A sliding carriage, D, is fitted in the bed of the frame A, which carriage is moved back and forth by a treadle, *h*, that is connected by an elbow-lever, *k*, with an adjustable rack, *i*, fastened to the carriage D. On the rear end of the carriage D is placed a round block, *m*, made movable, of different sizes, to fit in and hold the hubs of wheels, which are set upon it to have the spokes cut to length with tenons, as shown in figs. 1, 2. The movement of the carriage is regulated by an adjusting stop-bar, *n*, which is fixed to suit the length of the spokes by a set-screw, *o*, and stops against the standard B when the tenon is cut the right length.

For cutting the tenons on the spokes a proper tool or hollow auger is put in the bit-stock *c*, and the operation is performed very quickly and accurately, after adjusting the parts and placing the hub, with the spokes in it, as before described, by placing one foot on the treadle *h*, to draw the spoke to the work, and with the right hand turning the bit-stock till the stop-bar *n* arrests the movement of the sliding carriage D. Thus all the spokes on a wheel have their tenons cut exactly the same length, and the wheel they form will be perfectly round and true.

For boring felloes, or any other article to which it may be applied, a movable or detached bed or platform, E, is fitted upon the sliding carriage D, to move with it, as shown in figs. 3, 4. On the platform E is fastened a screw clamp, *s*, so formed as to hold a felloe firmly when it is to be bored, by moving up to an auger placed in the bit-stock *c*, in the same manner as for cutting tenons. Holes are thus bored to a gauge in felloes with the same accuracy that the tenons are cut on spokes, so that they will fit each other exactly, and make a perfect wheel when put together. This work is done on the machine, therefore, much better than by hand in the ordinary way.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent—

The sliding carriage D, having adjustable rack *i*, adjustable stop *n*, and elbow-lever *k*, and operated by the treadle *h*, and operating substantially as described for the purpose specified.

THOMAS PLACE.

Witnesses:

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