J. German,

Hollow Auger.

No. 37,619. Patented Feb. 10, 1863.

Fig. 1

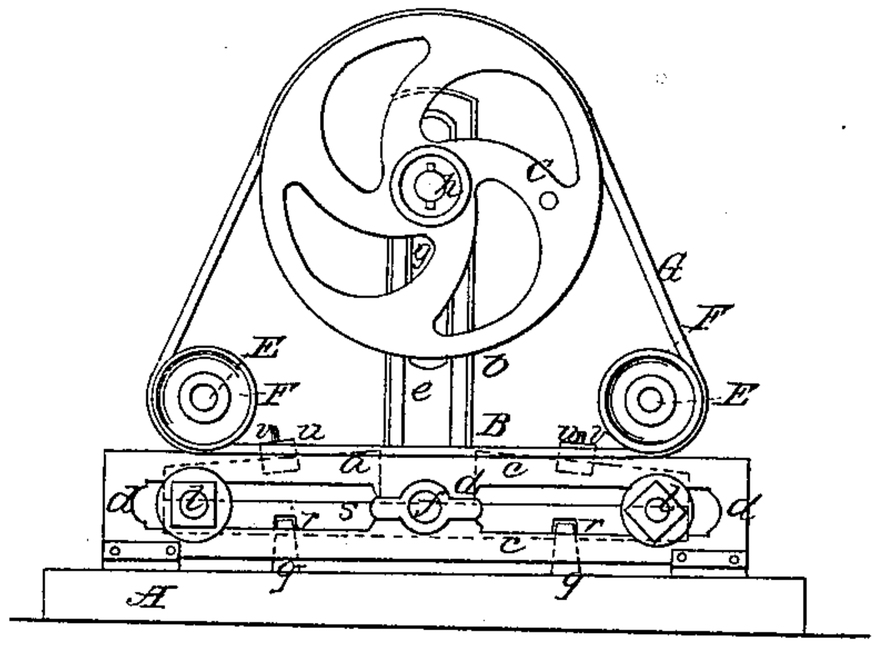


Fig. 2

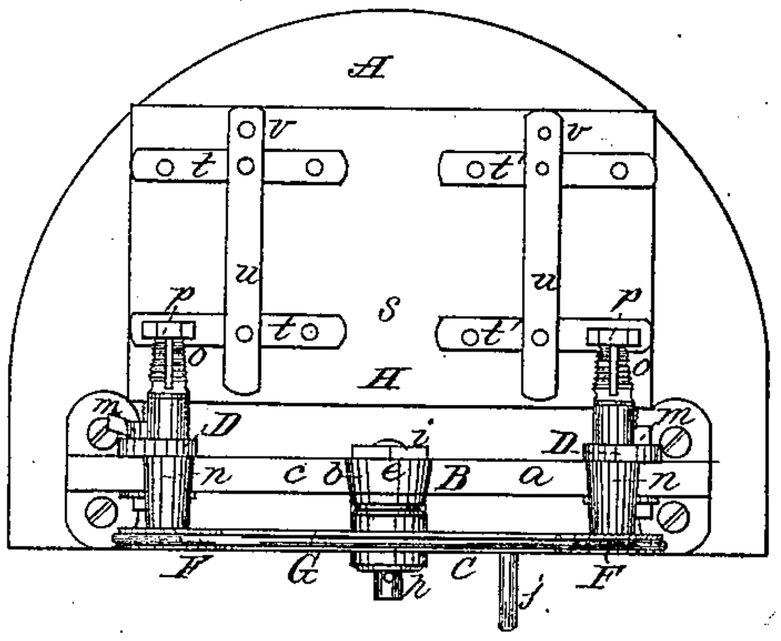


Fig. 3.

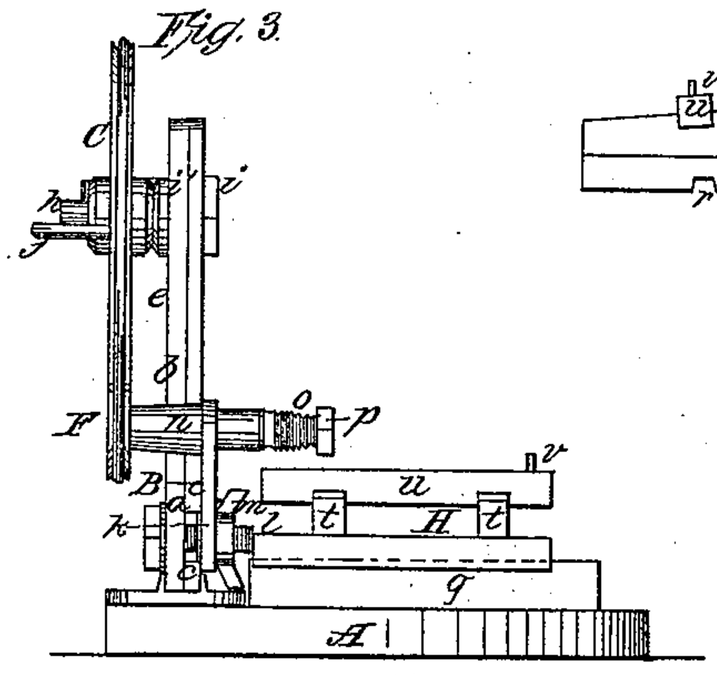
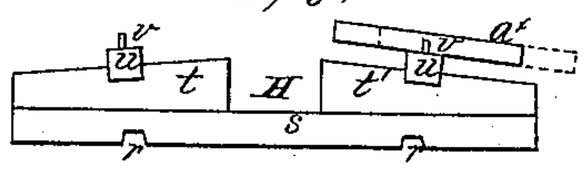


Fig. 4



Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN GERMAN, OF ORISKANY FALLS, NEW YORK.

IMPROVED DOWELING-MACHINE FOR THE USE OF COOPERS.

Specification forming part of Letters Patent No. **37,619**, dated February 10, 1863.

To all whom it may concern:

Be it known that I, JOHN GERMAN, of Oriskany Falls, in the county of Oneida and State of New York, have invented a new and Improved Doweling-Machine for the Use of Coopers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a back view of my invention in elevation; Fig. 2, a plan or top view of the same; Fig. 3, a side elevation of the same; Fig. 4, a detached front view of the feed-table.

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

This invention relates to a new and improved machine for boring holes in barrel-heading to receive the dowel-pins, which connect the several parts or pieces of the heads together.

The invention consists in a novel manner of arranging the driving mechanism which rotates the bits, and also in a novel construction of the feed-table, as herein shown and described, whereby the bits may be adjusted with the greatest facility so as to bore the holes into the pieces of heading at the proper points, the machine being at the same time adapted for boring heading of different thicknesses without any special adjustment of the working parts of the former.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a bed-piece on which a frame, B, is secured. This frame B is composed of two parts, *a b*, the part *a* being formed of two horizontal parallel bars, *c c*, placed one above the other, and connected at their ends and at their center by uprights *d d*. The part *b* of the frame B consists of an upright bar, *e*, the lower end of which is secured centrally to the part *a* by a screw-bolt, *f*. The bar *e* has a slot, *g*, made in it, which extends from a point near its upper end nearly down to the upper bar, *c*, of the part *a* of the frame B, and in this slot *g* the axis *h* of a pulley, C, is fitted and secured at any desired point by a nut, *i*, which is fitted on a screw cut on the part of the arbor which passes through the slot *g*, the axis *h* having a collar, *i'*, upon it, which bears against the outer side of the bar *e*. The pulley C has a grooved periphery and is provided with a handle, *j*.

D D are two slides, which are fitted to the part *a* of the frame B. These slides are formed of upright plates, which extend above the part *a* of the frame B, and have projecting surfaces *k* at their lower parts, which fit between the bars *c c*. (See Fig. 3.) The slides are secured to *a* by means of screw-bolts *l*, provided with thumb-nuts *m*, the bolts *l* passing through the lower parts of the slides D and between the bars *c c*. To the upper part of each slide D there is attached a horizontal tube, *n*, in each of which an arbor, E, is fitted and allowed to rotate freely. On the back end of each of these arbors E there is placed a pulley, F. The peripheries of these pulleys F are grooved, and a belt, G, passes around them and the pulley C, as shown clearly in Fig. 1. The front ends of the arbors E are provided with conical screws *o*, which are slotted longitudinally, and are tubular, in order to receive the shanks of the bits, the latter being firmly secured in the screws *o* by screwing up nuts *p*, which are placed on the latter.

From the above description it will be seen that the slides D D, and consequently the bits, may be adjusted nearer together or farther apart, as desired, and the belt G always kept at a proper degree of tension by raising or lowering the pulleys C.

On the bed-piece A there are placed and permanently secured two parallel ways or guides, *q q*, which are at right angles with the part *a* of the frame B. On these ways or guides *q q* a feed-table, H, is placed, and allowed to slide freely, the ways or guides *q* fitting in grooves *r r* in the under side of the feed-table. This feed-table is composed of a board, *s*, having four cleats, *t t t' t'*, attached longitudinally to its upper surface, as shown in Fig. 2. These cleats have their upper surfaces inclined, their inner ends being rather higher than their outer ends, as shown clearly in Fig. 4. On each pair of cleats *t t t' t'* there is secured at right angles a bar, *u*, the upper surfaces of which are parallel with the upper surfaces of the cleats *t t t' t'*. On these bars *u* the pieces of the head to be bored rest, the pieces bearing against pins *v* in the outer ends of the bars *u*. The pieces are fed to the bits by shoving forward the feed-table H by

hand, the bits boring edgewise into the pieces of the head. The pieces of the head may always be adjusted, however much they may vary in thickness, so that the bits will bore centrally into them by sliding them a trifle either to the right or left on the bars *u*, the inclination of the latter and the cleats *t t t' t'* effecting this result. This will be understood by referring to Fig. 4, in which a piece of a head, a^x, is shown in outline on one of the bars *u*, the dotted lines showing the adjustment of the piece.

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

1. The three grooved pulleys C F E, having the belt G passing around them, in combination with the slides D D, having horizontal tubes or bearings *n* at their upper ends, in which the arbors E of the bits are secured, the whole being arranged and applied to the frame B, as and for the purpose herein set forth.

2. The feed-table H, provided with the cleats *t t t' t'* and bars *u u*, having inclined upper surfaces, when said feed-table is used, in combination with the pulleys C F F, belt G, slides D D, and bit-arbors E, as and for the purpose specified.

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Witnesses:

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