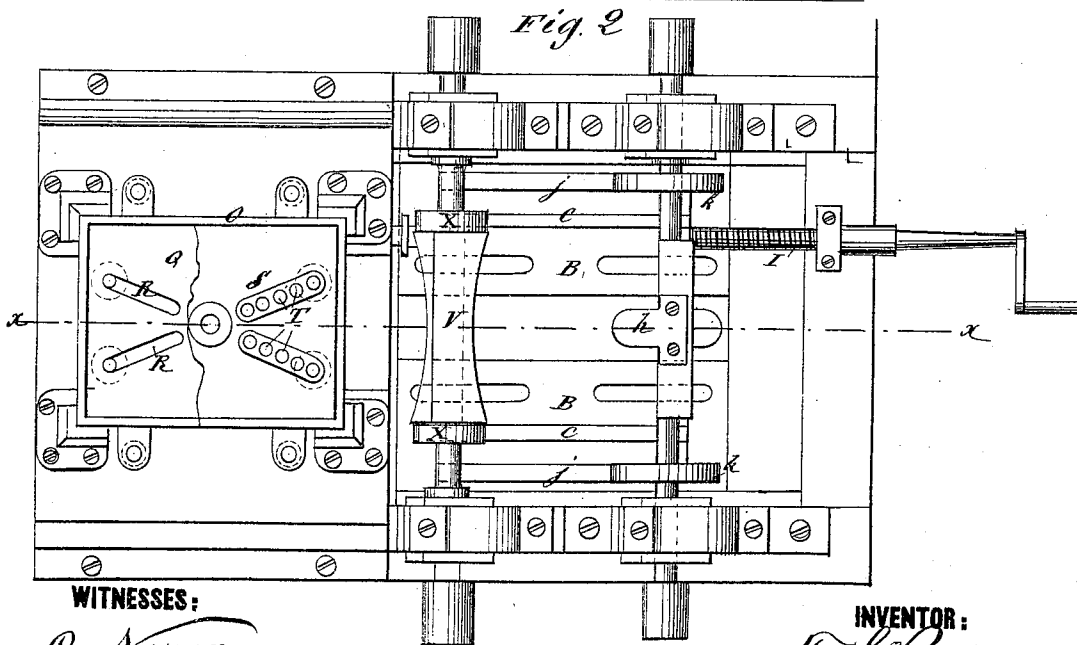
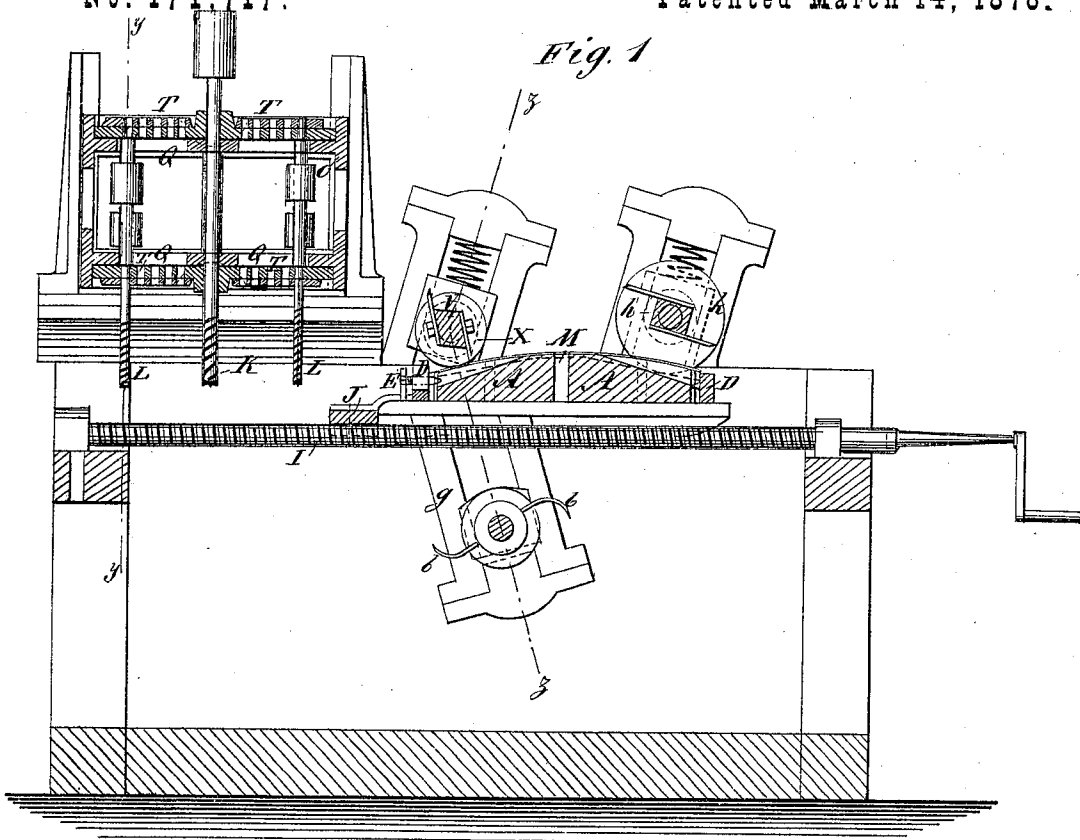


F. S. BURR.

MACHINE FOR MAKING TACKLE-BLOCKS.

No. 174,717.

Patented March 14, 1876.



WITNESSES:

C. Newell
J. Goethals

INVENTOR:

F. S. Burr

BY

Munn & Co.
ATTORNEYS.

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Fig. 3

Fig. 4

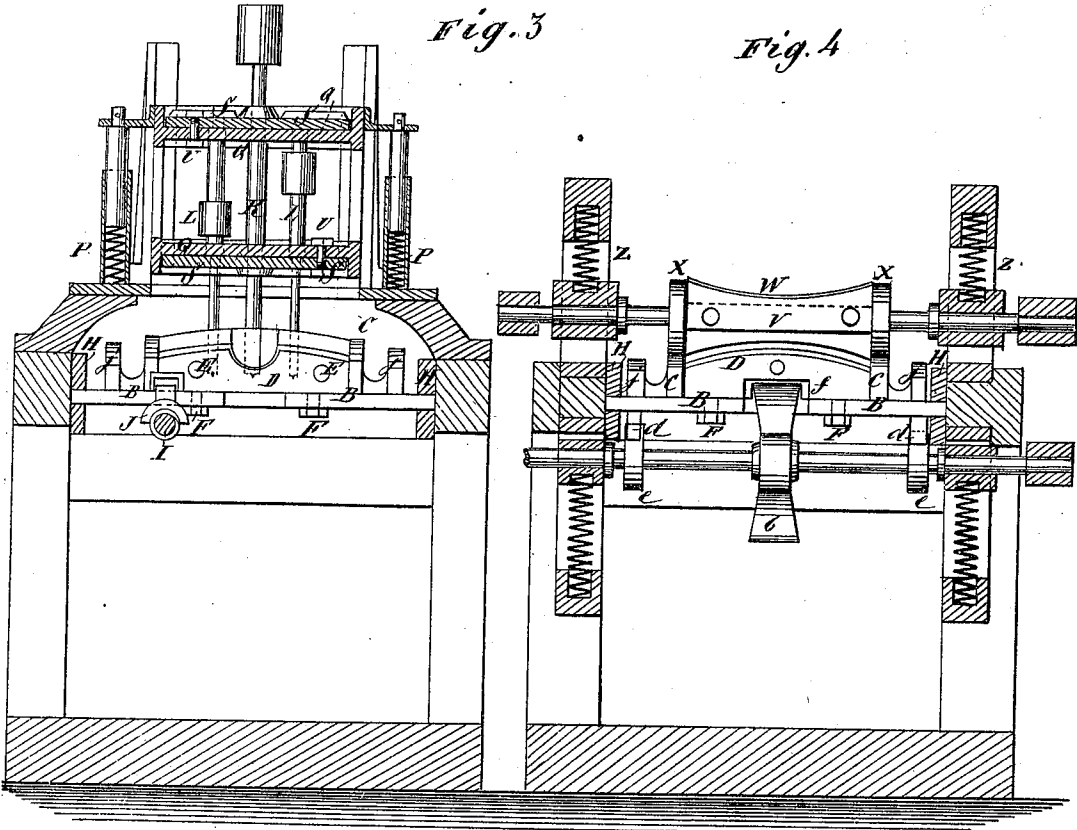


Fig. 6

Fig. 5

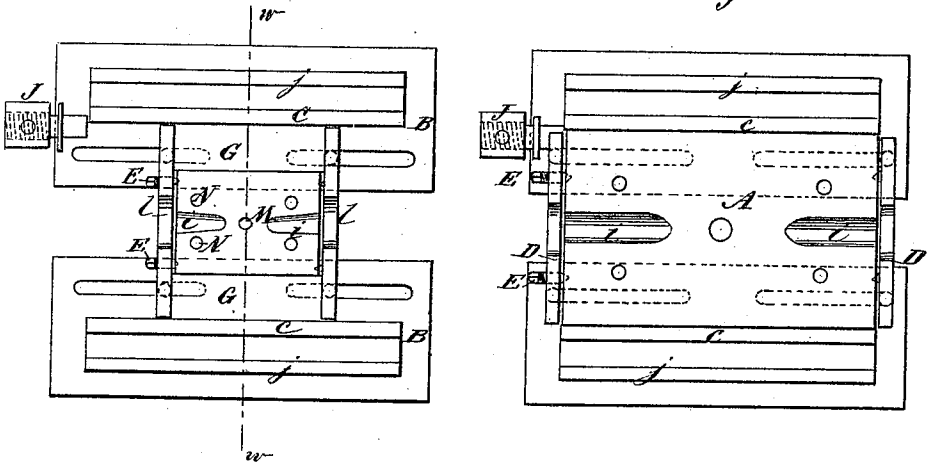
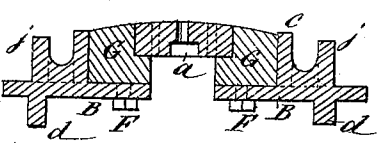


Fig. 7



WITNESSES:

C. Novak
J. Goethals

INVENTOR:

F. S. Burr

BY

Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

FREDERICK S. BURR, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN MACHINES FOR MAKING TACKLE-BLOCKS.

Specification forming part of Letters Patent No. 174,717, dated March 14, 1876; application filed December 27, 1875.

To all whom it may concern:

Be it known that I, FREDERICK S. BURR, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Machines for Making Tackle-Blocks, of which the following is a specification:

My invention is a combination of apparatus whereby the sides of wood tackle-blocks may be bored and dressed to shape either for rope or metal hangers automatically in one machine, so as to economize largely in labor of repeatedly handling them for doing the different operations in different machines as at present performed.

Figure 1 is a longitudinal sectional elevation of my improved machine, taken on line *x x* of Fig. 2. Fig. 2 is a plan view. Fig. 3 is a transverse section taken on line *y y* of Fig. 1. Fig. 4 is a transverse section on line *z z*. Fig. 5 is a plan of the block-holder and carrier and the templets for regulating the planing-tool for shaping the exterior of the block. Fig. 6 is a plan of the holder, showing the manner of holding small blocks; and Fig. 7 is a transverse section of Fig. 6 on line *w w*.

Similar letters of reference indicate corresponding parts.

The block to be dressed and bored for making a side piece, A, of a tackle-block is placed on the carriage-blocks B between the templets C and also between the end plates D, and made fast by the latter, which have set-screws E for engaging the blank, and clamp-screws F for fastening them to the carriage-blocks in different positions according to the size of the blocks, the screws F being arranged in slots in the carriage-blocks to allow of shifting them to different positions. In case small blocks A are to be dressed supplementary bearing-blocks G are employed, as in Figs. 6 and 7, thus adapting the carriage for large and small blocks. The carriage runs in the ways, being worked by a feed-screw, I, and a half-nut, J, and is first moved under the boring-tools K and L, where it is allowed to rest for a while to have the center pivot-hole and the corner bolt-holes bored, which are all bored together by the tools K and L, which are mounted on the vertically-movable frame O, which is pressed down at the proper time by a lever or other suitable means, and is raised again by springs

P or any equivalent contrivance. In order to adjust the tools L for boring the corner holes, so that they may be used for blocks of all sizes, the frame-plates Q, in which they are mounted, have slots R for the tools radiating from the center boring-tool in directions corresponding to the directions of the corner holes of all sizes from the center; and removable bearing-plates S, with bearing-holes T arranged at different distances apart corresponding to the positions of the holes of different blocks are used to adjust the tools. These plates are bolted to the frame-plates *a* by bolts U. After the holes are bored the blocks are fed along under the rotary planer V, having concave cutters W, shaped to produce the required transverse curve of the outside of the block, and having the roller-gages X on its axle, which roll on the templets C and gage the cutter to the required longitudinal curve, the bearings of the shaft being fixed in slotted housings Z, so as to rise and fall as the gages roll on the templets. If the block is to be grooved on the inside, as at *a*, for the connection of a yoke for suspending it, the cutter *b* is allowed to work at the same time against the under side, and in case the groove is not required to extend the whole length of the block the under side of the carriage is provided with the templets *d* to run on the rollers *e* and raise the block above the cutters at the proper time. When this groove is to be made in the under side end plates D will be used having a notch, *f*, in the lower edge to pass the cutter, but when a rope suspending device is used the cutter *b* is shifted down out of the way in the bearings *g*, and a cutter, *h*, is employed on the upper side to dress out the grooves *i* for the rope, said cutter being gaged by the templets *j* and the gage-rollers *k*. When the upper side is grooved in this way end plates D, notched in the upper side, as at *l*, will be used.

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

1. The combination of plates Q with removable plates having differential bearings, as and for the purpose described.

2. A tackle-block machine having five borers, four of which are adjustable with respect

to the fifth or central one, the former making the end holes while the latter makes the pin-hole, as specified.

3. The combination, with formers fastened to a movable table beside the work, of the guide-rolls carried with the work, and admitting the formers to pass between them, as and for the purpose described.

4. The combination, in a tackle-block ma-

chine, of two sets of knives and formers working simultaneously on the same piece of wood, the one on top and the other on bottom, as and for the purpose specified.

FREDERICK S. BURR.

Witnesses:

A. P. THAYER,

T. B. MOSHER.