WM. G. BRANCH, JAS. A. HASELTINE, WALTER BRANCH, & CHAS. F. BRANCH.

Improvement in Dovetailing Machines.

No. 119,113. Patented Sep. 19, 1871.

[125.]

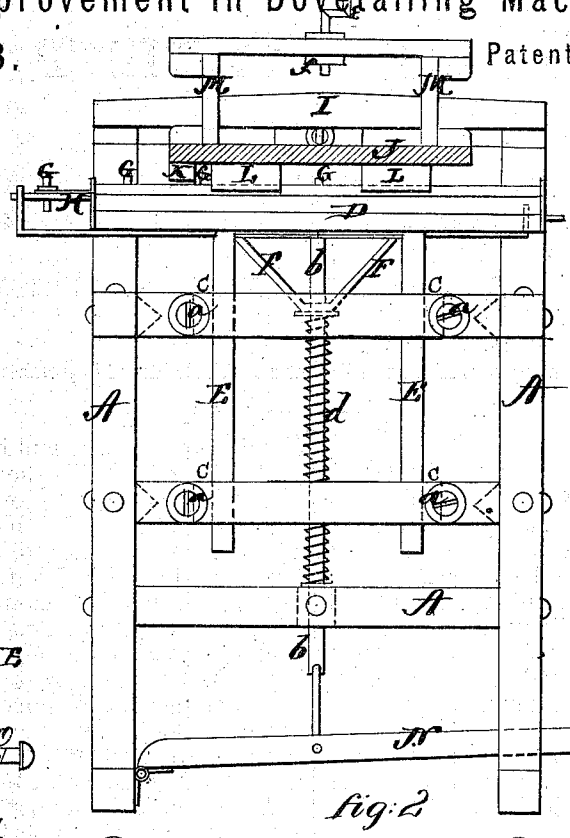

fig. 2

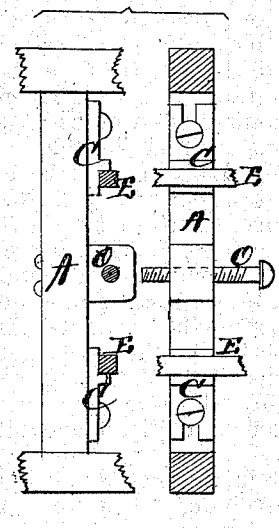

fig. 7

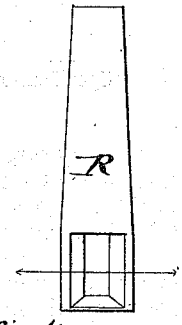

fig. 3

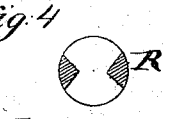

fig. 4

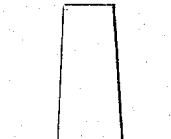

fig. 5

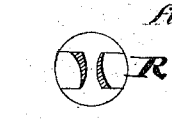

fig. 6

Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM G. BRANCH, JAMES A. HASELTINE, WALTER BRANCH, AND CHARLES F. BRANCH, OF POMEROY, OHIO.

IMPROVEMENT IN DOVETAILING-MACHINES.

Specification forming part of Letters Patent No. 119,113, dated September 19, 1871.

To all whom it may concern:

Be it known that we, WILLIAM G. BRANCH, JAMES A. HASELTINE, WALTER BRANCH, and CHARLES F. BRANCH, of Pomeroy, in the county of Meigs and in the State of Ohio, have invented certain new and useful Improvements in Machine for Dovetailing and Uniting Wood; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of our invention consists in the construction and arrangement of a machine for dovetailing wood, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side view, and Fig. 2 a plan view of our entire machine. Figs. 3, 4, 5, and 6 are views of the bits used; and Fig. 7 shows a portion of the frame.

A represents the frame-work for the support of the machinery. B B are boxes to hold the axle of the mandrel or drum from which the power is obtained. C C are corner boxes for the carriage to work perpendicularly in. The corner boxes on one side are stationary, while those on the other side are attached to sliding cross-bars A′ in the frame, and said cross-bars adjusted by means of set-screws *a a*, so that in case of wear of the upright slides supporting the carriage-frame, they can be moved inward and kept tight. D is the frame-work supporting the carriage-slides. E E are upright slides, working in the corner boxes C C, by which the carriage is raised and lowered perpendicularly. F is brace-work supporting the carriage-frame above the spiral-spring. A rod, *b*, passes perpendicularly from the center of the frame-work D through the brace-work F and connecting with the treadle, said rod being, below the brace-work, surrounded by the spiral-spring *d* for the purpose of elevating the bed-plate on which the material to be dovetailed rests, and keeping it in position. G G are the stops for regulating the length of the dovetail. H is a shaft in which the stops are shifted from one position to another. I is a gauge for bringing the work square and causing same depth of cut throughout. J is the bed-plate or table on which the material to be dovetailed is placed. K is a stop on the under side of the table J, which, by contact with the stops G G, regulates the size (length) of the dovetail. L L are carriage-slides on which the bed-plate rests on carriage. M is the stationary frame-work on the table for holding the material in position, the material being held by the screw *e* working in the nut *f* which slides in said frame. N is the treadle for lowering the bed-plate or table J. O is a screw for regulating the depth of cut of the dovetail. P is the mandrel or drum for holding the bits. R R′ are the bits for cutting the dovetail. The bit R is straight, as shown in Fig. 3, with an opening cut through, and cuts what is termed the pins of the dovetail; while the bit R′ has two concave sides, as shown in Fig. 5, and cuts the holes for the pins.

The bits are placed in the mandrel, which is kept continually revolving. The wood to be dovetailed is placed upon the bed-plate upon the carriage, and the end of the wood placed firmly against the guide I above the bit. The wood is then brought in contact with the bit by using the foot-lever or treadle N to lower until the carriage strikes the screw O, which is previously set for the depth required. The length is regulated by using the stops G G beneath the bed-plate, extending across the frame-work, which can be opened or closed, and the distance between these pins or stops gives the distance between the pins of the dovetails. After setting the screw for the depth and the stops for the distance, and having wood placed upon the bed-plate, by the treadle it is brought to the depth desired. Then, by moving the carriage to and fro until it strikes the pins beneath, cut the corners round and form the pin of the dovetail, using the straight bit R. In using the other bit R′ change nothing, holding the carriage against the pin, and bring down with the treadle, which causes the bit to cut through the wood; then move the carriage until it strikes the next pin, and bring down again, and so on.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The arrangement of the frame-work D, slides E E, brace-work F, rod *b*, spring *d*, and treadle

N, substantially as shown and described, and for the purposes herein set forth.

2. In combination with the frame D provided with slides E E and operated by means of the treadle N, rod *b*, and spring *d*, the corner boxes C C for guiding the slides E E, when said corner boxes are arranged substantially as shown and described, so that they may be adjusted to compensate for wear, as herein set forth.

3. The table J provided with stop K, in combination with the adjustable stops G G, frame M, sliding-nut *f*, screw *e*, adjustable gauge I, and set-screw O, all constructed and arranged substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing we have hereunto set our hands and seals this 29th day of May, 1871.

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