S. C. Ellis,

Boring Blinds, Sash, &c.

No. 56,195. Patented July 10, 1866

Fig. 1.

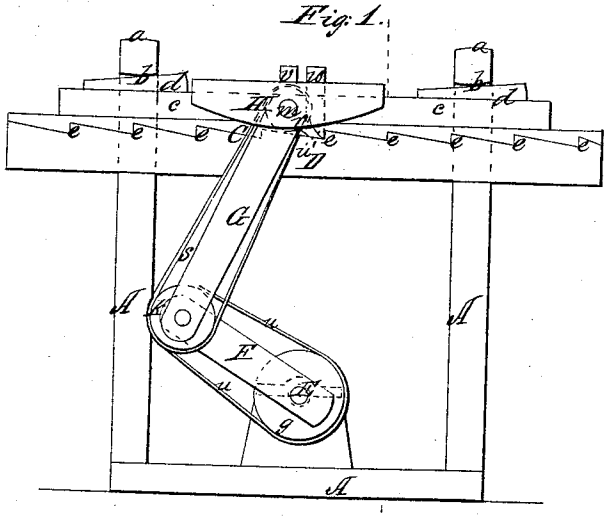


Fig. 3.

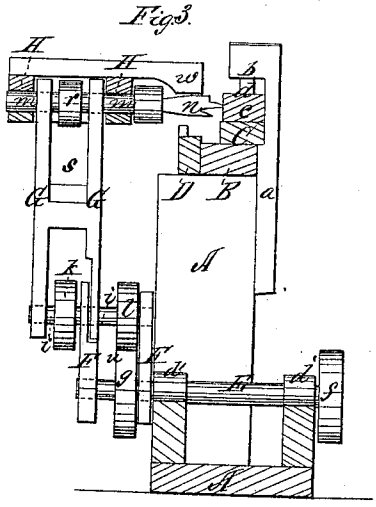
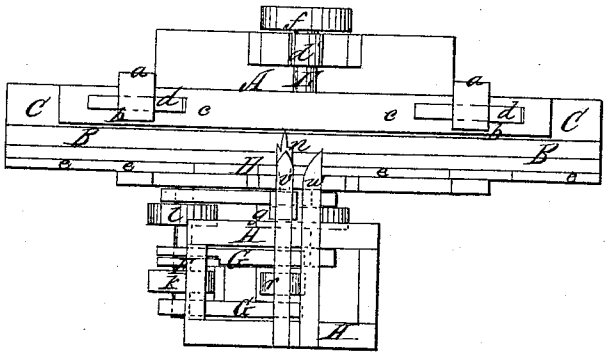


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

SETH C. ELLIS, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN WOOD-BORING MACHINES.

Specification forming part of Letters Patent No. **56,195**, dated July 10, 1866.

To all whom it may concern:

Be it known that I, S. C. ELLIS, of Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Boring-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a front elevation. Fig. 2 is a plan or top view. Fig. 3 is a vertical transverse section taken in the line *x x* of Fig. 1.

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

This invention is designed more especially for boring blind-stiles, but may also be employed for other boring purposes, such as boring holes in sashes, blinds, and doors for the insertion of the pins by which the different parts of such articles are secured together.

The invention consists in a novel arrangement of parts, whereby the continued rotation of a movable bit or boring-tool is secured, and by which its movements are gaged to bore the holes in the stiles at a proper distance apart and to a suitable depth.

To enable others to understand the construction and operation of my invention, I will proceed to describe it with reference to the drawings.

A is a frame-work, which supports a narrow horizontal bench or table, B, and at the rearmost side of this table are two vertical bars, *a*, the upper ends of which have shoulders *b* formed upon them and projecting forward over the table B. The blind-stile *c* is placed lengthwise upon a longitudinal bar, C, which is placed upon the table B at its rearmost side, and is made of any desired thickness, according as it is desired to place the stile at a greater or less height from the table B, the stile being firmly held in place by keys or wedges *d* driven under the shoulder *b* of the vertical bars *a*, as shown in Fig. 1.

Secured longitudinally upon the front edge of the table B is a strip, D, the upper side of which is notched or serrated, as clearly shown in Figs. 1 and 2, one end of each notch forming a shoulder, *e*, and these shoulders *e* acting as stops to retain the bit in place when boring the stile at different portions of the length thereof, as will be hereinafter more fully set forth.

Situated transversely in the lower part of the frame-work A, and working in suitable bearings *d'*, is a shaft, E, to the rearmost end of which is secured a band-pulley, *f*, and which has another pulley, *g*, fixed upon its front or forward end. The front end of the shaft E has pivoted upon it the jointed frame F G, the pulley *g* being situated within the lower end of the said jointed frame. This frame is composed of two parts, F and G, which are pivoted together by a short transverse shaft, *i*, as clearly represented in Figs. 1 and 3. Fixed upon this shaft *i* are two pulleys, *k* and *l*.

m is a transverse shaft situated in the upper end of the upper portion, G, of the frame F G, and in the rearmost end of this shaft *m* is secured the bits or boring-tool *n*, the shaft *m* being also furnished, near its center, with a pulley, *r*. A belt, *s*, extends from the pulley *r* to the pulley *k*, while another belt, *u*, extends from the pulley *l* to the pulley *g*, so that a rotary motion of the shaft E produces a rotary motion of the bit *n;* and inasmuch as the tension of the belts *s* and *u* remains the same at whatever angle the two parts F and G of the jointed frame may be situated with reference to each other, it follows that the continuous rotation of the boring-tool is insured at whatever point it may be placed along the length of the blind-stile *c*.

H is a small frame, which is pivoted upon the shaft *m*, and serves as a handle by means of which the bit is moved when the machine is in operation. Two short bars, *v* and *w*, are secured transversely upon this handle H, and serve as stops to regulate the depth of the holes bored in the stile. The bar *w* is vertically broader at its rearmost end than the bar *v*, and its lower edge, *w'*, rests against the shoulders *e* of the strip D during the operation of the machine.

In the operation of the machine the frame or handle H is grasped in the hand, the lower edge, *w'*, of the bar *w* is placed against one of the shoulders *e*, and the bit *n* is pushed back against the blind-stile *c*, boring into the same until the rearmost ends of the bars *v w* strike the stile, and thus stop the backward movement of the bit. The bit is then pulled out of

the hole thus made, and the handle H is moved along so that the lower edge, *w'*, of the bar *w* is brought against the next shoulder *e*, when the same operation is repeated to bore another hole, the distance between the shoulders *e* regulating the distance apart of the holes bored in the stile *c*, and the bars *v w* acting as stops to determine the depth of the said holes. The jointed frame F G, with its bit *n* and other appurtenances, may also be employed in boring the holes required in sashes, blinds, and doors for the insertion of the pins by which the different parts of the said articles are secured together, in which case the apparatus is placed in a horizontal position, so that the jointed frame and bit may be extended over the door or other article and moved to bring the bit *n* to any desired point thereon.

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

The jointed frame F G, bit-stock *m*, pulleys *g k l r*, belts *u s*, and handle H, the whole combined and arranged, in relation with each other and the driving-shaft E and table B, substantially as and for the purpose herein specified.

SETH C. ELLIS.

Witnesses:
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