Wm. CLEMSON.

Buck Saw Frames.

116269

Fig. 1.

PATENTED JUN 27 1871

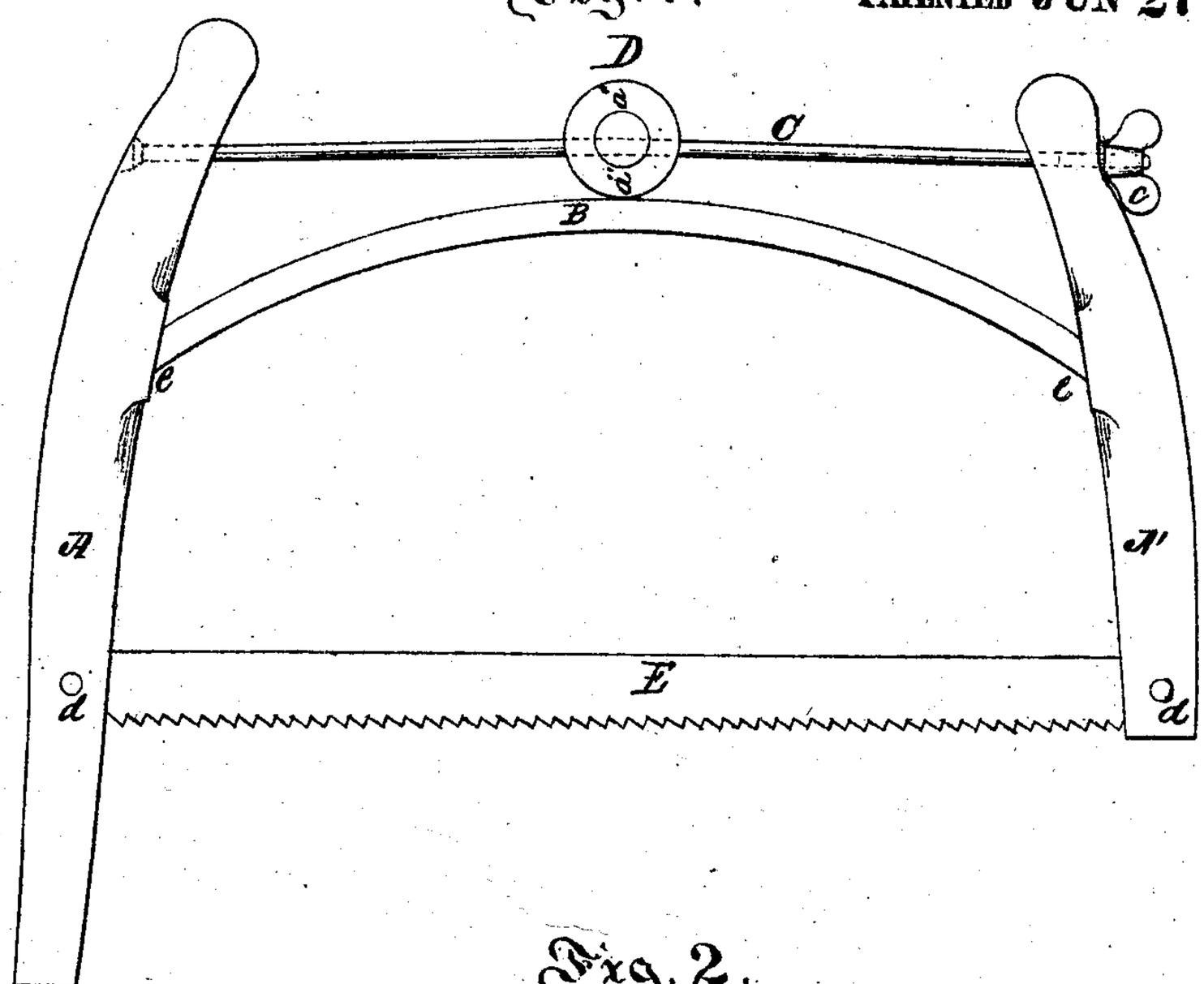


Fig. 2.

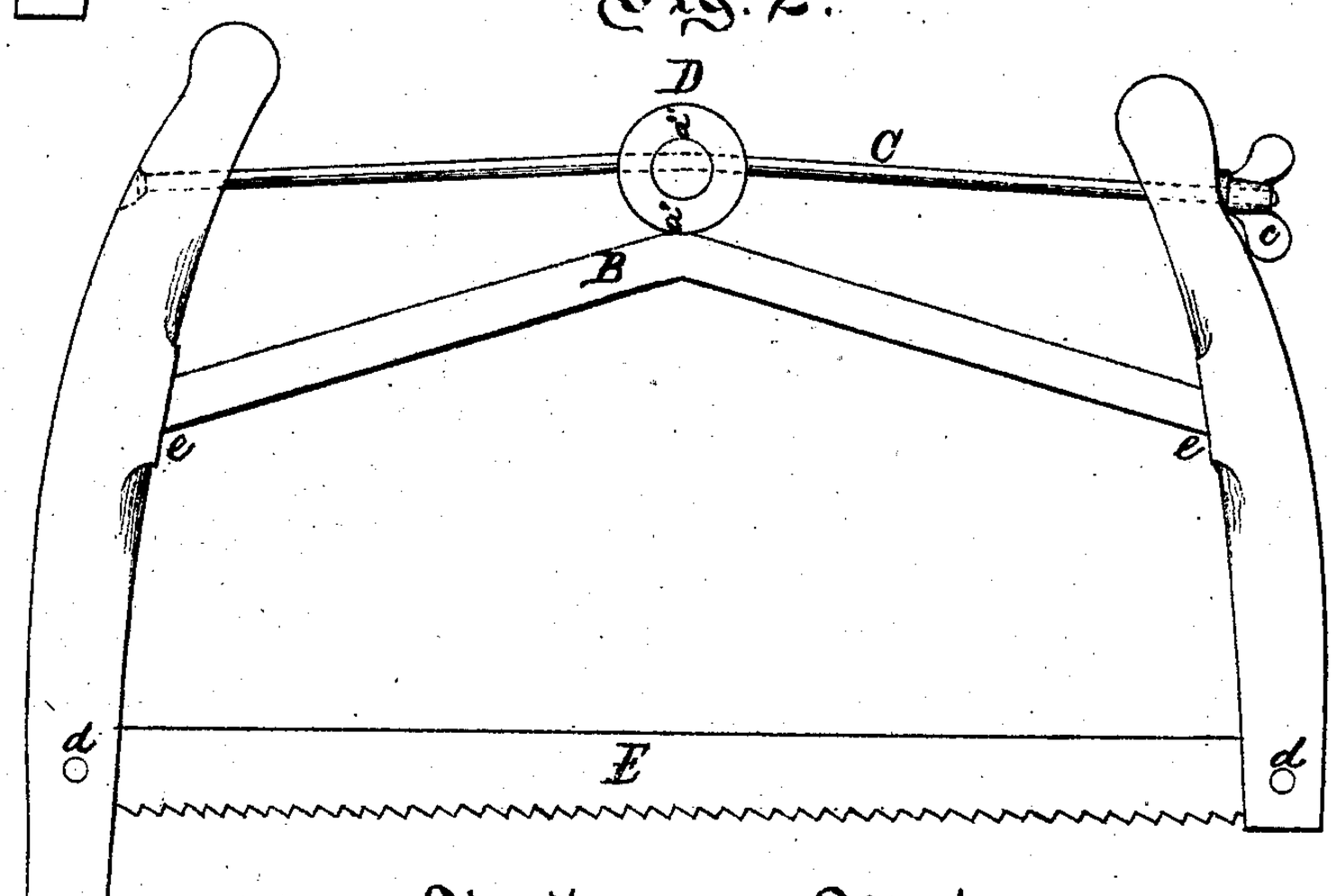


Fig. 3.

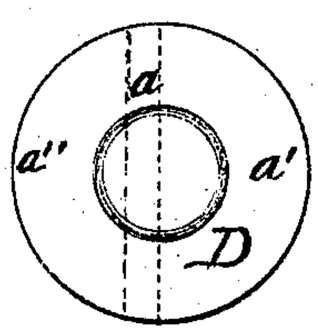
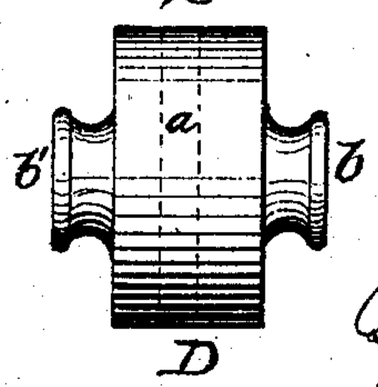


Fig. 4.



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116,269

UNITED STATES PATENT OFFICE.

WILLIAM CLEMSON, OF MIDDLETOWN, NEW YORK.

IMPROVEMENT IN SAW-FRAMES.

Specification forming part of Letters Patent No. 116,269, dated June 27, 1871.

To all whom it may concern:

Be it known that I, WILLIAM CLEMSON, of Middletown, in the county of Orange, in the State of New York, have invented certain Improvements in the Frames of Buck-Saws, of which the following is a specification:

The object of this invention is to produce a saw-frame having a cheap and easy means of straining the saw while in the frame; and it consists in the devices and relative arrangement with each other by which the object is accomplished.

In the drawing, Figure 1 is a side view of the saw-frame and straining devices. Fig. 2 is a side view of a modification of the same invention. Fig. 3 is an end view of the sliding strain-block, and Fig. 4 is a side view of the same.

A is the handle-end part of the frame. A′ is the opposite end piece—both made in the usual form. B is a curved stretcher or brace, in the form of a segment of a circle, with the highest part of its curve midway between the ends A and A′, and is made lighter than is usual, because it is desirable that it should be more or less elastic. Or the stretcher B, instead of being curved, may be made with straight inclined sides rising higher midway between the end pieces of the frame, as seen in Fig. 2; but the curved form is preferred. C is the common wire straining-rod, going through the end pieces, and having a screw-thread on one end, with a thumb-nut, *c*, to tighten up in the usual way, and so as to adjust the distance between the holes *d d* in the ends of the frame to agree with the holes in the saw, and is placed at the proper distance above the curved stretcher-brace B. D is a sliding strain-block, having a transverse hole, *a*, through it. The hole *a* is not in the center of either its length or transverse direction, as seen in Figs. 3 and 4, the object of such construction being to obtain as many different powers as there are different sides on the same block. Other forms may be given to the block than the one shown in the drawing; such as a cube, hexagonal, or octagonal, as the hole *a* will be so made in the block that no two of its sides will have the same distance from the center of hole *a*. Straining-rod C passes through hole *a* in sliding block D, which will freely slide upon or turn around on the rod C, as may be desired.

The frame being put together in the usual way, with the strain-block D on rod C, the thumb-screw turned against the end piece A′ to adjust the holes *d* to agree with the holes in the saw E, the pins put in the holes *d* and through the saw then force the strain-block toward the center of the frame when its lower side will strike against and bear upon the upper side of the stretcher B, which will spring the stretcher B and straining-rod C apart, thus shortening the distance between the upper ends of pieces A and A′ and forcing the curved stretcher downward in its center, causing the ends A and A′ to expand outwardly at points *e e*, thereby effectually straining the saw. This sliding the strain-block D on rod C hard against and upon the stretcher B compacts the whole frame. As the slide-block is at the point midway, or nearly so, between the ends of the frame, only one-half of the distance is had between the points of contact, which shortens the leverage and strengthens the frame in the direction to resist the force brought to bear against it in the operation of sawing.

As seen in the drawing, side *b′* of block D is less in distance from the center of hole *a* than side *b*, while side *a″* is further, and *a′* is the furthest of all from the center of hole *a;* and if applying side or end *b′* of block D to the curved stretcher B does not give the necessary strain to the saw, turn the side *b* to bear upon the curved stretcher; and if that is insufficient, bring side *a″* to bear upon the stretcher; or, if a still greater force is necessary, turn side *a′* to bear upon the stretcher. In this way, and in connection with the strain-rod C, any degree of strain may be given the saw that is necessary.

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

1. The saw-frame above described, composed of end pieces A and A′, stretcher B, strain-rod C, and sliding block D, arranged to operate in the manner and for the purposes described.

2. The sliding strain-block D, with the hole *a*, through which strain-rod C passes at different distances from the plane of the different sides of said block, substantially as shown and described.

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