H. DISSTON.

Saws.

No. 151,363. Patented May 26, 1874.

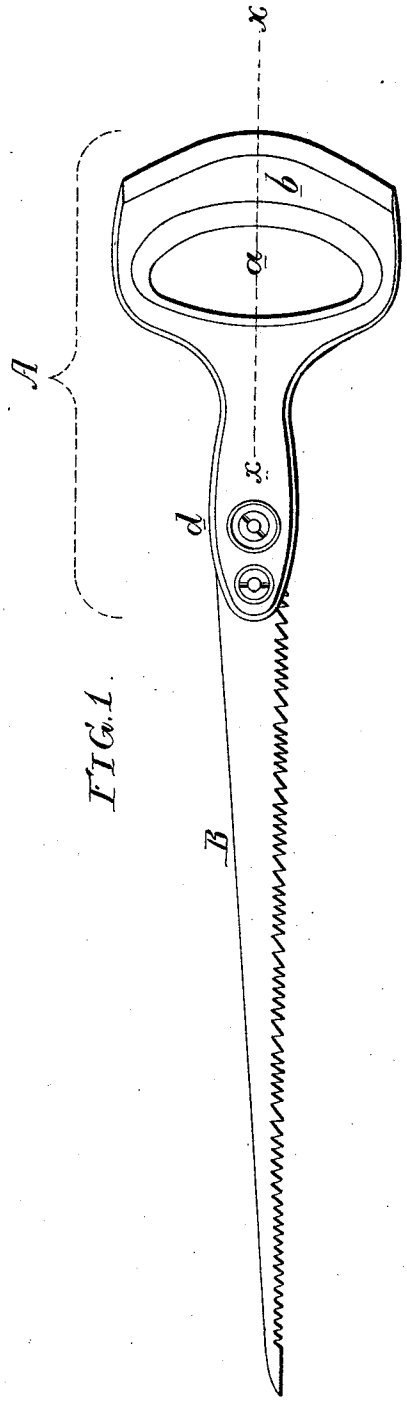

FIG. 1.

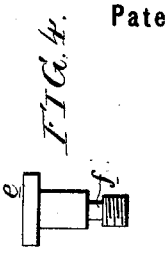

FIG. 4.

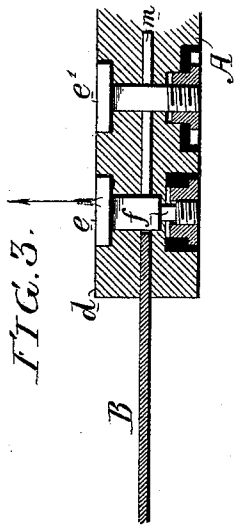

FIG. 3.

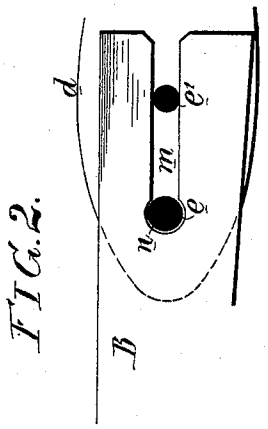

FIG. 2.

Witnesses, Thomas McIlvain
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Henry Disston
by his Attys.
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UNITED STATES PATENT OFFICE.

HENRY DISSTON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN SAWS.

Specification forming part of Letters Patent No. **151,363**, dated May 26, 1874; application filed April 20, 1874.

To all whom it may concern:

Be it known that I, HENRY DISSTON, of the city of Philadelphia, State of Pennsylvania, have invented an Improved Saw, of which the following is a specification:

My invention relates to improvements in compass-saws; and my object is to render them more easy to manipulate than ordinary saws of this class, and to afford facilities for the ready removal of the blades from and their attachment to the handles. I attain these results by constructing the handle of a compass-saw in the manner illustrated in the accompanying drawing, in which—

Figure 1 is a side view, drawn to a scale of one-half the actual size of the saw, Figs. 2 and 3 being full-sized sectional views.

In manipulating a compass-saw the operator has frequently to turn the blade laterally to a variety of angles, and sometimes to operate the saw with the toothed edge uppermost; and the necessity of thus changing the lateral position of the blade renders a compass-saw provided with the usual handle difficult to manipulate, as the common handle does not afford the best medium through which the proper leverage can be exerted when the blade is in many of the positions in which it has to be held. In many cases, too, it is desirable for the operator, in order to handle the saw with the best effect, to use both hands, and the ordinary handle affords no facilities for doing this with any comfort to the operator. In order to avoid these objections I make the handle A of a compass-saw in the manner shown in Fig. 1, the eye or opening *a* being of a proper size for receiving the four fingers of the hand, and the portion *b* of a convenient form to be grasped, the handle being precisely alike in conformation on both sides of the central line *x*, so that it affords every convenience for being manipulated with comfort to the operator, no matter what position it may occupy.

The handle has a central projection or continuation, *d*, of a shape substantially as shown in Fig. 1, so that it can be conveniently grasped by the left hand of the operator, whenever a demand for extra exertion requires the use of the left hand. This continuation also serves to increase the length of the saw without requiring a corresponding increase in the length of the blade, the widest portion of which, nearest to the handle, is seldom used in a compass-saw.

The blades of compass-saws are very liable to break near the point, and hence it is a matter of importance that facilities should be afforded for the ready replacement of a broken blade with a new one. For this purpose I attach the blade to the continuation *d* of the handle, in the manner illustrated in the enlarged sectional views, Figs. 2 and 3. This continuation is slit for the blade, which is confined by two bolts, *e* and *e'*, as shown in Fig. 3, the latter bolt having a plain stem, and the former being reduced in diameter or grooved at *f*, as seen in the detached view, Fig. 4. The blade B has, at the end which fits into the handle, a slot, *m*, terminating in an opening larger in diameter than the slot is wide, as shown in Fig. 2, the slot itself being of a width equal to the diameter of the stem of the bolt *e'*. As seen in Figs. 2 and 3, the blade is effectually retained longitudinally in the handle by the bolt *e*, the enlarged portion of the stem of which is contained in the opening *n* at the termination of the slot *m*.

When the blade has to be removed, all that is necessary is to so far loosen the nut of the bolt *e* that the latter can be pushed in the direction of the arrow until its grooved portion *f* coincides with the blade, when the latter is at liberty to be removed longitudinally, prior to the insertion of a new blade, in a manner which requires no explanation.

I claim as my invention—

1. A compass-saw handle in which are combined an eye or opening, *a*, for admitting four fingers, the portion *b* to be grasped by one hand, and a continuation, *d*, of appropriate shape, to be seized by the other hand, all substantially as set forth.

2. The combination of the blade B, its slot *m*, and enlarged hole at the end of the slot, with the bolt *e* and its groove *f*.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY DISSTON.

Witnesses:
WM. H. KNIGHT,
E. B. LONG.