W. SMITH.

SAW.

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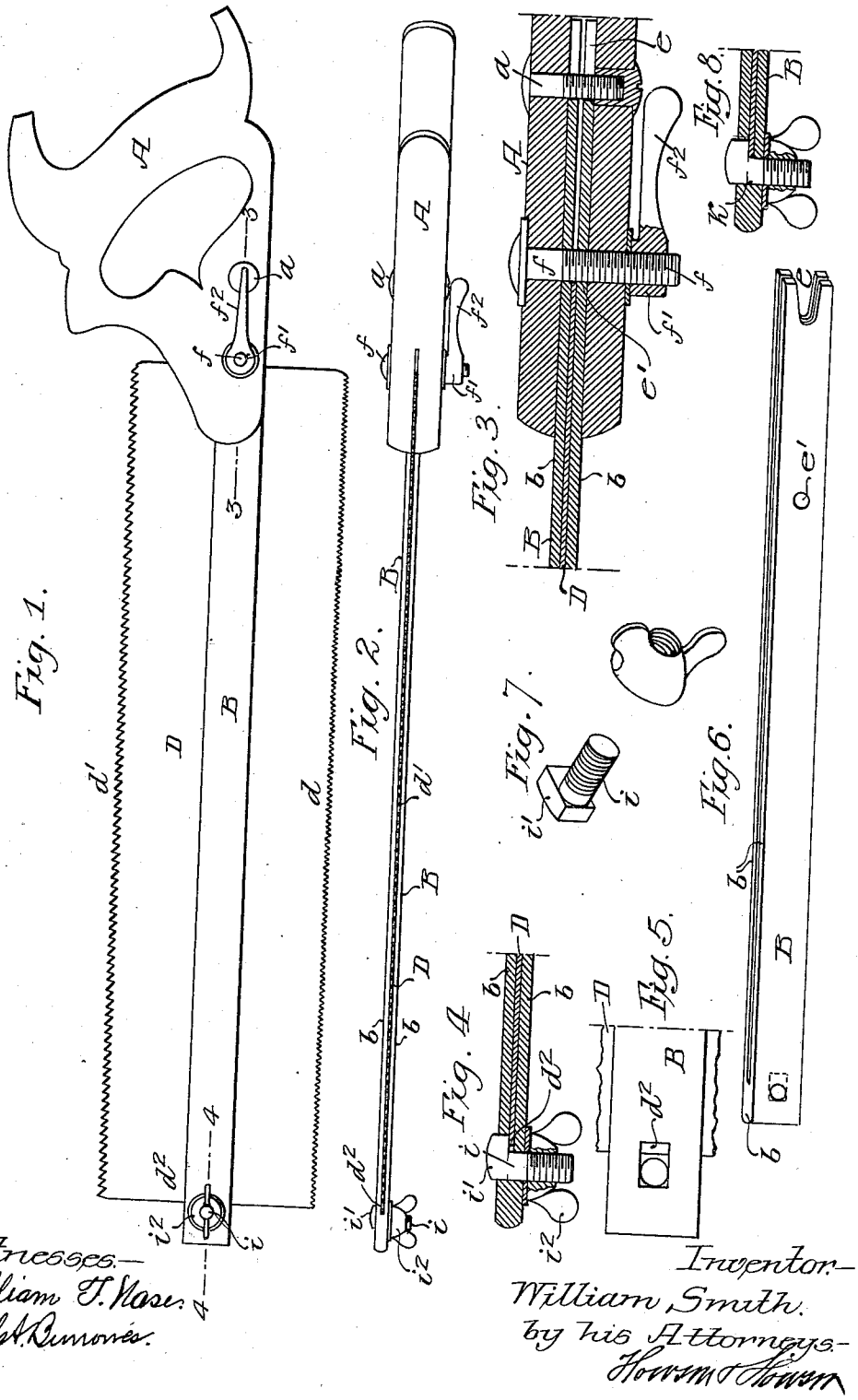

Witnesses—
William F. Moses.
Willet A. Simmons.

Inventor—
William Smith.
by his Attorneys—
Howson & Howson

UNITED STATES PATENT OFFICE.

WILLIAM SMITH, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HENRY DISSTON & SONS, INCORPORATED, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

SAW.

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To all whom it may concern:

Be it known that I, WILLIAM SMITH, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Saws, of which the following is a specification.

One object of my invention is to improve the construction of tenon or adjustable back saws so as to provide a ready means for adjusting the saw blade in the back and also to provide means for rigidly holding the blade in the position to which it is adjusted.

In the accompanying drawings:—Figure 1, is a side view of my improved tenon or back saw; Fig. 2, is a plan view; Fig. 3, is an enlarged sectional view on the line 3—3, Fig. 1; Fig. 4, is an enlarged sectional view on the line 4—4, Fig. 1; Fig. 5, is a rear view of Fig. 4, with the bolt removed; Fig. 6, is a detached perspective view of the back; Fig. 7, is a detached perspective view of the outer clamp; and Fig. 8, is a sectional view illustrating a modification of the outer clamp.

Referring to the drawings, A is the handle of the saw made in any suitable form desired.

B is the back made of two metallic strips *b*—*b* secured together at the outer end *b'* and at this end is a filling piece which spaces the two strips a sufficient distance apart to allow for the insertion of the blade D. This blade has a set of teeth at each edge *d*, *d'*; one set of teeth being cross-cut and the other set rip teeth so that the saw can be used to cut either with the grain or across the grain, although the teeth of both edges may be cross cut teeth, if desired, or vice versa. The back B is slotted at the inner end, as at *e* and spans the bolt *a* in the handle A. Some distance from the end is a perforation *e'* through which extends the bolt *f* upon which is an adjustable nut *f'* provided with a handle f^2, in the present instance. The bolt holes are so located that the bolt passes the inner end d^2 of the blade D. By turning the handled nut *f'* the parts of the slotted handle A are drawn together and with them the back B; causing the back to clamp the inner end of the blade D.

In order to clamp the outer end of the back to the blade, I provide a bolt *i* having a quadrangular head *i'*, in the present instance, which is adapted to a similarly shaped recess in the back B, Fig. 5. The head *i'* extends over the outer edge d^2 of the blade, as clearly shown in Fig. 4. A thumb nut i^2, in the present instance, is mounted on the bolt so that on turning the thumb nut the back and the blade are rigidly secured together. The blade is thus frictionally held; dispensing with any peculiar form of bolt at the outer end of the saw, or any complicated fastenings, which would otherwise be necessary to engage the blade.

By this construction I am enabled to make an exceedingly simple and effective clamping means for adjustably securing the blade to the back and by turning the handled nut *f'* and the thumb nut i^2 in one direction, the blade can be quickly released and adjusted in the back so as to expose any amount of the blade desired, after which the nuts can be adjusted to finally clamp the blade to the back.

In Fig. 8, I have shown the shank of the bolt provided with a wedge section *k* designed to force the blade against the rear bolt *f* when the forward bolt is drawn to place by its nut. The wedge in some instances may be so designed as to hold the blade, as well as to force it into the proper position.

I claim:

The combination in a tenon or back saw, of a handle; a slotted back closed at the outer end and having a transverse opening therein beyond the end of the saw blade; a blade mounted in the back; a clamping bolt adapted to the transverse opening and arranged to bear directly upon the blade; with means for tightening the bolt so as to clamp the blade to the back.

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

WILLIAM SMITH.

Witnesses:
WILLIAM F. NASE,
JOS. H. KLEIN.