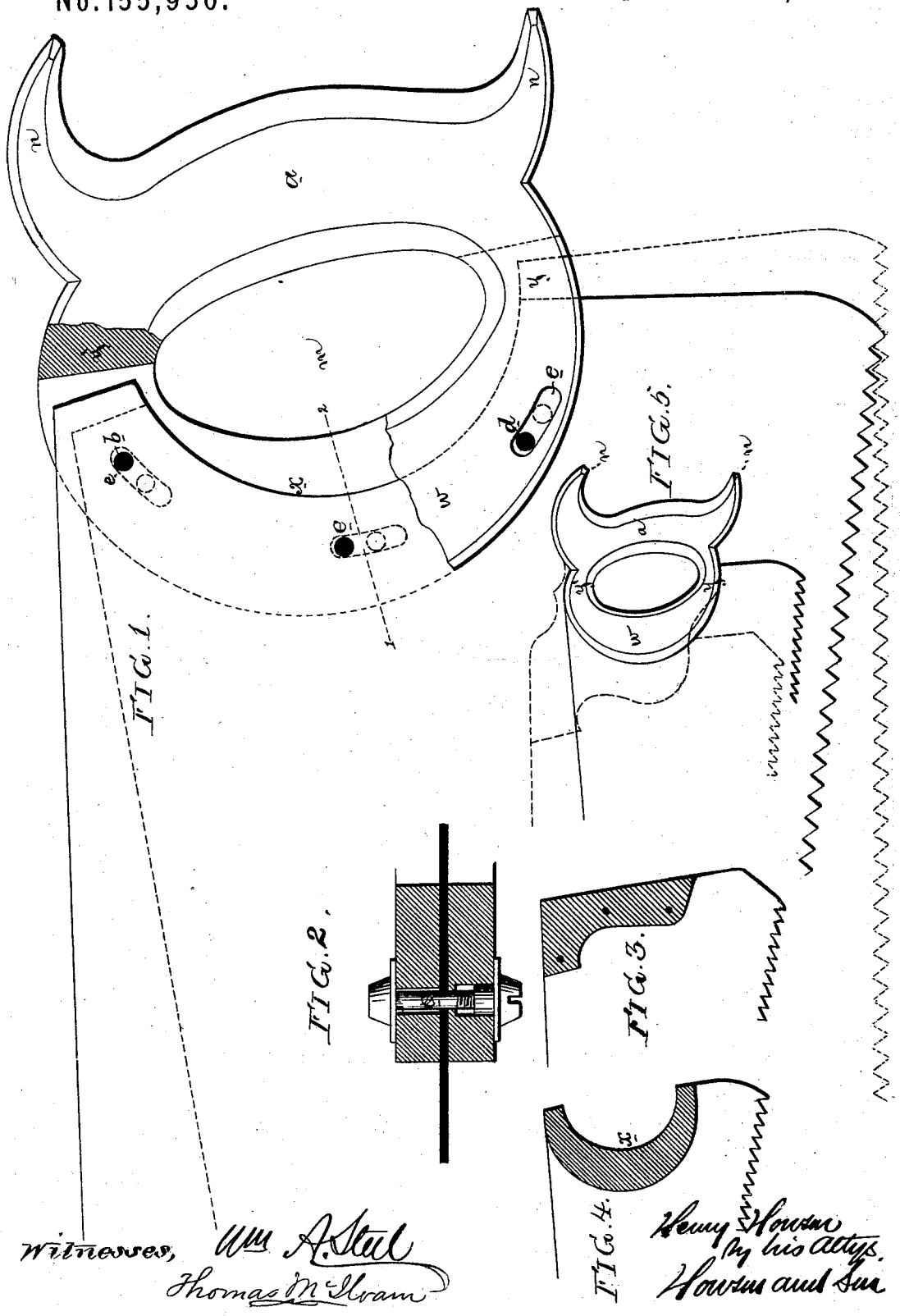
H. HOWSON.

Hand-Saws.

No. 155,950. Patented Oct. 13, 1874.



Witnesses,
Wm A. Steel
Thomas McIlvain

Henry Howson
by his attys.
Howson and Son

UNITED STATES PATENT OFFICE.

HENRY HOWSON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HENRY DISSTON, HAMILTON DISSTON, AND ALBERT H. DISSTON, OF SAME PLACE.

IMPROVEMENT IN HAND-SAWS.

Specification forming part of Letters Patent No. **155,950**, dated October 13, 1874; application filed May 22, 1874.

To all whom it may concern:

Be it known that I, HENRY HOWSON, of Philadelphia, Pennsylvania, have invented an Improvement in Hand-Saws, of which the following is a specification:

The object of my invention is to make a hand-saw in which the following requirements will be fulfilled: First, economy in the consumption of wood for the handle; second, increased strength of handle as compared with those of ordinary saws; third, a more secure attachment of the handle to the blade with few bolts; fourth, the arrangement of the gripe of the handle nearer to the blade than usual, so that the operator can have better control of the saw; and, fifth, the adjustability of the handle on the blade.

Figure 1 of the accompanying drawing is a side view of my improved handle and part of the blade; Fig. 2, a transverse section of part of the handle and blade; Figs. 3 and 4, diagrams, illustrating the difference between the extent of bearing of the improved handle on the blade and that of the old-fashioned handle; and Fig. 5, a view illustrating the difference in the quantity of wood demanded by the new and old handles.

The handle has the usual gripe *a*, with appropriate guards *n n* and an opening, *m*, of proper size for receiving the fingers.

In making the body of the handle the usual form, represented by dotted lines in Fig. 5, is discarded for the simple rounded or segmental body *w*, the connections *y y'*, between the gripe *a* and body, being free from the usual projections and recesses, which add to the cost of ordinary handles, and being sufficiently thick and substantial to resist liability to fracture, when weakened by cutting the slot for the reception of the blade.

This increased thickness of the connections *y y'*, while re-enforcing the handle at the points where it is most liable to break, involves no increased consumption of wood in cutting out the handles.

A segmental recess, *x*, is cut in the blade, and the handle is slotted to about the extent shown in Fig. 1 for the reception of this recessed portion of the blade.

By this arrangement the gripe *a* of the handle is brought nearer to the blade to the extent shown by the distance between the plain and dotted lines in Fig. 5, and the operator has, consequently, a better command of the saw.

While this advantage is attained, and while economy in the consumption of wood results from the adoption of the improved handle, an advantage of more importance is acquired, and that is, a more secure and steady hold by the handle on the blade.

This will be best understood by referring to Fig. 3, where it will be seen that the bearing of the old-fashioned handle on the blade is restricted to one corner of the latter, whereas the crescent-shaped bearing of the new handle projects into the body of the blade, much more of which is embraced by the improved handle than by the old one.

It may be remarked, moreover, that my improvement permits a judicious distribution of the bolts *e* for securing the handle to the blade, three bolts only sufficing for this purpose, although four may be used if desired, the center bolt or bolts being so situated as to occupy an advanced position, where the best duty, as regards securing the handle, may be performed.

The peculiar conformation of the body of the handle permits its ready construction for adjustability.

When this is required curved slots may be made either in the handle or blade for the bolts *e*, so that after loosening the nuts of the bolts the handle may be moved on the blade to such a point as the requirements of the operator of the saw may suggest.

The slots should be arranged concentrically with the recess *x*, so that the latter will always bear the same relation to the handle, whatever may be the position of the same on the blade.

I do not claim, broadly, the combination of the saw-blade with an adjustable handle, as

this device may be seen in patent No. 147,708; also in patent No. 135,628; neither do I claim a saw-blade recessed at the broad end for allowing the gripe of the handle to be brought nearer to the blade; but

I claim as my invention—

The combination, in a hand-saw, of the within-described handle, having the usual gripe *a*, an appropriate opening, *m*, for the fingers, and a segmental body, *w*, with a blade having a recess, *x*, for permitting the said segmental body to embrace the blade in the manner and to the extent set forth.

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

HENRY HOWSON.

Witnesses:

WM. A. STEEL,

HARRY SMITH.