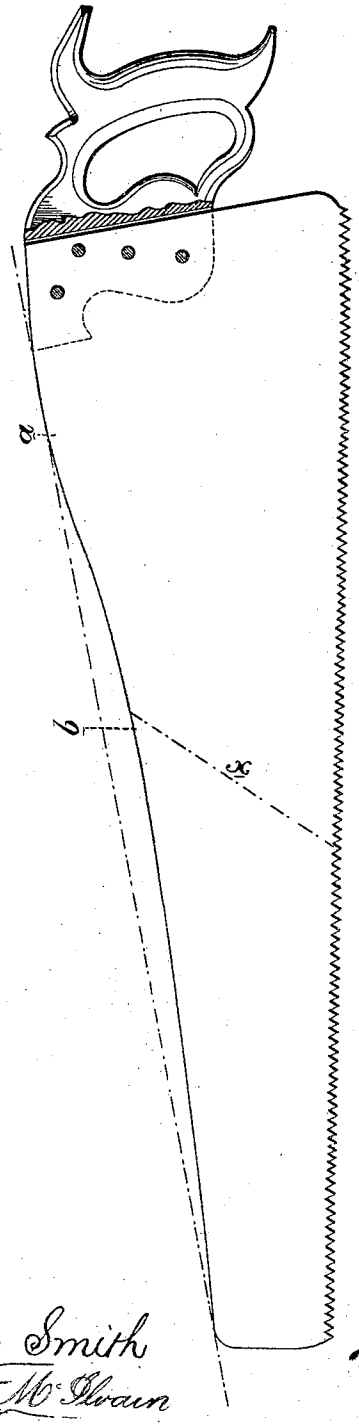
H. DISSTON.

Hand-Saws.

No. 152,347. Patented June 23, 1874.



Witnesses, Harry Smith
Thomas McIlvain

Henry Disston
by his attys.
Howson and Son.

UNITED STATES PATENT OFFICE.

HENRY DISSTON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN HANDSAWS.

Specification forming part of Letters Patent No. **152,347**, dated June 23, 1874; application filed February 23, 1874.

To all whom it may concern:

Be it known that I, HENRY DISSTON, of Philadelphia, Pennsylvania, have invented an Improvement in Handsaws, of which the following is a specification:

The object of my invention is to construct a handsaw which shall be lighter, more easy to handle, stronger in proportion to the amount of metal used in the blade, and more free from tremor in the hands of the operator than ordinary handsaws; and this object I attain by making the back of the blade of the form illustrated in the accompanying drawing.

The blades of ordinary handsaws are made with a gradual and uniform taper, both in width and thickness, from the outer to the inner end. This conformation has hitherto been considered the best for preventing the lateral yielding of the blade under the end thrust imparted to it; but in spite of this provision the yielding of the blade, and the consequent sudden jars which are so disagreeable to the operator, will take place. In this respect there is much difference between ordinary saws, even between those which appear to be alike in conformation, and this difference, which is technically termed a difference in the "hang" of a saw, can be readily detected by an expert carpenter. After repeated experiments I have ascertained that the defect of ordinary saw-blades consists in making the backs straight from end to end, as shown by dotted lines in the drawing, and in the too great width of the blade at and near its middle. I therefore remove the metal at the back to an extent indicated by the space bounded by plain and dotted lines in the drawing, and by forming the back on a very gentle curve from the outer end to about the point *b*, from which point the curve becomes more abrupt until it gradually merges into the round portion *a*, and from there to the inner end of the blade there should be little or no diminution in its width, for it is essential that the blade should be comparatively heavy and rigid at and near the handle. I have found that a blade thus formed is better adapted to resist end thrusts than ordinary blades, and that it is more acceptable to all wood-working artisans who have used it, owing to its freedom from the jars which so often interfere with the proper working of ordinary handsaws. In other words, the hang of the saw is much improved by this mode of constructing the blade.

I claim as my invention—

A handsaw-blade with a back edge made on the curve described and shown—that is, rounded or convex near the butt, and concave throughout the remaining portion of its length, as specified.

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

HENRY DISSTON.

Witnesses:

WM. H. WRIGHT,

C. T. SHOEMAKER.