

(No Model.)

D. R. THOMAS.
HANDSAW.

No. 546,686.

Patented Sept. 24, 1895.

Fig. 1

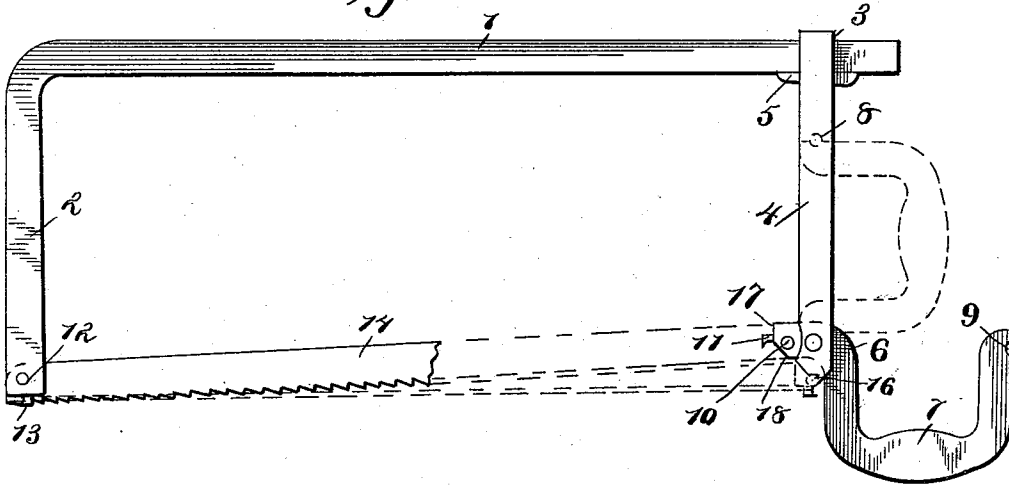


Fig. 2.

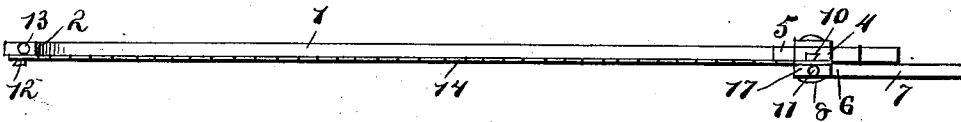


Fig. 3.

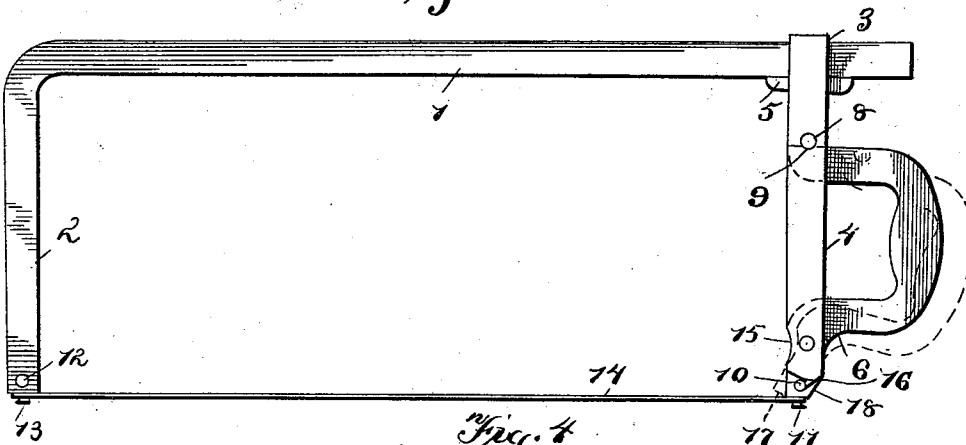
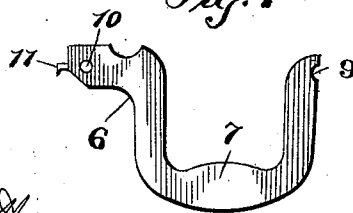


Fig. 4



Witnesses
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UNITED STATES PATENT OFFICE.

DAVID R. THOMAS, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF TO
JAMES F. HEYWARD, OF SAME PLACE.

HANDSAW.

SPECIFICATION forming part of Letters Patent No. 546,686, dated September 24, 1895.

Application filed June 26, 1895. Serial No. 554,129. (No model.)

To all whom it may concern:

Be it known that I, DAVID R. THOMAS, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Handsaws; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to handsaws, and more particularly to that class known as "hack-saws" in which a thin blade is secured at its ends, under tension, to an adjustable frame.

In such saws it is often very desirable to secure the blade to the frame after having passed the end of the blade through a hole, and also to change the position of the blade relatively to the frame.

The object, therefore, of my invention is to facilitate these changes and to produce a saw which will be simple, strong, and durable; and it consists in the construction and combination of parts of the same, as will be hereinafter more particularly set forth.

Referring to the accompanying drawings, in which the same reference-numerals indicate corresponding parts in each of the views in which they occur, Figure 1 is an elevation of the saw. Fig. 2 is an edge view. Fig. 3 is a plan view of the saw with the blade set at right angles to the position shown in Fig. 1, and Fig. 4 is a detail view of the handle of the saw.

Referring more particularly to the drawings, 1 indicates the back of the frame, one end or leg 2 of which is bent substantially at right angles to the main portion, and the opposite end is passed through a loop or eye 3 at the upper end of the other leg 4 of the frame. These two parts may be secured together in any desired manner—as, for instance, by means of a key or wedge 5—which will permit of the back being locked at any point within the eye, so as to bring the ends of the legs of the frame into the proper rela-

tion to each other to accommodate any length of blade being used.

The handle 6 is pivotally secured to the lower end of the leg 4 of the frame and has one end provided with means for connecting the blade thereto and has the opposite end preferably bent into a loop 7 to form a hand-hold for operating the saw. The free end of the loop may be secured to the leg 4 by any means—as, for instance, the bolt 8, which passes through the leg and engages with a notch 9 in the handle. The short end of the handle and also the end of the leg 2 are each provided with two pins 10 and 11 and 12 and 13, respectively, for the attachment of the blade 14, which is provided with holes at its ends.

By making the frame from flat pieces of material and locating the leg 4 in the same plane with the back 1 and leg 2 to prevent undue twisting or drawing of the blade upon the frame when it is placed under tension, and pivotally securing the handle at one side of the leg 4, it is evident that the pins 10 and 12, respectively, must be placed upon opposite sides of the leg 2 and handle 6 to cause the blade to lie parallel with the frame. The pins are set so as to incline slightly outward at the opposite ends of the saw, so as to prevent the blade from becoming accidentally released from the pins.

To permit of making the attaching end of the handle short to secure a greater leverage and to permit of the blade being readily attached to the pin 10, the inner edge of the leg 4 may be slightly recessed or cut away, as shown at 15, and the adjacent faces of the leg and handle must be located at such a distance apart as to permit the end of the blade to pass in between them when the handle is turned upon the pivot. The lower end of the leg is preferably provided with a shoulder 16, against which the pin will engage when the handle is turned up against the leg to place the blade under tension, although this shoulder may be dispensed with, as the notch and bolt for securing the end of the handle to the leg will limit its movement in that direction.

For enabling the blade to be set at right angles to the frame, as shown in Fig. 3, the pins 11 and 13 are made to project from the

handle 6 and the end of the leg 2. As the handle must occupy two positions relatively to the blade—that is, when the blade is being connected therewith and after it has been placed under tension—the end of the handle is provided with two surfaces 17 and 18, and the pin 11 is placed in the surface 17 near the point where it joins the surface 18. This will permit the end of the blade to project over the surface 18 when it is being connected with the handle and will cause the main portion of the blade to rest against the surface 17 when the blade is under tension.

As above described, it is evident that the saw can be very cheaply made, as the frame can be formed from ordinary flat bar metal, and the means for connecting the blade thereto can be formed of short pins driven into holes drilled in the ends of the frame. In use the blade is connected with the desired pins to cause it to stand parallel with or at right angles to the frame, while the handle is thrown round in the position shown in Fig. 1, and the handle is then turned up and connected with the leg to which it is pivoted, which will cause the short end of the handle to swing outward and downward, thus drawing the saw to a substantially parallel position with the back of the frame.

As the blade can be secured to or disconnected from the frame very quickly by simply turning the handle upon its pivot, it renders the saw very convenient, especially when starting the saw from a point at a distance from the edge of the material to be operated upon, as the blade can be disconnected from the frame and passed through the opening and then connected with the frame by hooking the ends of the saw over the pin at the end of the frame and turning the handle on its pivot.

Another advantage to be derived from my improvement is that the pins may be located so near the ends of the leg and handle that the lower edge of the saw will project below the ends of the frame and thereby render it possible to cut entirely through an object without the frame coming in contact with the table upon which the work is supported, and by turning up the handle substantially parallel with the leg 4 of the frame it will throw the hand of the operator above the work and thereby prevent its interfering or coming in contact with the material being operated upon.

Having thus described my invention, I claim—

In a hack saw frame, the combination, with the legs thereof, the end of one of which is provided with a shoulder, of two pins projecting at substantially right angles from the end of the other leg, a handle pivotally secured to the end of the leg provided with the shoulder, the longer end of which is provided with a loop, two pins projecting from the shorter end of the handle at substantially right angles to each other, one of which is adapted to engage with the shoulder, the handle and the leg to which it is secured being at such a distance from each other that the blade may lie between them, and means for locking the long end of the handle to the leg after it has been turned upon its pivotal point with the loop intermediate the pivotal point and the back of the frame, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID R. THOMAS.

Witnesses:

EDGAR W. CHRISTIE,
EDGAR R. LOWEREE.