

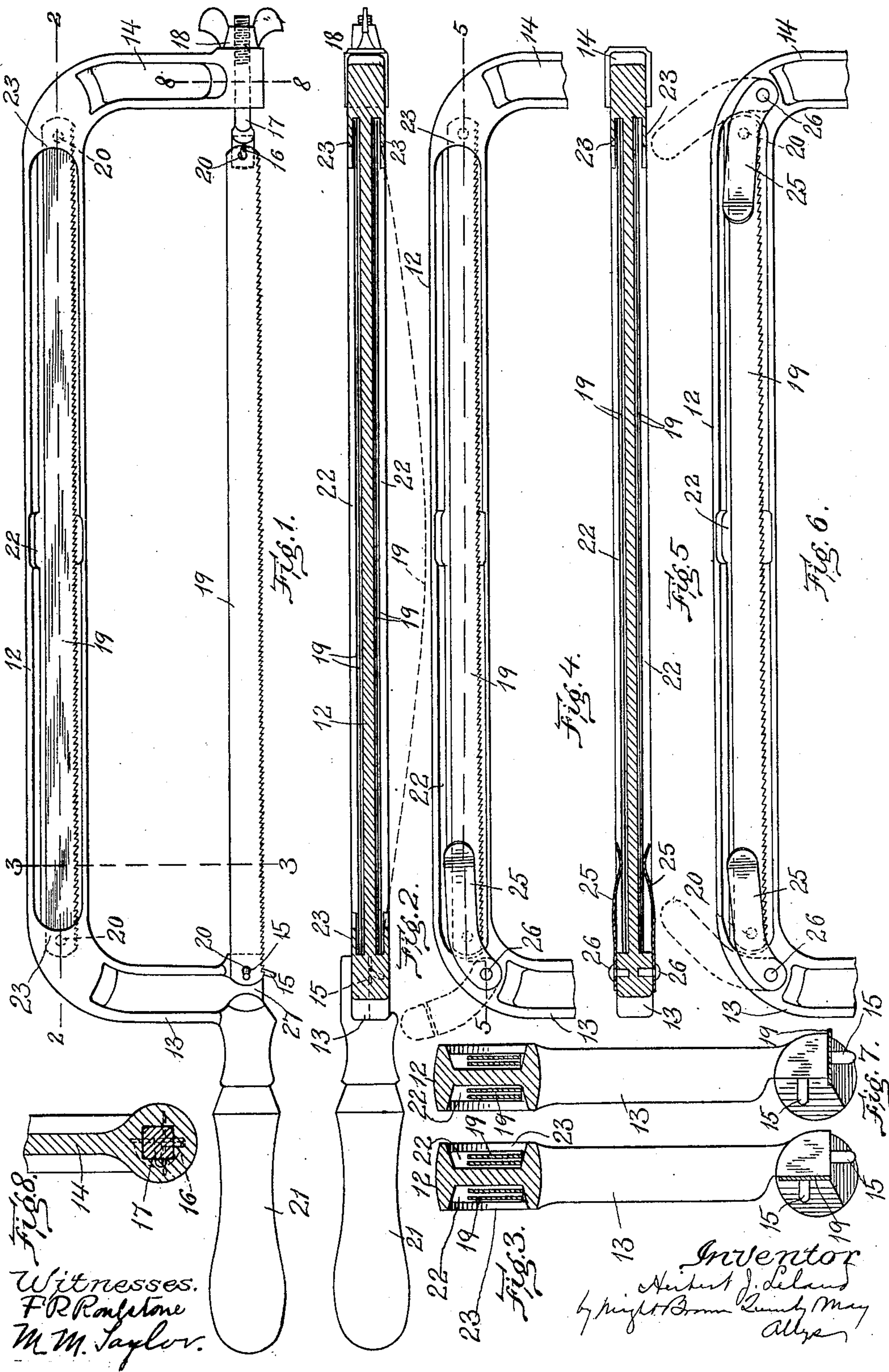
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SAW FRAME.

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UNITED STATES PATENT OFFICE.

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SAW-FRAME.

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To all whom it may concern:

Be it known that I, HERBERT J. LELAND, of Montague, in the county of Franklin and State of Massachusetts, have invented certain new and useful Improvements in Saw-Frames, of which the following is a specification.

This invention relates to a saw, the frame of which includes an elongated body portion or back which is substantially parallel with the saw blade, and arms projecting from the back, and substantially at right angles therewith, the arms being provided with means for detachably engaging the saw blade, and maintaining any desired degree of tension thereon, saws of this character being generally known as hack saws.

The invention has for its object to provide a simple and relatively inexpensive construction of the frame of a saw of this character, whereby the body portion or back of the frame is provided with means for storing spare blades to be engaged interchangeably with the blade-securing and straining devices of the frame, the construction being such that the frame may be constructed mainly or wholly as a casting, so that the cost of producing the frame and the means for confining spare blades is reduced to the minimum.

The invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification—Figure 1 represents a side elevation of a hack saw embodying my invention. Fig. 2 represents a section on line 2—2 of Fig. 1. Fig. 3 represents a section on line 3—3 of Fig. 1. Fig. 4 represents a side elevation of a portion of the saw frame showing a somewhat different embodiment of the invention. Fig. 5 represents a section on line 5—5 of Fig. 4. Fig. 6 represents a view similar to Fig. 4, showing a modification. Fig. 7 represents a view similar to Fig. 3, showing a different adjustment of the acting saw blade. Fig. 8 represents a section on line 8—8 of Fig. 1.

The same reference characters indicate the same parts in all the figures.

In the drawings, 12 represents the elongated body portion or back of a hack saw frame, and 13, 14 represent the arms or end portions of the frame which are arranged substantially at right angles with the body portion 12, and are provided with means for

engaging and straining the saw blade 19. As here shown, the saw blade engaging and straining means comprise an inclined pin 15 attached to the arm 13, and an inclined pin 16 attached to a rod 17 which is longitudinally movable in a socket in the arm 14, and is screw-threaded at its outer end portion and provided with a thumb nut 18 which bears against the outer side of the arm 14.

The blade 19 is provided with orifices adapted to receive the pins 15 and 16, said pins being inclined backwardly from the longitudinal center of the saw blade, so that when the blade is strained or tightened by an outward movement of the rod 17, caused by an adjustment of the nut 18, the pins will firmly engage the saw blade and prevent the same from being disengaged from the pins.

21 represents a handle secured to the arm 13.

In carrying out my invention, I form in opposite sides of the back or body portion 12, two longitudinal blade-receiving recesses 22, each recess having a mouth which is formed to permit the insertion and removal of one or more spare saw blades by a sidewise movement of the blade or blades. When the blades are in place in the recesses 22, they are exposed for the greater portion of their length, as indicated in Figs. 1 and 2, so that all portions of the said blades, excepting their end portions, are free to be moved sidewise into and out of the recesses.

The back or body 12 is provided with means for preventing sidewise movement of the ends of saw blades contained in the recesses 22. In the embodiment of the invention shown in Figs. 1, 2, and 3, the said means comprise guards 23 which are integral with the back 12, and overhang the end portions of the recesses, as shown in Fig. 2. The blades are thin and resilient so that they may be flexed, as indicated by dotted lines in Fig. 2, to reduce the distance between their ends and enable said ends to be passed between the guards 23 in either applying or removing the blades. When the ends of a blade have been moved inwardly beyond the guards 23, the resilience of the blade will cause it to straighten and its end portions enter the space overhung by the said guards.

It will be seen from the foregoing that any number of blades, not exceeding the capacity of the recesses 22, may be stored in said recesses by flexing the blades to insert them in the recesses, and that when a blade is re-

quired for use, it may be withdrawn by similarly flexing until its ends pass outwardly over the guards.

The construction shown in Figs. 1, 2, and 3 is such that the entire frame as described, including the guards 23, may be formed in a single casting, the portion of the back 12 in which the recesses 22 are formed being I shaped in cross section, as indicated in Fig. 3, and the guards 23 being webs cast integral with the frame.

In Figs. 4 and 5, I show each recess 22 provided with only one guard 23 integral with the frame, the other guard being formed by a spring plate 25 pivoted at 26 to the back, and adapted to spring into the recess and bear against the adjacent end portions of the spare blades stored therein. The plate 25 may be displaced, as indicated by dotted lines in Fig. 4, to permit the insertion and removal of the blades.

In Fig. 6 I show a modification in which both guards of the recess are provided by the swinging spring plates 25.

It is obvious that my invention may be embodied in a saw frame of the general construction described having a recess 22 in one side only, instead of two recesses as here shown.

In each of the embodiments of my invention above described, the blade-receiving recess 22 has a mouth adapted to permit the sidewise entrance and exit of a blade, the mouth being shorter than the blade so that the ends of the mouth overhang the ends of the blade and prevent sidewise movement of the said ends when the blade is in place in the recess. In the embodiment shown in Figs. 4 and 5, the spring plate 25 forms one end of the mouth, and is movable to vary the length of the mouth. In the embodiment shown in Fig. 6, each end of the mouth is formed by a spring plate which is movable to vary the length of the mouth.

Means are provided for securing the operating saw blade 19 so that its serrated edge will be directed either downwardly, as shown in Figs. 1 and 3, or laterally, as shown in Fig. 7. To this end the arm 13 is provided with two flat faces 27 and 28 from each of which projects an inclined pin 15. The rod 17 is provided with a squared portion fitting a square socket 29 in the arm 14, as shown in Fig. 8, said rod being therefore adapted to be secured to the arm with its pin 16 projecting either laterally to engage the saw blade adjusted as in Fig. 3, or downwardly to engage the saw blade adjusted as in Fig. 7. Provision is thus made for securing the operating

blade in either of said positions. When the blade is to be changed from the position shown in Fig. 3, to that shown in Fig. 7, the rod 17 is removed from the socket 29, and then reinserted in said socket with its pin 16 projecting downwardly instead of laterally, the pin being thus enabled to cooperate with the lower pin 15 on the arm 13.

I claim:

1. A saw frame comprising an elongated body portion having a longitudinal blade-receiving recess in its body portion, the mouth of said recess being formed to permit the insertion and removal of a saw blade by a sidewise movement of the latter, and means for preventing lateral displacement of the ends of a saw blade in said recess.

2. A saw frame comprising an elongated body portion having a longitudinal blade-receiving recess in its body portion, the mouth of said recess being formed to permit the insertion and removal of a saw blade by a sidewise movement of the latter, and guards overhanging the ends of said recess, and adapted to prevent lateral displacement of the ends of a saw blade therein.

3. A saw frame comprising an elongated body portion having a longitudinal blade-receiving recess in its body portion, the mouth of said recess being formed to permit the insertion and removal of a saw blade by a sidewise movement of the latter, and means for varying the length of the mouth of the recess to confine and release a saw blade.

4. A saw frame comprising an elongated body portion having longitudinal recesses in its opposite sides, each recess having a mouth formed to permit the sidewise insertion and removal of a saw blade, and means for preventing lateral displacement of the ends of saw blades inserted in said recesses.

5. A hack saw frame comprising a back and arms projecting from the end portions thereof, one of said arms having two blade-supporting faces substantially at right angles with each other, and blade-engaging pin projecting from said faces, while the other arm has a squared socket, a rod having a blade-engaging pin at its inner end, a threaded portion at its outer end, and a squared intermediate portion removably fitting said socket, and a nut engaged with the threaded portion of the rod.

In testimony whereof I have affixed my signature, in presence of two witnesses.

HERBERT J. LELAND.

Witnesses:

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