No. 878,160. PATENTED FEB. 4, 1908.

W. M. STEBBINS.

HACKSAW.

APPLICATION FILED SEPT. 13, 1907.

Fig. 1.

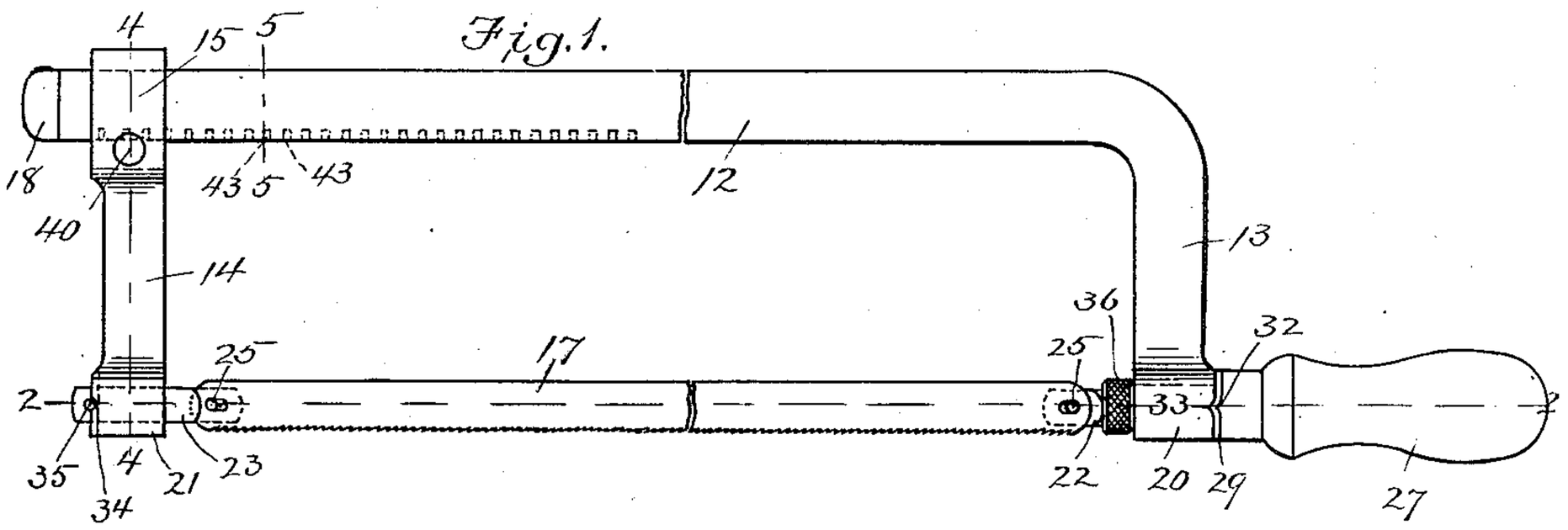


Fig. 3.

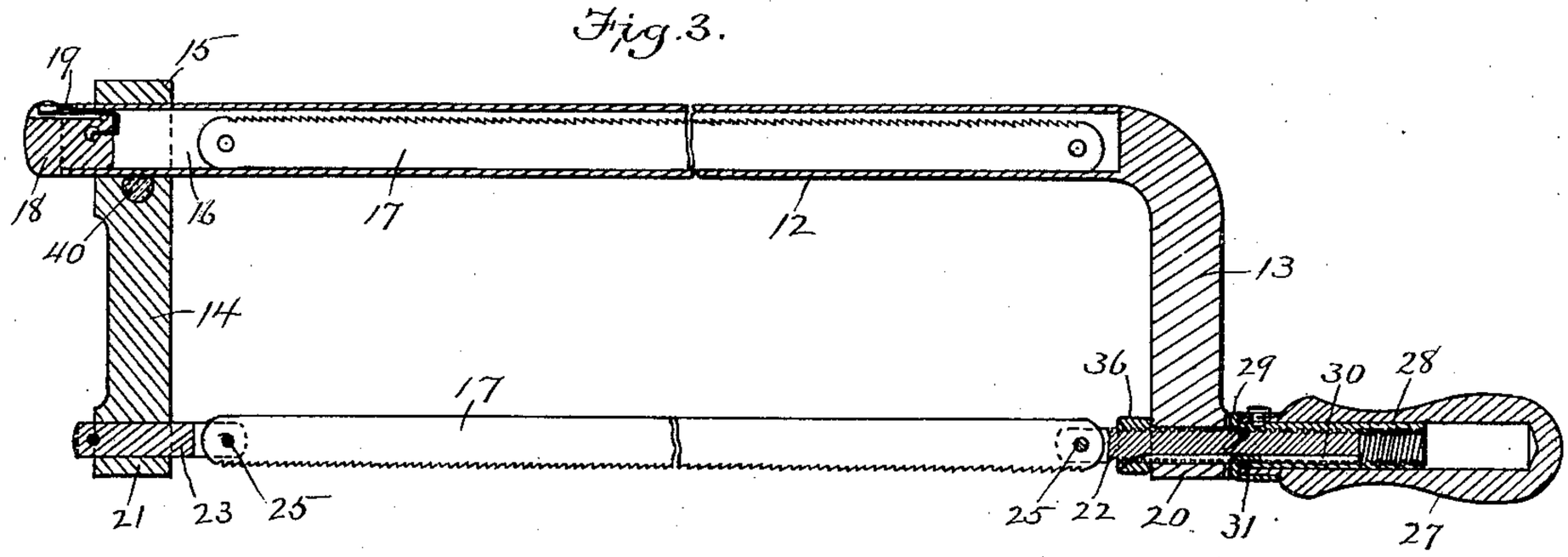


Fig. 2.

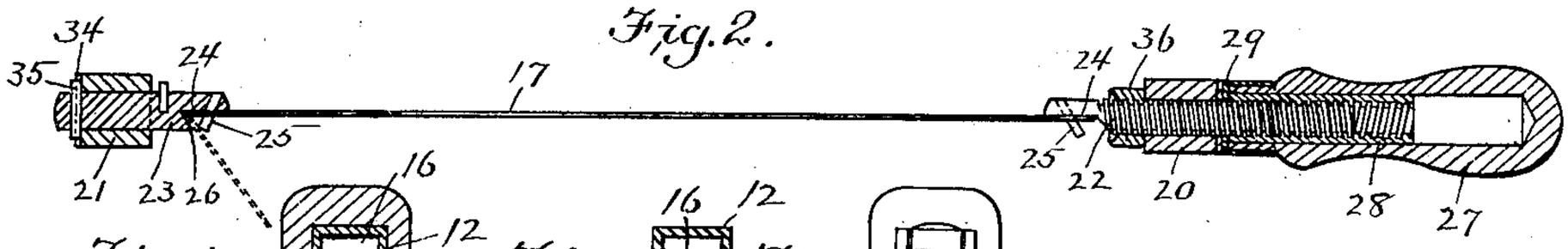


Fig. 4.

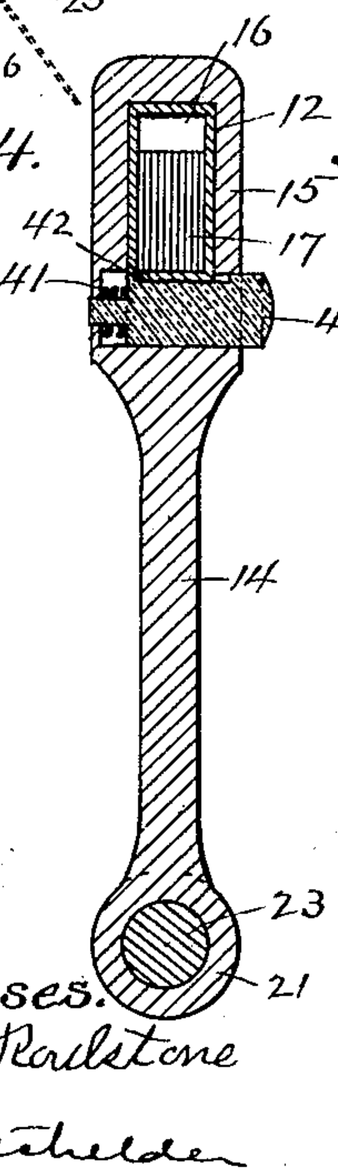


Fig. 5.

Fig. 6.

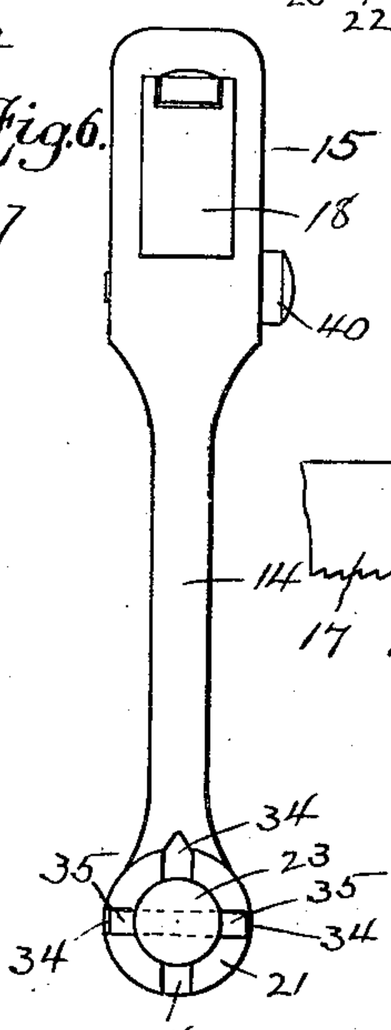
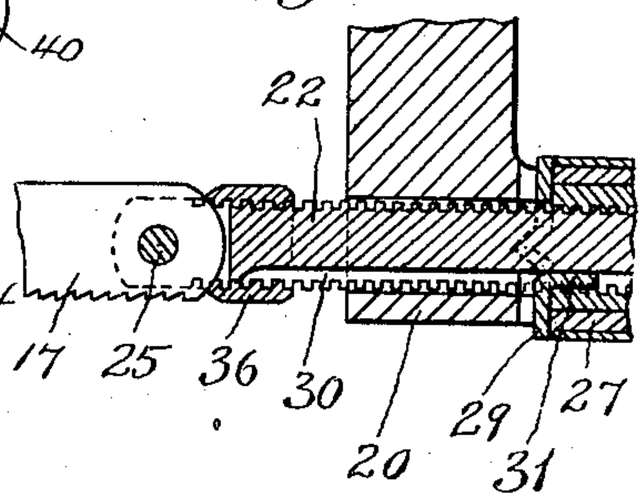


Fig. 7.



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HACKSAW.

No. 878,160. Specification of Letters Patent. Patented Feb. 4, 1908.

Application filed September 13, 1907. Serial No. 392,660.

To all whom it may concern:

Be it known that I, WILLIAM M. STEBBINS, of Montague, in the county of Franklin and State of Massachusetts, have invented certain new and useful Improvements in Hacksaws, of which the following is a specification.

This invention has for one of its objects to prov de a hacksaw frame adapted to serve as a receptacle or magazine for saw-blades not in use, the blades being stored in the frame, so that a blade may be withdrawn therefrom and applied as required, to the securing and straining devices, which hold the blade in its operative position on the frame.

Another object of the invention is to provide improved means for detachably securing a hacksaw blade to the frame, and straining the same to the desired tension.

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 hacksaw embodying my invention. Fig. 2 represents a section on line 2—2, Fig. 1. Fig. 3 represents a longitudinal section. Fig. 4 represents a section on line 4—4, Fig. 1. Fig. 5 represents a section on line 5—5, Fig. 1. Fig. 6 represents an end view. Fig. 7 represents an enlargement of a portion of Fig. 3, showing a different function of the nut 36.

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

In the drawings,—12 represents the back-bar or body portion of a substantially U-shaped hacksaw frame. The other portions of the frame are an inner arm 13 rigidly affixed to the back-bar 12, and preferably integral therewith, and an outer arm 14, which is preferably adapted to slide on the bar 12, to vary the distance between the two arms, the outer arm having an apertured head 15 which surrounds and is adapted to slide on the bar. The bar 12 is provided with a longitudinal cavity 16 adapted to receive and store one or more saw blades 17, the frame therefore, serving as a magazine for spare blades. The mouth of the cavity is at the outer end of the bar 12, and may be provided with a suitable removable obstruction or closure to retain the blades in the cavity. I have here shown for this purpose a plug 18, having a spring catch 19 adapted to engage a slot in one of the walls of the cavity. Any other suitable device may be used however. The hollow form of the bar reduces the weight of the frame to the minimum so that a number of blades may be stored in the frame without making it undesirably heavy. The head 15 of the arm, by surrounding the hollow back bar, also strengthens the outer open end of the latter.

The arms 13 and 14 are provided at their outer or lower ends with sockets 20 and 21, in which are mounted saw-blade-engaging members 22 and 23, each of which is cut away at one side of its inner end portion to form a flat seat 24 for the side of the saw blade, each member having a stud 25 projecting from its flat seat and preferably inclined thereto as shown in Fig. 2, the two studs being oppositely inclined. The studs are adapted to enter holes formed for their reception in the end portions of the saw blade. The member 23 has a shoulder 26 which overhangs a portion of the seat 24, and is in such proximity to the stud 25 that it prevents the blade bearing against said seat from being removed from the stud while the blade is parallel with the seat, it being necessary to incline the blade relatively to the seat as shown by dotted lines in Fig. 2 before it can be disengaged from the member 23. Provision is thus made for preventing the outer end of the blade from leaving the outer member 23, while the operator is adjusting the inner member 22 to strain the blade as hereinafter described. The members 22 and and 23 are rotatable in the sockets 20 and 21, so that the blade may be secured with its serrated edge facing in different directions, means being employed as hereinafter described for locking the members to the sockets in different rotative adjustments. The member 22 is screw threaded, and is elongated so that it projects considerably beyond the outer side of the inner arm 13.

27 represents a handle adapted to be grasped by the operator in using the saw, said handle having a cavity which receives the outer end portion of the member 22. A nut 28 is rigidly affixed to the handle and engages the thread of the member 22. Between the nut and the socket 20 is interposed a metallic washer 29 which has an engagement with the member 22 to slide thereon but ro-

tate therewith by means of a longitudinal slot 30 formed in the member 22 and a tongue 31 on the washer adapted to slide in said slot.

The washer 29 is provided with one or more (preferably two) bosses or projections 32 formed to enter notches 33 formed in the outer end of the socket 20, there being preferably four notches 33 equally spaced. Provision is thus made for holding the washers 29, and through the latter the member 22, against rotation in the socket 20 when the said washer is pressed against the socket by the nut and handle. The socket 21 is provided with equally spaced notches 34 in its outer end, these corresponding in number and arrangement with the notches 33 in the socket 20 and coöperating with studs 35 projecting from the member 23, so that provision is made for holding the member 23 against rotation. It will be seen therefore, that each member is adapted to be turned to different positions to cause the cutting edge of the saw to face in different directions and to be locked in either of said positions by the tightening of the nut in the handle 27.

When a blade is to be applied to the frame, the outer arm 14 is adjusted to a suitable position, and locked to the back-bar by means of a stud 40 movable in the head 15 and having a tooth 42 which is normally pressed by a spring 41 into engagement with one of a series of notches 43 formed in one side of the back-bar. The outer end of the blade is first engaged with the member 23, and the inner end of the blade is then engaged with the member 22, after which the handle 27 is rotated in the direction required to cause its nut to draw the member 22 away from the member 23, thus straining the blade. When the member 22 has been moved to its blade-straining position, it may be locked therein by a jam-nut 36 engaged with the member 22 at the inner end of the socket 20, said nut being turned against the end of the socket to lock the member 22.

The nut 36 may be utilized as shown in Fig. 7, to engage the inner end of the saw-blade after the latter has been engaged with the stud 25 on the member 22, one end of the nut being cupped, so that it overhangs a portion of the blade-seat on the member 22, and receives a portion of the inner end of the blade, and prevents the blade from moving sidewise, away from its seat. The nut 36 may be moved to the position shown in Fig. 7, to lock the inner end of the blade to the inner member, before the blade is strained.

I claim:

1. A hacksaw frame comprising a hollow longitudinal back-bar, open at one end, the width of the cavity within said back-bar being greater in one direction than the width of the hacksaw and the length of said cavity exceeding the length of the hacksaw, and two arms angularly arranged relatively to the back-bar, said arms having means for engaging and straining a saw-blade, and means for confining blades within said cavity, whereby the bar is adapted to serve as a magazine.

2. A hacksaw frame comprising a hollow longitudinal back-bar open at its outer end and having a rigidly attached inner arm, an outer arm having a head inclosing and adjustably mounted on said bar, said arms having means for engaging and straining a saw-blade, and a movable stop for obstructing the open end of said cavity to retain the contents thereof.

3. A hacksaw frame comprising a hollow longitudinal back-bar open at its outer end and having a rigidly attached inner arm, an outer arm having a head inclosing and adjustably mounted on said bar, said arms having means for engaging and straining a saw-blade, the width of the cavity within said back-bar being greater in one direction than the width of the hacksaw and the length of said cavity exceeding the length of the hacksaw, and a removable closure for the open end of the cavity.

4. A hacksaw frame comprising a longitudinal back-bar having an inner arm and an outer arm, each angularly arranged relatively to said bar, each arm having a socket, outer and inner saw-blade-engaging members rotatable in said sockets, each member having a flat blade-seat and a stud projecting therefrom, the socket on the outer arm and the corresponding outer member having means for locking said member at different rotative adjustments, while the inner member is longitudinally movable in the socket of the inner arm, said inner member being screw-threaded, a rotatable handle having at its inner end a rigidly attached nut which is rotatable with the handle on the screw-threaded inner member, the rotation of said handle and nut causing a longitudinal adjustment of the inner member, and a washer interposed between said nut and the socket of the inner arm, and engaged to rotate with and slide on the inner member, said washer and the socket of the inner arm having complemental means for locking the washer and the inner member at different rotative adjustments.

5. A hacksaw frame comprising a longitudinal back-bar having at one end a rigidly attached inner arm, an outer arm adjustably mounted on said bar, said arms having means for engaging and straining a saw-blade, the bar having a longitudinal blade-receiving cavity which is open at the outer end of the bar, and a movable stop for obstructing the open end of said cavity to retain the contents thereof, said stop when in place, serving to prevent the removal of the adjustable arm from the back-bar.

6. A hacksaw frame comprising a longitudinal back-bar having an inner arm and an outer arm, each angularly arranged relatively

to said bar, each arm having a socket, outer and inner saw-blade-engaging members rotatable in said sockets, each member having a flat blade-seat and a stud projecting therefrom, the outer member having a shoulder overhanging a portion of the seat thereon, while the inner member is screw-threaded and has a lock-nut adapted to overhang a portion of the seat on the inner member, and means for straining a saw-blade engaged with said members, said shoulder and nut preventing separation of the blade from the studs prior to the straining operation.

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

WILLIAM M. STEBBINS.

Witnesses:
LIZZIE B. STRACHAN,
LENA O. GOFF.