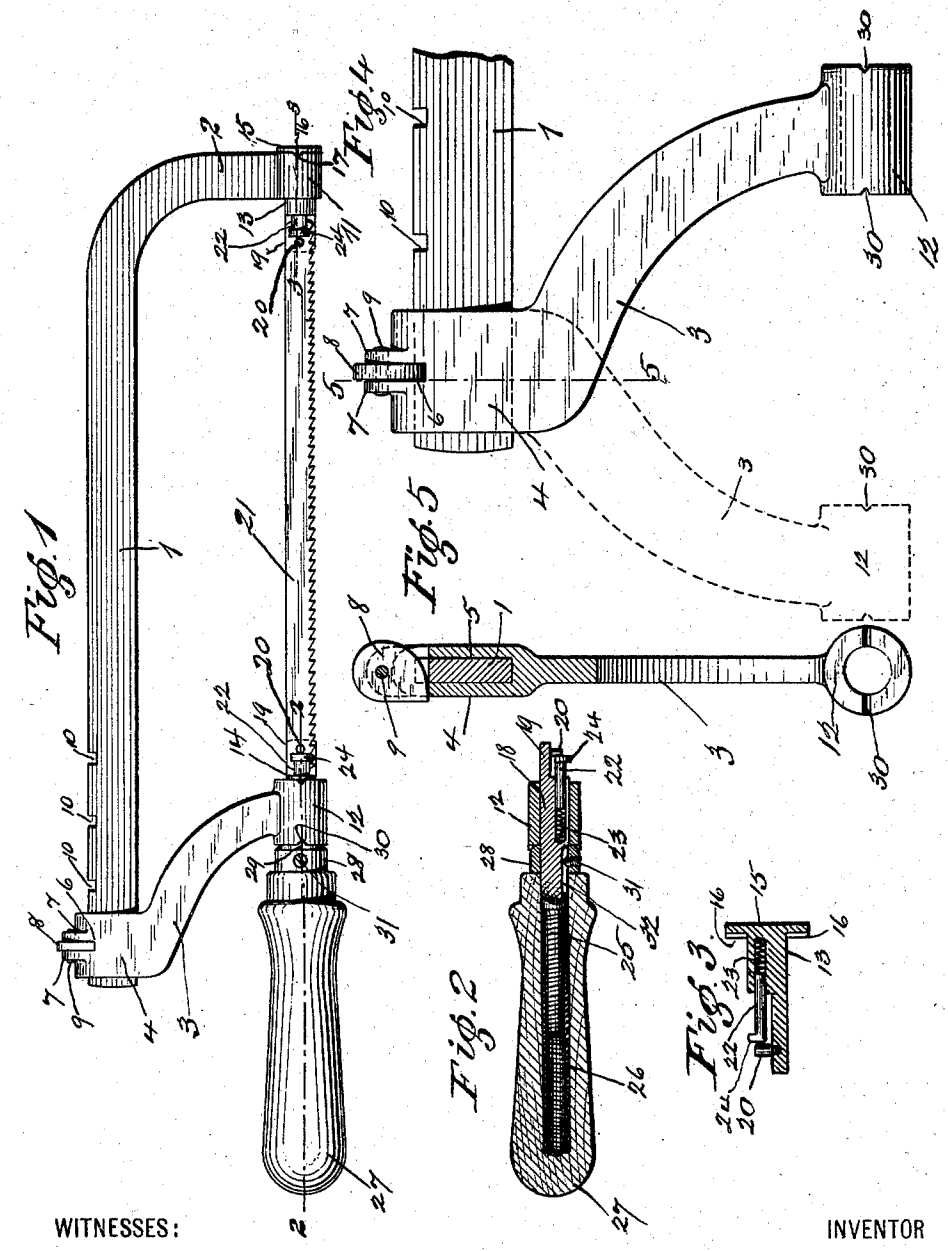
J. DOCHERTY.

HACKSAW FRAME.

APPLICATION FILED JUNE 1, 1909.

965,800. **Patented July 26, 1910.**



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JOHN DOCHERTY, OF INDIANAPOLIS, INDIANA.

HACKSAW-FRAME.

965,800. Specification of Letters Patent. **Patented July 26, 1910.**

Application filed June 1, 1909. Serial No. 499,516.

To all whom it may concern:

Be it known that I, JOHN DOCHERTY, citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Hacksaw-Frames, of which the following is a specification, reference being had therein to the accompanying drawing.

The object of this invention is to increase the capacity of a hack saw frame so that it can be very readily adjusted for a great variety of saw blades of different lengths. Thus the frame herein illustrated in the drawings is adapted for eight different lengths of saw blades; that is, a person could use a saw blade having a length of five, six, seven, eight, nine, ten, eleven or twelve inches, as desired.

The chief feature of the invention consists in making one arm of the frame offset or curved in the same plane as the main frame bar and connected with the main frame bar and saw blade, so that it is readily removable and reversible and whereby the saw frame has double the capacity for the reception of saw blades, that is, when the arm is in one relation to the main frame bar and saw blade, it may be adjusted to accommodate saw blades of varying relatively short lengths, and when reversed may be adjusted for saw blades of relatively greater lengths.

In connection with the foregoing feature, the main frame bar is supplied with notches for the adjustment of the offset or curved arm thereon, so that said offset or curved arm in combination with the notched frame bar enables it to be fixed in the various adjusted positions and with relation to the frame bar when in either position of curvature, that is, when it curves from the frame bar away from the saw as well as when it curves from the frame bar toward the saw.

The nature of the invention will be understood from the accompanying drawings and the following description and claims.

In the drawings, Figure 1 is a side elevation of a saw frame with a saw in connection therewith. Fig. 2 is a central longitudinal section on the line 2—2 of Fig. 1. Fig. 3 is a section on the line 3—3 of Fig. 1. Fig. 4 is an enlarged side elevation of the offset arm and one end of the frame bar, the reversed position of the offset arm being shown by dotted lines. Fig. 5 is a section on the line 5—5 of Fig. 4 looking toward the offset arm and showing the lower part in elevation.

The frame bar 1 is a flat metal bar, the main portion of which is straight and the forward end 2 is curved to form a fixed arm, although it need not be integral with the main part 1. At its other end the bar 1 has at its upper edge a series of notches which in the actual saw may be an inch apart, four of them being herein shown. The saw blade 21 is supported at its outer end by the end of the fixed arm 2 and at its inner end by an offset or curved arm 3, the curvature of which when mounted in place lies substantially in the same plane as the frame bar and saw. The upper end of the offset arm 3 has a central head with an opening 5 therethrough so that it is adapted to slide upon the frame bar 1. At the extreme upper end of the head 4 there is a transversely disposed vertical slot 6 on each side of which there is an upwardly extending flange 7 containing a pin 9 on which a cam plate or detent 8 is pivoted, so that it will normally extend down into the slot 6, and when the arm 3 is in proper position, enter one of the notches 10 in the frame bar 1 and lock the arm 3 on said frame bar. The cam plate 8 extends above the flange 7 far enough to enable it to be manipulated by the fingers, and when it is turned with the lower point outwardly or upwardly, it will disengage the frame bar 1 and thus enable the arm 3 to be adjusted on said frame bar to any desired position. The notches 10 hold the arm 3 temporarily in fixed position. The cam plate or detent 8 is preferably mounted so that it will interlock with the frame bar 1 by gravity when released.

Bosses 11 and 12 are formed on the arms 2 and 3 respectively, and bored to receive the blade holders 13 and 14. The blade holder 13 is cylindrical to fit the bore of the boss 11 and has a retaining head 15 which bears against the boss 11 to permit the blade holder 13 to move longitudinally therein. Retaining catches 16 are formed on the inner side of the head 15 and adapted to fit in the notches 17 formed in the end of the boss 11, in order to prevent the blade holder 13 from turning.

The boss 12 has a bore in alinement with the boss 11 and in the bore of the boss 12 the blade holder 18 is mounted, it being somewhat similar to the blade holder 13.

The ends of the blade holders have reduced portions 19, from which the pins 20 project, which are adapted to fit in the bores formed near the ends of the saw blade 21 and secure it to the holders. In the shoulders of the blade holders 13 and 18 keep-pins 22 are mounted so as to slide longitudinally thereof, and the axes of said bores extend in a line parallel with the flat faces of each of the reduced portions 19 of the holders 13 and 18, so that when the pins 22 project out of said bores, they will be parallel with and sufficiently far from the flat sides of the portions 19 to provide a space between them and the said flat sides of the portions 19 to permit a saw blade, of the usual thickness, to be introduced between them. Between the ends of the pins 22 and the bores into which they are fitted there are coil springs 23 for the purpose of yieldingly retaining the pins 22 in their outward positions, as shown in Fig. 1, and preventing the saw blade from moving out of contact with the flat surfaces of the reduced portions 19 and the pins 20.

The ends of the pins 22 have projections or grips 24 for the purpose of moving the pins 22 outwardly to hold the ends of the saw blade flat against the surface of the part 19. The prolonged end 25 of the saw blade holder 18 is threaded to fit the nut 26 secured in the bore of the handle 27. A sleeve 28 is located between the end of the handle 27 and the boss 12 of the offset arm 3, and the sleeve 28 fits loosely over the prolonged end 25 of the saw blade holder 18. Said sleeve has catches 29 adapted to engage the notches 30 to prevent the sleeve from turning, and it is provided with a set screw 31 projecting into the bore thereof for engaging the spline 32 in the prolonged end 25 of the saw blade holder 18 to prevent the latter from turning in the boss 12, see Fig. 2.

The device, as shown in Fig. 1, is adapted to receive a saw blade of relatively short length, say eight inches, in length. Shorter blades may be mounted in the saw frame by adjusting the offset arm 3 to the right. If the notches 10 are an inch apart, such adjustment would adapt the device for blades of five, six and seven inches. By reversing the offset arm 3 and locking it at the right-hand notch 10, the device would be adapted for a nine inch saw blade, and by adjusting it to the left in the other notches, it could be adapted for saw blades ten, eleven or twelve inches in length. The device, however, is not limited to any particular number of notches 10 or distance between such notches or integrally of curvature of the arm 3, all of which features may be modified to bring about any desired adjustment for increasing the capacity of the saw frame for the reception of saws varying in length.

By the term "offset" with reference to the arm 3, as used in the claims, I mean an arm curved substantially as shown in the same plane, substantially, as the saw frame and saw blade, whereby when reversed it will adapt the saw frame to receive saws of varying lengths, and such reversal will give to the saw frame a double capacity in receiving saw blades varying in lengths.

What I claim as my invention and desire to secure by Letters Patent is:

1. A saw frame including a frame bar, means connected with one end of the frame bar for attaching one end of the saw blade, and a saw blade holding arm mounted on the other end of the frame bar so as to be reversible and adjustable thereon, the two ends of said arm being offset with reference to each other whereby when said arm is reversed the saw frame will hold saw blades of varying lengths.

2. A saw frame including a frame bar provided with means for holding the forward end of the saw blade and having a series of notches on the rear end thereof, a saw blade holding arm slidably and reversibly mounted on the rear end of said bar and having its ends offset with relation to each other, means in connection with said arm for engaging the notches in said frame bar, and a handle connected with said offset arm.

3. A saw frame including a frame bar provided with means for holding said end of the saw blade and having a series of equally spaced notches on the rear end thereof, and a saw blade holding arm slidably and reversibly mounted on the rear end of said bar and having its ends offset with relation to each other to an extent equal to the spaces between certain of said notches, means in connection with said arm for engaging the notches in said frame bar, and a handle connected with said offset arm.

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

JOHN DOCHERTY.

Witnesses:
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