

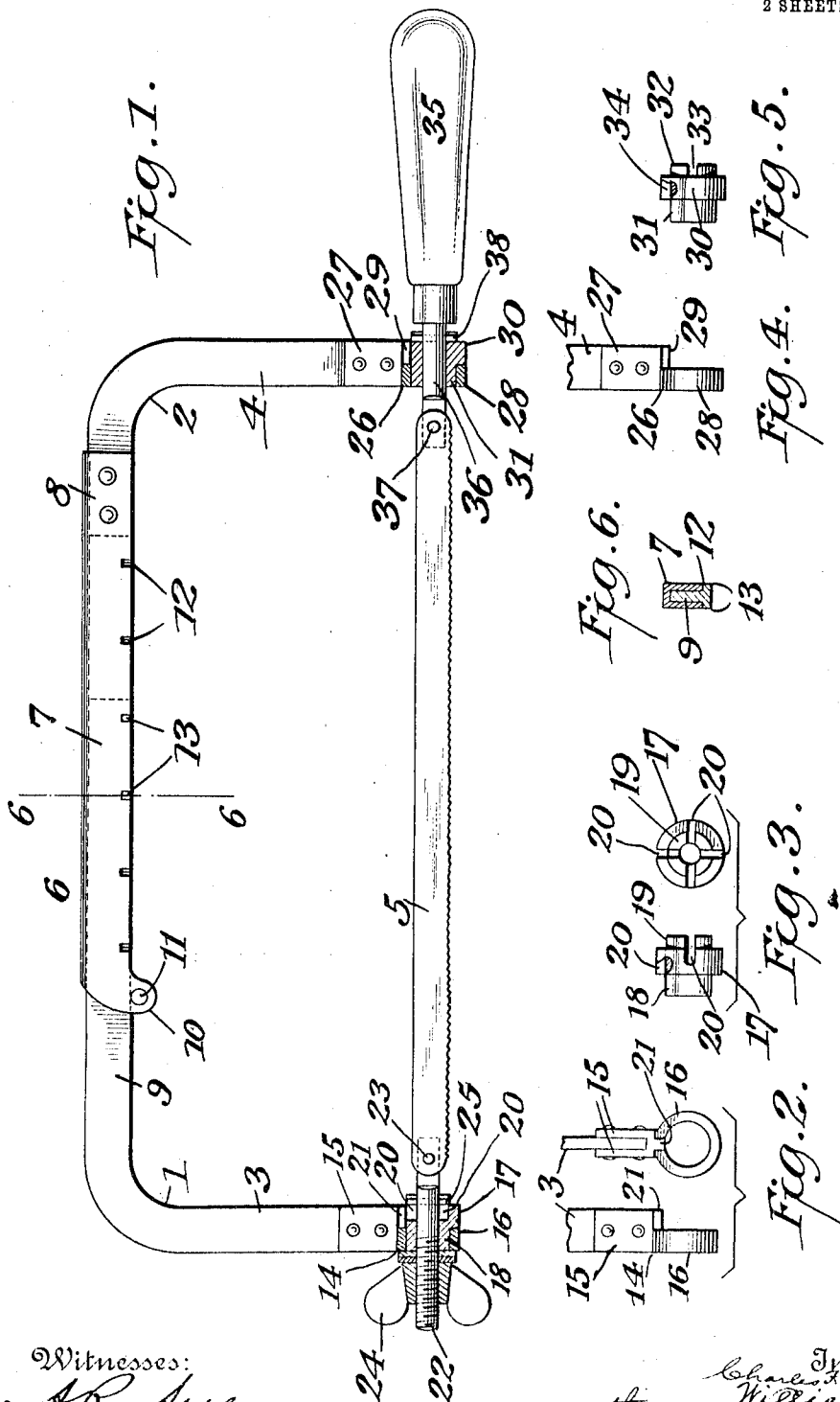
C. F. WURST & W. SCHAFF.
HACKSAW.

APPLICATION FILED MAY 11, 1912.

1,039,470.

Patented Sept. 24, 1912.

2 SHEETS—SHEET 1.



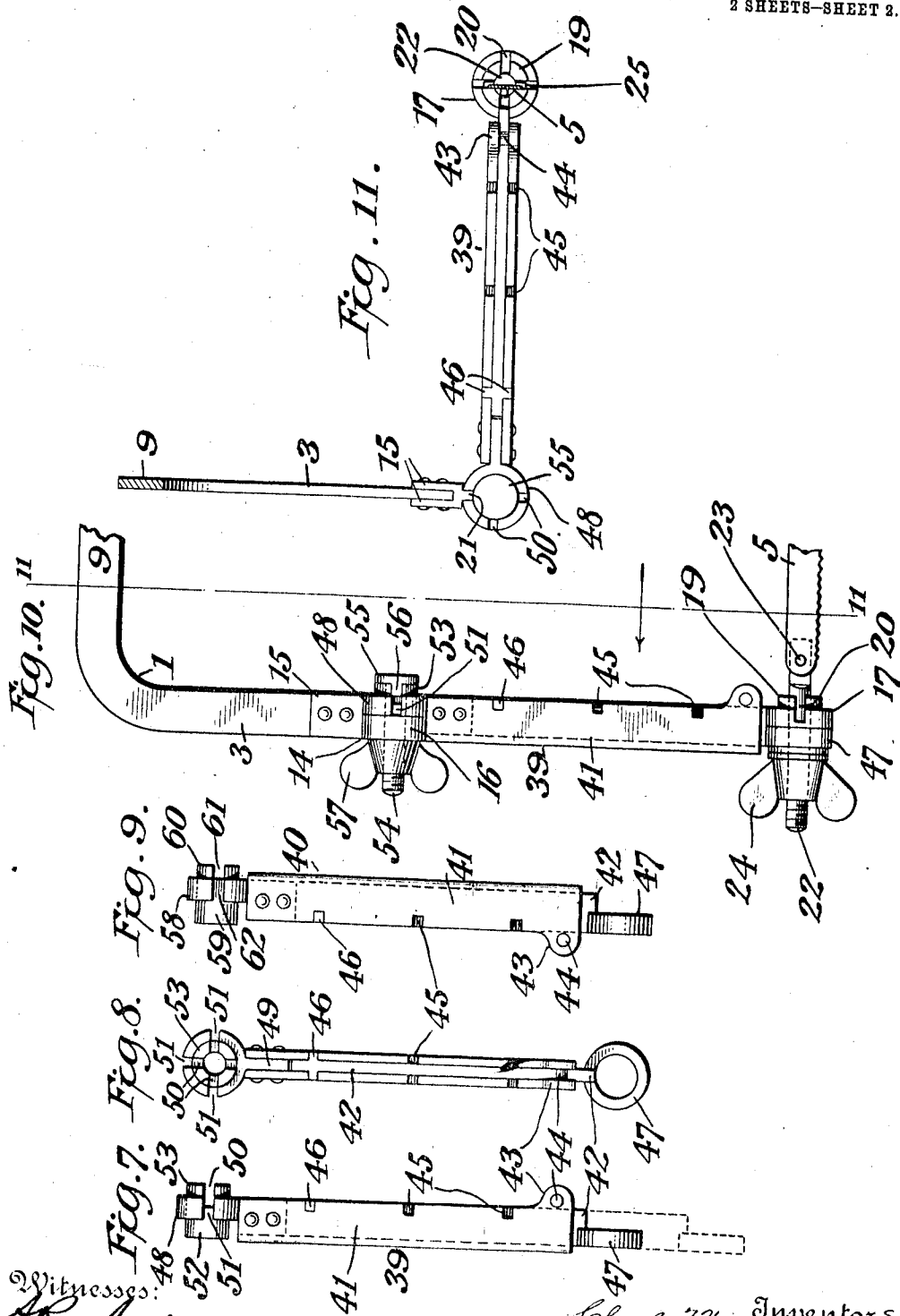
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UNITED STATES PATENT OFFICE.

CHARLES FREDRICK WURST AND WILLIAM SCHAFF, OF HUDSON HEIGHTS,
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HACKSAW.

1,039,470.

Specification of Letters Patent.

Patented Sept. 24, 1912.

Application filed May 11, 1912. Serial No. 696,588.

To all whom it may concern:

Be it known that we, CHARLES F. WURST and WILLIAM SCHAFF, citizens of the United States, and residing at Hudson Heights, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Hacksaws, of which the following is a specification, such as will enable those skilled in the art to which it ap-
10 pertains to make and use the same.

The object of this invention is to provide a hack-saw having the usual yoke-shaped frame the length of which may be adjusted to any desired extent with improved means for securing the saw in the
15 frame, and also improved means whereby the depth of the frame may be increased or decreased and the saw held in different positions, either in the plane of the frame or in a plane at right angles thereto, and with
20 this and other objects in view the invention consists in a hack-saw constructed and adapted to be operated as hereinafter described and claimed.

The invention is fully disclosed in the following specification of which the accompanying drawing forms a part, in which the separate parts of our invention are designated by suitable reference characters in
25 each of the views, and in which:—

Figure 1 is a side view showing an ordinary frame for hack-saws and showing, in section, our improved means for connecting the saw with the frame:—Fig. 2 a side and
35 face view of part of the saw attaching means at the left hand end of the frame:—Fig. 3 a side and end view of a detachable coupling block used in connection with the parts shown in Figs. 1 and 2:—Fig. 4 a
40 side view of a part of the saw attaching means at the right hand side of the frame:—Fig. 5 a side view of a detachable coupling block used in connection with the part shown in Fig. 4:—Fig. 6 a cross section on the line 6—6 of Fig. 1:—Fig. 7 a side view
45 of a detachable arm member used for extending the left hand side of the frame in the operation of increasing the depth of the frame:—Fig. 8 a face view of the part shown in Fig. 7:—Fig. 9 a side view of a detach-
50 able arm member used in connection with the right hand side of the frame when extending the depth of said frame, and forming the counterpart of the construction shown in Fig. 7:—Fig. 10 a view similar to

Fig. 7, but showing the left hand side of the frame with the part shown in Fig. 7 in use, and Fig. 11 a section on the line 11—11 of Fig. 10 and showing the extended part of the frame adjusted into a plane at right-
60 angles to the main part thereof.

In Figs. 1 to 5 of the accompanying drawing we have shown a hack-saw frame of the usual form consisting of L-shaped side members 1 and 2, comprising parallel arms
65 3 and 4 with which the saw 5 is connected, and a back portion 6 comprising a part 7 which is yoke-shaped in cross section and secured to the side arm 2 at 8, and a part 9 formed integrally with the side arm 1, 70
and the end of the yoke-shaped part 7 is provided with inwardly directed ears 10 through which is passed a pin 11, and the inner edges of the sides of said yoke-shaped parts 7 are provided with equally spaced re-
75 cesses 12 adapted to receive lugs or projections 13 on the part 9, all these features being of the usual form and construction, and the construction of the back part 6 of the frame being such that when the saw 5 is
80 detached the length of said frame may be adjusted, as may be desired and whereby saws of different lengths may be employed. The left arm 3 of the frame is provided with a coupling head 14, comprising ears 15 and
85 the band member 16 is provided with a cylindrical coupling block 17 having at one end an extension 18 adapted to be inserted into the band member 16, and at its opposite end with an extension 19 having radial
90 slots or recesses 20 four of which are employed, and all of which extend into the central portion of the coupling block 17 and one of which extends entirely through the surface portion of said block and is adapted
95 to receive a lug or projection 21 formed integrally with the coupling head 14, and in practice a threaded bolt or rod 22 is pivoted to one end of the saw 5 at 23 and passed through the coupling block 17 and provided with a thumb nut 24 and said bolt
100 or rod 22 is provided adjacent to its inner end with a transverse pin 25 adapted to be drawn into the radial slots or recesses 20 in the coupling block 17 so as to lock the saw
105 in position. The right hand arm 4 of the saw frame is provided with a coupling head 26 similar to the coupling head 14 and comprising jaw members 27 and a band member 28, and said coupling head is also provided
110

with a lug 29, and used in connection with the coupling head 26 is a coupling block 30 provided at one end with an extension 31 which is inserted into the band member 28, and at the opposite end with an extension 32 having transverse recesses 33 similar to the recesses 20 in the coupling block 17, and the surface of the coupling block 30 is provided in the plane of two of the recesses 33, four of which are employed, the same as in the coupling block 17, with a groove 34 to receive the lug or projection 29. The handle 35 of the saw is provided with a stem or shank 36 which is passed through the coupling block 30 and pivoted to the saw at 37, and said stem or shank is provided adjacent to the handle with a transverse pin 38 which is drawn into the recesses 33, or two of them, by means of the thumb nut 24, and by means of this construction the saw 5 may be held in the plane of the frame, as shown in Fig. 1, and said saw may be turned into a plane at right angles to said frame, as will be readily understood. It will also be seen that the only difference between the coupling heads 14 and 26 and the coupling blocks 17 and 30 used therein is in the fact that the transverse grooves or recesses 20 in the coupling block 17 are deeper than the corresponding grooves or recesses 33 in the coupling block 30, and the object of this greater depth of said grooves or recesses in the coupling block 17 is to permit of the proper operation of the transverse pin 25 so that the transverse pin 38 may be fully drawn into the coupling block 30, by means of the thumb nut 24.

In Figs. 7 and 10 we have shown at 39 a supplemental frame arm member for extending the arm 3 of the main frame so as to increase the depth of said main frame, and at 40, in Fig. 9 we have shown a supplemental frame arm member for use in connection with the arm 4 of the main frame for said purpose, and each of these supplemental frame arm members consist of a part 41 which is yoke-shaped in cross section, and a part 42 adapted to fit in the part 41. The body portions of the parts 41 and 42 are formed in the same manner, as the back 6 of the main frame, the parts 41 being provided at one end with ears 43 through which are passed pins 44, and the edges of the parts 41 being provided with recesses 45 adapted to receive lugs 46 on the parts 42, but it will be understood that the length of the supplemental frame arm members 39 and 40 can only be adjusted when the saw is not in the frame. The parts 42 are provided at one end with coupling rings or pins 47 which are the same as, and operate in the same manner as, the rings or pins 16 and 28 in the construction shown in Figs. 1 to 6 inclusive, and in practice the coupling block 17 with which one end of the saw 5

is connected is taken out of the ring or band 16 and placed in the ring or band 47 of the construction shown in Fig. 9, it being understood that the supplemental frame arm 40 is used in connection with the arm 4 of the main frame when the supplemental frame arm 39 is used in connection with the arm 3 of the main frame. With this construction the part 31 of the frame arm member 39 is provided with a coupling block 48 similar in all respects to the coupling block 17, shown in Fig. 3, except that it is provided at one side with a shank 49 which is secured in the part 41 and with the further exception that the radial grooves or recesses therein which are shown at 50 extend through the body of said coupling head to form grooves 51, said coupling head 48 being also provided with end extensions 52 and 53 similar to the end extensions 18 and 19 of the coupling block 17, and in practice the extensions 52 of the coupling head 48 of the arm member 40 is inserted into the band member 16 of the arm 3 of the main frame, as clearly shown in Fig. 10, and a screw 54 having a head 55 and lugs 56 is passed outwardly through the coupling heads 48 and 14 and is provided with a thumb screw 57, and by properly manipulating the screw 54 the lugs 56 are drawn into the radial recesses 50 in the coupling head 48, and in connecting these parts, as shown in Fig. 10, the lug 21 will enter one of the grooves 51 in the head 48 and will hold the supplemental arm member 41 rigid, as shown in Fig. 10. The connection of the frame arm 40 with the arm 4 of the main frame is not shown, but said supplemental arm member 40 is provided with a coupling head 58 similar in all respects to the coupling head 48, said coupling head 58 being provided with end extensions 59 and 60 which correspond with the end extensions 52 and 53 of the coupling head 48, and the end extension 60 is provided with radial recesses 61 and said coupling head is provided with grooves 62, these recesses and grooves corresponding with the recesses and grooves 50 and 51 in the coupling head 48, and in practice the coupling head 58 is connected with the band member 28 of the arm 4 of the main frame, in the same manner as, the coupling head 48 of the supplemental arm member 39 is connected with the band member 16 of the coupling head 14 of the arm 3 of the main frame, and a screw similar to the screw 54 is passed through the coupling head 58, in the same manner as, the screw 54, shown in Fig. 10, is passed through the coupling head 48, as shown in Fig. 10. With this construction the coupling block 30 is taken out of the arm member 4 of the main frame, or out of the coupling head 26 thereof and is placed in the band member 57 of the supplemental frame arm member 40. With this

construction the saw 5 may be held in the plane of the main frame, as shown in Fig. 10, or it may be adjusted at right angles to said frame, or the supplemental arm members 39 and 40 of the frame may be turned at right angles to the main frame, as shown in Fig. 1, and with the supplemental arm members in this position the saw may be held in a plane parallel with that of the main frame, as shown in Fig. 11 or it may be held in a plane at right angles to that of the main frame, as will be readily understood; and it will thus be seen that with our improvement we provide for the longitudinal adjustment of the length of the hack-saw frame for the adjustment of the side arms of said frame so as to increase or decrease the depth thereof, this adjustment being made by means of supplemental longitudinally adjustable arms which are rotatably connected with the arm members of the main frame and adapted to be held in different positions, the saw also being adapted to be held in the arms of the main frame or in the supplemental frame arm members, and being adjustable, in either position, into different planes, and changes in and modifications of the construction herein described, may be made, within the scope of the appended claims without departing from the spirit of our invention or sacrificing its advantages.

Having fully described our invention what we claim as new and desire to secure by Letters Patent, is:—

1. A hack-saw frame comprising a main yoke-shaped part having side arms adjustable toward and from each other, supplemental side arms adapted to be rotatably connected with the arms of the main part, and a saw adapted to be connected either with the arms of the main part of the frame or with the supplemental arms, the means by which the saw is connected with the arms of the main part of the frame being the same as the means by which said saw is connected with the supplemental arms.

2. A hack saw, comprising a main yoke-shaped frame consisting of side arms adjustable toward and from each other, supplemental side arms rotatably connected with the first named arms and adapted to

be adjusted at an angle thereto, a saw, and means whereby said saw may be connected with the supplemental arms and with the arms of the main frame when the supplemental arms are detached therefrom.

3. In a hack saw, a main yoke-shaped frame, consisting of side arms adjustable toward and from each other, supplemental arms rotatably connected with the first named arms, a saw, and means whereby said saw may be connected either with the arms of the main yoke-shaped frame or with the supplemental arms and rotated in either.

4. In a hack saw, a main yoke-shaped frame having side arms, supplemental arms rotatably connected with the arms of the main frame and adapted to be adjusted into different positions, a saw, and means whereby said saw may be connected with the supplemental arms and rotatably adjusted into different positions, and connected with the arms of the main frame when the supplemental arms are detached therefrom.

5. In a hack saw, a main yoke-shaped frame having parallel side arms, supplemental arms adapted to be connected therewith, a saw, and means whereby the saw may be connected with the supplemental arms and with the arms of the main frame when the supplemental arms are detached therefrom.

6. In a hack saw, a main yoke-shaped frame having side arms, supplemental arms rotatably connected with the arms of the main frame and composed of separate longitudinally adjustable parts and adapted to be adjusted into different positions, a saw, and means whereby said saw may be connected with the supplemental arms and rotatably adjusted into different positions and connected with the arms of the main frame when the supplemental arms are detached therefrom.

In testimony that we claim the foregoing as our invention we have signed our names in presence of the subscribing witnesses this third day of May 1912.

CHARLES FREDRICK WURST.
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Witnesses:

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