May 6, 1952 C. F. PETERS 2,595,288

FOLDING SAW CONSTRUCTION

Filed Nov. 22, 1949

FIG. 1.

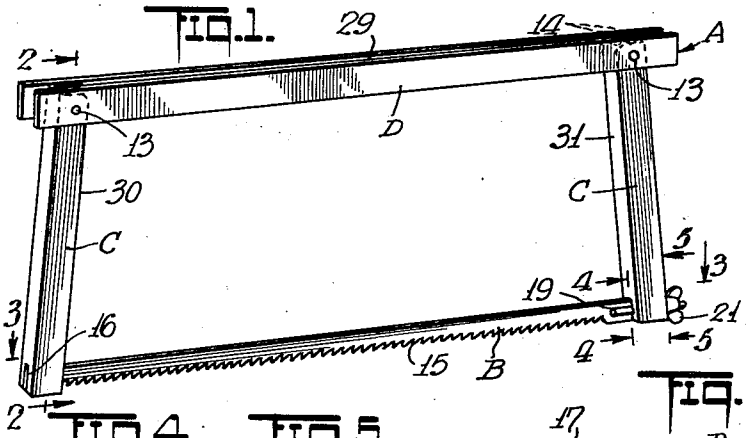


FIG. 2.

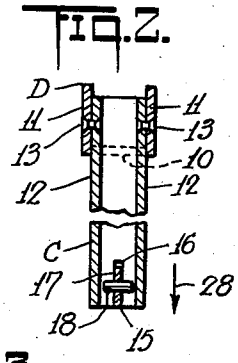


FIG. 3.

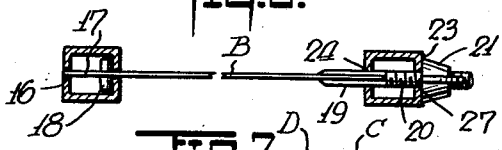


FIG. 4.

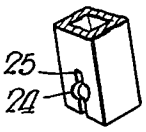


FIG. 5.

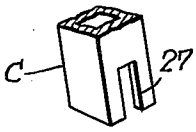


FIG. 7.

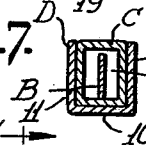


FIG. 6.

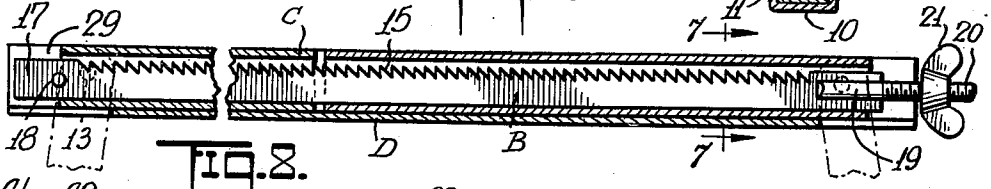


FIG. 8.

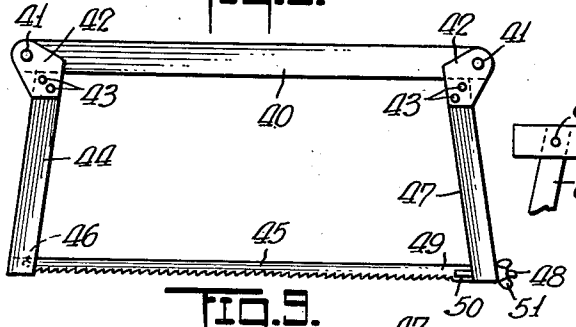


FIG. 10.

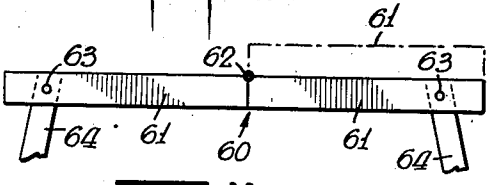


FIG. 9.

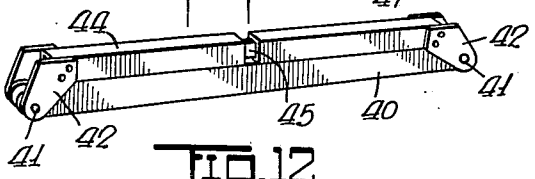


FIG. 11.

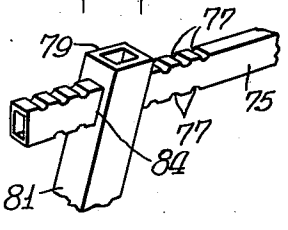
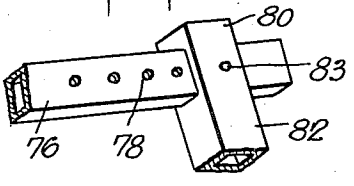


FIG. 12.



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FOLDING SAW CONSTRUCTION

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Application November 22, 1949, Serial No. 128,890

3 Claims. (Cl. 145—33)

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The present invention relates to a folding saw construction, and it particularly relates to a portable wood or metal cutting saw which may be readily folded and collapsed for storage or shipment.

It is among the objects of the present invention to provide a novel, compact, wood or metal cutting saw which may be readily extended to form a frame, enabling usage thereof and at the same time may be readily collapsed or folded together for shipment and storage purposes.

Still further objects and advantages will appear in the more detailed description set forth below, it being understood, however, that this more detailed description is given by way of illustration and explanation only and not by way of limitation, since various changes therein may be made by those skilled in the art without departing from the scope and spirit of the present invention.

In accomplishing the above objects, it has been found satisfactory, according to one embodiment of the present invention, to provide a longitudinal saw blade with a toothed structure designed either for wood or metal cutting, which blade is detachably supported by two side members which may be parallel or forming the sides of a trapezoid. These side members are pivotally mounted upon a cross member parallel to the blade. When the blade is detached the side members may be folded into the top member and into alignment with each other, and the blade may then be inserted into folded side members.

In one construction the side supports have pivotal connections to the top, transverse member. Then when the saw is detached, the side members may be collapsed or folded against the top member. In this structure the blade may also be inserted into the folded members and the top member used for storage of extra blades.

If desired, the top member may also be centrally hinged for collapsing purposes or the top member may be detachable from the side members in the same manner or by means of an adjustable arrangement as the saw blade.

With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts as hereinafter more specifically described, and illustrated in the accompanying drawings, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which fall within the scope of the claims hereunto appended.

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In the drawings wherein like reference characters denote corresponding parts throughout the several views:

Fig. 1 is a side perspective view of one form of a collapsible foldable saw according to the present invention.

Fig. 2 is a transverse vertical sectional view upon the line 2—2 of Fig. 1.

Fig. 3 is a horizontal transverse sectional view upon the line 3—3 of Fig. 1, partly broken away.

Fig. 4 is a fragmentary vertical sectional view upon the line 4—4 of Fig. 1 upon an enlarged scale as compared to Fig. 1.

Fig. 5 is a fragmentary transverse sectional view upon the line 5—5 of Fig. 1 upon an enlarged scale as compared to Fig. 1.

Fig. 6 is a longitudinal sectional view of the structure of Figs. 1 to 5 in collapsed position, with the side legs folded inwardly and the saw blade positioned inside the collapsed structure.

Fig. 7 is a transverse vertical sectional view upon the line 7—7 of Fig. 6.

Fig. 8 is a side elevational view of an alternative embodiment in extended position, upon a reduced scale as compared to Figs. 1 to 7.

Fig. 9 is a side perspective view showing the structure of Fig. 8 in collapsed position.

Fig. 10 is a side elevational view of an alternative form of a collapsing frame construction.

Fig. 11 is a fragmentary corner perspective view illustrating another alternative frame construction.

Fig. 12 is a fragmentary corner perspective view illustrating still another adjustable frame construction.

Referring to Figs. 1 to 7, there is shown a frame A with a saw blade B. The frame A is composed of the side members C and the main cross bar D.

The main frame member D is of channel stock with a base 10 and depending side flanges 11 within which fit the sides 12 of the leg members C. The top ends of the leg members C are provided with pivotal connection 13 to the flange 11. It will be noted that the side members C are of tubular stock, rectangular or square in cross section.

The saw blade B has the teeth 15 for wood or metal cutting.

The lower end of the left leg C has the slot 16 for receiving the ends 17 of the saw blade, which is held in position by means of the stud 18 (see Figs. 2 and 3). The other end of the saw blade B has a clevis-like holder 19, the end of which is threaded as, indicated at 20, to receive the wing

nut 21 which abuts the face 23 at the lower end of the leg member C.

As is shown in Fig. 4, the clevis member 19 passes through the opening 24, which is positioned on the slot 25 which receives the right side of the blade in the lower part of the right leg C.

The other side of the leg C, as indicated in Fig. 5, has a slot 27 which receives the blade B.

In collapsing the structure of Figs. 1 to 5 into the structure of Figs. 6 and 7, the wing nut 21 is first loosened on the threaded shank 20 in Fig. 1, which will permit removal of the blade B altogether with the pin 16. Then the two legs C may be folded into the area 29 inside the channel D, as indicated in Figs. 6 and 7. The blade B may be placed inside of the opening in the tubular or hollow legs C, as is best shown in Figs. 6 and 7, enabling the saw and the frame A to be carried as a unit or to be conveniently shipped or stored.

In the embodiment of Figs. 8 and 9, the main cross member 40 has pivotal connections at 41 to the side plates 42. The side plates 42 are fastened at 43 to the leg members 44 and 47.

The blade is mounted in Figs. 8 and 9 as already described in Figs. 1 and 6.

In the collapsible position of Fig. 9, the main cross member 40 may carry the two folded-in legs 44 and 47 in which is received the blade 45. The ears 42 allow sufficient space to permit the legs 44 to be folded back on the main element 40.

In the structure of Fig. 10 the main cross beam structure 60 has the two halves hinged together at 62. The half structures 61 have pivotal connections at 63 to the legs 64. The legs 61 when collapsed against the other half legs 61 will be indicated by the dot-and-dash lines at the right of Fig. 10.

Figs. 11 and 12 show two other adjustable connections with cross beam members 75 and 76 of tubular construction, having adjustment notches 77 or adjustment holes 78, adjustably receiving the upper ends 79 or 80 of the leg members 81 and 82. A removable pin 83 will enable fixing of the adjustment at any desired position on the cross beam 76 while the notches 77 together with the edges of the opening 84 in the leg 81 will enable fixing of the position of Fig. 11.

It is thus apparent that the applicant has provided a simple, compact, durable, readily assembled or collapsed wood or metal saw which may be readily transported, shipped or stored and which may then be extended to be utilized in connection with either wood working or metal working.

While there has been herein described a preferred form of the invention, it should be understood that the same may be altered in details and in relative arrangement of parts within the scope of the appended claims.

Having now particularly described and ascertained the nature of the invention, and in what manner the same is to be performed, what is claimed is:

1. A collapsible folding saw having a saw blade, a main cross member consisting of two parallel spaced elongated plates provided with pivot pins at the ends thereof, two tubular legs of rectangular tubular cross section positioned at their upper ends between said plates and mounted on said pivot pins, the lower ends of said legs being slotted to receive the saw blade and the saw blade being provided with end members to enable it to be mounted on the ends of the side legs, said legs being adapted to be collapsed within and between said plates and said saw blade being adapted to be removed and inserted within said collapsed legs when the saw is collapsed.

2. The saw of claim 1 in which the saw blade is provided with a pin at one end to fit within the slotted end of a leg and with a threaded extension and nut at the other end to fit within the slotted end of the other leg and to be clamped thereto by the nut.

3. A collapsible saw comprising a frame having a main cross bar and front and rear legs, said cross bar being formed of channel metal and having a longitudinally extending web and side plates extending upwardly along opposite side edges of the web with opposite end portions projecting from the ends of the web and constituting ears, said legs being of tubular formation and rectangular in cross section and having their upper ends fitting snugly between the ears of said cross bar, pins passing through the ears and the opposite side walls of said legs and pivotally mounting the legs for movement from a depending operative position in abutting engagement with ends of the web of the cross bar upwardly and inwardly to a folded position in which the legs extend longitudinally towards each other in the cross bar between the side plates thereof and disposed at rest upon the web, lower ends of said legs having front and rear walls formed with slots, and a saw blade for extending between said legs and fitting into their slots having a transversely extending anchoring pin at its front end and a threaded stem at its rear end carrying a securing nut, the blade being of dimensions adapting it to be passed longitudinally through the folded legs with its anchoring pin engaging the pivoted end of one leg and its stem projecting from the pivoted end of the other leg and outwardly from the cross bar with its nut in abutting engagement with the end of the cross bar and exerting clamping pressure to hold the blade in place and the legs in their folded position in the cross bar.

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