March 25, 1924. 1,488,460

A. E. SCHEER

COLLAPSIBLE CARPENTER'S TOOL BOX

Filed Oct. 30, 1922

Fig. 1.

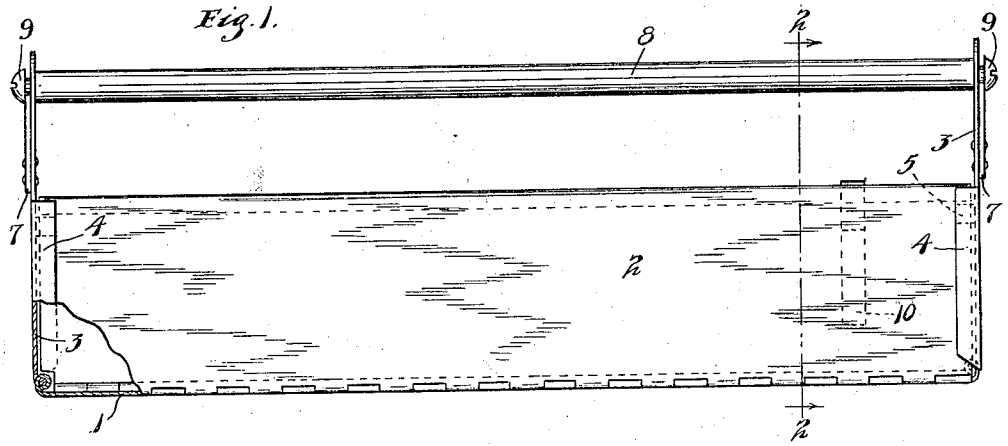


Fig. 2.

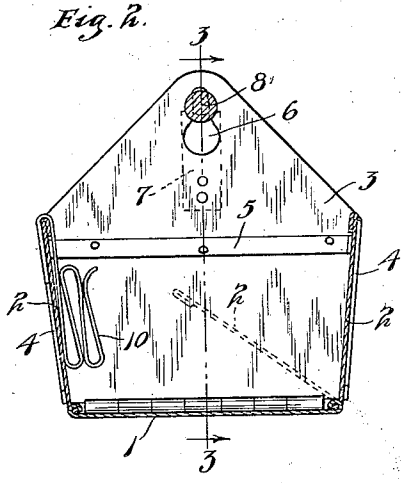


Fig. 3.

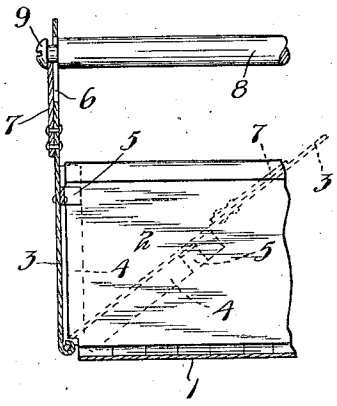
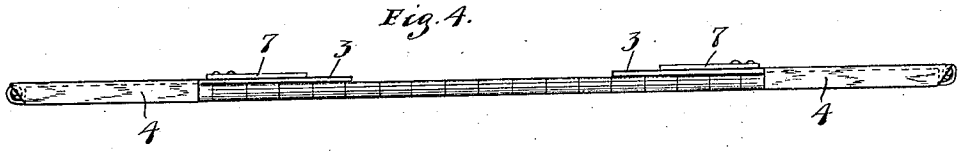


Fig. 4.



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UNITED STATES PATENT OFFICE.

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COLLAPSIBLE CARPENTER'S TOOL BOX.

Application filed October 30, 1922. Serial No. 597,864.

To all whom it may concern:

Be it known that I, AARON E. SCHEER, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Collapsible Carpenters' Tool Boxes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a tool box and particularly to such a box adapted to be collapsed into small space for transportation, which box is designed to hold mechanics' tools, such as carpenters' tools. Such collapsible boxes are coming more and more into favor with mechanics, such as carpenters and have been found to have high utility.

It is an object of this invention to provide such a collapsible tool box of simple and inexpensive structure, preferably made of sheet metal.

It is a further object of the invention to provide such a collapsible box having means for holding the same rigidly and securely in position when the same is extended for use.

It is still another object of the invention to provide a readily detachable handle for such a box which can be quickly and easily applied to the box or removed therefrom.

These and other objects and advantages of the invention will be fully set forth in the following description made in connection with the accompanying drawings in which like reference characters refer to the same parts throughout the different views, and in which,

Fig. 1 is a view in side elevation of the box, a small portion thereof being shown in section;

Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1, as indicated by the arrows;

Fig. 3 is a partial longitudinal section taken on the line 3—3 of Fig. 2, as indicated by the arrows; and

Fig. 4 is a view in side elevation of the box in collapsed condition.

Referring to the drawings, the box comprises a base member 1 of elongated rectangular form having spaced ears formed thereon along its longitudinal edges and along its end edges. Side members 2 of slightly less width than the width of the base member, also have spaced ears formed along their longitudinal edges, which ears are adapted to fit between and aline with the ears on said base member. The said ears form eyes for hinge pins which extend through the same so that said side members are hinged at their lower edges to the sides of the base member. The parts of the box, as illustrated, are made of sheet metal and the upper edges of the side members are shown as being bent over or beaded to form a smooth edge. End members 3 are provided and have spaced ears at their lower edges adapted to fit between and alternate with the ears formed on the ends of the base member 1, which ears form the eyes for hinge pins extending therethrough so that the end members are also hinged at their lower edges to the base member. The end members are shown as increasing slightly in width from their bottom to their intermediate portion adjacent the top of the side members and are formed with triangular portions extending above said side portions. Said end members are also bent to form flanges 4 adapted to fit along the outside of the side members 2 when the box is in erect or operative position. Said end members also have extending across the inner sides thereof, adjacent the top of the side members, strips 5 having their ends bent inwardly to form stops for the inward movement of the side members and also to form a rigid supporting means therefor. Said end members have central apertures adjacent the top of their upper portions, which apertures have enlarged portions 6 at their lower sides and narrow slot-like portions extending above the same. Flat spring strips 7 are riveted below said apertures on the outside of said end members and extend substantially to the top of the enlarged portions thereof, said spring members having curved recesses formed centrally in their top edges. A handle member or rod 8, preferably of cylindrical form, is provided and extends between and contacts the inner sides of said end members 3. Said handle has headed members 9 illustrated as headed screws or bolts with slotted heads projecting therefrom and said heads are of a size adapted to pass through the enlarged portion 6 of the apertures in the end members, the shanks of the head members between the

heads and the end of the slot 8 being of a size adapted to fit in the narrow upper portion of the apertures in the end members. A holder 10 is provided upon one of the side members 2 adjacent the end thereof comprising a strip of metal formed in superposed substantially triangular folds, the upper portion of the strip being bent over the side of said side members to which it may be secured in any suitable manner, but is preferably held frictionally thereon

When the box is to be used, the end members are raised and swung outwardly beyond the vertical position. The side members are then raised to substantially the position shown in Fig. 2 and the end members moved inwardly against the ends of the same. The inturned ends of the member 5 will be disposed at the inner sides of the side members and the flanges 4 will be disposed at the outer sides thereof so that said side members will firmly be held in position. The members 5 will, likewise, form strengthening members for the end members, thus adding strength and rigidity to the box. The handle member 8 can now be placed in position and this can be done by pushing the head of member 8 through the aperture 6 in one end member, which action will press outwardly the spring plate 7. When the head has been thus pushed through the end member the shank of the same will be slid upwardly into the narrow portion of the aperture therein and the spring 7 will then contact with the underside of said shank portion, the latter fitting in the recess in said spring. The other end of the handle will be similarly placed in the other end member and the handle is thus securely located and held in position. It should be noted that the handle contacts the inner side of the end members and the headed members contact the outer side of the spring plate which is against the end members so that said end members are rigidly and firmly held in proper spaced relation and there is no chance of the handle becoming disengaged. The tools desired to be carried can be placed in the box thus formed and the saw blades can conveniently be disposed in the folds of member 10 which forms a spring clamp or holder therefor. When the box is to be collapsed for transportation, the handle will first be removed by slightly raising the same in apertures in the end members and pressing outwardly the spring member 7 so that the heads of members 9 can pass inside of the same and through the enlarged opening 6. The side members 2 will then be folded down on the base member, the saw clamping member 10 which is preferably removed, being slid off of the side member. The end members 3 are then folded down on top of the side members and the box will occupy the collapsed position shown in Fig. 4. The collapsed tool box and holder can be placed in the large tool chest of the mechanic as the tool box is customarily used to carry a few tools needed on a particular job. The holder 10 can also conveniently be placed in the pocket and the collapsed box and handle 8 conveniently carried in the hands or under the arm if it is desired at any time to transport the device in collapsed condition.

From the above description it is seen that applicant has provided a very simple and efficient collapsible tool box. As stated, the same is preferably made of sheet metal properly coated to be non-corrosive and the box can thus be made very light and at the same time very strong and rugged. The boxes have been thoroughly tested in actual use and are being sold and enthusiastically received by the trade.

It will, of course, be understood, that various changes may be made in the form, details and arrangement of the parts without departing from the scope of applicant's invention, which, generally stated, consists in the matter shown and described and set forth in the appended claims.

What is claimed is:

1. A collapsible tool box for carpenters comprising, an elongated rectangular base member, side members of less height than the width of said base pivoted thereto at their bottom edges, end members having triangular portions extending above the tops of said side members and also being pivoted at their lower edges to the end edges of said base member and having side flanges adapted to fit over said side members, transverse members secured to the inner side of said end members and having their ends bent to contact the inner side of said side members, the triangular portions of said end members having central apertures adjacent their upper edges, spring plate members on their outer side adjacent said apertures, and a handle member extending between said end members and having projections extending through said apertures co-operating with said spring plate members to be held in fixed position thereby, the side portions of the box being adapted to fold downwardly on the base portion and the end portions being adapted to fold down on said side portions.

2. A collapsible tool box for carpenters comprising, an elongated rectangular base member, side members pivoted at their lower edges to said base member, end members pivoted at their lower edges to the ends of said base member and having side flanges extending along the end portions of said side members at the outer sides thereof and having transverse members secured to their inner side contacting the inner sides of said side members adjacent the upper edges thereof, said end members having portions extend-

ing above said side members and provided with central apertures, spring means secured to said end members outside of and adjacent said apertures, and a handle member adapted to contact the inner sides of said end members and having headed means adapted to extend through the apertures therein and be held in place by said spring means, the side portions of the box being adapted to fold downward on the base portion and the end portions being adapted to fold down on said side portions.

3. A collapsible tool box for carpenters comprising, an elongated rectangular base, side members pivoted at their lower edges to the longitudinal edges of said base and end members pivoted at their lower edges to the end edges of said base, said end members having means thereon for holding the side members in proper position and having portions extending above said side members, said portions having central apertures therein with lower enlarged portions and upper narrow portions, spring plates secured to the outer sides of said end members extending over said enlarged portions of said apertures, a handle member for said box adapted to contact the inner sides of the end members and having headed members projecting at each end, the heads of which are adapted to pass through said enlarged portions of said apertures so that said projecting members may be disposed in the upper narrow portions of said apertures and be held therein by said spring members.

4. A collapsible tool box for carpenters having in combination, an elongated rectangular base member, side members hinged thereto at their lower edges adapted to be folded downward thereon, end members hinged thereto at their lower edges and adapted to be folded downward on the collapsed side members, means on said end members for holding the side members in erect position, said end members having portions extending above said side members and provided with central apertures adjacent their upper edges, said apertures having lower enlarged portions and narrow upper portions, a handle member adapted to extend between and contacting the inner sides of said end members and having headed shanks projecting at each end thereof, spring plates secured to the outer sides of said end members below said apertures and having recessed ends extending over the enlarged lower portions of said apertures, the headed shanks on said handle member being adapted to be pushed through the enlarged portions of said apertures against the pressure of said spring members so that said shanks can be slid into the upper portions of said apertures and held in position therein by said spring members, which latter are disposed between the heads of said shanks and the end members with the recesses in their upper ends fitting around said shanks.

5. A collapsible tool box for carpenters having a sheet metal base of elongated rectangular shape having its side and end edges provided with spaced integral ears forming hinge eyes, sheet metal side members having their lower edges formed with spaced integral ears forming hinge eye members adapted to fit between and alternate with the ears on said base member, hinged pins connecting said base and side members, end members having spaced integral ears at their lower edges forming hinge eyes adapted to aline and fit between the ears on the end edges of said base member, hinge pins passing through said ears to hingedly connect said end and base members, said end members having means thereon contacting the inner sides and outer sides of said side members to hold the same in erect position, said end members having portions extending above said side members provided with central apertures, a detachable handle having means at its ends adapted to pass through and be held in said apertures and a removable saw holding clamp for said box adapted to fit over the top of one of said side members.

6. A collapsible tool box for carpenters comprising, an enlongated rectangular base member, side members of less height than the width of said base pivoted thereto at their bottom edges, end members having upper portions extending above the tops of said side members and also being pivoted at their lower edges to the end edges of said base member and having means thereon for holding said side members in upright position, the upper portions of said end members having central apertures adjacent their upper edges, spring plate members on their outer side adjacent said apertures, and a handle member extending between said end members and having projections extending through said apertures cooperating with said spring plate members to be held in fixed position thereby, the side portions of the box being adapted to fold downwardly on the base portion and the end portions being adapted to fold down on said side portions.

In testimony whereof I affix my signature.

AARON E. SCHEER.