

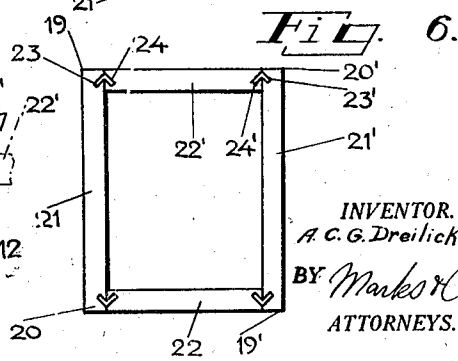
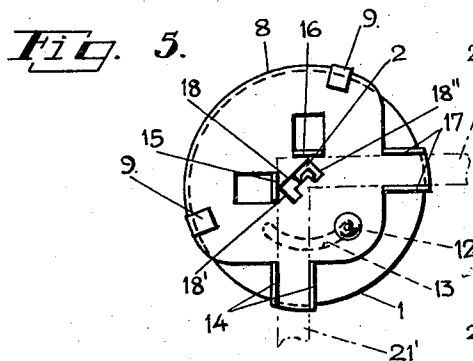
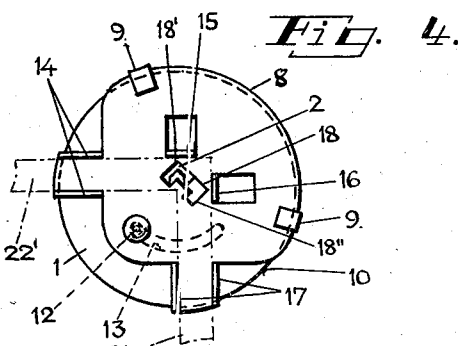
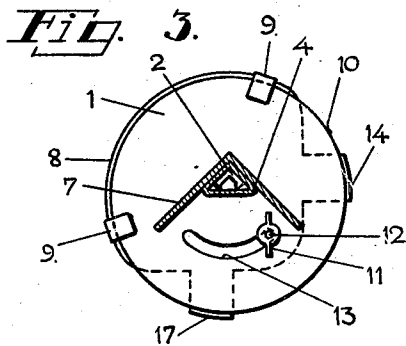
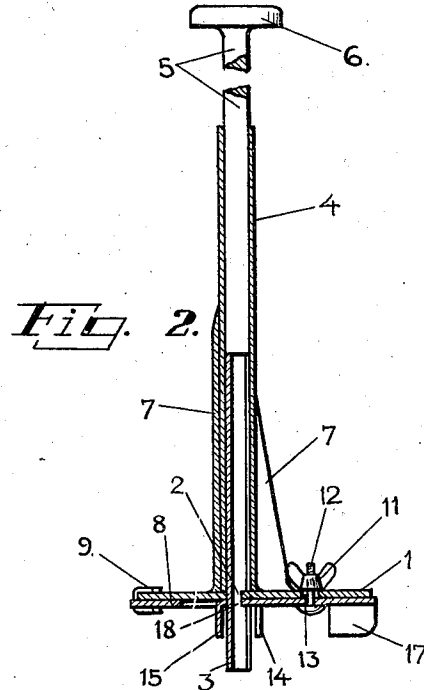
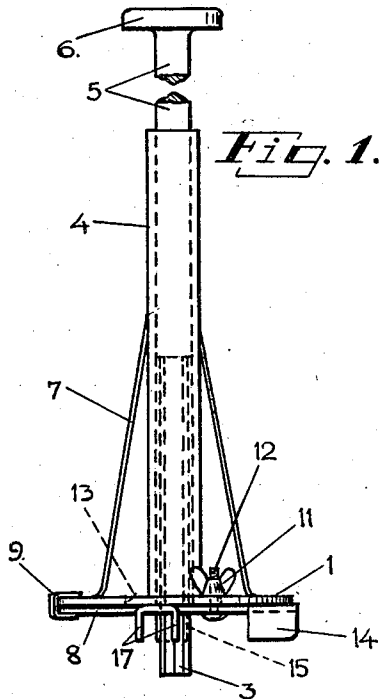
July 10, 1928.

1,676,326

A. C. G. DREILICK

TOOL FOR JOINING WOODEN ARTICLES

Filed Sept. 17, 1926



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Patented July 10, 1928.

1,676,326

UNITED STATES PATENT OFFICE.

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TOOL FOR JOINING WOODEN ARTICLES.

Application filed September 17, 1926, Serial No. 136,155, and in Sweden May 4, 1926.

This invention refers to means for the manufacture of wooden articles especially such articles as boxes or similar bodies. Notwithstanding the invention will be described here below as suited for a peculiar branch of manufacture—the producing of corners of packing boxes—I want to declare that my improved tool is not limited to this special work, but can be readily used in any joiner's shop or elsewhere where is the need of attaching wooden pieces together to form a corner.

The main object of this invention is to provide an implement by means of which a corner of two wooden pieces can be quickly and safely jointed.

A further object of said invention is to facilitate the joining operation so as to secure a good result even by a nonskilled labourer.

A further object of the invention is to make it possible to join left hand corners and right hand corners with the same accuracy by the aid of one and the same tool.

Another object of this invention is to provide a tool especially adapted to form joints such as are described in my copending patent application Ser. No. 136,154, filed Sept. 17, 1926 for assembling devices for wooden articles.

In the accompanying drawing

Fig. 1 is a broken elevation view of the tool ready for use.

Fig. 2 is a longitudinal section view of the same tool taken in a plane perpendicular to Fig. 1.

Fig. 3 is a part sectional plan view of the tool taken from above.

Fig. 4 is a plan view taken from the rear side and showing the tool adjusted for the treating of a right hand corner.

Fig. 5 is a similar view as Fig. 4 but with the tool adjusted for the treating of a left hand corner.

Fig. 6 is a plan view of a rectangular wooden frame composed by four members jointed and has for its object to exemplify the work done by the new tool.

The tool comprises a base 1 in the shape of a circular plate in the centre of which is an aperture 2 of a shape and size corresponding to the fastening members 3 which are to be operated with the tool. In the exemplified embodiment of the invention said aperture 2 has the shape of a right angle as may be clearly seen by Fig. 3.

From the base 1 projects upwardly a sleeve 4 forming a guide for the fastening member 3, which is given a triangular cross section in the embodiment exemplified in the annexed drawing, which also can be seen in Fig. 3. The triangular bore of the sleeve 4 is of the same size as the aperture 2 which is positioned in the base 1 at the mouth of the sleeve 4 so that a fastening member 3 can be inserted into the sleeve 4, from the upper end of same and can escape downwards through the aperture 2.

In the sleeve 4 a triangular set 5 can be inserted above the supplied fastening member 3 as illustrated in Figs. 1 and 2, and the cross section of the set 5 ought to be nearly the same as that of the sleeve bore, so that the set 5 will be safely guided by the sleeve 4 and easily movable therein. The aperture 2 in the embodiment illustrated is of a smaller size than the cross section of the set 5, so that said aperture allows the member 3 only to escape but not the punch. The advantage of that is, that the set 5 can be kept in the sleeve 4 when the tool is removed or lies idle in the store, but of course there is no real objection against such a size of aperture that also the set 5 can be withdrawn through the same. The set 5 is provided with a button or head 6 to receive the blows of a hammer when in operation. Brackets 7 between the base 1 and the sleeve 4 increase the rigidity of the tool.

On the down side of the base 1 there is rotatably mounted a plate 8 which is secured to the base 1 by means of tongues 9 bent around the circular edge 10 of the base 1, so that the plate 8 can be easily turned in relation to the base 1 after its attachment to same. The plate 8 is provided with a set screw 12, which passes through a slot 13 in the base 1 and has a wing nut 11 above the base 1. The slot 13 is bent as a portion of a circle with the centre coinciding with the centre of the circular edge 10. By these means it is possible to secure the plate 8 in any angular position to base 1 within the limits regulated by the length of the slot 13.

From the down side of the plate 8 project downwardly some lugs 14, 15, 16, 17, of which I designate the lugs 14 and 17 as "peripheral" lugs and the lugs 15 and 16 as "central" lugs. The lugs are of such form and mutual positions, that they indicate a perpendicular corner with the apex at a certain small distance apart from the

aperture 2 in the base 1 when looked from below as illustrated with dot-and-dash-lines in Figs. 4 and 5. The interspace formed between the two "peripheral" lugs 14 as well as between the two "peripheral" lugs 17 corresponds to the thickness of the workpieces 22 (22'), 21 (21') respectively with which the tool is intended to co-act. Within the angle indicated by the two "central" lugs 15, 16 a U-shaped aperture 18 passes through the plate 8. The position and size of aperture 18 are chosen so, that the one leg 18' of the U registers with the aperture 2 in base 1 when the plate 8 is turned into its one end position in relation to base 1 (Fig. 4), and the other leg 18'' of said U registers with the same aperture 2 when the plate 8 is turned into its reverse end position (Fig. 5).

In the first mentioned position the tool is adapted to be used for the joining of right hand corners in for instance a rectangular frame of the type illustrated in Fig. 6, and in the last mentioned position the tool is adapted for the same coaction with a left hand corner. To clearly demonstrate the two different dispositions the above mentioned dot-and-dash lines in Figs. 4 and 5 are designated with the numbers 21, 21' and 22, 22' in correspondence with the various members of the frame in Fig. 6.

I will now explain how the tool may be used when joining the corners of the frame exemplified in Fig. 6. The plate 8 is turned into the position shown in Fig. 5 and secured by the set screw 12 and wingnut 11. In this condition the tool is placed above a left hand corner 20 or 20' in the frame shown in Fig. 6 since the two members 22, 21 (22', 21') have been brought close together for assembling. A fastening member 3 is supplied to the sleeve 4 and the set 5 inserted thereabove. On account of the position of the plate 8 the leg 18'' of its aperture 18 register with the aperture 2 in base 1, so that the member 3 can be driven out of the sleeve 4 down into the registering corner of the members 21, 22 (21', 22') when a sufficient powerful blow of a hammer is applied on the head 6 the result being a joining of said corner 20 (20'). Now the tool is re-

moved from the frame, the plate 8 turned into its reverse end position (Fig. 4) and secured by the set screw 12 and wing nut 11. The tool is now adjusted for a right hand corner 19 or 19', and disposed accordingly since such a corner has been prepared by placing the necessary members 21, 22' (21', 22) in proper position. A new member 3 is supplied to the sleeve 4, the set 5 once again inserted and a blow of hammer applied on its head, forcing said member 3 down into the corner 19, (19'). Having in such a way jointed one left hand corner and one right hand corner the other left hand corner and right hand corner become completed in exactly the same manner.

I want to express, that I do not wish to limit myself to exclusively the outer appearance or design of the tool exemplified in the annexed drawing, but the same may be varied within the scope of invention as set forth in the accompanying claims so as to suit any desired appearance of the work piece to be treated. Especially the cross section of the sleeve 4 and set 5 as well as the shape of the apertures 2 and 18 as also the form and sizes of lugs 14—17 may be varied innumeraally as to the design of the workpiece.

Having thus described and shown my invention and how it is to be performed, what I claim as new and do protect by Letters Patent is:

A tool for joining corners of wooden articles comprising in combination a sleeve shaped to guide bar shaped fastening members provided to be driven into the corners in the length direction of the joint, a set reciprocable in said sleeve to force said fastening members out of said sleeve, a base for said sleeve having an aperture through which said members can be driven out from said sleeve, and lugs to control the proper position of the tool in the corner to be joined, said lugs being shiftable so as to make the tool suit left hand corners as well as right hand corners.

In testimony whereof I have affixed my signature.

AXEL CARL GUNNAR DREILICK.