July 24, 1951 R. F. DOUGLASS 2,561,914

DOWELING JIG

Filed Jan. 12, 1950

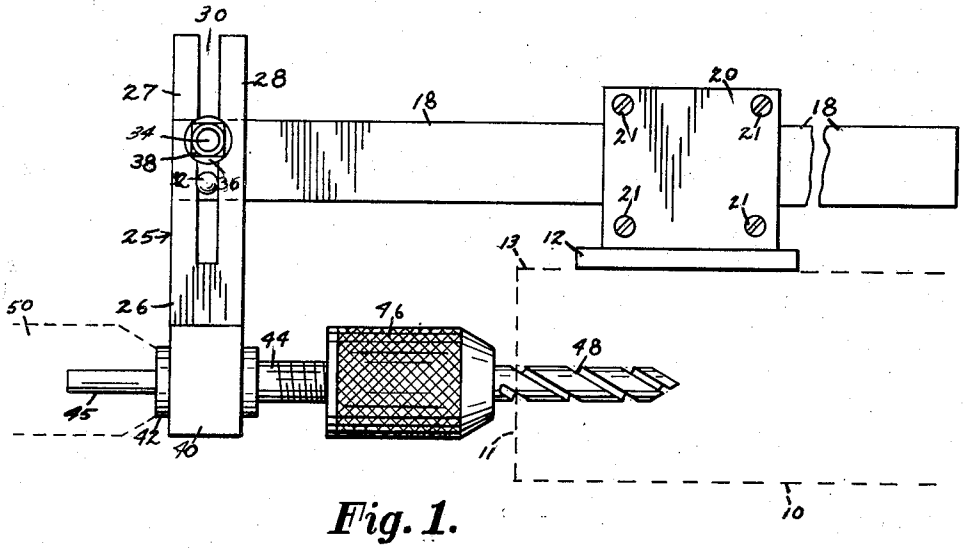


Fig. 1.

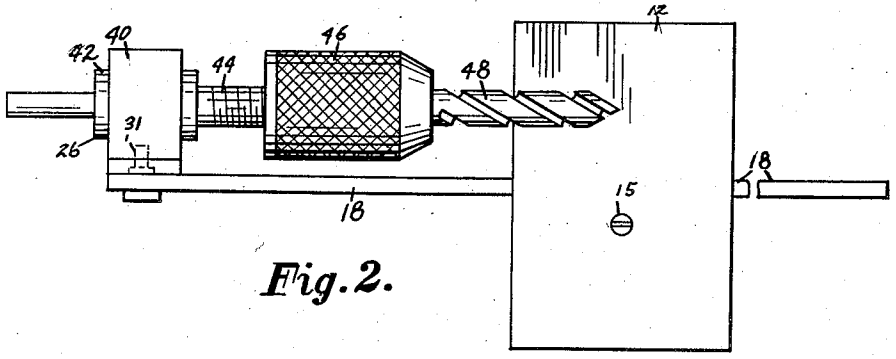


Fig. 2.

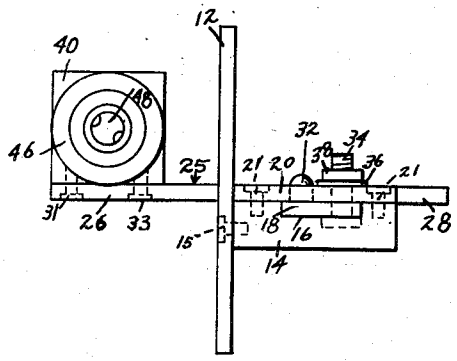


Fig. 3.

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Patented July 24, 1951

2,561,914

UNITED STATES PATENT OFFICE

2,561,914

DOWELING JIG

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Application January 12, 1950, Serial No. 138,209

3 Claims. (Cl. 77—62)

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This invention relates to craftsman's tools or implements, having reference to that class of devices known as "doweling jigs" which are designed for use in gauging and forming dowel-pin joints between the parts of furniture manufactures such as cabinets and the like.

An object of the invention is primarily to provide means by which the individual cabinetmaker or other article constructing craftsman engaged in small piece-work business can economically compete with the larger business manufacturer in the making of high-grade furniture and other dowelled manufactures, by considerably reducing the amount of work and time necessary to form proper joints between the parts of such structures to be fitted together, it being well-known that the ordinary craftsman lacking costly machinery and other essential facilities for quantity production is obliged to charge relatively high prices for the labor of his hand work requiring great precision and care.

Another object is to provide a dowelling jig which is easily manipulatable and is adaptable to almost any edge or surface upon which a joint is to be made, regardless of its angle or extent.

Another purpose is to provide a tool with which to secure an accurate alignment of dowels in the joints or between the parts of any material susceptible of being drilled by standard twist drills and, in cases such as wood where there is a distinct grain, to effect joints with the component parts disposed in a direction with, against, or angularly to the grain, or in combinations of these relationships.

Still another object of the invention is to provide a device for the purpose described which is sturdy and durable in construction, reliable and efficient in operation, and relatively simple and inexpensive to manufacture, assemble, and utilize.

Other and still further objects and advantages of the invention will become apparent from the following detailed description of a preferred embodiment thereof.

In the drawings:

Figure 1 is a side elevation of the new device in a position of use on a piece of lumber or the like, the latter being shown by means of dotted lines.

Figure 2 is a bottom plan view of the new device shown in Figure 1.

Figure 3 is a right side view of the device as shown in Figure 2.

In Figure 1 a piece of wood or the like is indicated in dotted lines at 10, and it is desired to

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drill a dowel pin hole in the surface 11 of the wood 10.

To do this, a guide plate 12 of the invention is held in place on the surface 13, and if desired may be clamped to the said surface depending on the skill of the craftsman using the tool. The guide plate 12 is rectangular in plan, and is preferably formed of steel.

The guide plate 12 is pivotally attached to a narrow side of a C shaped member or base 14, best seen in Figure 3, by a bolt 15, the latter being set inwardly of the downward bearing surface of the plate 12 so as not to mar the surface of the wood being drilled. The C shaped member is rectangular in end elevation and is provided with a channel 16 for receiving snugly, and slidably therein an elongated, flat guide bar 18 of any desired length.

The guide bar or attachment member 18 is held in the channel 16 by a shield 20, said shield being attached to the C shaped member by means of machine screws or the like 21, which hold the guide bar 18 in a line of parallelism with the plane of the bottom surface of guide plate 12.

At the right end of the guide bar 18 and disposed at a right angle thereto, is an adjustable arm or connecting member, generally indicated at 25, having a downward end portion 26 and two upwardly extending spaced apart tangs 27 and 28 forming therebetween a slot 30 for purposes later described.

Provided at the right end at one edge of the guide bar 18, and preferably formed integral therewith, is a guide pin 32, said pin being received in the slot 30 of the support arm 25.

A clamp bolt 34 is located at the opposite edge of the guide bar 18 from the pin 32 and extends through an aperture 35 in the bar and through the slot 30. A lock washer 36 and a nut 38 are disposed on the bolt 34 for holding the arm 25 in a rigid position with respect to the bar 18.

The slot 30, aperture 35, and pin 32 are disposed in a line at a right angle to the bearing surface of the member 12.

Attached to the other end 26 of the arm 25 is a shaft housing 40, constructed in such a way that it may be attached to the end portion 26 of the arm 25 by machine screws or the like 31 and 33. The housing 40 is provided with a bushing 42 providing a bearing for rotatably supporting a threaded shaft 44. Threadedly disposed on the forward end of the shaft 44 is a chuck 46 for locking a bit 48 in axial alignment with the shaft 44.

The shaft 44 has a rearward end portion 45 of a lesser diameter. The end portion 45 is re-

ceived in a chuck 50, depicted in dotted lines in Figure 1, of a power actuated drill, for transmitting power to rotate the bit 48.

As thus described it will be seen that the plate 12 may be located and clamped, handled or otherwise be held in place on the surface 13 of the wood 10. The support arm 25 is then adjusted to properly locate the bit 48 into desired position on the surface 11.

At this time the rotating bit 48, supported rigidly, but slidably and rotatably by the bar 18, is moved against and into the surface 11 of the piece of wood 10 for drilling the dowel pin hole with great precision, speed, and accuracy.

From the foregoing description it is thought to be obvious that a doweling jig constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof, and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice, except as claimed.

I claim:

1. A doweling jig comprising a flat plate having a work piece engaging face, a base having a channel parallel to said work piece engaging face extended therethrough positioned on the side of the plate opposite to that on which the work piece engaging face is positioned, a guide bar slidably mounted in the channel of the base, a guide pin carried by an end of the guide bar, a clamp bolt also carried by the end of the guide bar on which the guide pin is positioned and mounted in a plane extended through the said guide pin and perpendicular to the longitudinal edges of the said guide bar, a support arm having a bearing housing on one end and an elongated slot extended inwardly from the opposite end positioned on the guide bar with the guide pin and clamp bolt in the slot thereof, and a shaft having a tool carrying chuck on one end journaled in said bearing housing with the axis thereof parallel to the said work engaging face of the plate and positioned with the end thereof opposite to that on which the chuck is carried extended for engagement with power driving means.

2. In a doweling jig, the combination which comprises a plate having a work piece engaging face, a base having a channel parallel to said work piece engaging face extended therethrough pivotally mounted on the plate and positioned on the side opposite to that on which the work

piece engaging face is positioned, a guide bar slidably mounted on the base and extended through the channel therein, a guide pin carried by the end of the guide bar extended from the base, a clamp bolt also carried by the end of the guide bar extended from the base and positioned in a plane extended through the said guide pin and perpendicular to the longitudinal edges of the said guide bar, a support arm having a bearing housing on one end and an elongated slot extended inwardly from the opposite end positioned on the guide bar with the guide pin and clamp bolt in the slot thereof, and a shaft journaled in the bearing housing positioned parallel to the work piece engaging face of the plate and having a tool carrying chuck on the end thereof extended toward the plate, the opposite end of said shaft being extended for engagement with a power driving chuck.

3. In a doweling jig, the combination which comprises a plate having a work piece engaging face, a base having a channel in the upper surface, a bolt pivotally mounting the base on the side of the plate opposite to that on which the work piece engaging face is positioned and with the channel therein parallel to the said face, a shield secured to the base and providing a cover plate for the channel, a guide bar slidably mounted in the channel of the base and extended therefrom, a guide pin carried by the end of the guide bar extended from the base, a clamp bolt also carried by the end of the guide bar extended from the base and positioned in a plane extended through the guide pin and perpendicular to the longitudinal edges of the said guide bar, a support arm having a bearing housing on one end and an elongated slot extended inwardly from the opposite end positioned on the guide bar with the guide pin and clamp bolt in the said slot thereof, and a shaft journaled in the bearing housing positioned parallel to the work piece engaging face of the plate and having a tool carrying chuck on the end thereof extended toward the plate, the opposite end of the said shaft extended for engagement with the chuck of a power driving tool.

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