May 10, 1949. G. D. LONG 2,470,038

DOWELLING JIG

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Fig. 1.

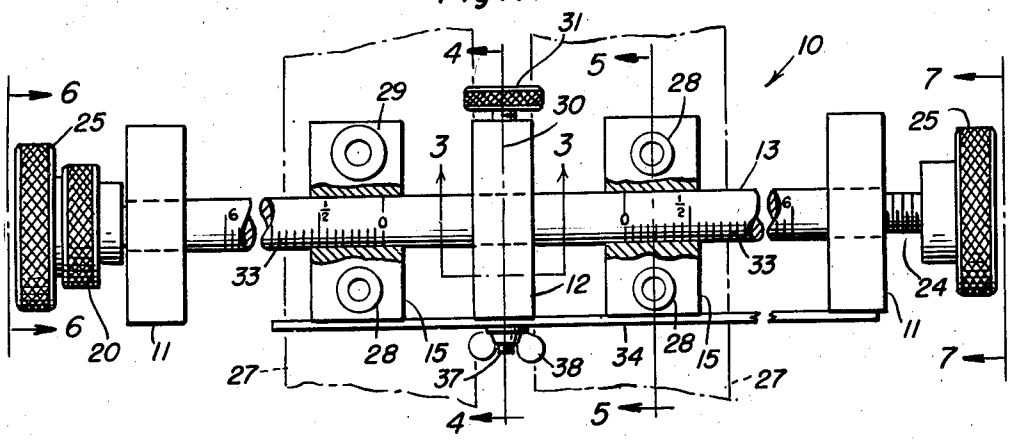
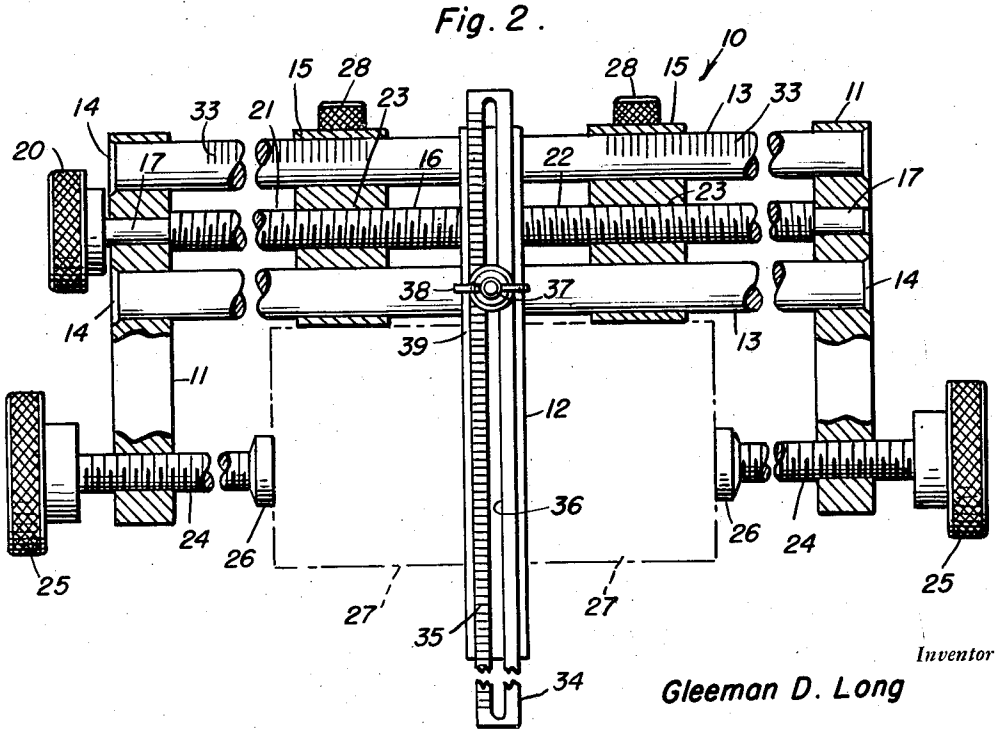



Fig. 2.




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Fig. 3.

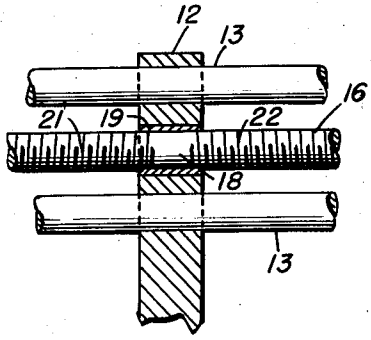



Fig. 4.

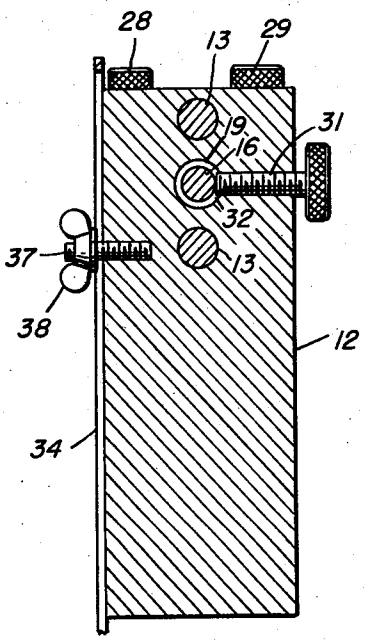
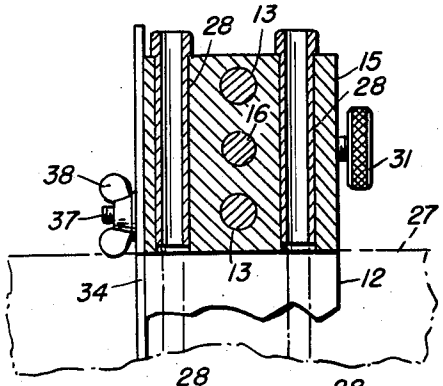



Fig. 5.



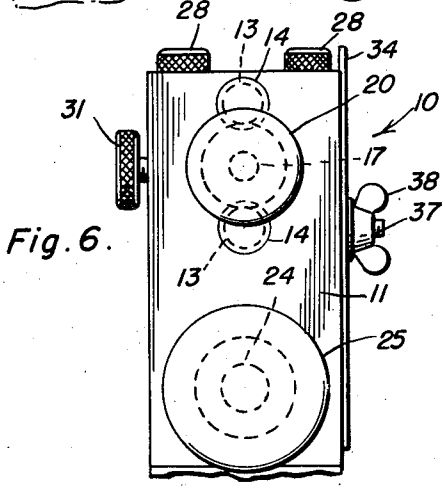




Fig. 6.

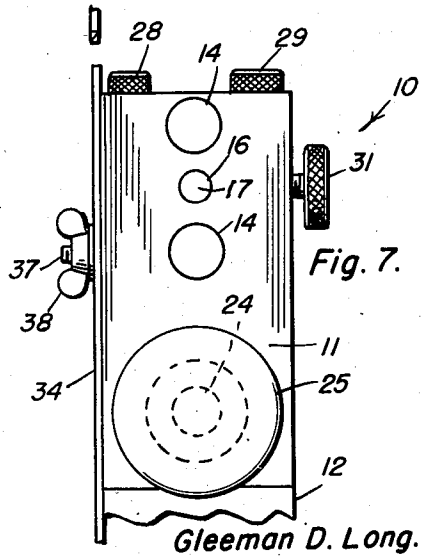



Fig. 7.

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# UNITED STATES PATENT OFFICE

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## DOWELING JIG

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Application August 25, 1947, Serial No. 770,433

3 Claims. (Cl. 77—62)

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This invention relates to new and useful improvements and structural refinements in dowelling jigs, and the principal object of the invention is to provide a device of the character herein described, which may be conveniently and effectively employed for guiding drills into separate pieces of material, preparatory to the installation of dowel pins.

A further object of the invention is to provide a dowelling jig which is extremely accurate, so as to assure proper alignment of the bores or apertures in which the dowel pins are to be positioned.

Another object of the invention is to provide a doweling jig which is simple in construction, which will readily lend itself to economical manufacture, and which may be conveniently and effectively employed on various types and sizes of work.

With the above more important objects in view, and such other objects as may become apparent as this specification proceeds, the invention consists essentially of the arrangement and construction of parts as illustrated in the accompanying drawings, in which:

Figure 1 is a top plan view of the invention;

Figure 2 is a side elevation thereof;

Figure 3 is a cross sectional view, taken substantially in the plane of the line 3—3 in Figure 1;

Figure 4 is a cross sectional view, taken substantially in the plane of the line 4—4 in Figure 1;

Figure 5 is a cross sectional view, taken substantially in the plane of the line 5—5 in Figure 1;

Figure 6 is an end view, taken in the plane of the line 6—6 in Figure 1; and

Figure 7 is an end view, taken in the plane of the line 7—7 in Figure 1.

Like characters of reference are used to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawings in detail, the invention consists of a doweling jig designated generally by the reference character 10, the same embodying in its construction a pair of spaced parallel side plates 11 and a center plate 12 disposed in spaced parallel relation between the side plates, and is best shown in Figures 1 and 2.

A pair of spaced parallel guide rods 13 extend through the plates 11, 12 for the purpose of rigidly securing or connecting these plates together, the end portions of the rods 13 being flared or

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peened outwardly, as indicated at 14, whereby the rods are rigidly held in place.

A pair of guide blocks 15 are slidably positioned on the rods 13, said blocks being disposed at the relatively opposite sides of the center plate 12 and being equidistant therefrom, as will be clearly apparent from Figures 1 and 2.

An actuating shaft 16 extends through and is rotatably journaled in the plates 11, 12, this being accomplished by providing the end portions of the shaft with diametrically reduced trunnions 17 which are rotatable in the plates 11, while the center portion 18 of the shaft is rotatable in a bushing 19 provided in the plate 12.

One of the trunnions 17 projects outwardly from the plate 11 and carries a hand knob 20 whereby the shaft may be easily and conveniently rotated.

It will be noted that the shaft 16 is disposed between the rods 13, and one portion of the shaft, disposed between the portion 18 and one of the portions 17, is provided with a left-hand screw thread 21, while a corresponding portion of the shaft on the relatively opposite side of the center plate 12 is provided with a right-hand screw thread 22.

Each of the guide blocks 15 is formed with a screw threaded bore 23 adapted to operatively engage one of the threaded portions (21, 22) of the shaft 16, by virtue of which arrangement the blocks 15 will be moved simultaneously to and from the center plate 12 upon rotation of the shaft. However, it should be understood that the distance of the blocks from the center plate remains equal, that is to say, the two blocks are, at all times, equidistant from the center plate, regardless of their position with respect to the guide rods 13.

Each of the side plates 11 is provided with a clamping screw 24, equipped with an actuating hand knob 25 and with a rotatable work-engaging head 26, the two heads 26 being adapted to clamp two separate pieces of work 27 in position between the center plate 12 and the side plates 11, as is best shown in Figure 2.

A plurality of drill-guiding bushings 28, 29, of different sizes and types (to suit the work), are mounted in the guide blocks 15, and when the invention is placed in use, the entire jig is clamped to the work (27) by means of the screws 24, whereupon the hand knob 20 is rotated so as to adjust the position of the blocks 15 with respect to the center line 30 of the center plate 12, this adjustment being, of course, governed by the

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particular position wherein the dowels are desired to be located.

Thereupon, an electric drill or a hand drill may be guided by the bushings **28**, **29** into the work **27**, and after the drilling operation is completed and the two pieces of work are placed one on top of the other, it will be observed that the dowel apertures or bores will be disposed in proper alignment.

To avoid the possible rotation of the actuating shaft **16** while the drilling operation is in progress, a set screw **31** may be provided in the plate **12** for the purpose of clamping the center portion **18** of the shaft **16**. Needless to say, a suitable aperture or opening **32** may be formed in the bushing **19** for this purpose.

Also, graduated scales **33** may be inscribed on one of the guide rods **13**, so that the distance of the blocks **15** with respect to the center plate **12** may be easily and conveniently determined.

Also, a depth gauge may be used in association with the dowel jig, the same assuming the form of a strip **34**, provided with a suitable scale **35** and with a longitudinally extending slot **36**, the strip **34** being adjustably secured to the center plate **12** by means of a clamping screw **37** which extends through the slot **36** and is equipped with a wing nut **38**. An index line in the form of an arrow **39** may be inscribed on the adjacent surface of the plate **12**, and the depth to which the drill is to be fed may be readily determined by adjusting the scale **37** on the strip **34** with respect to this arrow **39** and thereupon feeding the drill until the chuck, or the like, is in alignment with the end **40** of the gauging strip.

It is believed that the advantages and use of the invention will be clearly apparent from the foregoing disclosure, and accordingly, a further description thereof at this point is deemed unnecessary.



Having described the invention, what is claimed as new is:

1. A dowelling jig comprising in combination, a pair of side plates and a center plate disposed in spaced relation therebetween, a pair of guide rods securing said plates together, a pair of guide blocks slidable on said rods, said blocks being disposed at the relatively opposite sides of said center plate and being equidistant therefrom, drill bushings provided in said blocks, an actuating shaft extending through and rotatable in said plates, a left-hand screw thread on one end portion and a right-hand screw thread on the remaining end portion of said shaft, each of said blocks being formed with a screw-threaded bore adapted to operatively engage one screw-threaded portion of said shaft, and clamping screws provided in said side plates whereby pieces of work may be clamped simultaneously against opposite sides of said center plate.

2. The combination of claim 1 wherein the lower faces of the guide blocks provide work engaging means and said clamping screws extend beyond said side plates and include work holding heads.

3. The combination of claim 1 wherein said actuating shaft terminates in reduced trunnions received in said side plates and an actuating knob on one of said trunnions.

GLEEMAN D. LONG.


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