

July 25, 1933.

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AUGER GUIDE

Filed Nov. 22, 1930

2 Sheets-Sheet 1

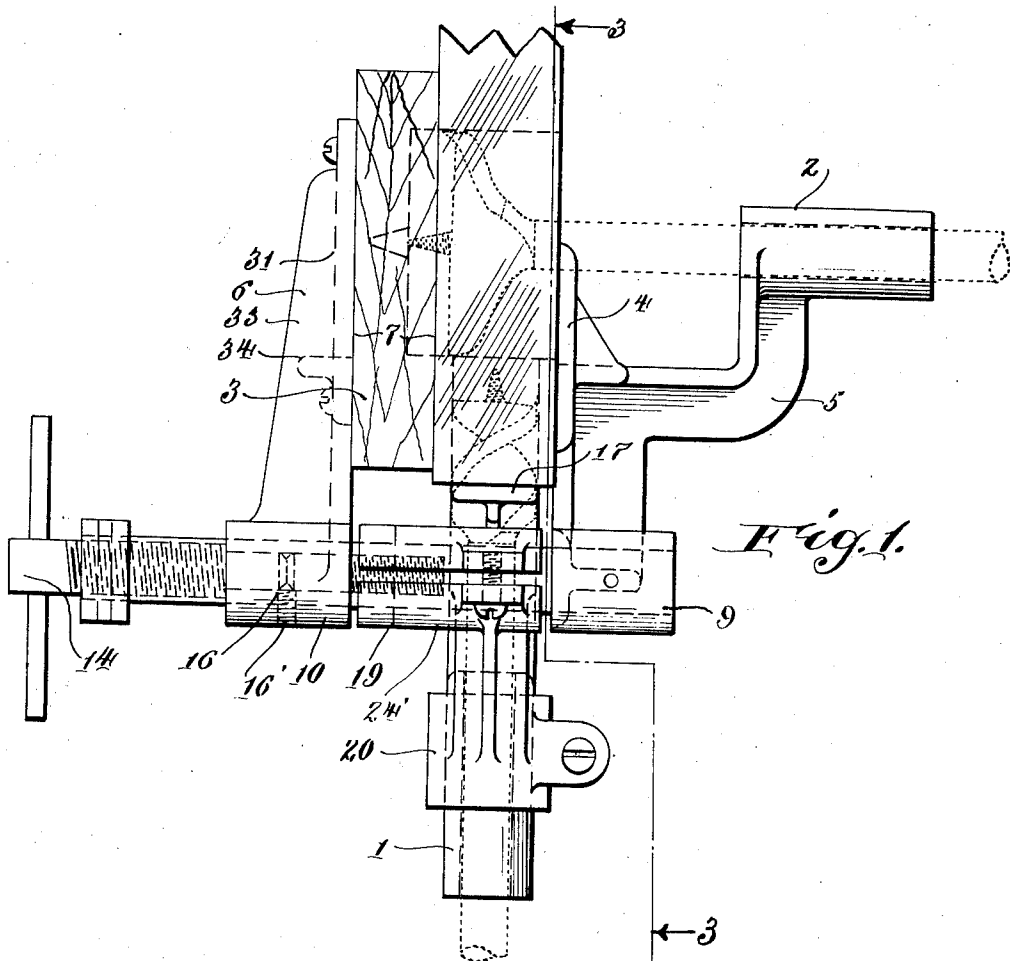


Fig. 1.

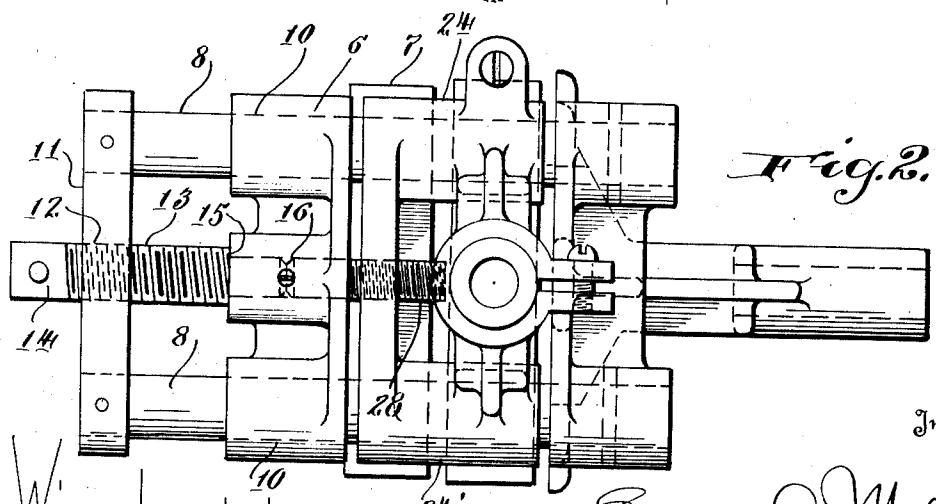


Fig. 2.

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2 Sheets-Sheet 2

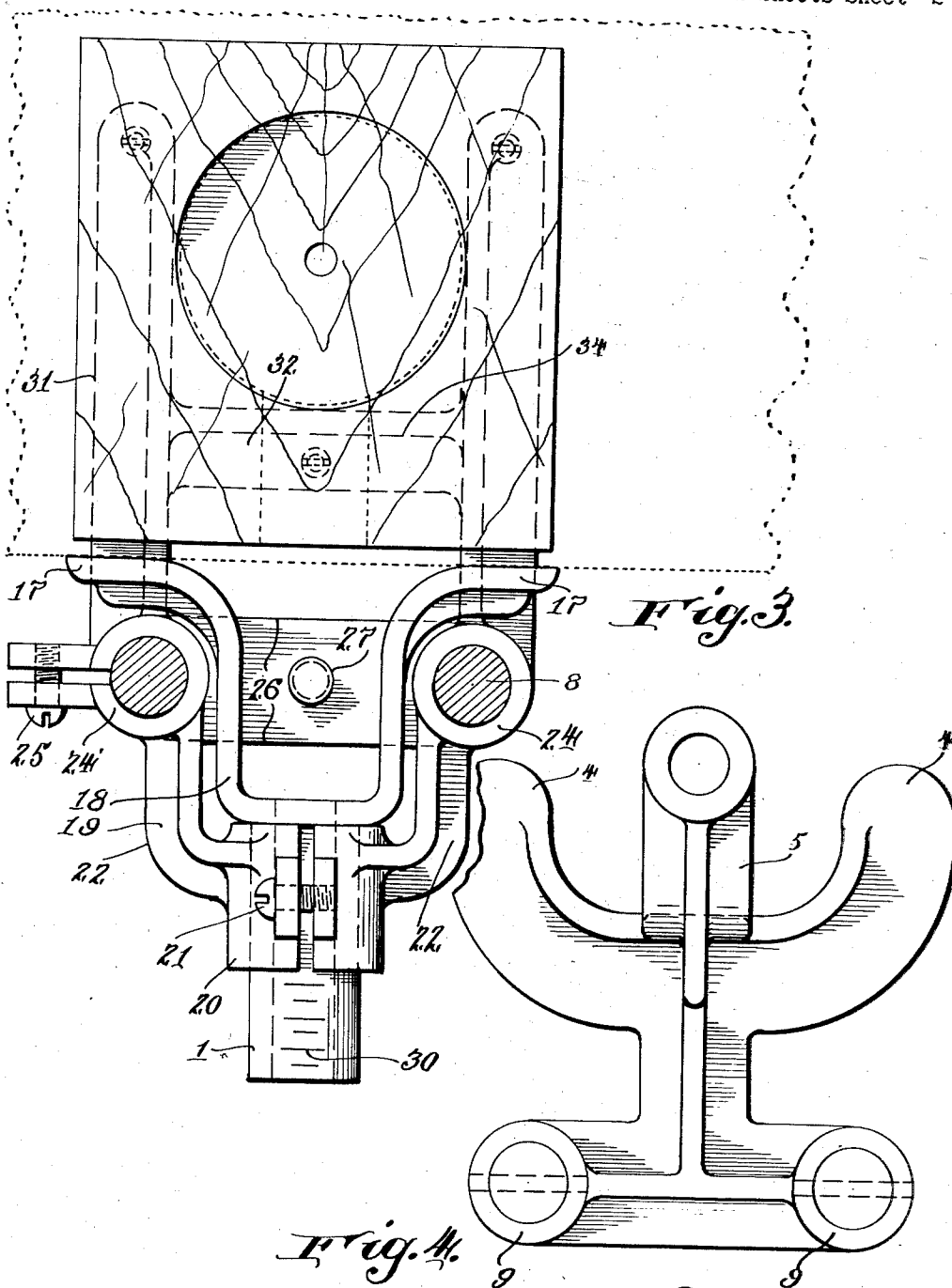


Fig. 4.

Fig. 3.

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AUGER GUIDE

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For various purposes in the wood working and metal working arts, it is necessary to bore holes from different surfaces of the material, which are usually adjacent surfaces at right angles, the axes of which holes shall intersect inside of the material at a definite predetermined angle usually a right angle. The auger guide or gauge, which is the subject of the invention, while it is capable of a more general application, has been developed in connection with the installation of certain types of lock which are applied to the inner and outer doors of dwellings and hotels, offices and the like for the installation of which locks it is necessary to form a comparatively large hole which enters the side of the door at a distance of from two to three inches from the edge and a hole entering the edge surface of the door, which holes intersect at right angles as aforesaid.

As it is necessary in order to produce a satisfactory and workmanlike effect that the holes be located with extreme accuracy, the boring and locating of these holes has required the most careful and painstaking attention of skilled carpenters making the job of installing such locks almost as expensive as the installation of the old fashioned locks. The object of the invention is to provide a gauge or guide whereby these holes can be located instantaneously with absolute accuracy, the work being done by ordinary unskilled labor dispensing with the necessity for the employment of skilled labor in this connection and at the same time producing a more uniform and satisfactory result than previously and making it possible to perform the operation at a greatly reduced expense both as to the time and the grade of labor required.

The apparatus of the invention comprises a plurality of auger guides with a work clamping means supporting the same at right angles to each other, one of said guides being so associated with the clamp that in operative position it is arranged at right angles to the lateral surfaces of the door and spaced inwardly from the edge about two or three inches or by any desired spacing

the other guide being directed at the edge of the door and having means for positioning it in connection with the closing means of the clamp whereby it is automatically positioned with its axis in the central plane of the door or other body to which the gauge is clamped as the clamp is closed. The clamp also includes a wooden block or a block of similar material forming the clamp jaw opposite the first mentioned auger guide which is disposed toward the side surface of the door, which block serves to back up and support the surface of the door or other work opposite to said auger to prevent splintering and breaking of the surfaces and consequent disfigurement or destruction of the door in connection with which the work is being done.

In the accompanying drawings I have illustrated an auger gauge embodying the features of my invention in the preferred form.

In the drawings:

Figure 1 is a top plan view of the apparatus in operative position, the augers, the work and the intersecting holes being shown in dotted lines.

Figure 2 is a front elevation looking at the same from the side toward the observer in Figure 1.

Figure 3 is a section on the line 3, 3 of Figure 1, looking to the left.

Figure 4 is an elevation looking to the right in Figure 1, the parts beyond the plane of the section 3, 3 being removed.

Referring to the drawings by numerals, each of which is used to indicate the same or similar parts in the different figures, the construction shown described in a general way consists of auger guides 1 and 2, disposed substantially at right angles to each other and located with their axes in the same horizontal plane, and a clamp 3 for engaging the work and supporting the guides 1 and 2 in the desired relation to the work.

The clamp 3 comprises front jaw member 4 on which the side auger guide 2 is rigidly mounted by means of a bracket arm 5 shown as integral therewith and a rear jaw member 6 which is provided with the supporting

or backing up block 7 which is preferably of wood or similar relatively soft material which will not injure the bit. The rear jaw 6 is mounted to slide on ways shown in the form of round rods 8, 8, which are preferably spaced apart in the same vertical plane, i. e., one above the other, in the working position of the gauge and horizontally arranged. These guides or guide rods 8 are secured at one end in suitable eyes 9, 9 in the front jaw member 4 and are slidably engaged by corresponding eyes 10, 10 formed integrally with the rear jaw member 6. The guides 8, 8, support at their ends which are located to the rear of the jaw 6, i. e., to the observer's left in Figures 1 and 2, an abutment bar 11, provided with a threaded hole 12, which engages the clamping screw 14 which is correspondingly threaded and passed through the hole 12 in the bore 11. This actuating screw 14 is reduced, forming a shoulder at 15 where it engages the rear jaw member 6 through which it extends and in which it is shown as grooved and swivelled at 16 by means of a screw 16' engaging said groove so that the jaw 6 moves back and forth with the screw 14, which turns relatively thereto, the abutment bar 11 and the front jaw member 4 being stationary. It will be easily understood that by turning the screw 14 this rear or moving jaw 6 is moved toward and from the front jaw member 4, being guided in its motion by guide rods 8 which are secured to the front or stationary jaw member 4 and the abutment bar 11.

The edge auger guide 1 is in the form of the invention shown provided with vertically spaced feet 17 to engage the edge of the door above and below said guide to position and align the same. These feet are carried on a U shaped support 18, the legs of which diverge from the inner end of said guide 1, i. e., the end toward the edge of the door or other work. The edge guide 1 is supported on and secured to an edge guide carrier 19 having a collar 20 preferably split as shown through which the auger guide member 1 is passed and which is secured to said guide member by tightening the clamping screw 21. This collar 20 is in turn provided with U shaped arms 22 at the ends of which are eyes 24 through which the rods 8, 8, respectively, are passed, one of said eyes 24, 24, the latter being shown as split and closed by means of a clamping screw 25, to take up any looseness of the carrier on the guide rods when and if desired to increase the friction and hold the parts in alignment. These eyes 24, 24 are, in turn, connected by a cross bar 26 having a threaded hole 27 at its center parallel to the guide rods 8, which thread 27 is engaged by corresponding threads 28 on the reduced end of the clamping screw 14.

It is important to note that the pitch of the threads 28 is half of that of the threads 13 of the clamping means which engage the threads of the hole 12 of the abutment bar 11 and both threads are shown as right-handed so that as the screw 14 is rotated to move the rear or moving jaw 6, the guide 1 moves in the same direction, but at half the speed of the jaw 6 so that the edge auger guide 1 being centered between the jaws 4, 6 when the gauge is assembled, remains in a position half way between the engaging surfaces of these jaws at all times and the guide 1 is therefore automatically centered as to any work to which the gauge is clamped, the gauge being thus instantaneously and automatically adjusted to the work, obviating the necessity for measuring or calipering the work.

It may also be noted that the edge auger guide 1 is elongated and it is further mounted to slide through the collar 20 of the carrier 19 which is split and controlled by the screw 21 to clamp the guide to the carrier and that the guide as shown is provided with a scale or calibrations at 30, and that the feet 17 which engage the edge of the door or other work to which the instrument is applied, move with the edge guide 1 relatively to the clamping jaws 4, and the side auger guide 2. It is therefore feasible in applying the instrument to the work to determine the position of the hole which is located by the side auger guide 2 by moving the edge guide 1 relatively to the collar 20 of the carrier 19, the screw 21 being loosened and then tightened to hold the parts in the desired position of adjustment.

It is further of interest to note that the supporting block 7 is reinforced by longitudinal arms 31 and cross arms 32, having webs 33 and 34, respectively, the webs 33 and the arms 31 being connected at their bases to the collars or eyes 10 which slide on the guide rods 8, so that said arms support the moving jaw 6 on said guide rods.

The operation of the instrument has been outlined and fully discussed in the description. Briefly considered, assuming that it is to be used in locating right angle holes for the installation of a lock in a door for a residence, office or hotel, the clamping jaws are loosened by turning the screw 14 left-handed until the jaws are sufficiently separated to admit the door between them, the height of the lock or other installation is then determined and the edge auger guide with the feet 17, 17 is so set relatively to fixed jaw 4 in the manner already described, i. e., by clamping screw 21 and calibration 30, as to space the axis of the side auger guide 2 the desired distance from the edge of the door which it may be said is normally about $2\frac{1}{2}$ inches. The clamp is then trued in a horizontal plane by holding the feet 17

in close contact with the edge of the door, the clamping screw 14 is tightened and the edge guide 1 being as already described, centered relatively to the jaws by means of the screw thread 28 which moves the guide 1 at just half of the speed of the rear jaw 6, and the clamp having been duly tightened so as to resist all tendency to move it by the operation of the augers and sufficiently to back up and support the rear surface of the door opposite the side auger controlled by the guide 2. The augers having been duly inserted in turn in the guides 1 and 2, the holes are bored to the desired depth so that they intersect at right angles and in a horizontal plane as already pointed out. The lock or other work to be placed in the holes is then duly installed, the clamp having been first loosened and removed.

I have thus described specifically and in detail an intersecting auger guide embodying the features of my invention in the preferred form in order that the manner of constructing, operating and using the same may be fully understood, however, the specific terms herein are used descriptively rather than in a limiting sense, the scope of the invention being defined in the claims.

What I claim as new and desire to secure by Letters Patent is:

1. An auger guide for boring intersecting holes in a relatively thin flat body as a jamb or door, comprising opposed jaws to engage the opposite lateral surfaces of the work, ways for the jaws, a clamping screw for closing said jaws, an edge auger guide having spaced feet to engage the edge of the work, a carrier for the guide mounted to slide on the ways and having a thread of one half the pitch of the clamping screw, the clamping screw having a secondary thread to engage said thread on the carrier to center the edge guide, the edge auger guide being located substantially in alignment with said clamping screw, and a side auger guide disposed substantially at right angles to said edge auger guide with its axis intersecting the axis of the edge auger guide and mounted on one of said jaws, means for clamping

the feet in various positions of adjustment relatively to the ways to vary the position of the side auger guide relatively to the edge of the door.

2. An auger guide for use in boring intersecting holes, comprising a clamp having front and rear clamping jaws, ways on which one jaw is mounted to slide relatively to the other, a clamping screw for moving one jaw toward the other, a side auger guide supported by one said jaw in a line normal to the plane of the door and hence parallel to the direction of motion of the jaws, an edge auger guide having feet slidably mounted thereon so that they can be adjusted in the direction of the axis of the edge auger guide which is located and arranged to intersect the axis of the side auger guide, the adjustment of the feet relatively to the side auger guide serving to determine the position of the side auger guide relatively to the edge of the door, and means for automatically centering the edge auger guide.

3. An auger guide for use in boring intersecting holes, comprising a clamp having front and rear clamping jaws, ways on which one jaw is mounted to slide relatively to the other, a clamping screw for moving one jaw toward the other, a side auger guide supported by one said jaw in a line normal to the plane of the door and hence parallel to the direction of motion of the jaws, an edge auger guide having feet slidably mounted thereon so that they can be adjusted in the direction of the axis of the edge auger guide which is located and arranged to intersect the axis of the side auger guide, the clamping screw having a secondary thread of half the pitch of the clamping screw thread, and the edge auger guide having a correspondingly threaded opening to engage said secondary thread to keep the auger guide in the center of the clamping jaws as the jaws are moved, the adjustment of the feet relatively to the side auger guide serving to determine the position of the side auger guide relatively to the edge of the door.

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