June 9, 1959 P. C. SIMON 2,889,633

ADJUSTABLE CENTER PUNCHING JIG FOR 3 HOLE HINGES

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Fig 1

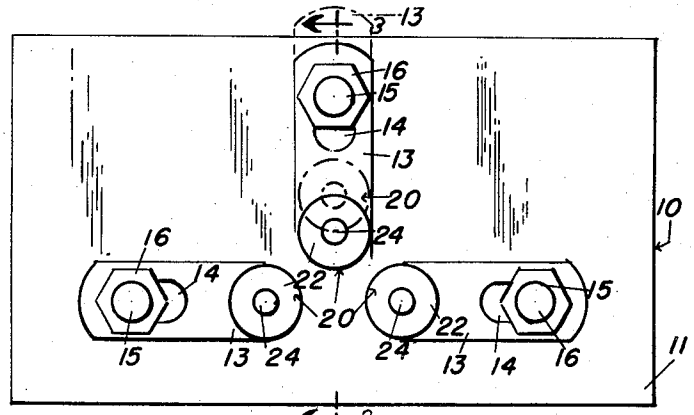
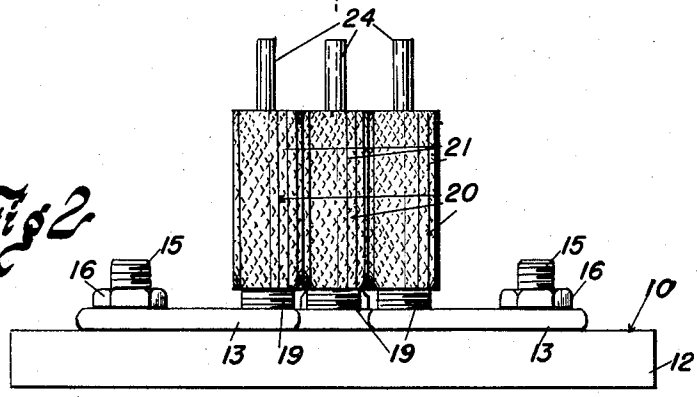



Fig 2



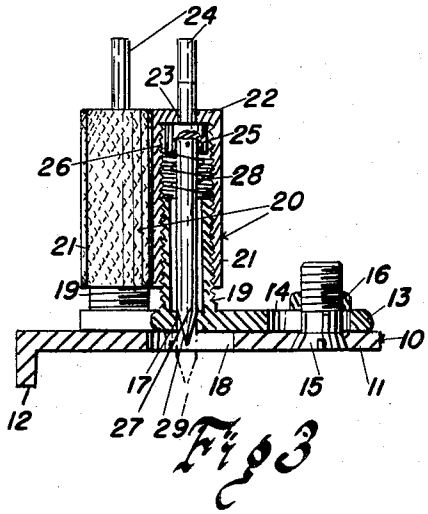
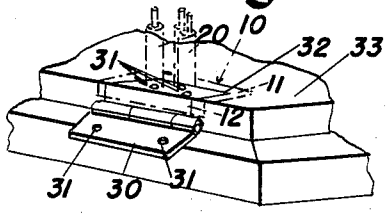




Fig 3

Fig 4




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# ADJUSTABLE CENTER PUNCHING JIG FOR 3 HOLE HINGES

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2 Claims. (Cl. 33—189)

This invention relates to a marking tool or gauge, and more particularly to a tool for use in marking holes through which securing elements such as screws are adapted to be driven, as for example when hinges are being secured in place.

The object of the invention is to provide a jig which is adapted to be used for marking holes whereby hinges can be accurately positioned and readily secured in place.

Another object of the invention is to provide an adjustable center punching jig for use with hinges such as semi-concealed cabinet hinges, and wherein the jig of the present invention includes a member that is adapted to be positioned over a hinge which is mounted in a recess of a cabinet or other structure, and wherein the jig can be readily adjusted so that punches can be aligned with holes in the hinge, so that these punches can be actuated to thereby make marks in the supporting structure, so that holes can later be accurately drilled through the punched marks in order to subsequently secure the hinge in place.

A further object of the invention is to provide an adjustable jig which is extremely simple and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, and in which like numerals are used to designate like parts throughout the same:

Figure 1 is a plan view showing the adjustable jig of the present invention.

Figure 2 is an elevational view of the adjustable jig, looking at right angles to the view shown in Figure 1.

Figure 3 is a sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a perspective view showing how the jig of the present invention is used.

Referring in detail to the drawings, the numeral **10** indicates the jig of the present invention, and the jig **10** includes a base **11** of rectangular formation, and depending from one edge of the base **11** and secured thereto or formed integral therewith is a right angularly arranged flange **12**, Figure 3.

Adjustably mounted adjacent the upper surface of the base **11** is a plurality of bars **13**. Each of the bars **13** has the same construction, and each bar **13** is provided with a slot **14**. Suitable securing elements such as the bolts **15** extend through the base **11**, and through the slots **14** in the bars **13**, and a nut **16** is connected to each bolt **15**. The heads of the bolts **15** are snugly seated in countersunk openings in the base **11**.

There is further provided in each of the bars **13** an aperture **17** which registers with a cut-out **18** in the base **11**. Extending upwardly from an end portion of each of the bars **13** and secured thereto or formed integral therewith is an externally threaded sleeve **19** which has a hollow interior. The numeral **20** indicates a body member, and one of the body members **20** threadedly engages each of the sleeves **19**. The body members **20** are hollow, and each body member **20** includes an outer continuous



wall member **21** which is knurled externally so as to facilitate manual handling thereof. Each body member **20** further includes a top wall **22** which is provided with an opening **23** therein, and a stem or shank **24** is slidably mounted in each opening **23**. The numeral **25** indicates an enlarged head which is secured to the lower end of each stem **24**, and the heads **25** are provided with recesses **26** in which are secured the upper ends of pins **27**. The pins **27** are movably mounted in the sleeve **19**, and a coil spring **28** is circumposed on each pin **27**, the coil spring **28** being interposed between the head **25** and the top of the sleeve **19**. As shown in Figure 3 for example, the lower end of each pin **27** is pointed as at **29** so that when the upper end of the stem **24** is struck with a hammer or the like, the pointed end **29** will pass down through the aperture **17** and through the cut-out **18** so that a mark can be made by the pointed end **29** whereby this mark can later be used as a center hole which can be drilled for the reception of bolts, screws or the like.

Referring to Figure 4 of the drawings, the numeral **30** indicates a portion of a conventional hinge which is provided with the usual holes **31** therein, and the hinge **30** is adapted to be seated in a cut-out or recess **32** in a supporting structure such as the cabinet **33**. By means of the present invention, the hinge **30** is adapted to be positioned in its recess **32**, and then the jig **10** is arranged in engagement therewith, and the bars **13** can be adjusted so that the punchers or pins **27** are aligned with the openings **31** in the hinge **30**. Then, by tapping on or striking the stems **24**, the pins **27** will be moved downwardly through the registering openings in the hinge so that the pointed end **29** will make marks in the cabinet structure **33**, whereby these marks can later be used as guides for drilling the screw holes. Thus, it will be seen that the jig provides a means whereby screw holes for concealed hinges can be accurately and readily formed.

From the foregoing, it is apparent that there has been provided a jig which is especially suitable for use in punching holes such as holes for use with the three-hole type of semi-concealed cabinet hinge. In use, when holes are to be drilled to coincide with the hinge openings such as the hinge openings **31** of Figure 4, the recess **32** is first formed in the cabinet **33** or other structure. Then, the hinge **30** has a portion thereof seated in the recess **32** as shown in Figure 4. Next, the device **10** is positioned on top of the hinge **30** as shown by broken lines in Figure 4, and it is to be noted that the base **11** snugly fits over the portion of the hinge **30**, while the flange **12** acts as a stop member or guide to maintain the jig **10** in its proper position. Then, the nuts **16** are loosened and this permits the bars **13** to be shifted or adjusted on the base **11**, and the bars **13** are shifted until the punches **27** coincide with or register with the openings **31** in the hinge **30**. Then, the nuts **16** are tightened whereby the bars **13** are maintained immobile in their adjusted position. In view of the fact that the hinge **30** includes three openings **31** in each plate portion thereof, it is to be noted that there is provided three punches **27** whereby three marking holes can be conveniently made in the cabinet structure **33**. With the punch **27** centered over the opening **31** in the hinge **30**, and with the nut **16** tightened on the bolt **15**, it will be seen that the upper projecting stem **24** can be readily tapped or struck with a hammer or the like, so that this will cause the head **25** to move downwardly in the body member **20** and this will move the punch **27** downwardly so that the lower pointed end **29** will pass through the aperture **17** and through the cut-out **18** in the base **11**, and then through the opening **31** therebelow whereby a mark can be made in the cabinet **33**. Since there are three openings **31** in each plate portion of the hinge **30**, it is to be noted that there are three of the body members **20** which all have the same construction, and

this arrangement permits the three holes to be marked or tapped while the jig is in place. After the punch marks have been made by means of the pointed ends **29**, the jig **10** is removed, and then the punch marks can be used as centering guides so that a drill can be used to form screw holes or the like as for example when screws are to be later used for anchoring the hinge to the structure **33**. As previously described, a coil spring **28** is provided for each plunger **27**, and the coil spring **28** serves to raise the punch or pin **27** to the upper position after the punch has been moved downwardly by the hammer striking the stem **24**, so that the coil spring **28** will normally urge the punch **27** from the broken line position shown in Figure 3 to the solid line position of Figure 3.

The parts can be made of any suitable material and in different shapes or sizes. The stem **24** and head **25** may be made of hardened steel, while the punch **27** may be made of mild steel. The knurled wall member **21** facilitates the manual handling or gripping of these members. The slots such as the slot **14** and the cut-outs **18** provide a means whereby the bars **13** can be readily adjusted on the base **11** so as to properly center the punches **27** with the openings in the hinge plate. In view of the fact that there are three of the punches, it is to be noted that three holes can be punched at one setting of the device. Thus, since the spacing of the three holes in the hinge plates differs on various makes of hinges, the adjustable feature of the present invention is highly advantageous, and the jig will permit holes to be punched quickly and accurately and easily.

It will be understood of course that the invention contemplates such other embodiments or modifications as may occur to those skilled in the art.

What is claimed as new is as follows:

1. In a jig, a base, a flange arranged at right angles with respect to an edge of said base and depending therefrom, a plurality of bars adjustably mounted on said base, each of said bars being provided with a slot, securing elements extending through said base and through the slots in said bars, each of said bars being provided with an aperture, there being cut-outs in said base registering with said apertures, an externally threaded sleeve extending upwardly from each of said bars and said sleeves being hollow, a body member having a threaded interior threadedly engaging said sleeve, said body member including an outer side wall and a top wall provided with an opening therein, a stem extending upwardly through the opening in said top wall, a head on the lower end of said stem and said head having a recess therein, a punch having its upper end secured within said recess, the lower end of said punch being pointed and adapted to project through said registering aperture and cut-out, and a coil spring circumposed on said punch and interposed between said head and the upper end of said sleeve.

2. In a jig, a base, a flange arranged at right angles with respect to an edge of said base and depending therefrom, a plurality of bars adjustably mounted on said base to provide a substantially T-formation, each of said bars being provided with a slot, securing elements extending through said base and through the slots in said bars, each of said bars being provided with an aperture, there being cut-outs in said base registering with said apertures, an externally threaded sleeve extending upwardly from each of said bars in substantially triangular relation to each other and said sleeves being hollow, a body member having a threaded interior threadedly engaging said sleeve, said body member including an outer side wall and a top wall provided with an opening therein, a stem extending upwardly through the opening in said top wall, a head on the lower end of said stem and said head having a recess therein, a punch having its upper end secured within said recess, the lower end of said punch being pointed and adapted to project through said registering aperture and cut-out, a coil spring circumposed on said punch and interposed between said head and the upper end of said sleeve, the outer surface of said body member being knurled, whereby with a hinge seated in the cut-out, the pointed ends of the punches can be moved through the holes in the hinge that are positioned in substantially triangular relation to each other to make punched marking holes.

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