

No. 813,319.

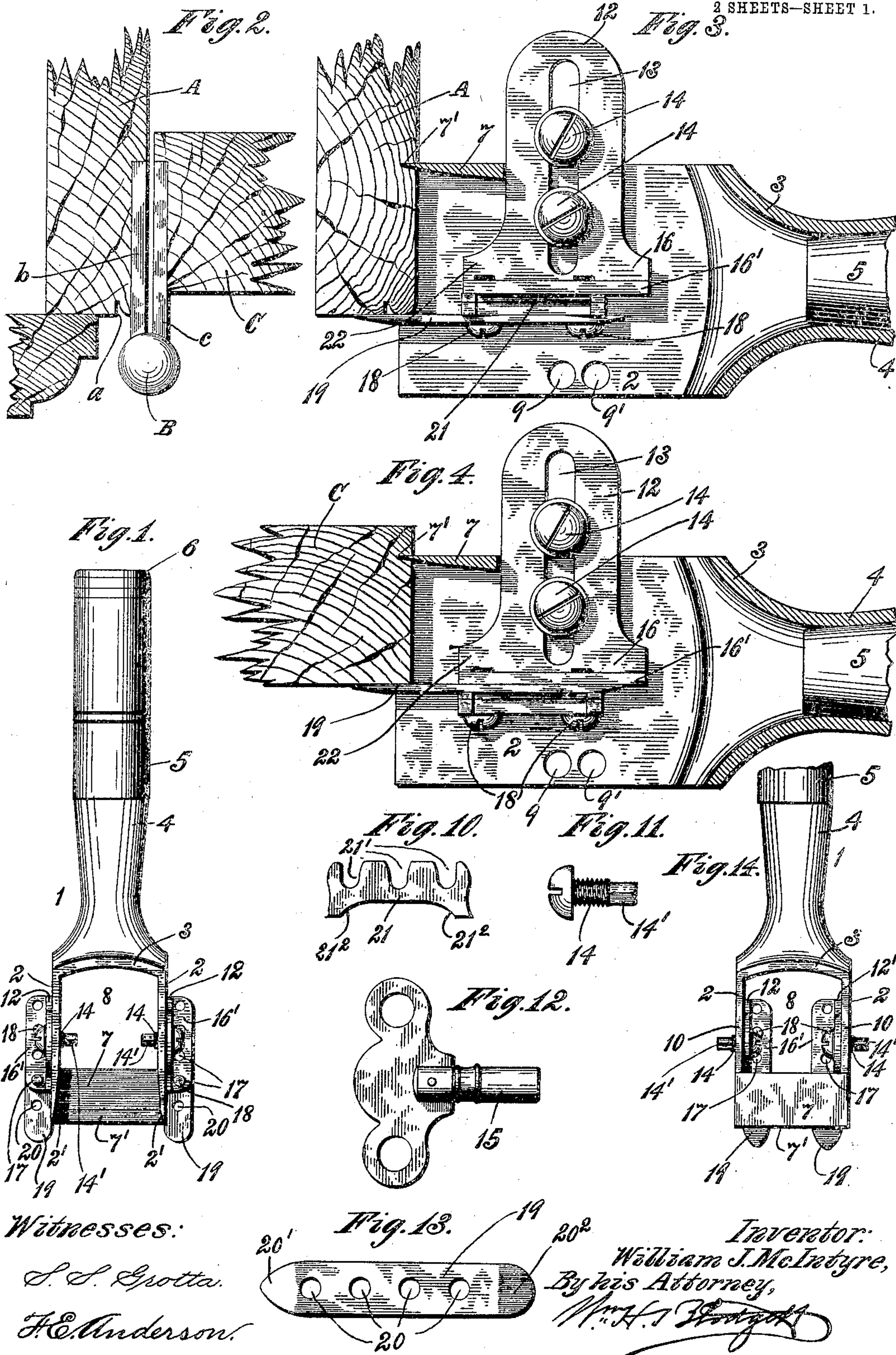
PATENTED FEB. 20, 1906.

W. J. McINTYRE.

TOOL FOR MARKING AND INCISING HINGE BUTT RECESSES.

APPLICATION FILED MAY 17, 1905.

2 SHEETS—SHEET 1.



Witnesses:

S. S. Grotta.

H. C. Anderson.

Inventor:

William J. McIntyre,

By his Attorney,

Wm. H. J. [Signature]



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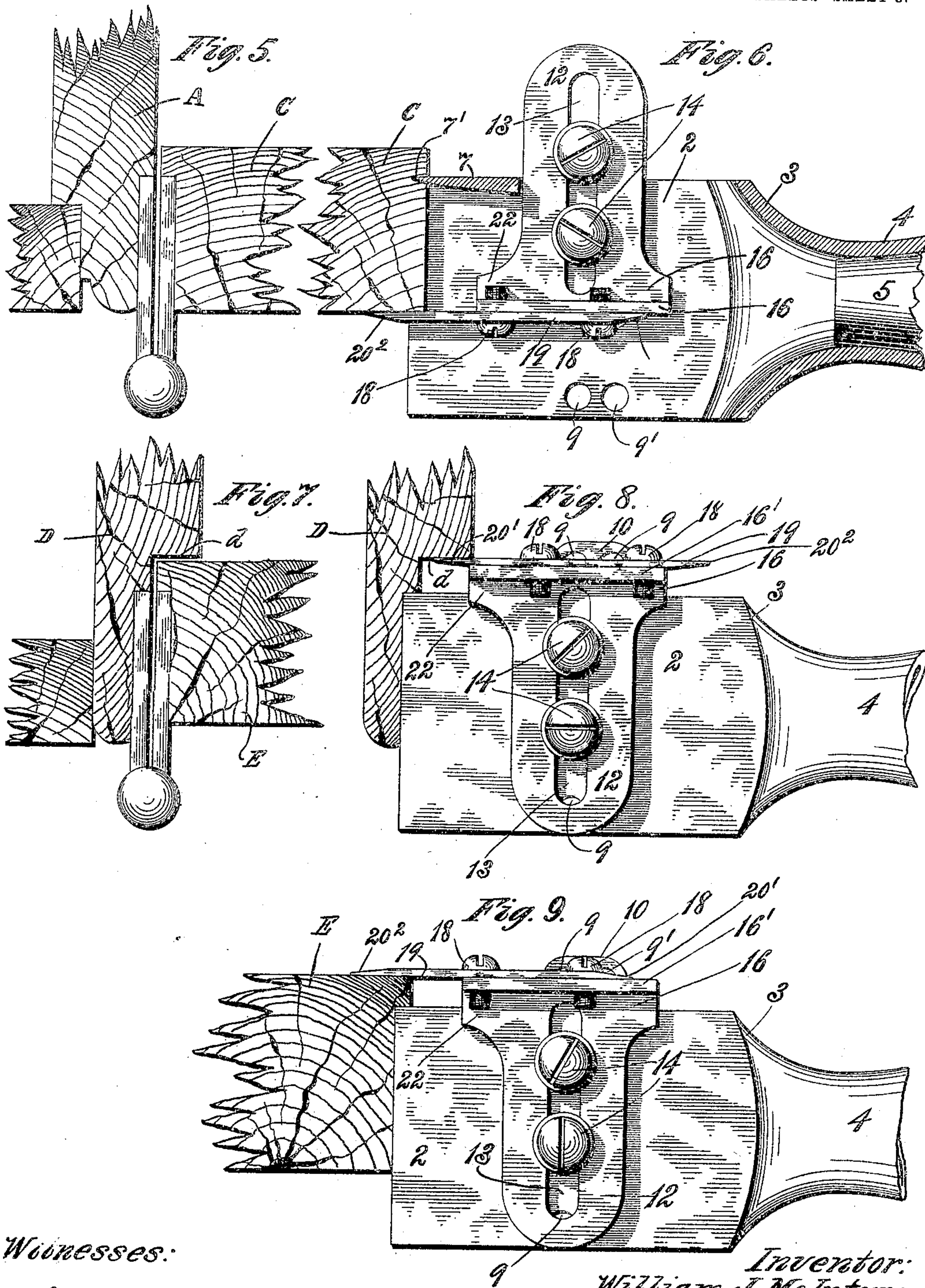
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Wm. H. T. Dodge.



# UNITED STATES PATENT OFFICE.

WILLIAM J. McINTYRE, OF HARTFORD, CONNECTICUT.

## TOOL FOR MARKING AND INCISING HINGE-BUTT RECESSES.

No. 813,319.

Specification of Letters Patent.

Patented Feb. 20, 1906.

Application filed May 17, 1905. Serial No. 260,760.

*To all whom it may concern:*

Be it known that I, WILLIAM J. McINTYRE, a citizen of the Kingdom of Great Britain, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Tools for Marking and Incising Hinge-Butt Recesses, of which the following is a specification.

10 This invention relates to tools for marking and incising hinge-butt recesses in the stiles and jambs of doors, blinds, or other swinging articles.

As is well known, hinge-butt recesses are usually formed by first marking out and incising the wood in the part thereof where the hinge is required and then removing the material between the incised lines by means of a chisel or other tool. These operations are usually carried out in a crude and imperfect way, and the consequence has been that the recesses are frequently out of line and have to be recut to permit the proper positioning of the hinge-butts.

25 Primarily the object of the present invention is the provision of an improved tool for gaging, marking, and incising said recess and one that will be universally applicable for accomplishing these results on stiles and jambs of any of the forms now in use and also of other forms to be devised in future.

30 A further object of the invention is the provision of a box-like tool having three cutting edges, two of which incise the material at the points where the ends of the butt-recess are formed, while the third incises such material along the line of the back of said recess, the material intervening said incisions being subsequently removed by a chisel.

40 A further object of the invention is the provision, in connection with a tool of the kind mentioned, of peculiar gages for determining the area of the space incised and marked out by said tool.

45 Other objects of the invention will be set forth in the following description.

In the accompanying drawings, Figure 1 is a front view of the improved tool, showing the gages clamped on the outer sides thereof. Fig. 2 is a sectional view of part of a door and the jamb thereof, illustrating the form of the recess in each part and a hinge the leaves of which are inserted in said recesses. Fig. 3 is a sectional view of the tool with the gages se-

cured to the inner sides thereof, said tool as thus arranged being adapted to incise the jamb in the manner shown in Fig. 2 and the spacers being on the inside of the gage-blades. Fig. 4 is a view similar to Fig. 3, but arranged to incise the stile of a door, and the spacers being illustrated on the outside of the gage-blades. Fig. 5 is a view similar to Fig. 2 and showing a different form of jamb. Fig. 6 is a view similar to Figs. 3 and 4 and showing the gage devices held on the inner sides of the tool to position said tool for accomplishing the work shown in Fig. 3, the spacers being removed. Fig. 7 is a view similar to Fig. 5, but showing a different style of jamb; and Fig. 8 is a side view of the tool with the parts arranged to incise and mark out the recesses in the jamb shown in said Fig. 7. Fig. 9 is a side view showing the parts arranged to incise and mark out the recesses in the stile shown in Fig. 7. Fig. 10 is a side elevation of one of the spacers employed. Fig. 11 is a side view of a peculiar screw. Fig. 12 is a side view of a key used to turn the screw. Fig. 13 is a plan view of one of the improved gage-plates; and Fig. 14 is a rear view of the improved tool, showing the gage-plates arranged on the inner part thereof back of the cutting-blade uniting the two sides.

Like characters designate similar parts throughout the several views.

Referring to the drawings, the numeral 1 designates in a general way the improved marking and incising tool, which consists of sides 2, united at the top by a convex bridge 3, said bridge having a hollow extension 4, provided with a socket for the reception of a handle 5, provided at its top with usual means 6 for receiving the impact of a maul or hammer by which the tool is operated. Uniting the sides at their lower ends is cross-plate 7, having a chisel edge 7', and each of the sides 2 is also provided with a chisel-shaped extremity 2', as shown in Fig. 1. In the front the body of the tool is open, as at 8, and the same is true of the back, except at the point where the cross-plate 7 is located. There is thus produced of steel or other suitable material a hollow tool of light weight and yet sufficiently strong to be serviceable, and upon either the exterior or the interior surfaces of which gage devices hereinafter described may be placed. The openings in the sides of the tool permit ready access to the in-



terior thereof, so that the gages hereinafter described may be readily applied to the inner surfaces of the sides 2. Preferably the tool proper is formed as a single casting, although  
 5 it may be made in sections, if desired, without departure from the invention.

In each side 2 of the tool are a series of sets of holes 9 9', each series shown composed of four holes spaced at regular distances apart,  
 10 and the first hole of each series of the two sets being formed in bosses 10, projecting from the sides, as illustrated in Figs. 8, 9, and 14. Any desired number of holes may constitute a set, and any desired number of sets  
 15 may be employed, the invention not being limited in these respects. Each hole has a threaded wall, and therefore the holes serve to receive screws hereinafter described.

Designated by 12 12' are plates, each longitudinally slotted at 13 to receive screws 14,  
 20 threaded into the tapped holes 9 9' of the frame. These screws are each provided with a slotted head to receive a screw-driver and with an angular end 14', to which a wrench,  
 25 shown as a key 15 in Fig. 12, may be applied. Integral with each plate 12 and 12' is a head 16, having a flange 16', tapped at 17 to form a series of regularly-spaced holes for the reception of screws 18, by which gage-  
 30 plates 19 of peculiar form are secured to the flanges, each gage-plate having a series of longitudinally-disposed perforations 20 and each being provided with a substantially conical beveled surface 20' on one side at one end  
 35 and with a rounded beveled surface 20<sup>2</sup> on the same side at its opposite end for purposes hereinafter stated.

Spacers 21, each having a series of notches 21' on one edge to receive the screws 18 and  
 40 each curved at 21<sup>2</sup> on its opposite edge to afford a convenient finger-grasp, may be employed when desired to regulate the position of the gage-plates, and sets of these spacers—each spacer being of a different thickness  
 45 from any other spacer of the set—are furnished with the tool, so that the gage-plates 19 may be positioned to suit the work required, as shown in Figs. 3 and 4.

It will be observed from the drawings that  
 50 the head 16 of each plate 12 and 12' is extended farther on one side, as at 22, than on the other side, and the object of this construction will now be explained.

In use the chisel edges of the sides 2 and  
 55 plate 7 become dull and they must be sharpened and consequently reduced in length. This reduction requires a rearrangement of the gage-plates 19, and this may be accomplished by taking out the screws 18, shifting  
 60 said plates, and then again securing the plates in place by the screws, so that the ends of the plates will project to the right distance. As will be evident, when the sides 2 are sharpened by grinding the plates 19 will pro-  
 65 ject too far beyond them, and in the use of

the tool before the reduction in the length of the plates takes place the longer sides 22 of the heads 16 project toward the work. To make further provision for the adjustment of said gage-plates, the plates 12 and 12' may  
 70 be made to change places on the sides 2, and when again secured in position the shorter sides of the heads will project toward the work, and the working parts of said gage-  
 75 plates will of course be drawn back when this procedure takes place. Provision is made for lateral adjustment of the plates 12 12' by the longitudinal slots 13 and screws  
 80 14, the latter when loosened enabling said plates to be moved to carry the gage-plates into contact with the work, and thus determining the location of the three-sided incisions made therein.

When the plates 12 12' are located on the inner surfaces of the sides 2, the screws 14 are  
 85 reversed, and their angular ends then project through the openings 9 or 9', in which they are placed, the key 15 is applied to said ends, and the screws are tightened to clamp the  
 90 plates in place, as shown in Fig. 14.

In elucidating many of the uses to which the improved tool may be put reference will be first made to Fig. 2, in which a jamb A is shown having a molding *a*. In this form of  
 95 jamb the recess for the leaf *b* of the hinge B is of about one and five-sixteenths ( $1\frac{5}{16}$ ) in width, and the slides 12 12' are therefore adjusted on the inner surfaces of the sides 2 of the tool, and the gage-plates 19 are so set  
 100 and adjusted by the spacers 21 and screws 18 that their flat non-beveled sides will be in contact with the edge of the jamb, as illustrated in Fig. 3. When the parts have been  
 105 adjusted as described, the end 6 of the handle is struck by a maul or hammer, and the chisel edges 2' of the sides 2 and 7' of the cross-plate 7 will be forced into the jamb in the manner shown in Fig. 3 to make the required  
 110 three-sided incision, the material intermediate the lines of said incision being removed by a chisel in the usual manner after the borders of the recess in the jamb have been incised. It now becomes necessary to mark out in the  
 115 same manner the lines for the recess in the stile, and as this recess is about one and one-eighth inches ( $1\frac{1}{8}$ ) in width the desired changes to fit the tool to mark the outlines for the recess in which the leaf *c* of the hinge is fitted in the stile C are readily made by taking  
 120 out the spacers 21 and clamping the flat sides of the gage-plates 19 directly against the flanges 16' of the plates 16, as illustrated in Fig. 4. To prevent the ends of the screws 18 from approaching too close to the heads  
 125 of screws 14, the spacers 21 may be placed over said screws 18 back of the heads thereof, if desired and as shown in Fig. 4, above mentioned.

Each spacer of the set is of different thickness, and by the interposition of one or a se- 130



ries of said spacers the position of the gage-plates may be regulated with precisionized accuracy. As before stated, each gage-plate is provided with a series of perforations 20 and with ends of different shape 20' 20<sup>2</sup>, and it will be observed that the holes are so located in said plates that an end of one of the series is nearer the extremity 20' than the opposite end one is to the beveled end 20<sup>2</sup>, so that when the plates are reversed end for end the extremity 20<sup>2</sup> will project farther beyond the cutting edge of the tool, as shown in Figs. 3, 4, and 6, than will the extremity 20' of the plate when arranged as shown in Fig. 8, and the ends are made of different shape, readily to indicate to the eye the manner in which the gage-plate is to be located to cause the required projection of its end.

In the form shown in Fig. 5 the recesses in the jamb A and stile C are each of the same width—*e. g.*, about one and one-eighth inches ( $1\frac{1}{8}$ "')—and the plates 12 12' are adjusted on the inner surfaces of the plates 2 for marking out and incising the lines of each of said recesses, the flat sides of the gage-plates 19 being clamped against the flanges 16' of said plates and said plates being adjusted to cause their longer ends 20<sup>2</sup> to bear against the edge of the jamb and of the door and the spacers 21 being omitted, as illustrated in Fig. 6.

In Fig. 7 a rabbeted jamb D is shown having a shoulder *d*, and in the surface below said shoulder the hinge-leaf recess is made, said recess being of about one and five-sixteenths inches ( $1\frac{5}{16}$ "') in width, whereas in the stile E of this form the recess is of about one and one-eighth ( $1\frac{1}{8}$ "') in width, and clearance of about one-sixteenth of an inch ( $\frac{1}{16}$ "') must be provided between the stile of the door and the jamb to enable the door to be opened and closed. To produce the incised outline for the hinge-leaf in this style of jamb, the plates 12 12' are clamped to the outer surfaces of the sides 2 of the tool, and the gage-plates 19 are changed from the position represented in Fig. 6 to that shown in Fig. 8—*i. e.*, they are reversed end for end to cause a shorter projection 20' thereof to extend beyond the flanges 16' and are also reversed laterally to bring the beveled surfaces on the under side and to cause their flat sides to bear against the shoulder *d*, the spacing-plates being removed. As each gage-plate is one-sixteenth of an inch, ( $\frac{1}{16}$ "'), thick it will be seen that the lines of the recess will be so cut that the necessary clearance between the door and jamb will be established. To mark out and incise the recess in the door-stile, which recess is about one and one-eighth inches ( $1\frac{1}{8}$ "') in width, the gage-plates 19 are reversed laterally and endwise from the position shown in Fig. 8 and have their inner flat sides bearing against the edge of the stile E, the spacers in this instance not being employed.

From what has been stated it will be seen

that a universal tool for marking out and incising the lines of hinge-butt recesses is provided.

Having thus described my invention, what I claim is—

1. A tool for marking and incising the lines of hinge-leaf recesses, comprising united sides each having a cutting edge, a cross-plate connecting the sides, and also having a cutting edge; plates; gages carried by said plates; and means for securing said plates to either the inner or outer surfaces of the sides of the tool.

2. The combination, with a tool having three cutting edges, one at right angles to, and connecting, the others, of gage devices carried by the tool, and serving to locate the position thereof upon the work; and means for securing said gage devices either to the inner or outer surfaces of the side plates.

3. The combination, with a tool having sides provided with cutting edges at their lower ends, and with a sharpened plate uniting said sides, of gage devices; and means for adjustably securing said gage devices either to the inner or the outer surfaces of said sides.

4. The combination, with a tool having sides sharpened at their lower ends, and a sharpened cross-plate uniting said sides, of plates adjustably mounted on the sides; gages carried by said plates; and means for securing said plates either to the outer or inner surfaces of said sides.

5. The combination, with a box-like tool for incising material, of gage devices; and means for securing said gage devices either to the inner or outer sides of said tool.

6. The combination, with an incising-tool, of slotted plates secured to the sides of said tool, each plate having a flanged head; and gage-plates secured to the flanges of the heads.

7. The combination, with an incising-tool having three cutting edges, of plates adjustably secured to the sides of said tool; reversible gage-plates carried by said adjustable plates; screws for securing said gage-plates; and removable spacers adapted to be inserted between said gage-plates and the adjustable plates, said spacers being notched to fit over the screws.

8. The combination, with an incising-tool, of longitudinally-slotted plates secured to the sides of said tool, each plate having a flanged head; gage-plates secured to the flanges of the heads; screws for securing the gage-plates to the heads; and spacers notched to fit over the screws.

9. The combination, with a tool, and with plates secured to the sides thereof, of gage-plates; screws for securing said gage-plates to the other plates; and interchangeable spacers of different thicknesses notched to fit over said screws, and adapted to be interposed either between the heads of the screws and



the gage-plates, or between the gage-plates and the other plates.

10. A universal tool for marking and incising hinge-butt recesses comprising sides having cutting edges, a third cutting edge at right angles to said sides; gage devices; and means for securing said gage devices either to the outer or the inner surfaces of said sides.

11. The combination, with an incising-tool having rows of perforations, of plates; gage devices carried by the plates, and each having a row of perforations; and securing devices adapted to enter any of the perforations of the gage devices, and to secure said devices to said plates.

12. The combination, with an incising-tool having a series of rows of screw-holes, of plates; screws for securing the plates, and adapted to be inserted in the perforations of either row; perforated gage devices; and means for securing said gage devices to the plates.

13. The combination, with an incising-tool, of plates shaped to be secured on either the inner or outer sides thereof; gages carried by the plates; and screws having ends shaped to receive different tools for securing said plates in position.

14. The combination, with an incising-tool with space-embracing sides, of gage-carrying plates adapted to be secured either to the inner or outer surfaces of the sides of said tool; and screws, having notched heads and angu-

lar ends, for securing said plates in position.

15. The combination, with an incising-tool, having separated sides, of a plate having a flanged head extended farther on one side than on the other; a reversible gage device carried by the plate; means for securing said gage device to the flanged head; and means for securing said plate to either side of the tool.

16. The combination, with an incising-tool having separated sides, of plates, each having a head extending farther on one side than on the other; a gage-plate secured to each head; and means for securing each plate having a head either on one side or on the other side of said tool.

17. In an incising-tool, the combination, with a plate having a flanged head, and with means for adjustably securing said plate to said tool, of gage-plates; screws passing through perforations in the gage-plates, and threaded into the flange of the head; and interchangeable spacers of different thicknesses, and notched to receive the screws and each having a curved bottom wall, for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

W. J. McINTYRE.

Witnesses:

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F. E. ANDERSON.