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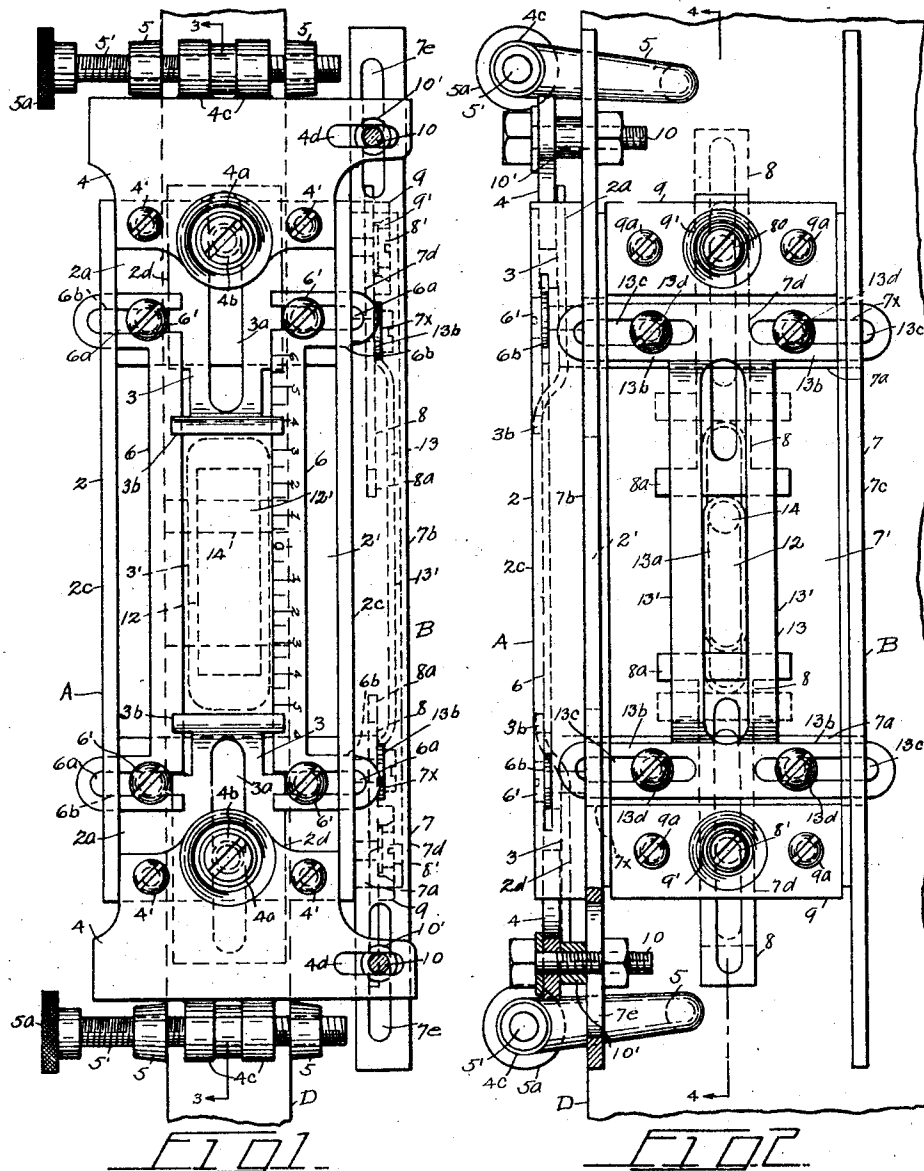
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2 Sheets-Sheet 1



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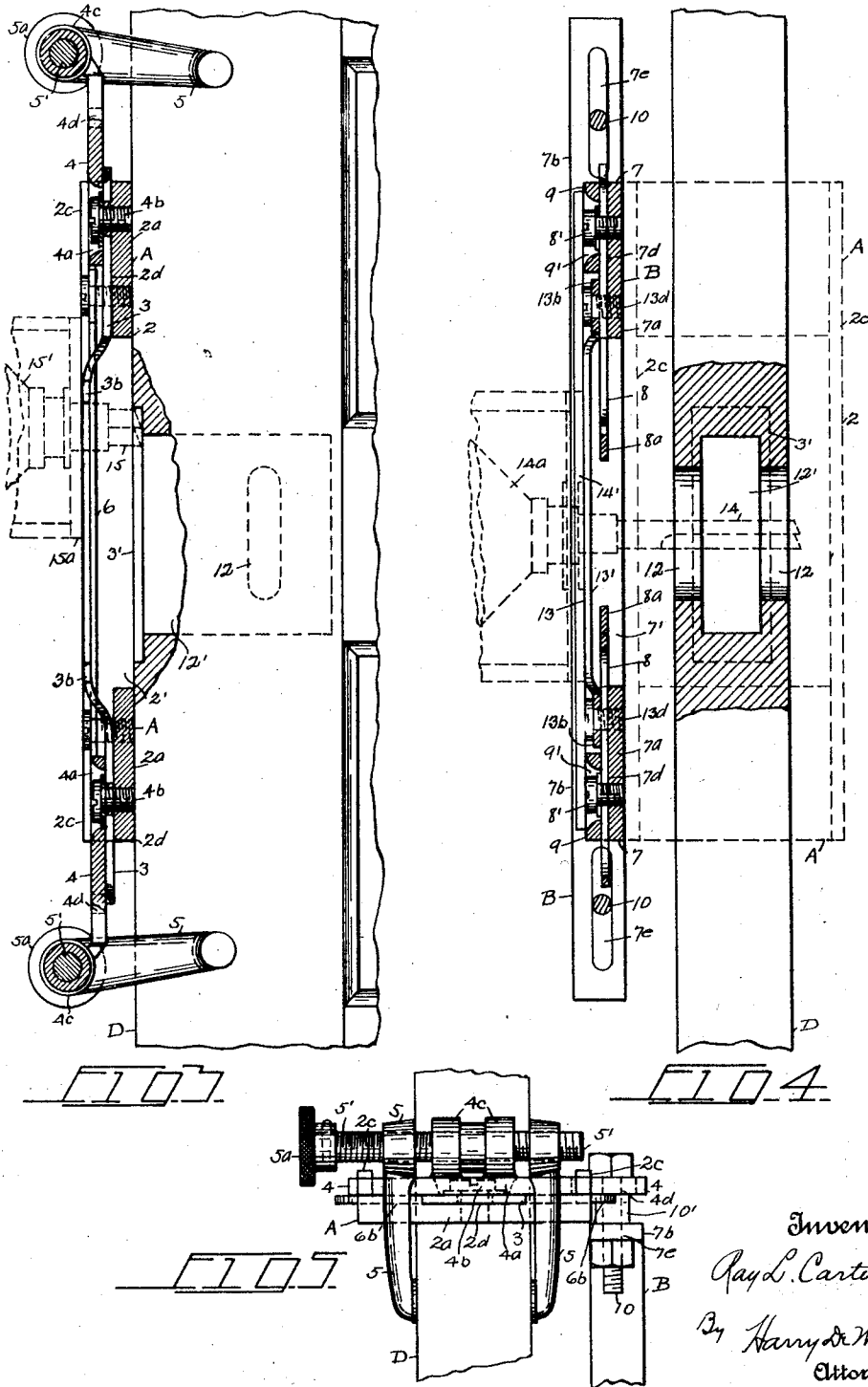
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## UNITED STATES PATENT OFFICE.

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## TEMPLATE FOR GUIDING ROUTERS.

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This invention relates to templates for guiding routing machines, and has especial reference to means for guiding the tools that cut the recesses and slots for the lock-fronts, knob-shafts and key-ways, of door locks.

The object of the invention is to provide two similar template members, which are connected and arranged for guiding a router in different planes and in different directions relatively to the lock mortise, one of said members being arranged for clamping the combined device to the edge of a door, the said clamping means being adjustable to suit doors of different thickness, the said member adapted to overlie the edge of the door, and being equipped with adjustable means for gauging the length and breadth of the recess that receives the front of the lock; the second template member being supported solely by the first member, and arranged to overlie one face of the door adjacent the said edge, said second member being adjustable in different directions relatively to the first member, and being provided with mortise or profiling gauges, the gauging means of the second member being adjustable, for varying the location of the knob-shaft and key-hole relatively to the edge of the door and the lock front recess, to conform to locks of different styles and sizes. And a further object is to provide a combined router support and guide which may be readily and accurately adjusted for performing the aforesaid routing work for any lock of given dimension and style, before the device is clamped to a door.

I attain these objects by the means set forth in the detailed description which follows, and as illustrated by the accompanying drawings, in which—

Figure 1 is a broken edge view of a door, to which my combined template is applied; showing a front face view of the recess template, and an edge view of the knob-shaft and keyhole template. Fig. 2 is a broken face view of the door; showing one edge of the recess template and a front face view of the knob-shaft and key-way template. Fig. 3 is a similar side elevation of the door, to the edge of which is applied the recess template, the latter being in longitudinal section taken on line 3—3 of Fig. 1; also showing the door mortised for the reception of a lock, and a routing tool in the act of cutting the lock-front recess. Fig. 4 is an edge view

of the door, and a central longitudinal section of the knob and key template, the said section taken on line 4—4 of Fig. 2; showing the routing tool in the act of cutting a common slot for the play of the knob-shaft and key relatively to the mortise and recess. And Fig. 5 is a broken end elevation of the combined template, showing the same clamped to the door.

In the drawings, the template members are respectively designated by the characters A and B. Referring to the template A, 2 represents a channel-shaped oblong frame or body having a relatively large medial opening 2' for facilitating the routing work, that lies between web portions 2<sup>a</sup>, as well as between flanges 2<sup>c</sup>, the said web being correspondingly recessed centrally, as the 2<sup>d</sup> (see Fig. 5), to receive longitudinally arranged gauge members 3, that regulate the length of the lock-front recess, as 3', of the door D (see Fig. 3). 4 represents similar plates that overlie the outer ends of the webs 2<sup>a</sup>, said plates being rigidly fastened to the webs by screws 4', and said plates being perforated, as at 4<sup>a</sup>, to receive screws 4<sup>b</sup>, that are threaded in the webs, and play in slots 3<sup>a</sup> of the gauges 3, for rendering the said gauges adjustable, and for maintaining the said adjustments. The free ends of the plates 4 are formed with similar spaced loops 4<sup>c</sup>, the corresponding lateral edges of the said plates extending beyond the plane of the corresponding flange 2<sup>c</sup>, and being slotted transversely, as at 4<sup>d</sup>. The clamping means comprise similar fingers or arms 5, arranged in pairs, which are adjustably mounted upon right and left hand threaded bolts 5', said fingers being disposed at the opposite sides of the loops 4<sup>c</sup>, and being movable towards and away from said loops and adapted to engage the opposite faces of doors of different thickness. The bolts 5 are manipulated by knurled heads 5<sup>a</sup>. The plates 4 only partially cover the webs 2<sup>a</sup>, and upon the facing ends of said webs are adjustably mounted similar recess gauges 6, which bridge the opening 2', said gauges being movable towards and from each other for regulating the breadth of the recess 3', by means of screws 6', which play in transverse slots 6<sup>a</sup>, of the gauges, the said screws being threaded into webs 2<sup>a</sup>. The gauges 3 are formed at their facing ends with cross bars or heads 3<sup>b</sup> and these bars are arranged to overlie and slide upon the gauges 6, as

shown in Figs. 1, 2, 3 and 4. One or both of the gauges 6 may be provided with a scale, as shown in Fig. 1, for determining the exact length of the recess 3'. The opposite ends of the gauges 6 are similarly slotted and the slotted portions extends through and play in longitudinal slots 6<sup>b</sup> formed in the flanges 2<sup>c</sup>.

The template B comprises a similar frame or body 7, having a relatively large medial opening 7', and end webs 7<sup>a</sup>, the said webs lying between and connecting side flanges 7<sup>b</sup>—7<sup>c</sup>, which extend beyond the webs, said webs being recessed, as the 7<sup>a</sup>, to receive longitudinally movable gauge members 8, that are held in the adjusted positions by screws 8', which are disposed in countersunk openings 9', of similar plates 9, the latter partially overlying the webs 7<sup>a</sup> and being rigidly secured thereto by screws 9<sup>a</sup>. The projecting ends of flange 7<sup>b</sup> are slotted longitudinally as at 7<sup>c</sup> (see Figs. 1 and 4), to receive bolts 10 which play in the slots 4<sup>a</sup> and 7<sup>c</sup>, for facilitating the adjustment of the template B relatively to template A and the door. The plates 4 and the rail 7<sup>b</sup> may be normally spaced by sleeves 10'. Ordinarily these sleeves are provided in different lengths, in order to suitably space and render rigid the frames A and B, when the latter are adjusted for routing knob-shaft and key openings for locks of different size. The breadth of the common knob-shaft and key slot, as 12, is regulated by a gauge member 13 that comprises an oblong sheet metal body 13', which is preferably narrower than the space between the flanges 7<sup>b</sup>—7<sup>c</sup>, for facilitating lateral movement of said body within a relatively broad range, said body being formed with a longitudinal slot 13<sup>a</sup>, through which a routing tool, as 14, may be inserted and play. The opposite ends of the gauge 13 are preferably formed with similar T-heads 13<sup>b</sup>, which are slotted, as at 13<sup>c</sup>, the said heads being adjustably mounted on the webs 7<sup>a</sup>, between the plates 9 by screws 13<sup>a</sup>, and the said heads being arranged to be moved laterally by means of slots 7<sup>c</sup>, that are formed in the flanges 7<sup>b</sup>—7<sup>c</sup>. The body 13' of the gauge 13 is preferably arranged to lie in a higher plane than the gauges 8, and the base, as 14', of the motor 14<sup>a</sup> is usually narrower than the spacing of flanges 7<sup>b</sup> and 7<sup>c</sup>, and preferably slides upon the elevated body 13', while the tool 14 performs the routing work. The gauges 8 are also preferably T-shaped, and their heads 8<sup>a</sup> are of such breadth as to effectively gauge the length of knob and key slots 12, in case the latter are located at different distances from the edge of the door, or in different positions relatively to the lock mortise, as 12', as may be understood by consulting Figs. 2 and 4.

The recess 3' shown in Figs. 1 and 3 may

be routed by a tool 15, driven by a motor 15', the motor preferably being supported by a plane base 15<sup>a</sup>, that ordinarily slides over the free edges of the flanges 2<sup>c</sup>, as shown in Fig. 3.

By adjustably connecting the templates A—B and supporting the template B solely by the template A, the routing of the recess 3' and the slot 12 may be effected by a single application of the templates to the door; and owing to the adjustable nature of said templates and their respective gauging members 3—6 and 8—13, the exact location as well as dimensions of the recess and slot for locks of any style or size may be predetermined and the several gauging members may be adjusted and set in advance of the application of the combined device to the door. By this arrangement considerable time and labor may be saved, and more rapid, accurate and reliable work may be effected, than would be the case if the templates A and B were installed separately. Furthermore, by combining the two templates as herein shown, but one set of clamps is required.

Having thus described my invention, what I claim is—

1. A template for guiding a routing tool while cutting a recess in the edge of a door, comprising a frame having an opening for the play of the tool adapted to coincide with the mouth of the lock mortise, means for clamping said frame to the door, adjustable means carried by said frame for gauging the long dimension of the recess, and adjustable means for gauging the short dimension of the recess.

2. In a template for guiding a routing tool while sinking a recess in the edge of a door and a slot in a plane parallel to said recess, comprising a frame having an opening for the play of a routing tool adapted to overlie the edge of the door, means for clamping said frame to the door, adjustable means carried by said frame for gauging the dimensions of said recess, a second open frame supported by the first frame adapted to overlie one face of the door, means for adjusting said second frame relatively to the first frame, and adjustable means carried by the second frame for varying the dimensions of said slot and the spacing of said slot from said recess.

3. The combination with similar open template frames for guiding routing tools adapted to respectively overlie the edge and one face of a door adjacent the door lock mortise, of means for adjustably connecting said frames to each other, one frame being supported by the other, the supporting frame being provided with means for clamping the combined device to the door, adjustable means carried by the frame mounted upon the edge of the door for gauging

the length and breadth of the lock front recess, and adjustable means carried by the frame which overlies the face of the door for positioning and gauging a common slot for the knob-shaft and keyway relatively to said recess.

4. A template for guiding a routing tool while cutting a recess in the edge of a door comprising a frame having an opening for the play of the tool adapted to coincide with the mouth of the lock mortise, means for clamping said frame to the door, adjustable means for gauging the long and also the short dimensions of said recess, a second frame adjustably supported by the first frame and having an opening for the play of the routing tool, adapted to overlie one face of the door at right angles to the first frame, means for adjusting parts of the second frame for varying the dimensions of a slot to receive the knob-shaft and key of the lock, and for varying the spacing of said slot from the said recess.

5. The combination with similar template member adapted respectively to overlie one edge and one face of a door adjacent the door lock mortise, and means for clamping one of said members to the door, of means carried by said member for guiding a routing tool while the latter cuts a recess in the edge of the door, and for varying the length and breadth of said recess, means carried by the second member for guiding a routing tool while the latter is cutting a slot through the door parallel to said recess, and for gauging the height and breadth of said slot, and means for adjustably connecting the second member to the first member whereby the second member may be moved longitudinally as well as transversely relatively to the first member for varying the spacing of said slot from said recess.

6. The combination with similar template frames having openings for the play of routing tools adapted to respectively overlie one edge and one face of a door adjacent the lock mortise, one of said frames adjustably supporting the other frame, of means carried by one frame for clamping the combined device to the door, means adjustably mounted

on one of the frames for gauging the cutting of a recess to receive the front of a door lock, means carried by the second frame for guiding and gauging the cutting of a slot through the door at right angles to the lock mortise and in a plane parallel to said recess for facilitating the installing of the knob-shaft and the key-guard.

7. A combined template for routing a recess for the front of a door lock and a slot for the play of the door knob shaft and the insertion of a key, comprising an open frame adapted to overlie the edge of a door adjacent the lock mortise, plates rigidly mounted at the ends of said frame, means carried by said plates for clamping said frame to the edge of the door, longitudinally movable means disposed in ways formed in the frame beneath said plates for gauging one dimension of said recess, means supported near the opposite ends of the opening in the frame for gauging another dimension of the recess, a second frame disposed in a plane at right angles to the first frame, means for adjustably securing the second frame to said plates whereby the second frame may be moved longitudinally as well as transversely relatively to the edge of the door and the first frame, T-shaped members movable longitudinally in said second frame for gauging the length of the said slot, and a member movable transversely in said second frame for positioning said slot relatively to the edge of the door.

8. A template for guiding a routing tool while cutting a slot for the play of a door-knob shaft and a key, comprising a frame adapted to overlie one side of a door, means carried by said frame for locating said frame with reference to the side of the door, comprising means for determining the location of a slot in the edge of the door, said frame having an opening for the play of a tool, alining gage members movable longitudinally in said frame for gaging the height of said slot, and a gaging member movable transversely in said frame for gaging the breadth of said slot.

In testimony whereof I affix my signature.  
RAY L. CARTER.