HINGE BUTT TEMPLATE ASSEMBLY


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ABSTRACT

A hinge butt template assembly having a plurality of template sections which are each formed with an adjustable routing opening and which are interconnected by adjustable spacer members to locate hinge butt recesses in door edges and jambs. Each template section comprises a frame defining the routing opening and a pair of hinge size plates adjustably mounted in opposed relation on the frame for selectively varying the size of the opening. A guide member fixed to one side of each frame telescopically and adjustably receives one end of an associated spacer member for spacing the routing openings. Special scales are provided for adjusting the assembly in accordance with the hinge size, door height and location of the top hinge from the door top. The template sections are interchangeable so that they may be assembled in any selected order. This invention is also directed to a special end gage feature for establishing the door top to jamb clearance as well as the spacing of the top hinge from the door top and also to a hinge butt gage which is utilized to transfer locations of preformed jamb butts to a door to be routed.

32 Claims, 20 Drawing Figures
HINGE BUTT TEMPLATE ASSEMBLY
FIELD OF INVENTION

This invention relates to template assemblies for locating hinge butt recesses to be routed in doors and jamb.

BACKGROUND

Prior adjustable hinge butt templates have been found to be unsatisfactory for various reasons. Some require the use of separate rules or measuring devices in order to set up the template assembly for routing the hinge butt recesses. Others, while providing scales to eliminate the need for separate rules or measuring devices, are relatively complex and expensive to manufacture. Furthermore, commercially available variations of template assemblies afford only a limited adjustment of the template sections in the assembly owing to the fact that the links spacing and interconnecting adjacent disposed template sections are centrally positioned along a longitudinal axis medially intersecting the template sections. As a result, relative longitudinal adjusting movement between each template section and its associated adjusting link is objectionably limited by abutment of the link with one or more parts of the template section.

Many previously proposed hinge butt template assemblies are also difficult to assemble and some do not offer the advantage of being capable of being assembled directly on the door edge. Furthermore, many prior, adjustable hinge butt assemblies are not versatile. For example, some cannot be used for custom work. Also, the hinge butt assemblies proposed prior to this invention provide no convenient and effective means whereby the spacing of preformed hinge butts in a metal door jamb can efficiently and quickly be transferred to the door edge.

SUMMARY AND OBJECTS OF INVENTION

In overcoming the foregoing disadvantages the hinge butt template assembly of this invention comprises a plurality of template sections each containing an adjustable routing aperture or opening and being interconnected by adjustable spacer channels. Each template section comprises a pair of opposed, hinge size plates that are adjustably mounted on a base or frame for varying the length of the hinge butt opening. Each template section has a channel guide mounted laterally on one side of the template frame to adjustably and telescopically receive one end of an associated spacing channel. With this structural arrangement, telescoping adjustment of the spacing channel into and out of the template section guide channel is uninhibited by the frame or parts carried by the frame. Thus the range of adjustment for varying the spacing between the template sections is not limited as it is in the prior constructions described above. Furthermore, each template channel guide is arranged so that it butts the face of a door or the edge of a jamb to properly position the template assembly on the door or the jamb.

The foregoing interconnecting spacer or adjusting channel also carries scales which cooperate with index edges of the channel guides to space the template sections in accordance with the size of the hinge butt, the spacing of the top hinge butt from the top of the door, and the height of the door.

The hinge size plates mentioned above are easily and quickly adjusted, each being adjustable by loosening a single fastening element such as a thumb nut. There is also a pin and hole arrangement that retains the hinge size plate in its adjusted position on the template frame to prevent it from being inadvertently shifted when the above-mentioned thumb nut or other fastening element is loosened. This arrangement simplifies the needed hinge size adjustment as compared with those prior constructions in which removable pins are used to adjust the size of the router opening in the template. Also these removable pins that are used in prior template constructions for adjusting the size of the routing opening are easily lost because they must be removed from the assembly to make an adjustment. In comparison, a novel locking feature is provided in this invention for retaining the hinge size plates on the template frame and for avoiding inadvertent dislodgment of the hinge size plates while at the same time permitting adjustment of the plates.

This invention also provides for a scale and indexing means on each adjustable hinge size plate and its associated template frame to make the adjustment of the hinge size plate easy and quick, as well as affording a multitude of adjusted positions to handle a wide variation of hinge widths.

This invention also provides for a novel end gage which is of simple construction and which serves to provide both a selected door top to jamb clearance and a selected spacing of the top hinge from the top. The end gage of this invention comprises a plate member having a measuring edge formed with steps so that it may be utilized in conjunction with a straight edge to provide either the standard 3/4 inch door top to jamb clearance or the standard 1/16 inch door top to jamb clearance. The end gage of this invention is also adjustably mounted on a selected one of the template sections by the same fastening element that secures the adjacent hinge size plate in place. There is also a scale and a cooperating indexing means on the gage and adjacent hinge size plate to provide a ready measure of the adjustment that determines the distance of the top hinge recess from the top of the door.

According to this invention, the template sections making up the assembly for locating the recesses for a plurality of hinges are identical and interchangeable. The interconnecting adjusting channels are also identical and interchangeable. As a result, the template sections and the interconnecting adjusting channels may be assembled in any selected order. This eliminates difficulties with prior template assemblies wherein differences in the construction of the template sections making up the assembly require a predetermined order of assembly. Furthermore, the previously mentioned end gage may be mounted on any one of the template sections in the assembly of this invention.

In the template assembly of this invention the template frames, channel guides, adjusting channels, and hinge size plates each are of one-piece construction and may be manufactured economically by stamping them from suitable plate stock. Also, assembly and adjustment of the component parts of this invention is particularly simplified by virtue of the fact that the template sections are easily and quickly properly positioned on the door edge and by virtue of the fact that the adjusting channels are quickly and easily telescoped into their channel guides.
In addition to the foregoing, the assembly of this invention provides for the ready application of accessory parts such as jamb stop pins and jamb gages. The former are used on door jars in which there is no door stop, and the latter is used to easily and quickly transfer the locations of preformed hinge butts from a door jamb to the door edge. The jamb gage comprises a straight bar-like member which is removably attached to each of the template section frames for insertion into the preformed hinge butts by positioning the assembly of template sections and interconnecting adjusting channels edgewise adjacent to the edge of the jamb. The template sections are adjusted to mate the jamb gages in the hinge butt recess and then are secured in their adjusted positions. The entire adjusted assembly is then transferred to the door edge to locate the hinge recesses on the door.

With the foregoing in mind, a major object of this invention is to provide a novel hinge butt template assembly which is efficiently organized, structurally simple, and easily assembled and adjusted as well as being relatively inexpensive to manufacture.

Another important object of this invention is to provide a novel hinge butt template assembly which is constructed to provide for a wide range of adjustments particularly for the hinge size, the spacing between hinge butt locations, and also door heights.

Another and specific object of this invention is to provide a novel hinge butt assembly having a plurality of template sections which locate recesses for a plurality of hinge doors and which are interchangeable so that they may be assembled in any order without regard as to location in the assembly.

Further objects of this invention will appear as the description proceeds in connection with the appended claims and below-described drawings.

DESCRIPTION OF DRAWINGS

FIG. 1 is a perspective view of the template assembly embodying the present invention and mounted for use on the edge of a door to be routed;

FIG. 2 is a fragmentary partially exploded view of the template assembly shown in FIG. 1;

FIG. 3 is a fragmentary plan view showing one of the template sections illustrated in FIG. 1;

FIG. 4 is a section taken substantially along lines 4—4 of FIG. 3;

FIG. 5 is a plan view of the left hand hinge size adjustment plate for the left hand template section shown in FIG. 1;

FIG. 6 is a side elevation of the hinge size plate shown in FIG. 5;

FIG. 7 is an end elevation of the hinge size plate shown in FIG. 5;

FIG. 8 is a section taken substantially along lines 8—8 of FIG. 3;

FIG. 9 is a plan view of the template frame for the left hand template section shown in FIG. 1;

FIG. 10 is a plan view of the left hand adjusting channel shown in FIG. 1;

FIG. 11 is a side elevation of the adjusting channel shown in FIG. 10;

FIG. 12 is a section taken substantially along lines 12—12 of FIG. 4;

FIG. 13 is a plan view of a 7 inch end gage for use in place of the end gage shown in FIG. 1;

FIG. 14 is a plan view of the end gage shown in FIG. 1;

FIG. 15 is a fragmentary elevation showing the template assembly of FIG. 1 mounted on a door jamb;

FIG. 16 is a fragmentary elevation showing the template assembly of this invention mounted on a door jamb in which there are no door stops;

FIG. 17 is a section taken substantially along lines 17—17 of FIG. 16;

FIG. 18 is a fragmentary elevation showing the arrangement of the template assembly of FIG. 1 together with a jamb gage construction for setting up the templates to transfer preformed jamb butts to a door to be routed; and

FIGS. 19 and 20 are sections respectively taken along lines 19—19 and 20—20 of FIG. 18.

DETAILED DESCRIPTION

Referring now to the drawings and more particularly to FIG. 1, the hinge butt template assembly embodying this invention is generally designated at 20 and comprises a plurality of templates or template sections 22, 23 and 24 together with adjustable, interconnecting channels 25 and 26 and an end gage 28. Although three template sections 22—24 are shown in this embodiment to respectively rout the upper, center and lower recesses for a three-hinge door, it will be appreciated that the number of templates or template sections may be varied and will depend upon the number of hinges to be mounted and, therefore, upon the number of recesses to be routed. An additional end gage 29, which is the same as gage 28, may be provided for a purpose to be explained later on.

As shown in FIGS. 2—4, template 22 mainly comprises a rigid metal frame or base 30, a pair of adjustable flat-sided, hinge size plates 32 and 34 for adjusting the length of a rectangular router opening or aperture 36 in frame 30, and channel guide 38. Frame 30 is advantageously fabricated in one piece from a flat-sided metal plate and is formed on opposite sides with outwardly extending, parallel, spaced apart, coextensive legs or side rails 40 and 41 that are integrally joined together by a cross portion 42. Cross portion 42 has oppositely directed flat, parallel surfaces 44 and 45 and extends perpendicularly between legs 40 and 41 so that frame 30 is provided with a U-shaped configuration in cross section. When assembly 20 is properly positioned on a door edge 48c (see FIG. 1) or on the side face of a jamb 50c (see FIG. 15), surface 44 interfitting seats against the door edge or jamb, and legs 40 and 41 extend outwardly and away from the door edge or jamb as shown.

As best shown in FIGS. 3 and 9, aperture 36 is centrally formed in cross portion 42 equidistantly between legs 40 and 41 and at equal distances from the opposite ends of frame 30. Plates 32 and 34, which are respectively disposed adjacent to the opposite ends of aperture 36, are seated on surface 45 between legs 40 and 41. In defining aperture 36, cross portion 42 is formed with longitudinally spaced apart end sections 47 and 48 which are integrally joined together by parallel web portions 49 and 50.

Plate 32, as best shown in FIGS. 5—7, is fabricated in one piece and has a body portion 54 that terminates adjacent to aperture 36 in an upturned end portion 56. End portion 56 is perpendicular to and extends outwardly from body portion 54. Body portion 54 slidably
and interfittingly seats on the end section 47 of frame 30 which extends between the left hand end of frame 30 and aperture 36. As shown, body portion 54 has a width spanning the space between legs 40 and 41 and is formed with straight, parallel side edges. Legs 40 and 41 cooperate with the side edges of body portion 54 to guide the movement of plate 32 and to confine displacement of plate 32 along a longitudinal path extending parallel to legs 40 and 41.

Legs 40 and 41 of plate 32 extends perpendicularly between legs 40 and 41 and has oppositely extending, lateral extensions or tabs 58 and 60 which respectively extend with guiding fits into opposed, elongated apertures 62 and 64. Apertures 62 and 64 are respectively formed in legs 40 and 41, and the longitudinal axes of apertures 62 and 64 are parallel with the confined path of displacement of plate 32 on frame 30. Abutment of each of the extensions 58 and 60 with the side edges of its associated aperture retains plate 32 in place between legs 40 and 41. Plate 32, therefore, cannot be dislodged inadvertently from frame 30.

As best shown in FIG. 5, the end of body portion 54 opposite from end portion 56 terminates in a longitudinally extending tab or tongue 66 which is generally interlocked by the aligned, longitudinal axes of plate 32 and frame 30. A threaded post 68 (see FIG. 2), which is fixed at one end to section 57, extends through an elongated aperture 70 which is formed in tongue 66 and body portion 54. The longitudinal axis of post 68 is normal to planes containing surfaces 44 and 45. Aperture 70 is medially intersected by the longitudinal axis of plate 32. The rectilinear movement of plate 32 on frame 30 is limited in opposite directions by abutment of post 68 with the opposed ends of aperture 70. Plate 32 is fixed in an adjusted position by a thumb nut 72 which is threaded on post 68. When nut 72 is tightened, plate 32 is securely clamped between nut and cross portion 42.

A locating pin 73 (FIG. 7) perpendicularly depending from the underside of body portion 54 is adapted to matingly fit into a selected one of a series of holes 74 (FIG. 9) which are formed in a straight longitudinal row in frame section 47. Holes 74 are equidistantly spaced apart, and a straight line passing through the center of holes 74 is parallel to legs 40 and 41. When plate 32 is shifted to a selected position, pin 73 is removably received in one of the holes 74 so that plate 32 seats on surface 45. Engagement of pin 73 in its selected hole 74 prevents inadvertent displacement of plate 32 from its adjusted position when thumb screw 72 is loosened. To adjust plate 32, the tongue end of the plate is tilted away from cross portion 42 to lift pin 73 clear of holes 74. Plate 32 is then slid along frame 30 to a selected position where pin 73 aligns with another one of the holes 74 and is then dropped into position. Engagement of extensions 58 and 60 in apertures 62 and 64 prevents inadvertent dislodgment of plate 32 from frame 30 while plate 32 is being adjusted to a new position.

As best shown in FIG. 3, plate 34 is the mirror image of plate 32, and like reference characters have been applied to designate the plate portions that are the same. Plates 32 and 34 are arranged in mirror image relation on frame 30, with plate 34 being seated on frame section 48 which extends between aperture 36 and the right hand end of frame 30. Legs 40 and 41 cooperate with the parallel, straight, body portion side edges of plate 34 to guide and confine the movement of plate 34 to a path that is parallel to the confined movement of plate 32. The extensions 58 and 60 of plate 34 are slidably received with a guiding fit in aligned, coextensive, elongated apertures 76 and 78 which are respectively formed in legs 40 and 41. The longitudinal axes of apertures 76 and 78 respectively align with the longitudinal axes of apertures 62 and 64 as best shown in FIG. 2. Extensions 58 and 60 of plate 34 cooperate with the side edges of apertures 76 and 78 to prevent inadvertent dislodgment of plate 34 from frame 30 in the same manner as described for plate 32.

A threaded post 80, which is fixed at one end to cross portion 42 extends through aperture 70 of plate 34. A thumb nut 82 threaded on post 80 secures plate 34 in an adjusted position on frame 30. The longitudinal axis of post 80 is parallel with the longitudinal axis of post 68, and a longitudinal plane medially intersecting frame 30 and plates 32 and 34 and extending parallel to legs 40 and 41 contains the longitudinal axes of posts 68 and 80. When thumb screw 82 is tightened, plate 34 is clamped against movement between nut 82 and cross portion 42. The locating pin 73 of plate 34 is received in a selected one of holes 83 which are formed in a straight row in frame section 48 and which are arranged in the same manner as described in connection with holes 74.

As shown in FIGS. 2 and 3, end portions 56 of plates 32 and 34 have opposed, flat, parallel, routing tool guide surfaces which transversely span and extend beyond aperture 36 at right angles to the straight parallel aperture side edges indicated at 86 and 87. The left and right hand end edges of aperture 36 are also parallel with each other and are perpendicular to the aperture side edges 86 and 87. In cutting a hinge recess, the movement of an unshown routing tool is guided by end portions 56 of plates 32 and 34 and one of the side edges 86 and 87 of aperture 36.

As best shown in FIG. 3, the body portion 54 of plate 32 is formed with a series of through bores 90 which are arranged in two straight, parallel, transversely extending rows indicated at 91 and 92. The bores 90 in rows 91 and 92 are staggered as shown. The body portion 56 of plate 34 is similarly provided with a series of through bores 96 which are arranged in two rows in the same manner just described for plate 32 and in mirror image relation to the bores 90 in plate 32. As will be explained in greater detail later on, jamb stop pins 94 and 98 are inserted into selected, corresponding ones of bores 90 and 96 to properly position the template assembly on a jamb in which there are no stops.

With continued reference to FIGS. 2, 3, 5, and 6, four parallel, spaced apart rigid pins 100, 101, 102, and 103 for guiding and positioning end gage 28 are fixed to the tab and body portions of plate 32, with pins 100 and 101 being arranged in one row on one side of aperture 70 and pins 102 and 103 being arranged in a second row on the opposite side of aperture 70. The two rows of pins 100-103 are parallel as shown and are symmetrically disposed on opposite sides of a plane medially intersecting aperture 70 and extending parallel to the two rows of pins. Plate 34 is similarly provided with four end gage positioning and guiding pins 104, 105, 106, and 107 which are fixed to the plate body portion and are arranged in mirror image relation to pins 100-103 when plates 32 and 34 are assembled on frame 30. Pins 104-107 are positioned on plate 34 in
the same manner described for pins 100-103. The manner in which either set of these pins is utilized to position end gage 28 will be described later on.

As shown in FIGS. 3 and 9, the two sections 47 and 48 of cross portion 42 are respectively provided with scales 110 and 111, each being in terms of hinge length and providing a range of three to six inches. Scale 110 cooperates with an indexing pointer or marker 112 on the tab portion 66 of plate 32, and scale 111 similarly cooperates with an indexing pointer or marker 114 on the tab portion 66 of plate 34 to provide for the adjustment of plates 32 and 34 to the desired hinge size without requiring the use of separate measuring devices. The spacing between holes 74 is uniform and equal to the uniform spacing between the graduations in scale 110. Likewise the spacing between holes 83 is uniform and equal to the spacing between the graduations in scale 111. As indicated at 71 in FIGS. 5 and 6, the end portions of each body portion 54 on opposite sides of the tongues 66 are turned up. This prevents wood chips from piling up on scales 110 and 111.

With reference to FIGS. 3, 4 and 8, template 22 is provided with four fastening assemblies 120, 121, 122 and 123 which are disposed at one at each corner of frame 30 for securing the template to a door edge or jamb. Assembly 120, which is at the lower right hand corner of frame 30 as viewed from FIG. 3, comprises a nail housing 126, a one-piece nail 128, a bowed leaf spring 130, and a set screw 132. Housing 126 comprises a rigid sleeve that is fixed at one end in an aperture 134 which is formed in cross portion 42. The longitudinal axis of sleeve 126 is normal to cross portion 42 as shown. Nail 128 coaxially and slidably extends through housing 126 and aperture 134. Screw 132 is threaded into a transverse bore 136 that is tapped in housing 126. Spring 130, which extends longitudinally in housing 126, is on the side of nail 128 that is diametrically opposite from screw 132. Spring 130 reacts against the internal periphery of housing 126 to resiliently bias nail 128 into firm frictional engagement with the inner periphery of housing 126 to eliminate any play due to the needed clearance between nail 128 and housing 126. Spring 130 is axially confined between two opposed axially spaced apart shoulders 140 and 141 that are formed on nail 128 at opposite ends of a reduced diametrateded section 138 of nail 128.

Screw 132 may be loosened to permit axial displacement of nail 128 in housing 126, but yet cooperates with shoulder 141 to limit the axial outward displacement of the nail to prevent nail 128 from being inadvertently dislodged from housing 126. The enlarged head of nail 128 will seat against the end face of housing 126 to limit the extent to which nail 128 may be axially driven into a door edge, jamb or other workpiece. By threading screw 132 out to a position where its inner end does not extend between shoulders 140 and 141, nail 128 may be removed from housing 126 for replacement.

Assemblies 121-123 are the same as assembly 120, like reference numerals being applied to designate like parts. The housing 126 of each of the assemblies 121-123 is fixed in an aperture formed in cross portion 42, and the nail 128 of each of the assemblies 121-123 extends coaxially through the associated cross portion aperture so that it may axially be driven into a door edge or jamb. As shown, the housings 126 of assemblies 122 and 123 are respectively disposed on opposite sides of the tab portion 66 of plate 32. Similarly, the housings 126 of assemblies 120 and 121 are respectively disposed on opposite sides of the tab portion 66 of plate 32.

As shown in FIGS. 2-4, guide 38 is of U-shaped configuration and may be fabricated in one piece from a suitable structural channel having a pair of parallel spaced apart leg portions 150 and 151 which are integrally joined together by a cross piece 152. Cross piece 152 interfittingly seats against the outwardly facing, flat surface of leg 41 and is rigidly fixed to leg 41 by any suitable means. Leg portions 150 and 151 extend laterally away from frame 30.

The construction of each of the remaining templates 23 and 24 is the same as that just described for template 22. Accordingly, like reference numerals suffixed by the letter a have been applied to designate the corresponding parts of template 23, and like reference numerals suffixed by the letter b have been applied to designate the corresponding parts of template 24. By this identical construction, templates 22-24 are readily interchangeable with each other, and it makes no difference in the use of assembly 20 or in the assembly of component parts as to the positions or order in which templates 22-24 are arranged or assembled in the assembly. Thus, each of the templates 22-24 may selectively be assembled and positioned to provide for the routing of the upper, lower or intermediate hinge recesses on either the door edge or the door jamb. These optional variations of assembling templates 22-24 are not affected by the assembly of end gage 28 because gage 28 may be assembled on any selected one of the templates 22-24. Also end gage 28 may be assembled over either plate 32 or plate 34 for a purpose to be described, in detail later on. As a result of the foregoing, assembly of the component template parts for use is significantly simplified because the workman may arbitrarily choose any one of the templates for routing the upper hinge recesses, the lower hinge recess and any intermediate hinge recesses. Wasted time in assembling templates 22-24 in an incorrect order is thereby avoided.

As shown in FIGS. 2, 4, 10 and 11, channel 25 has a U-shaped configuration in cross section and is formed in one-piece with parallel spaced apart leg portions 160 and 161 that are integrally joined together by a cross piece 162. In the assembly, one end of channel 25 is slidable and interfittingly received in guide 38, and the opposite end of channel 25 is slidable and interfittingly received in channel 38a. A thumb screw assembly 164 is provided for securing channel 25 to frame 30.

As best shown in FIG. 12, thumb screw assembly 164 comprises a thumb screw 166, an annular spacer 167, a locking sleeve 168 and a coiled spring 169. Spacer 167 is coaxially mounted with a press fit on a diametrically enlarged shank portion of screw 166 axially adjacent to the enlarged head of the screw. The end of spacer 167 remote from the head of screw 166 is formed with an internal annular stop shoulder 170. Sleeve 168 is coaxially received in this remote end of spacer 167 and has an annular, radially extending lip 172 which seats against shoulder 170 to limit axial displacement of sleeve 168 relative to spacer 167. Spring 169 peripherally surrounds a reduced diametrated shank section of screw 166 and is axially confined between lip 172 and an opposed annular shoulder 176 that is formed on the shank of screw 166 at the juncture of the above-described diametrically enlarged and re-
duced screw shank portions. Spring 169 reacts against shoulder 176 to resiliently, axially bias sleeve 168 toward the threaded end of screw 166 and to a position where lip 172 seats on shoulder 170. The threaded shank of screw 166 extends coaxially through and beyond spacer 167 and sleeve 168 as shown.

Still referring to FIG. 12, screw assembly 164 is inserted through an elongated aperture 180, which is formed in the adjusting channel cross piece 162, and also through an aperture in guide 38. The threaded end of screw 166 is threaded into an aligning tapped hole which is formed in leg 41 of frame 30. As screw 166 is being threaded into leg 41, sleeve 168 bears against cross piece 162 and is axially urged against the bias of spring 169 toward the screw thread. Thus spring 169 applies a resilient force urging the adjusting channel cross piece 162 into seating engagement with the cross portion 152 of guide 38. By tightening screw 166, channel 25 is clamped between cross portion 152 and screw assembly 164.

The opposite end of channel 25 is secured to guide 38a by a thumb screw assembly 182 which is of the same construction as thumb screw assembly 164, like reference numerals being applied to designate like parts. The screw of assembly 182 is inserted through an elongated aperture 184 in cross piece 162 and an aligning aperture in guide 38a and is threaded into a tapped hole that is formed in leg 41a of frame 30a. Each of the apertures 180 and 184 are formed with spaced apart enlarged portions at positions corresponding to standard door/jamb combinations. For these standard combinations the sleeves 168 will snap into the proper enlarged portions of aperture 180 and 184 to provide a positive positioning of the templates and adjusting channels.

As best shown in FIGS. 3 and 10, the adjusting channel leg portion 160 is provided with two scales 190 and 191 each having graduations in terms of hinge length (or width as it is frequently referred to). Scale 190 is utilized when the top or upper hinge butt recess is to be located 5 inches from the top of the door and when the lower or bottom hinge butt recess is to be located 10 inches from the bottom of the door. In this connection it will be appreciated that it is standard practice to locate the upper hinge either 5 inches or 7 inches from the top of the door. If the upper hinge is located 5 inches from the top of the door, then it is conventional practice to locate the bottom or lower hinge 10 inches from the bottom of the door, and if the top hinge is located 7 inches from the top of the door, then it is standard practice to locate the bottom hinge 11 inches from the bottom of the door.

If the top and bottom hinges are to be located 7 inches and 11 inches respectively from the top door and bottom door, then scale 191 is utilized. The graduation representing the hinge size in the selected one of scales 190 and 191 is set to align with the adjacent, right hand edge (indicated at 193 in FIG. 2) of guide 38. This edge of guide 38 therefore serves as an index marker or pointer.

At the other end of channel 25 adjacent to template 23, leg portion 160 is provided with a door length scale 194 having graduations corresponding to 6 foot, 6 foot 6 inch, 6 foot 8 inch, and 7 foot door lengths which are generally standard door lengths. The adjacent, left hand edge (indicated at 196) of guide 38a is aligned with the graduation corresponding to the selected door height. This edge, therefore, also serves as an index marker or pointer.

From the foregoing, it will be appreciated that opposite edges of each channel guide 38, 38a, and 38b are adapted to serve as index markers. In the case of the intermediate template 23, both of the edges of channel guide 38a will be utilized, and since each of the templates 22-24 are the same and interchangeable, it is clear that the length of each channel guide 38, 38a and 38b will be predetermined to provide for the proper spacing of the hinge butt recesses.

Channel 26 is the same as channel 25, like reference numbers being applied to designate like portions. As shown in FIG. 1, one end of channel 26 is rigidly secured by a thumb screw assembly 200 to leg 41a of frame 30a in the same manner described for the connection of channel 25 to leg 41a. The opposite end of channel 26 is rigidly secured by a thumb screw assembly 202 to leg 41b of frame 30b in the same manner described for the connection of channel 25 to leg 41a. Thumb screw assemblies 200 and 202 are the same as assembly 164.

From the foregoing description it will be appreciated that scales 190 and 191 are calibrated to permit the spacing between template frames 30, 30a, and 30b to be adjusted in accordance with the hinge size and the selected standard spacing of the top and bottom hinges respectively from the top and bottom door edges. Calibration of scales 190 and 191 is independent of the door length, and the door length adjustment is made by scale 191. This is made evident by the fact that the selection of either scale 190 or scale 191 is not based upon the door length.

As best shown in FIGS. 2 and 4 the cross piece 152 of each of the guides 38, 38a, and 38b is perpendicular to and extends beyond a common plane containing workpiece-engaging surfaces 44 of frames 30, 30a and 30b. The cross portions of guides 38, 38a and 38b extending beyond frames 30, 30a and 30b provide stop faces which are adapted to butt against the face of the door to laterally position the template assembly 20 on the door edge as shown in FIG. 1.

The arrangement of channel guides 38, 38a, and 38b and adjusting channels 25 and 26 is particularly advantageous in that the only limitation on the magnitude that each of the template sections 22-24 may be adjusted relative to its adjacent template is the lengths of apertures 180 and 184 in the adjusting channels. Thus, depending upon the lengths of apertures 180 and 184 each adjacent pair of template sections may be adjusted toward each other and to positions where the template frames are in very close proximity with each other. This relatively wide range of adjustment is achieved by the following structural features.

The channel guides 38, 38a, and 38b are disposed laterally on one side of the template frames 30, 30a, and 30b so that neither the frame nor any of the other parts carried by the template frame (such as the hinge size plates 32 and 34) interferes with or blocks the telescoping movement of channels 25 and 26 in their respective channel guides. In comparison with this arrangement, prior hinge butt templates, and particularly those of the type having adjusting scales, have the links, which interconnect the template sections, located centrally along a medial or longitudinal axis of the template assembly. As a result, relative movement between each template section and its interconnecting link is limited
by abutment of the link with one or more parts of the template section.

By positioning the telescoping adjusting channels and channel guides of this invention laterally on one side of the template frames, greater magnitudes of template section adjustment is provided for as compared with the prior types of template assemblies mentioned above. Within the limits provided by the adjusting channel apertures 180 and 184 adjustment of template sections 22–24 is unlimited to accommodate custom door and jamb constructions.

End gage 28, which is utilized to longitudinally position template assembly 20 on the door edge, is in this embodiment, for hinge arrangements in which the top hinge is to be located 5 inches from the top of the door. A separate, longer end gage 210 (see FIG. 13) is utilized if the top hinge is to be located 7 inches from the top of the door.

End gage 28, as shown in FIGS. 2 and 14, comprises a one-piece flat sided plate having a body or blade portion 212 and a longitudinally elongated tongue portion 214 extending from one end of body portion 212. Portion 214 is formed with a longitudinally elongated aperture 216 for receiving post 68. Portion 214 is seated on plate 32 between the two rows of pins 100–103. Pins 100–103 confine gage 28 against lateral movement or pivotal movement about the axis of post 68. When thumb nut 72 is tightened gage 28 is rigidly clamped between posts or faces of plates 32 and nut 72. The elongation of aperture 216 permits gage 28 to be longitudinally adjusted through a limited distance determined by the length of aperture 216. As shown, gage 28 is medically intersected by a plane medially and normally intersecting frame 30 and extending parallel to legs 40 and 41. A scale 218 provided on portion 214 has transverse graduations corresponding to 5 inch and 6 inch locations of the top hinge from the top of the door. As will be described in greater detail later on, nut 72 is loosened, and gage 28 is longitudinally adjusted so that the graduation in scale 218, which corresponds to the desired distance of the top hinge from the door top, aligns with pin 101. Pin 101 thus serves as an index marker or point and cooperates with scale 218 to provide for the proper positioning of gage 28 on the template. This adjustment thus provides for standard as well as customer door and jamb constructions.

Still referring to FIGS. 2 and 14, the end of body portion 212 opposite from tongue portion 214 is notched to provide a measuring edge which is generally indicated at 220 and which is utilized to allow for either ¼ inch or 1/16 inch clearance between the top of the door and the opposing top face of the jamb. As shown, the measuring edge 220 of gage 28 is symmetrically stepped to define an outwardly opening recessed region having at its base a bottom step in the form of a straight, continuous edge section 224 and two parallel, intermediate steps in the form of straight measuring edge sections 225 and 226. Edge sections 225 and 226 are aligned, are at opposite ends of edge section 224, and are contained in a common plane that is parallel to planes containing edge section 224 and the outer gage edge section indicated at 227. Edge sections 224–227 extend at right angles to a longitudinal plane normally intersecting gage 28. Edge section 224 is medially intersected by a longitudinal plane normally and medially intersecting gage 28, and edge sections 225 and 226 are disposed equidistantly on opposite sides of this plane. Edge sections 225 and 226 are furthermore disposed at a level which is one-sixteenth inch below edge 227, and edge section 224 is disposed at a level which is one-eighth inch below edge 227. The manner in which gage 28 is used will be explained later on.

As shown in FIG. 13, gage 210 is the same as gage 28 with the exception that the body portion of gage 210 is two inches longer than that of gage 28. Like reference numerals have been applied to designate corresponding portions of gage 210.

From the foregoing description it will be appreciated that the construction of templates 22–24, adjusting channels 25 and 26, and end gages 28 and 210 is relatively simple. Owing to their constructions, parts such as frames 30, 30a, and 30b, the hinge size adjusting plates (indicated at 32 and 34 in template 22), the adjusting channel guides (indicated at 38 in template 22), the adjusting channels 25 and 26, and end gages 28 and 210 each may economically be fabricated by stamping the part out from suitable metal plate or sheet stock. Stamping is particularly made possible and practical owing to the one-piece construction of each of these parts. Furthermore, assembly 20 has relatively few parts. As a result, manufacturing costs are significantly reduced as compared with many prior hinge butt template assemblies without impairing the utility and effectiveness of the template assembly. In addition, assembly, adjustment, and use of template assembly 20 is relatively simple as will now be explained.

Although adjusting channels 25 and 26 provide adjustment for door heights ranging from 6 feet to 7 feet, separate, unshown longer adjusting channels of like configuration may be provided as accessories for accommodating door heights in excess of 7 feet.

In describing the assembly and use of template assembly 20 for mortising a door and jamb face the following example will be considered: a 6 foot 8 inch long, 1½ inch thick right hand door having three 3 inch hinges 5 inches down from the door top with a clearance of one-sixteenth inch between the door top and jamb. To determine if the door is a left hand or right hand type, the door opening is faced from the side on which the hinge pins will be visible after the door is hung. If the hinge pins are on the right, the door is a right hand door, and if the hinge pins are on the left, the door is a left hand door.

To begin assembly, any one of the templates or template sections 22–24 may be selected arbitrarily for the top hinge, and in this embodiment, template 22 is selected as shown in FIG. 1. After gage 28 is mounted on template section 22, nuts 72 and 82 are loosened, and hinge size plates 32 and 34 are then adjusted to a position where their index markers 112 and 114 align with the three inch graduation lines in scales 110 and 111 respectively. The hinge size plates in the remaining templates 23 and 24 are adjusted to the 3 inch hinge size in the same manner just described for template 22. The 5 inch end gage 28, which is installed under thumb nut 72, is adjusted to a position where the scribe or graduation line through the number 5 on scale 218 aligns with the center of pin 101. Thumb nut 72 is then tightened to securely clamp end gage 28 and plate 32 in their adjusted position. Gage 28 is tightened to securely clamp hinge size plate 34 in its adjusted position. The hinge size plate thumb nuts in templates 23 and 24 are also tightened after their hinge size plates are adjusted to their desired positions.
Installation of template section 22 is accomplished by positioning template section 22 on the upper end of door edge 48c with surface 44 of frame 30 firmly seated on door edge 48c and with the depending portion of guide 38, which extends beyond frame 30 snugly butted against the face of the door as shown. The workman then lays a straight edge (indicated at 250 in FIG. 2) along the top edge of the door as shown in FIG. 2, and with channel guide 38 snug against the face of the door butts the 1/16 inch step (either edge section 225 or edge section 226) against the overhanging edge of the straight edge. The nails 128 of assemblies 123 and 121 are then driven into the door edge to securely fix template section 22 in its proper, adjusted position on the door. If it were desired to provide for a 1/16 inch clearance between the top of the door and the jamb instead of the previously mentioned 1/16 inch clearance, then the ½ inch step defined by edge section 224 would be butted against the overhanging edge of the straight edge 250.

After the template section 22 is fixed in place on the door edge in the manner described above, either one of the two adjusting channels 25 and 26 is arbitrarily selected. In the embodiment shown in FIG. 1, channel 25 is selected and is installed in the assembly by slidably telescoping it into the right-hand or lower end of channel guide 38 and is adjusted in channel guide 38 at a position where the right hand indexing edge of channel guide 38 (as viewed from FIG. 1) aligns with the 3 inch hinge width graduation line in scale 190. With adjusting channel 38 in this position, thumb screw assembly 164 is inserted and tightened to securely fix adjusting channel 25 to channel guide 38.

The next template section is selected which is in the embodiment is template 23. The hinge plate size of template 23 have already been adjusted to the 3 inch hinge size. Template section 23 is mounted on the door edge in a position where its channel guide 38a snugly seats against the door face and the frame 30a seats on the door edge. Template section 23 is then slid along the door edge to a position where the right hand or lower end of adjusting channel 25 is telescopically received in the adjacent end of channel guide 38a and is located at a position where the left hand indexing edge of channel guide 38a aligns with the 6 foot 8 inch graduation line in scale 194. Thumb screw assembly 182 is then installed and firmly tightened to securely fix template section 23 to the right hand end of adjusting channel 38 in its proper, adjusted position. The nails of assemblies 123a and 121a are then driven into the door edge to securely fix template section 23 to the door.

The adjusting channel 26 is then slidly inserted into the right hand end of channel guide 38a (as viewed from FIG. 1) and is located at a position where the right hand indexing edge of channel guide 38a aligns with the 3 inch hinge width graduation line in scale 190 on adjusting channel 26. Thumb screw assembly 200 is then installed and tightened to securely fix adjusting channel 126 to the right hand end of channel guide 38a.

Channel guide 38b at a position where the left hand indexing edge of channel guide 38b aligns with the 6 foot 8 inch graduation line in scale 194 on adjusting channel 26. Thumb screw assembly 202 is then installed and tightened to securely fix template section 24 to adjusting channel 26, and the nails of assemblies 123b and 121b are then driven into the door edge to firmly secure the template section 24 to the door edge. Prior to installing template section 24 on the door, the right hand end gage 29 may be installed on the template section 24 in its adjusted position in the same manner described for the mounting and adjustment of end gage 28 on template section 22.

With template sections 22–24 assembled on the door edge in their adjusted positions described above, the door edge is now ready for routing to form the three hinge recesses in the door edge.

Any suitable router may be utilized and is set for the correct depth of cut as determined by the thickness of the hinges being used.

Using the router, the operator then routes the hinge recess in the opening defined by the side edge 87 of aperture 36 and the opposing end portions of hinge size plates 32 and 34. Each of the three hinge recesses in the door edge are routed in this manner.

After the hinge recesses are cut in the door edge, the template assembly 20 is removed from the door by simply removing the six nails of assembly 123, 121, 123a, 121a, 123b and 121b from the door edge.

The next step is to rout out the hinge butt recess in the door jamb or door frame. If the exterior door frame or jamb is rabbed to provide a door stop indicated at 260 in FIG. 15, the outwardly facing sides of legs 40, 40a, and 40b, which are contained in a common plane, are butted snugly against stop 260, and the upper edge 227 of end gage 28 is snugly butted against the top of the door jamb (indicated at 261 in FIG. 15) or door frame. Frames 30, 30a, and 30b will snugly seat against the side face of the door jamb. With assembly 20 in this position, the nails of assemblies 122, 120, 122a, 120a, 122b, and 120b are driven into the door jamb or frame to securely fix assembly 20 in place on the jamb. The butts for the hinges are then routed in the same manner described for the door butts. The template openings locating the jamb butts and guiding the router will be edge 86 of aperture 36 and the opposing end portions 56 of plates 32 and 34 in template section 22. The same parts define the butt openings in template sections 23 and 24.

To rout the jambss in which there are no stops, jamb stop pins 94 and 98 (see FIGS. 16 and 17) are utilized. There are two jamb pins for each of the template sections 22–24. For template section 24 (see FIG. 16), pin 98 is inserted into that one of the holes 90 corresponding to the door width. Similarly, pin 94 is inserted in the corresponding one of holes 96. Unshown jamb stop pins are also inserted into corresponding ones of the jamb stop pin holes in templates 23 and 22. Each of the jamb stop pin holes is marked with a number representing its associated door thickness as best shown in FIG. 5. Thus, for the example given above, the jamb stop pins are installed in the jamb stop pin holes marked 1% inch.

In FIGS. 16 and 17 the template assembly is arranged on the jamb 265 to rout the recesses for a right-hand door similar to the previous example. As shown, the jamb stop pins 94 and 98 are butted against the right-
hand edge 263 of jamb 265, with the jamb being on the sides of pins 94 and 98 opposite from the channel guides.

As best shown in FIG. 17, each of the jamb stop pins comprises a pin member 277 which is biased by a spring to partially project from a jamb pin housing 279. This construction permits the worker to leave the jamb pins on the templates in operations not calling for the use of the jamb pins. If the ends of the pin members 277 butt against the edge of the door on the face of the jamb, they will be urged into their pin housings against the bias of the springs therein. Under such conditions, the pin member will clear the workpiece surface so as not to interfere with the positioning of the template assembly on the door edge or on a jamb having a door stop. The edge 227 of end gage 28 is butt against the top of the jamb as shown in FIG. 16. Frames 30, 30a and 30b will be seated on the jamb side face as shown. The rails of assemblies 120, 122, 120a, 122a, 120b and 122b are then driven into the jamb to hold assembly 20 in position on the jamb face while the hinge recesses are routed out in the previously described manner.

For left hand doors, end gage 29 on template section 24 is aligned flush with the right end of the door shown in FIG. 1 and template sections 22–24 are laterally positioned by butting channel guides 35, 38a, and 38b against the adjacent side face of the door. The butts are routed in the same fashion as outlined for the previously described right hand door.

To rout the butts on the door jamb having a stop for the left hand door, end gage 29 is positioned at the upper end and butt against the top of the door jamb, and assembly 20 is positioned and secured to the door jamb in the previously described manner. The butts in the door jamb are then routed in the same manner as the butts for the right hand door jamb.

Template assembly 20 may also be used for fitting a wood door to a metal jamb or the like in which the jamb butts are preformed. To accomplish this, it will be assumed, as an example, that the door is of the right hand type. Template assembly 20 is assembled using the correct number of template sections as determined by the number of hinges in the manner previously described. In addition, a jamb gage is supplied for each of the template sections used in assembly 20. In this embodiment, three template sections are used. The jamb gage for template section 22 is indicated at 267, and the jamb gage for template section 23 is indicated at 282 in FIG. 18. The jamb gage for template section 24 is not shown.

Jamb gage 267 is detachably secured by a screw 269 to frame leg 40 on the outwardly facing side thereof. Screw 269 extends through a hole formed midway between opposite ends of gage 267 and is threaded into a tapped hole 271 (FIG. 2) in leg 40. Gage 267 comprises a straight, flat-side bar that seats against the outwardly facing side of leg 40 as shown. The length of gage 267 corresponds to one preformed hinge width, and to accommodate different hinge widths, jamb gages of different lengths are furnished. The actual length of each jamb gage will be equal to its associated hinge width (say, 3 inches, for example) less a sufficient clearance to enable the gage to be inserted lengthwise into a preformed hinge butt recess such as the ones indicated at 273 in FIG. 18. Additional pins or screws 275 may extend through the opposite ends of gage 267 and through apertures 62 and 76 to assure that gage 267 is parallel to leg 40 and, consequently, with aperture edges 86 and 87. As shown in FIG. 18, hinge butts 273 are formed in the side face of a jamb 279 having a door stop 280.

A jamb gage 282 (FIG. 18) is mounted on leg 40a of frame 30a in the same manner described for gage 267. Gage 282 is the same as gage 267. Also, the unshown jamb gage for template 24 is of the same construction as gages 267 and 282 and is detachably mounted on the template frame 30b in the same manner described for gages 267 and 282.

To locate template sections 22–24 with the above described jamb gages, the jamb gages of the correct size (i.e., corresponding to the hinge widths of the preformed hinge butts) are selected and mounted on the template frames. Assembly 20 is then placed adjacent to the edge of the door jamb side face (see FIG. 18) to insert gage 267 into the mouth of the top recess 273 so that gage 267 squarely mates lengthwise in the top recess 273 and leg 40 seats against the adjacent door frame edge indicated at 284. Keeping gage 267 mated in the top recess 273, template 23 is then adjusted longitudinally along channel 25 until gage 282 mates squarely in the next center hinge butt recess 273 and the jamb-mounting leg of frame 30a seats against the door frame edge 284. Keeping gages 267 and 282 mated in their respective hinge butts, template section 24 is longitudinally adjusted along channel 26 to mate the unshown jamb gage in the bottom unshown hinge butt in a manner similar to that just described for gages 267 and 282. Templates 22–24 are now set in their proper positions, and assembly 20 may be held in abutment with the door frame edge with one hand while the thumb screw assemblies 164, 182, 200 and 202 are tightened to fix template sections 22–24 in their adjusted or set positions. The adjusted template assembly 20 is then transferred to the door edge to be routed, and end gage 28 is longitudinally adjusted with the aid of a straight edge in the manner previously described to longitudinally position assembly 20 on the door edge if the door is a right hand door. Template sections 22–24 will be laterally positioned on the door edge by abutment of guides 35, 38a, and 38b with the side face of the door as previously explained. Nails 128 are then driven into the door edge to fix assembly 20 in its adjusted position on the door and the hinge butts are routed in the same manner as heretofore described. If the door is a left hand door, end gage 29 is used to longitudinally position templates 22–24 from the right hand door edge (as viewed from FIG. 1) in the manner previously explained.

The jamb gages are each provided with uniform thickness so that they may be utilized optionally to make allowance for weatherstripping. To accomplish this, jamb gage 267 is mounted on the inwardly facing side of leg 40 and the jamb gages for template sections 23 and 24 are similarly mounted on the inwardly facing sides of their associated template frame legs. The hinge butts are then routed with the jamb gages secured in these positions.

As best shown in FIGS. 3 and 9, aperture edges 86 and 87 are formed with opposed notches 290 and 291 equidistantly between the transverse end edges of aperture 36. Notches 290 and 291 thus provide for the location of a transverse axis extending medially between the opposite ends of the aperture at right angles to edges 86 and 87.
The invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiment is therefore to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.

What is claimed and desired to be secured by Letters Patent is:

1. A hinge butt template assembly for locating hinge butt recesses to be routed in doors, door jambs and the like comprising at least a pair of templates each having an opening (a) an locating the hinge butt recesses to be routed, (b) a work-engaging surface adapted to engage the door edge or jamb face to be routed, and (c) a guide positioned along one side thereof and extending beyond said surface for lateral engagement with a side face of the door to transversely locate its associated template on the door edge, and a template spacing member telescopically received at opposite ends in the guides of said templates for adjustable interconnecting said templates in end-to-end, longitudinally spaced apart relation.

2. The hinge butt template assembly defined in claim 1 wherein each of said templates is adjustable longitudinally along said spacing member, and wherein said spacing member is provided with first and second scale means, said first scale means cooperating with an indexing edge of the guide of one of said templates for selectively positioning said one template in accordance with a preselectable hinge length, and said second scale means cooperating with an indexing edge of the guide of the other of said templates for selectively positioning the other of said templates in accordance with the door height.

3. The hinge butt template assembly defined in claim 1 wherein each of said templates comprises a frame defining said opening and having a portion laterally spaced from said opening and formed with an outwardly, side surface facing laterally away from said aperture, said guide being rigidly fixed to said portion in seating engagement with said laterally facing side surface.

4. The hinge butt template assembly defined in claim 1 wherein each of said templates comprises a frame having a channel shaped configuration defining a pair of spaced apart longitudinally extending side rail portions and a cross portion integrally joining said side rail portions, said opening being formed in said cross portion, and selectively displaceable means mounted on said frame and guided by said side rail portions for selectively adjusting the length of said opening in accordance with a preselectable hinge length, said guide comprising a member fixed to one of said rail portions in seating engagement with a laterally facing surface thereof.

5. The hinge butt template assembly defined in claim 4 wherein said templates are interchangeable for locating either an upper or a lower hinge butt for a plural hinge door, and wherein an end gage is provided for and is adjustably mountable on either one of said templates for locating the upper hinge butt a preselected distance below the top edge of the door.

6. A hinge butt mortising template for locating a hinge butt recess to be routed in doors, door jambs and the like, comprising a frame adapted to be positioned on the door edge or jamb and having a tool-guiding aperture for locating the hinge butt recess to be routed, at least one plate member adjustably mounted on said frame for selectively varying the length of the opening defined by said aperture in accordance with a preselectable hinge length, a gage carried by said frame and being longitudinally adjustable along said frame to selectively vary the location of the hinge butt recess below the top edge of the door, and a single fastening element cooperating with means on said frame for releasably fixing both said gage and said plate member in their adjusted positions.

7. The hinge butt template defined in claim 6 wherein said plate member overlies said frame and said gage member overlies said plate member.

8. The hinge butt template defined in claim 7 comprising means on said plate member for confining said gage member against lateral and pivotal movement.

9. The hinge butt template defined in claim 6 comprising coacting locating means on said frame and said plate member for releasably retaining said plate member in its adjusted position to prevent said plate member from being inadvertently shifted from its adjusted position when said fastening element is loosened to permit longitudinal adjustment of said gage.

10. A hinge butt mortising template for locating a hinge butt recess to be routed in doors, door jambs and the like comprising a frame having a pair of longitudinally extending, parallel spaced apart side guide rail portions and a cross portion extending transversely between and integrally joining said guide rail portions, said cross portion being adopted to be mounted on a door edge or jamb to be routed and having a tool-guiding aperture for locating the hinge butt to be routed, a pair of opposed, longitudinally spaced apart plate members mounted on said cross portion between said guide rail portions adjacent to opposite ends of said aperture, said plate members being guided by said rail portions for selective longitudinal displacement toward and away from each other to adjust the length of the opening defined by said aperture in accordance with a preselectable hinge size, selectively manipulable fastening means for fixing each of said plate members in an adjusted position, and coacting means on said guide rail portions and each of said plate members for preventing dislodgment of each plate member from said frame while it is being longitudinally adjusted or before said fastening means is manipulated to fix it in an adjusted position.

11. The hinge butt mortising template defined in claim 10 wherein said coacting means comprises a pair of oppositely directed, lateral extensions formed on each of said plate members and apertures formed in said guide rail portions and receiving said extensions.

12. The hinge butt mortising template defined in claim 11 wherein each of said plate members comprises a body portion seated on said cross portion and a straight tool-guide end portion delimiting said opening and extending perpendicularly from said body portion, said extensions being integral with and extending laterally from said end portion in a common plane therewith.

13. A hinge butt template assembly for locating hinge butt recesses to be routed in doors, door jambs and the like comprising at least a pair of mortising templates adapted to be mounted on a door edge or jamb, means
adjustably interconnecting said templates in longitudi
nally spaced relation, and an end gage, each of said templates comprising a frame having an aperture therein for locating a hinge butt recess to be routed, a plate member longitudinally adjustably mounted on said frame for selectively varying the length of the opening defined by said aperture, and coacting scale and indexing means on said frame and said plate member for providing a determination of the hinge length to which said plate member is selectively positioned, said gage being adjustably mounted on a preselected one of said templates for locating the template longitudinally with respect to the upper end of a door, there being first means on said gage and second means on the plate member of each of said templates, said second means cooperating with said first means when said gage is mounted on the associated template for providing a determination of the distance which the associated template opening is positioned below the top edge of the door.

14. In a hinge butt template assembly for locating hinge butt recesses to be routed in doors, door jambs, and the like, a template frame adapted to be mounted on the door edge or the jamb and having an aperture therein for locating a hinge butt recess to be routed, at least one member longitudinally adjustably mounted on said frame for selectively varying the length of the opening defined by said aperture, first coacting scale and indexing means on said frame and said member for providing a determination of the hinge length to which said member is selectively positioned, an end gage longitudinally adjustably carried by said frame for locating said opening at a selected distance from the top edge of the door, and second coacting scale and indexing means on said gage and said member for providing a determination of the distance that said opening is positioned from the top edge of the door.

15. In a hinge butt mortising template assembly for locating hinge butt recesses to be routed in doors, door jambs and the like, a template frame adapted to be mounted on the door edge or jamb and having an aperture for locating a hinge butt recess to be routed, said frame having oppositely facing surfaces, one of said surfaces being adapted to seat against the door edge or jamb face to be routed, a plate member longitudinally adjustably mounted on said frame for selectively varying the length of the opening defined by said aperture in accordance with a preselectable hinge length, said plate member being seated on the other of said surfaces, and an end gage overlying and seated on said plate member for locating said opening with respect to the upper edge of the door or the top of said jamb.

16. In a hinge butt template assembly for locating hinge butt recesses to be routed in doors, door jambs and the like, at least one template adapted to be mounted on a door edge or jamb and having an aperture therein for locating a hinge butt recess to be routed, and an end gage longitudinally adjustably mounted on said template for locating said aperture with respect to the upper edge of the door and the top of the jamb, said end gage having means providing for a selected one of a plurality of different clearances between the upper edge of the door and top of the jamb, said end gage clearance providing means comprising a plurality of steps formed in said gage at different predetermined distances from the upper end of said gage, a selected one of said steps being adapted to be aligned with the upper edge of said door for longitudinally locating said template on the back edge of the door, and said upper end of said gage being adapted to be butted against the top of the door jamb for longitudinally locating the template on the side face of the jamb.

17. The hinge butt template assembly defined in claim 16 wherein said gage comprises a plate member having an upper edge defining said upper end and being notched along said upper edge to provide stepped measuring edges defining said steps, said upper edge and said measuring edges being parallel and facing in the same direction with said measuring edges being spaced at different predetermined distances from said upper edge for selective alignment with the upper edge of the door.

18. In a hinge butt template assembly for locating hinge butt recesses to be routed in doors, door jambs and the like, a plurality of templates adapted to be mounted on the door edge or jamb and each having an aperture for locating a hinge butt recess to be routed, means adjustably interconnecting said templates in longitudinally spaced relation, and gage means carried by said templates and adapted to mate with preformed door jamb hinge butt recesses for longitudinally setting the positions of said templates relative to each other in accordance with the locations of the preformed hinge butt recesses, whereby the locations of said preformed hinge butt may be transferred to a door edge to be routed by mounting the assembly of the longitudinally set templates on the door edge.

19. The hinge butt template assembly defined in claim 18 wherein said gage means comprises an elongated member mounted on one side of and protruding laterally from each template, the length of said member being preselected in accordance with the length of the preformed hinge butt recess, each member being adapted to be received in one of the preformed recesses when the assembly of said templates is butted against the edge face of the jamb adjacent to the preformed hinge butt recesses.

20. A hinge butt template assembly for routing hinge butt recesses in doors, door jambs and the like comprising a series of at least three templates for locating top, intermediate, and bottom hinge butt recesses to be routed, and means for adjustably interconnecting said templates in longitudinally spaced, end-to-end relation
ship, each of said templates comprising a frame having an opening for locating the hinge butt recesses to be routed, and a pair of plate members adjustably mounted on said frame for selectively adjusting the length of said opening in accordance with a preselectable hinge size, said templates being interchangeable with each other whereby each of said templates may be selectively positioned to locate any one of the top, bottom, and intermediate hinge butt recesses.

21. The hinge butt template assembly defined in claim 20 comprising an end gage adapted to be mounted on any one of said templates and being attached to that one of the templates which is selected to locate the top hinge butt recess for positioning the top hinge butt locating template at a selected distance from the top edge of the door and the top of the door jamb.

22. The hinge butt template assembly defined in claim 1 wherein the guide of each template defines a channel that telescopically receives a corresponding end of said spacing member.
23. The hinge butt template assembly defined in claim 1 wherein the guides of said templates and said spacing member are provided with scale and index means for selectively adjusting the spacing between the recess-locating openings of said templates in accordance with a selected door length and a selected hinge length, each of said templates further comprising means for selectively adjusting the length of its recess-locating opening in accordance with the selected hinge length, said guide and said spacing member being laterally spaced from the recesslocating openings in said templates.

24. The hinge butt template assembly defined in claim 1 wherein each of said templates comprises a frame having spaced apart laterally facing side regions and defining said opening between said side regions, said guide being rigid with said frame only along one of said side regions, and the guides of said templates and said spacing member being laterally spaced from the recess-locating openings in said frame.

25. The hinge butt template assembly defined in claim 24 wherein each guide is formed with a channel that telescopically receives a corresponding end of said spacing member.

26. The hinge butt template assembly defined in claim 1 wherein each of said templates comprises a frame defining said opening, and wherein said guide is fixed to said frame only along one laterally facing side of said frame.

27. The hinge butt template assembly defined in claim 1 wherein the guides of said templates and said spacing member are laterally spaced from said opening.

28. A hinge butt template assembly for locating hinge butt recesses to be routed in doors and door jambs comprising at least a pair of template structures each having an opening for locating the hinge butt recesses to be routed and means for selectively adjusting the length of the opening in accordance with a selected hinge length, a spacer interconnecting said templates in end-to-end, longitudinally spaced apart relation, said templates being selectively, longitudinally displaceable along said template to vary the spacing between the recess-locating openings in said templates, first coacting scale and index means on said spacer and at least one of said pair of templates for adjusting the spacing between said openings in accordance with a selected door length, and second coacting scale and index means on said spacer and at least the other of said pair of templates and being calibrated independently of door length and in terms of hinge length for adjusting the spacing between the recess-locating openings in said templates in accordance with the selected hinge length.

29. The hinge butt template assembly defined in claim 6 comprising means for releasably retaining said plate member in its adjusted position to prevent said plate member from being inadvertently shifted from its adjusted position when said fastening element is loosened to permit longitudinal adjustment of said gage.