Feb. 26, 1963 E. L. DEARBORN 3,078,585

LAY-OUT GAGE

Filed Oct. 16, 1961

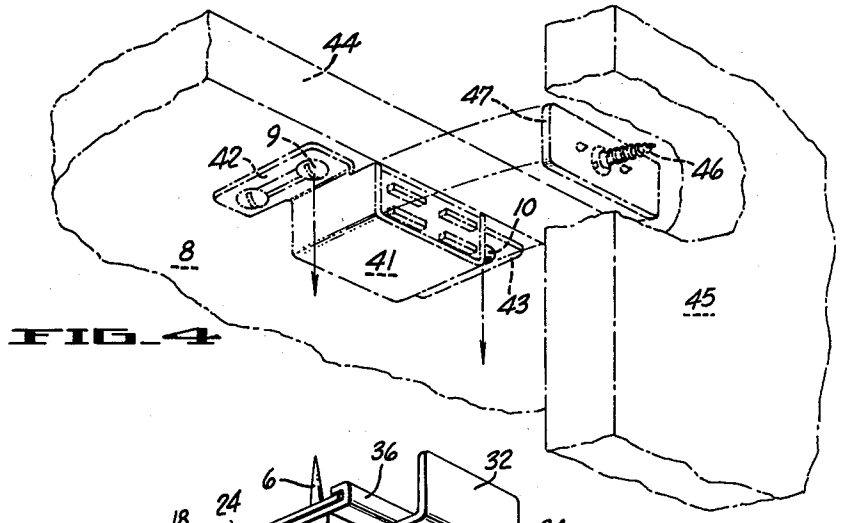

FIG_4

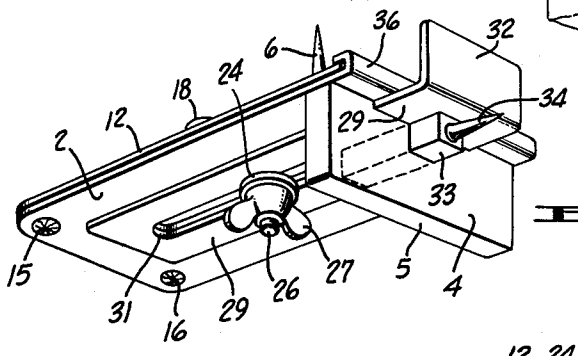

FIG_3

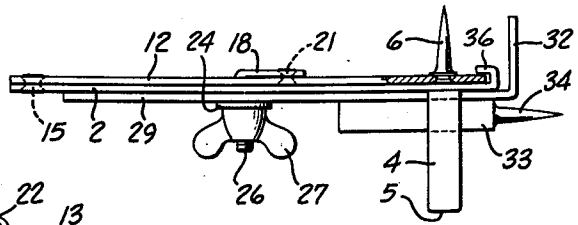

FIG_2

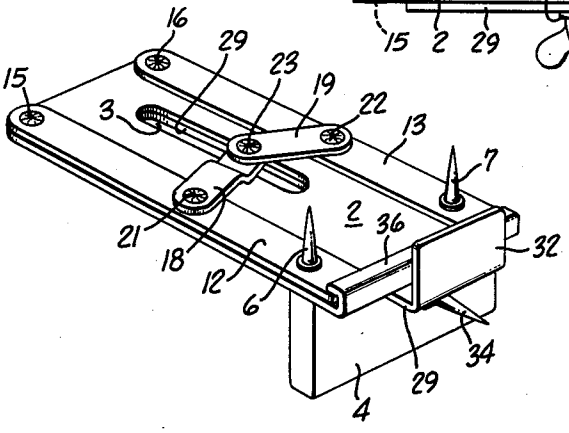

FIG_1

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LAY-OUT GAGE

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4 Claims. (Cl. 33—189)

My invention relates to adjustable gages of the type adapted for accurately marking a plurality of points at which screws must be driven to hold in operative position the members of a latch or similar fitting.

I have chosen to show an embodiment of my invention for facilitating the simultaneous location of screws for holding each of the two parts of a magnetic latch for a cabinet door. When screws are set in the main body of the latch and the armature plate in the locations indicated by the adjusted gage, the parts line up perfectly to retain the door in closed position.

The principal object of my invention is the production of a gage by which a plurality of screw location points are marked in a matter of seconds, on both a shelf and swing door of a cabinet, thus drastically reducing installation time for the latch which is to be fixed thereon.

Another object of my invention is to provide a gage for laying out the locations of holding screws, which is quickly and easily adjustable to vary the spacing between such locations as dictated by the latch components.

Another object of the invention is the provision of a gage such as described which is simple in structure and capable of production at costs which will permit its wide distribution and use as a time and cost saving tool for the interior finisher.

The invention possesses other objects, some of which with the foregoing will be brought out in the following description of the invention. I do not limit myself to the showing made by the said description and the drawings, since I may adopt variant forms of the invention within the scope of the appended claims.

Referring to the drawings:

FIG. 1 is a conventional perspective view of my gage, taken from a view point slightly above the horizontal level thereof.

FIG. 2 is a side elevation of my gage, a small portion of which is shown in vertical section.

FIG. 3 is a conventional perspective view of my gage, taken from a view point slightly below the horizontal level thereof.

FIG. 4 is a phantom perspective view of a latch mounted on the under side of a shelf. The unmounted armature or counter plate and its retaining screw are shown midway between the latch and door. Examination of this view in relation to FIG. 3 makes the use of the gage obvious.

It is common knowledge among carpenters and interior wood workers that the installation of latches on kitchen and other cabinets is time consuming, and therefore expensive. Driving in the retaining screws, once their location is plainly marked, requires less than a minute, but locating where the screws are to go by measuring and successful guessing may take five or six times that long.

My lay-out jig or gage is designed for the rapid setting of three key prick points in accordance with the spacing of screw holes in the latch and its counter plate. Screws in these three locations rigidly fix the latch and plate in position so that additional screws may be set if needed in vacant holes.

Referring now to the drawings, my latch comprises a base structure formed by a plate 2, having a longitudinally disposed slot 3 therein. At one end, the plate 2 is secured by spot welding or flat head machine screws to the block 4, which stiffens the plate and also provides an impact surface 5 to receive light taps from a hammer, when the gage is in marking position. Such taps drive the prick

points 6 and 7 into the under side of the shelf 8 (FIG. 4) thus making easy starting holes for the latch screws 9 and 10.

As shown in FIG. 2, the points 6 and 7 are riveted or otherwise secured to the bars 12 and 13 respectively, adjacent their ends and centered above the block 4. The opposite ends of the bars are pivoted to the plate 2 by pins 15 and 16, disposed in countersunk holes and upset on their opposite ends to lie flush with the adjacent surface.

Links 18 and 19 are similarly pivoted to the bars 12 and 13 respectively by pins 21 and 22. Link 18 is offset as shown in FIG. 1, so as to lie flat both on the base plate 2 and on the exposed face of the bar 12. Link 19 is flat, so that it lies flat on bar 13 and the upper surface of link 18. A pin 23 fixed rigidly in link 19 pivotally connects the two links and extends downwardly through the slot 3 and washer 24, with a threaded lower end 26 carrying a wing nut 27.

Arranged flat against the under side of the base plate 2 is a slide plate 29, FIG. 3, having a slot 31 extending lengthwise therein which registers with the slot 3. The slide plate 29 is interposed between the base plate 2 and the washer 24, so that tightening the wing nut 27 clamps the two plates 2 and 29 and the two links 18 and 19, and the two bars 12 and 13 into a rigid assembly, thus fixing the distance between the points 6 and 7 as desired. That is, at whatever spacing the bars 12 and 13 are moved to in order to match the prick points 6 and 7 to the centers of holes in the latch which will receive screws 9 and 10, FIG. 4.

The end of the slide plate 29 adjacent the points 6 and 7 extends through a centrally placed recess formed in the upper face of the block 4 as best shown in FIG. 3, and is turned up at right angles in the stop flange 32. Rigidly secured on the lower face of the slide plate and also disposed in a recess in the block is the squared shank 33 of a prick point 34 which extends a short distance beyond the stop flange 32 and in substantially the vertical plane midway between the points 6 and 7. The end of the plate 2, near the stop flange 32, is preferably folded back over the free ends of the bars 12 and 13, so as to provide a slideway 36, in which the bars are held against the base plate 2, but permitted free sliding motion along the base plate when the points 6 and 7 are adjusted.

In the phantom view of FIG. 4 I indicated a magnetic latch 41 with flanges 42 and 43 in which holes are formed to receive the fastening screws. My gage is properly set to fix the position of the latch by moving the bars 12 and 13 to register the prick points 6 and 7 with the holes nearest the edge 44 of the shelf 8. Screws in these holes will fix the latch in position so that needed remaining screws are merely driven in the empty holes.

When the points are set for the desired distance between them, but before the wing nut 27 is tightened, the slide plate 29 is pushed to position which, with the stop plate 32 against the edge 44 of the shelf, will mark the position of screws 9 and 10 the desired distance back from the edge. The wing nut is then tightened to hold the assembly of movable parts in rigid assembly.

My gage is next positioned against the bottom surface of the shelf at the location where the latch 41 is to be, the stop plate 32 firmly against the edge of the shelf. Light tapping with a hammer against the block 4, or perhaps merely a strong push or squeeze with the hands will push the points into the wood to leave plain marks for the screws. At this time and while retaining the gage in position, the door 45 is swung against the point 34 to mark the position of the holding screw 46 for the armature or counter plate 47. The gage may then be laid aside and screws driven as required.

It will of course be understood that my gage is adapted for uses other than as here explained for 5-screw installa-

tions. Sometimes my gage is used for lay-outs above, instead of below, the supporting board; and sometimes the latch is to be installed on a vertical side wall or partition. It will also be obvious that the point 34 may be ignored, and the points 6 and 7 and stop flange 32 may be adjusted and used to mark screw locations for hinges or loose pin butts in the edges of doors, or closely spaced dowel pins in furniture and cabinet work.

I claim:

1. A gage for marking a plurality of points comprising in combination:

(a) a base plate,

(b) a slide plate slidably arranged on the base plate and having a stop flange thereon extending past the end of the base plate,

(c) a prick point on the slide plate and extending beyond the stop flange in a plane parallel to the slide plate,

(d) a bar movably mounted on the main plate,

(e) a second prick point fixed on the bar for movement therewith and extending in a plane perpendicular to the base plate, and

(f) means for clamping the bar and the slide plate to the main plate.

2. A gage for marking a plurality of points comprising in combination:

(a) a base plate,

(b) a slide plate slidably arranged on the base plate and having a stop flange thereon extending past the end of the base plate,

(c) a prick point on the slide plate and extending beyond the stop flange in a plane parallel to the slide plate,

(d) a pair of like bars pivotally mounted adjacent that end of the main plate remote from the stop flange,

(e) a prick point fixed on the free end of each bar, and

(f) means for clamping the two bars and the slide plate to the main plate.

3. A gage for marking a plurality of points comprising in combination:

(a) a base plate,

(b) a slide plate slidably arranged on the base plate and having a stop flange thereon extending past the end of the base plate,

(c) a prick point on the slide plate and extending beyond the stop flange in a plane parallel to the slide plate,

(d) a pair of like bars pivotally mounted adjacent that end of the main plate remote from the stop flange,

(e) a prick point fixed on the free end of each bar,

(f) a pair of pivotally connected links pivotally connected to each bar, and

(g) means for clamping the links to each other and to the slide and main plates.

4. A gage for marking a plurality of points comprising in combination:

(a) a base plate having a longitudinally extending centrally disposed slot therein,

(b) a block rigidly fixed across the end of the base plate and having a recess in that face thereof contiguous to the base plate,

(c) a slide plate slidably arranged on the base plate and in said recess and having a stop flange thereon extending past the end of the base plate and having a slot therein in register with the base plate slot,

(d) a prick point on the slide plate extending beyond the stop flange in a plane parallel to the slide plate,

(e) a pair of like bars pivotally mounted adjacent that end of the main plate remote from the stop flange,

(f) a prick point fixed on the free end of each bar,

(g) a pair of pivotally connected links pivotally connected to each bar, and

(h) means including a threaded pin for clamping the links to each other and to the slide and main plates.

No references cited.