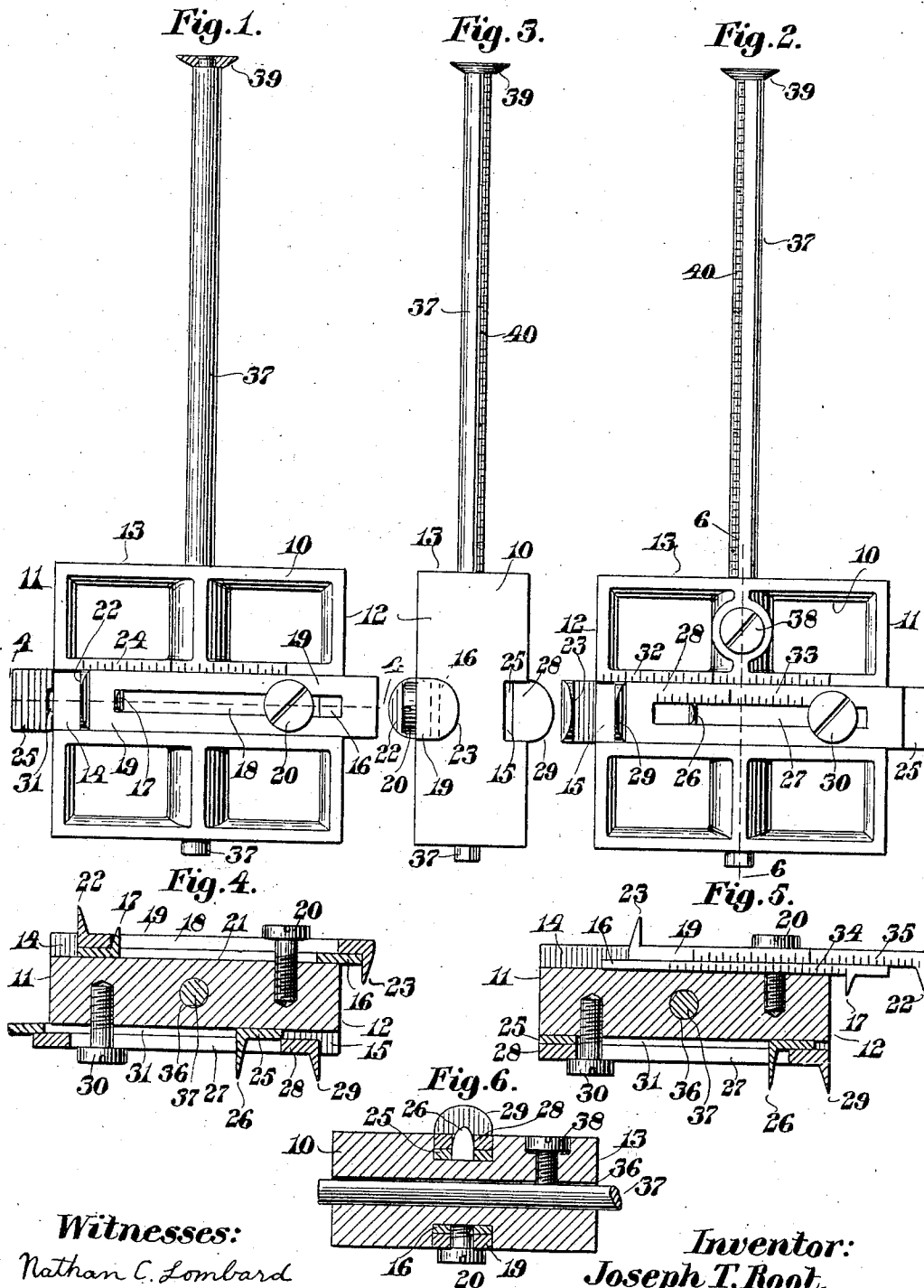


No. 846,349.

PATENTED MAR. 5, 1907.

J. T. ROOT.
DOOR GAGE.

APPLICATION FILED OCT. 29, 1906.



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UNITED STATES PATENT OFFICE.

JOSEPH T. ROOT, OF BOSTON, MASSACHUSETTS.

DOOR-GAGE.

No. 846,349.

Specification of Letters Patent.

Patented March 5, 1907.

Application filed October 29, 1906. Serial No. 340,965.

To all whom it may concern:

Be it known that I, JOSEPH T. ROOT, a subject of the King of Great Britain, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Door-Gages, of which the following is a specification.

This invention relates to marking-gages, and especially to a new article of manufacture adapted especially for use by carpenters in marking the position for hinge-butts, locks, and strikers on doors and the frames therefor.

The invention consists in a suitable framework provided with a plurality of straight edges and a plurality of adjustable members provided with knife-edges which coöperate with said straight edges to give the required markings.

It consists, further, in providing said gage with scales by which the position of the adjustable knife-edges may be readily determined.

It consists, further, in certain novel features of construction and arrangement of parts which will be readily understood by reference to the description of the drawings and to the claims to be hereinafter given.

Of the drawings, Figure 1 represents a plan of a device embodying the features of this invention. Fig. 2 represents an inverted plan of the same. Fig. 3 represents an end view of the same. Fig. 4 represents a section on line 4 4 on Fig. 1. Fig. 5 represents a similar section showing the adjustable cutting members in adjusted position, and Fig. 6 represents a section on line 6 6 on Fig. 2.

Similar characters designate like parts throughout the several figures of the drawings.

In the drawings, 10 represents a frame provided with a plurality of straight edges 11, 12, and 13. The upper and lower faces of said frame 10 are each provided with a groove 14 or 15, extending from one straight edge 11 to its opposite parallel straight edge 12. In the groove 14 is mounted an adjustable member 16, provided with a cutting edge 17, extending at right angles thereto. This cutting edge 17 extends through a slot 18 in an outer adjustable member 19. A suitable clamping-screw 20 passes through the slot 18 in the member 19 and also through a slot 21 in the member 16. The slots 18 21 extend

longitudinally of the members 19 and 16 and permit of an adjustment of these members longitudinally of each other and longitudinally of the groove 14.

The member 19 is provided at one end with an outwardly-extending cutting edge 22, while at the other end it is provided with an inwardly-extending cutting edge 23, these cutting edges 22 23 coacting, respectively, with the straight edge 11 and 12 of the frame 10. The cutting edge 22 is always a slightly greater distance from the straight edge 11 than the cutting edge 23 is from the straight edge 12, this difference being for a purpose which will be hereinafter described.

As shown in Fig. 4, the knife-edge 22 is adapted to mark the position of the inner edge of the butt of a hinge on a door-frame, while the cutting edge 23 is similarly adapted to mark the inner edge of the coacting butt of a hinge on the door itself, the straight edge 11 in the one case being held in position against the inner face of the rabbet of the door-frame and in the other case the straight edge 12 is held in contact with the inner face of the door. The difference in the positions of the knife-edge 22 relative to the straight edge 11 and the cutting edge 23 relative to the straight edge 12 is sufficient to always permit the requisite amount of clearance necessary for the proper closing of the door when the door is hung. On the frame 10 adjacent to the plate 19 is a scale 24, by which the position of the cutting edges 22 and 23 may be readily determined.

On the under side of the frame 10 in the groove 15 is similarly located an adjustable member 25, provided with a knife-edge 26, extending through a slot 27 in a superimposed adjustable member 28, provided with a cutting edge 29. The edges 26 29 are located at the same distance from the center of the frame 10, so that they are adapted to simultaneously cut parallel lines, said lines being cut parallel to the inner face of the rabbet of the door-frame when the straight edge 12 is held in position against the same. These cutters 26 and 29 are adapted to mark the position of the striker on the door-frame, and when adjusted in their proper position relative to the straight edge 12 they are held in position by means of the clamping-screw 30 passing through the slot 27 and a slot 31 in the adjustable member 25. The position of the knife-edge 29 relative to the straight edge 12 may be determined readily by means of

the scale 32 on the frame 10, adjacent to the adjustable member 28. This member 28 is similarly provided with a scale 33, by which the position of the knife-edge 26 relative to the knife-edge 29 may be readily determined.

When it is desired to mark the position of the front face of the lock on the door, the adjustable members 16 and 19 are removed from the slot 14 and are reversed, being replaced in said groove 14 in the position shown in the upper part of Fig. 5. As will be seen by reference to this figure, the cutting edge 22 extends inwardly, while the cutting edge 23 of said member extends outwardly, while the member 16 has been turned over, so that its cutting edge 17 extends inwardly. Said edge 17 in this position is at the same distance from the center line of the frame 10 as is the cutting edge 22, so that with the straight edge 12 in contact with the inner face of a door the knife-edges 17 and 22 will mark the position on the door for the front plate of the lock.

The location of the knife-edge 17 from the straight edge 12 may be readily determined by means of the scale 34 on the side of the member 16, while the position of the knife-edge 22 relative to the knife-edge 17 may be readily determined by means of the scale 35 upon the side of the member 19. When in such adjusted position, the members are clamped by means of the clamping-screw 20.

The frame 10 is provided with a cylindrical hole 36, extending therethrough at right angles to the grooves 14 and 15, and in this hole 36 is slidably mounted a rod 37, held in adjusted position therein by means of the set-screw 38. This rod is provided at its outer end with a rotary cutter 39, and the position of said cutter 39 relative to the straight edge 13 is readily determined by means of the scale 40 on said rod 37. This cutter 39 may be used to readily mark the position of any other member to be used in connection with the hanging of the door—as, for instance, the location of the knob or the keyhole to the lock. This device makes a very convenient gage, which is readily adapted for the use of carpenters or others hanging doors, as it provides for suitable cutting edges which will locate accurately the position of the various butts, locks, and strikers to be used in connection with the hanging of the door, so that the door and frame may be accurately mortised out for the reception of these members, so as to present a finished appearance when the work has been completed.

The device, while arranged primarily for use in connection with the hanging of doors, is equally well adapted for making markings for mortises of any nature in connection with the construction of any articles manufactured from wood. The rotary cutter 39 and the rod 40 provide a ready means of using the

device as an ordinary marking-gage. All the cutters have knife-edges which are adapted to cut sufficiently deep to dispense with the necessity for any further cutting except across the ends. When very heavy doors are being hung, where the cutters are not adjustable sufficiently to mark both sides of the mortise at once, the cutter 23 may be used for the inner marking, while the rotary cutter 39 may be used for the outer marking.

It is believed that from the foregoing the operation of the invention will be thoroughly understood without any further description.

Having thus described my invention, I claim—

1. In a marking-gage, the combination of a straight edge; a slotted member adjustable therein provided with a cutting knife-edge; a scale for determining the location of said cutting edge relative to said straight edge; a second slotted member provided with a cutting knife-edge extending through the slot in the other member and adjustable to and from the other cutting edge; and means extending through said slots for securing said second member in position relative to the other member.

2. In a marking-gage, the combination of a straight edge; two slotted members movable longitudinally of each other with their adjacent faces in contact and each provided with a cutting knife-edge; and means extending through said slots for retaining said cutting edges in such adjusted position.

3. In a marking-gage, the combination of a straight edge; two slotted members movable longitudinally of each other with their adjacent faces in contact and each provided with a cutting knife-edge; a scale on each of said members to determine the position of said knife-edge to said straight edge; and means extending through said slots for retaining said cutting edges in such adjusted position.

4. In a marking-gage, the combination of a straight edge; two members each provided with a cutting knife-edge with one side parallel to said straight edge said two parallel sides being the sides farthest apart; means for adjusting said members relative to each other and to said straight edge; means for retaining said cutting edges in said adjusted position; and means for determining the location of said cutting edges relative to each other and to said straight edge.

5. In a marking-gage, the combination of a frame provided with a plurality of straight edges and a groove extending from one side to the other; a pair of reversible adjustable members mounted in said groove each provided with a cutting edge to adapt said cutting edges to operate in connection with either of two straight edges; and means for securing said members in adjusted position.

6. In a marking-gage, the combination of

a frame provided with a plurality of straight edges and a groove extending from side to side; a pair of members adjustable longitudinally of said groove each of said members being provided with a slot lengthwise thereof; a cutting edge on the outer member; a cutting edge on the inner member extending through the slot in the outer member; and means for securing said members in adjusted position.

7. In a marking-gage, the combination of a frame provided with a plurality of straight edges and a groove extending from one straight edge to the other; an adjustable slotted member in said groove provided with two cutting edges extending at right angles thereto in opposite directions; an adjustable member beneath said slotted member provided with a cutting edge adapted to pass through said slot when not in use; and means for clamping said members in adjusted position.

8. In a marking-gage, the combination of a frame provided with two parallel straight edges; a member at right angles thereto provided with two knife-edged cutters extending in opposite directions and each having its side farthest removed from its cooperating straight edge parallel with said straight edge; and means for clamping said member in adjusted position.

9. In a marking-gage, the combination of a frame provided with two parallel straight

edges; a member at right angles thereto provided with two cutters extending in opposite directions the outwardly-extending cutter being located farther from its cooperating straight edge than the other is from its straight edge; and means for clamping said member in adjusted position.

10. In a marking-gage, the combination of a frame provided with two parallel straight edges and a groove extending from one straight edge to the other; a member in said groove provided with two cutters extending in opposite directions the outwardly-extending cutter being located farther from its cooperating straight edge than the other is from its straight edge; and means for clamping said member in adjusted position.

11. In a marking-gage, the combination of a frame provided with two parallel straight edges; a member at right angles thereto provided with two knife-edged cutters extending in opposite directions one at each end of said member; means for clamping said member in adjusted position; and a scale on said member to locate the position of said member.

Signed by me at Boston, Massachusetts,
this 25th day of October, 1906.

JOSEPH T. ROOT.

Witnesses:

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