A. six A
This invention relates to gauges adapted to mark on wood the locations in which mortises are to be cut for any purpose; but more particularly to mark on the edges of doors the locations for mortises to receive locks, and on door jambs the mortises for reception of the cooperating striker plates. Its object is to furnish an improved implement of this character of simple and inexpensive construction, whereby it can be supplied to users at a moderate price, to provide in such implement improved means whereby the spurs thereof may be adjusted quickly and accurately to the width of a striker plate or of the face plate of a lock, to make the same gauge available for operation on doors which swing from either the right hand or left hand side of the doorway, to locate marking spurs on the holder or body portion of the gauge where they are unobscured by such holder or body when put to use, and to provide spurs capable both of riding over and cutting, rather than following, the grain of the wood and of incising the wood to the full depth required of a recess to receive a lock face plate or a striker plate, so that the carpenter may thereupon complete the recess by chiseling out the wood between parallel incisions made by such spurs, without having to deepen the incisions by his chisel or any other tool.

The invention consists in the novel features hereinafter described by which the foregoing and related objects are accomplished, and in all substantial equivalents of the features and means so disclosed.

In the drawings—

Fig. 1 is a perspective view of one form of gauge embodying this invention;

Fig. 2 is in part a side elevation and in part a longitudinal section of this gauge;

Fig. 3 is an end elevation or plan of the gauge;

Fig. 4 is a perspective view of one of the spurs with which this gauge is equipped;

Fig. 5 is a perspective view of one of the slides or binders by which the spurs respectively are made fast;

Figs. 6 and 7 are diagrams illustrating the manner of use of the gauge to mark the edge of a door (Fig. 6) for the lock receiving mortise, and the side of a door jamb (Fig. 7) for the mortise in which the striker plate is received;

Fig. 8 is a perspective view of one end of another form of gauge containing the same general principles with additional improved features;

Fig. 9 is a longitudinal section of the gauge shown in Fig. 8;

Fig. 10 is a perspective view of one of the spurs used in the form of gauge last described;

Fig. 11 is a side elevation of one end of another form of gauge containing some of the same principles;

Fig. 12 is a section on line 12—12 of Fig. 11.

Like reference characters designate the same parts wherever they occur in all the figures.

Describing first the form of gauge shown in Figs. 1—7 inclusive, it comprises a holder or body 1, on each opposite end of which two spurs 2, 2 are mounted. This body serves as a handle and is made with a relatively narrow shank or waist portion for convenience of grasping and manipulation, and with widened ends to receive the spurs and afford sufficient range of adjust thereof.

In each end of the holder there is a slot or groove 4 extending along the wider dimension of the holder having bounding faces which extend at an inclination to one another inwardly from the end face of the holder. The interior or bottom part of the groove is preferably cylindrical for convenience of manufacture, so that it can be easily and cheaply made by drilling for instance, and has a wider diameter than the narrowest width of the space between said inclined faces. Slide blocks 5, to carry and clamp the spurs, are fitted in the cylindrical part of the groove with freedom for movement lengthwise thereof, but are larger than the narrowest part of the groove. Each spur is provided with a lug or base 6, preferably beveled to fit the tapered part of the groove, and apertured to receive a screw 7 which enters a tapped hole in the side of the adjacent slide block and meshes
with the threads of such hole. It will be readily apparent that when the screw is loosened, the spur may be shifted along the groove to any position, and may then be clamped in place by tightening up the screw, whereby the opposite bounding faces of the groove and the contiguous faces of the spur base are brought into gripping contact.

The slide blocks and the portion of the groove in which they fit may be otherwise than circular in cross section, provided they are complementally so formed as to leave shoulders, such as those shown at 8 and 9 in the drawings, to effect a gripping friction with the block 5 and the base 6 of the spur, by the action of the clamping screw 7, in order that these parts may serve as a clamp to secure the spur in place. It is also within my contemplation to provide other forms of clamping means for the same purpose, wherefore the illustrated construction is not to be construed as a limitation of the broader protection which I seek. Each spur may thus be adjusted independently of the other, whereby they may easily be set at any desired distance apart and at any desired distance from the ends of the groove.

Guide plates 10, 10 are secured to the opposite sides of the holder at one end across the ends of the groove 4 therein to close the latter, and they project from such end in the same general direction as the spurs, but to a greater extent, whereby to overlap the edges of a door or other piece in which a mortise is to be cut, and enable either plate to serve as a guiding means for the spurs in marking the door, etc. These guide plates are detachable, or at least one of them is, to permit removal of one of them when the door to be marked is thicker than the width between the two plates. They may be secured to the holder by screws 11, or by other suitable means, as later described. The ends of the groove in the other end of the holder are blocked or obstructed by suitable means which do not extend beyond the extremity of the holder, and so do not offer any obstruction to use of that end of the holder in a recessed angle, such as the angle between the side and shoulder of a doorjamb. Such closing means may be of any suitable character, an illustrative means for this purpose shown here being a screw 12 which is set into a tapped and countersunk hole in the side of the holder, with its head overlapping the groove and the outer surface of the head flush with the side of the holder.

To spurs with their holding and clamping slides are provided in each of the grooves. All of those in the tool shown in Figs. 1-7 are alike. Their outer faces 13 may be plane and parallel to one another, the bevel 14 necessary to make the cutting edge or point being altogether at the inner side of the spur; but preferably the outer faces 13 are also slightly beveled in order to ensure a close fit of the plate which is to be set in the recess afterwards chiseled out between the shoulders located and cut by the spurs. Each has an extension 15 from the end opposite to the cutting edge, the inner surface 16 of which is in the same plane with the outer face 13 of the spur proper. These extensions serve as gauging means by which the distance apart of the cutting edges may be accurately set in conformity with the width of a lock face plate or striker plate, or another mortise for which a mortise is to be prepared.

The use of the tool will be readily understood from a brief description in connection with the diagram Figures 6 and 7. In marking the location of the lock receiving mortise in a door A (Fig. 6), one of the spurs is located at a distance from one of the guide plates equal to the distance by which one edge of the face plate of the lock is to be separated from the door, the other spur being placed on the opposite side of the door. Facility in thus locating the spur is afforded by a scale 17 applied to or cut or etched in the holder adjacent to the edge of the spur receiving slot. The other spur is then set at a distance from the first one equal to the width of the lock plate. This distance can be most readily found by placing the lock plate between the spurs with one edge against the extension 15 of the spur first located, and then moving up the second spur until its extension bears on the opposite edge of the plate. Or the second spur may be located by reference to the scale. Then the tool is placed against the edge of the door, being grasped by the hand of the operator with the selected guide plate against the side of the door and the ends of the spurs against its edge face, and the tool is moved along the face of the door, while being pressed against it, at the location where the lock is to be applied. The tool may be manipulated in this way two or more times until the incisions have been made deep enough. Either guide plate may be used as the guiding element at such times, and the other plate may be removed if the thickness or width of the door is excessive.

Incisions for the mortise to receive a striker plate in the door jamb are made by the spurs at the opposite end of the tool, as shown in Fig. 7. One side of this end of the tool is placed against the shoulder C of the jamb B as the guiding or gauging means, while the spurs incise the face D. The spur nearer to this guiding face of the tool is set at the correct distance therefrom to give the required margin of clearance between the shoulder C and the door when the latter is closed, and the other spur is set at the distance therefrom equal to the width of the striker plate. These spurs may be so set with reference to the scale 17 at the adjacent end of the tool body and the space between them determined by...
the spur extensions in contact with the edges of the striker plate.

The modified form of gauge shown in Figs. 8, 9 and 10 differs from that described only in the form and arrangement of the spurs and the form of the guide plates at one end of the tool. In this case both spurs have two cutting edges and points 2a and 2b, which extend equally and symmetrically to opposite sides of the central plane of the tool body, and to a sufficient distance from the end of the body to enable either point to be used when the corresponding side of the body is turned toward the surface to be marked.

The gauging member 15c crosses a notch in the spur midway between its two points. But the contact surface of this gauge is in the same plane with the outer face of the spur, and the sharpening bevels of the incising points are on the inner side of the spur, as first described. The spur also has a base 6 and is associated with the slide block 5 and securing screw 7, as previously described. The two spurs of this type are located and used in the same way as already described.

The guide plates 10b project to either side beyond each spur point. The body is the same as that first described, and the end, not shown in Figs. 8 and 9, is like the end which is shown, except that it has no guide plates, and it carries spurs like that shown in Figs. 9 and 10.

Still another form of the invention is shown in Figs. 11 and 12 wherein the groove containing the spurs is made as a slot extending laterally through the holder from side to side near its end instead of entering from the end. The clamping means for the spurs consists of screws 18, the shanks of which pass from the narrower side of the slot into the bases of the respectively adjacent spurs and the heads of which are entirely at one side of the holder and overlap the edges of the slot. The spurs 21 are identical in principle with those previously described, having tapered bases 6a and gauging extensions 19b, and differ only in form and location. The guide plates 10b and 10c are also in principle like those previously described, but with differences in form and mode of application.

The plate 10b is permanently secured to the body, while the plate 10c is detachably connected and illustrates an alternative means of attachment. Such means comprises hooks 22 and 23 which overlap the outer and inner shoulders of the extremity of the holder, entering appropriately located grooves. These shoulders are convex in the transverse direction, as illustrated in Fig. 13, and the lugs are correspondingly curved so as to retain the plates against accidental displacement, but are sufficiently resilient to permit displacement when removal of the plate is desired. In other words, the detachable plate has resilient engaging means for securing it on the body. This attaching means for the plate is not exclusive to the form of tool last described, but is generally applicable to the forms first described, and other equivalent embodiments of the invention.

The opposite end of the tool now being described is not shown in Figs. 11 and 12, but is the exact duplicate of the end here shown, lacking only the extension guide plates 10b and 10c. It contains a slot and is equipped with spurs and spur clamps exactly like the corresponding parts shown.

An important factor of the invention is that the spurs are not mere scratching points, but are made with cutting edges extending from their points or extremities at a sharply acute angle to, and in approximately the same plane with, the line in which the spur is moved when being used for the purposes described. Thus the spur is enabled to ride over and cut across the grain of the wood whenever the grain, as usually is the case, runs otherwise than exactly parallel with the direction of such movement, instead of being deflected sidewise from the designed path of movement by an oblique grain, as a scratching point is liable to be.

The manner of operation is the same for all forms of tool here shown, and for other possible embodiments of the invention. The tools of Figs. 1 and 8 have the advantage over that of Fig. 11 in that their spurs are not obscured by the body, but are visible when in use and the depth to which they penetrate the wood can be observed. The tool shown in Figs. 8 and 9 has the further advantage that it can be used on both left hand and right hand swinging doors with the same setting of spurs in reference to the same guide plate. This is of advantage in situations where, of rooms in a building opening in the same corridor, some have doors hung at the right hand side and others hung at the left, and it is desired to have the locks gauged on all doors with reference to their outer faces, or vice versa.

What I claim and desire to secure by Letters Patent is:

1. A gauge comprising a holder or body having a groove extending lengthwise in one end, spurs having bases fitted against opposite boundaries of said groove to slide therein, and means for clamping said bases against said boundaries.

2. A tool of the character described comprising a body having a groove extending across one end, spurs formed with bases fitted slantingly to the sides of said groove and with points extending away from the body, and clamping means for effecting a gripping engagement of the opposite boundaries of the groove with the adjacent faces of the spur bases to secure the spurs in their adjusted positions.

3. A gauge comprising a body having a.
groove, two spurs having cutting edges and being provided with bases fitted slidingly to the walls of said groove, and means for clamping said bases in the groove, said spurs having gauging extensions the inner faces respectively of which are at the same distance apart as the cutting edges of the spurs, adapted to receive between them a body for determining the distance apart from one another at which the spurs are set.

4. A gauge of the character described comprising a body having an open groove at its end extending along the width dimension of the body, a slide block fitted in said groove, a spur having a base fitted to the entrance part of the groove, and releasable means for drawing said block and base toward one another, the boundary of the groove having a shoulder entering between the block and base whereby the spur may be clamped.

5. A gauge of the character described comprising a body having a guideway, spurs mounted for travel and adjustment along said guideway, means for clamping said spurs in various positions along the guideway, and gauging projections on the spurs, the inner faces of which are parallel to one another and always at the same distance apart as the cutting edges of the spurs.

6. A gauge for the purpose described comprising a body, and spurs mounted at one end of the body between the boundaries of the end face thereof with their points projecting longitudinally beyond such end and laterally beyond the adjacent side face of the body, so that said points are unobscured by the body when being used.

7. A gauging tool of the character set forth comprising a body having a relatively narrow shank or waist portion and widened ends, each of said ends having a guideway extending along the wider dimension thereof, combined with spurs fitted to slide independently of one another in said guideways, and clamping means for securing the spurs in frictional gripping engagement with the boundaries of the guideways.

8. A gauging tool of the character set forth comprising a body having greater length than width and greater width than thickness, said body having at each end a groove extending along the width dimension thereof and for said spur bases inclined to one another, two spurs having bases fitted in each of said grooves and adapted to be adjusted slidingly along the grooves toward and away from one another, means for effecting a gripping contact between the sides of each groove and the contiguous sides of the spur bases therein, the intermediate part of the body between its ends being narrowed to furnish a handle portion whereby the body may be grasped by the user with either end projecting from the grasping digits for convenient manipulation in incising a structure to be marked by means of said spurs.

9. A gauging tool of the character described comprising a body having a handle portion adapted to be grasped in the hand of the user and a widened end portion of which the width is greater than its thickness, said end portion having a groove extending in the direction of its wider dimension, spurs provided with bases to engage the opposite boundaries of said groove, means for forcing the sides of said bases and contiguous boundaries of the grooves into gripping contact with one another whereby to secure the spurs in adjusted position.

10. A gauging tool as set forth in claim 8, in which a guide plate is secured to the side of one end of the body in order to overlap the side of the door against the end face of which the spurs at that end of the holder are placed in marking the location for a lock, the other end of the body being adapted for use on the jamb of a door in lateral contact with the stop shoulder of such jamb in locating the mortise for receiving a striker plate for the door lock.

11. A spur for use as the cutting element of a gauge of the character described comprising a base, two cutting points in a plane substantially perpendicular to the base and divergently inclined to one another at the same side of the base, said spur having a notch between said points and a gauging extension crossing said notch, the inner face of which extension is in substantially the same plane as the cutting edges of the spur.

In testimony whereof I have affixed my signature.

FREDERICK S. RAY.