(No Model.)

W. H. GUTZMAN.

HINGE SINKER.

No. 453,045. Patented May 26, 1891.

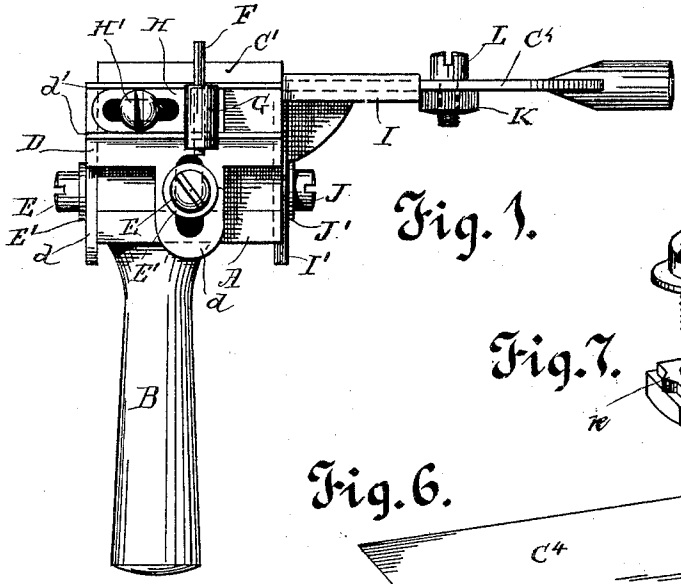

Fig. 1.

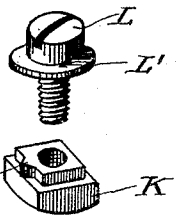

Fig. 7.

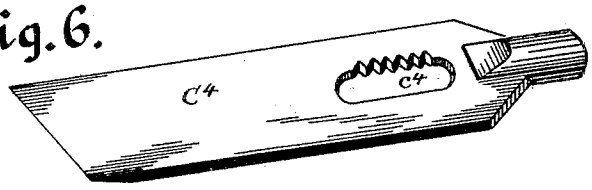

Fig. 6.

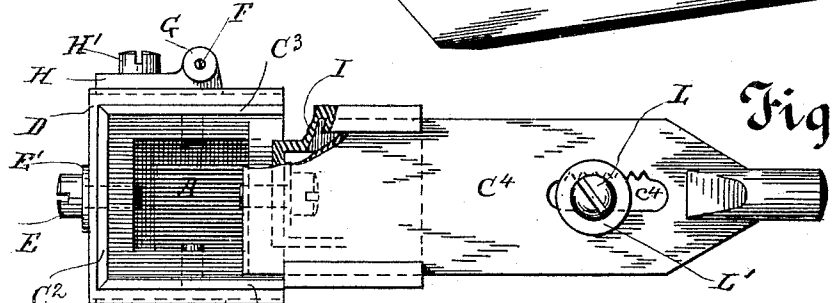

Fig. 2.

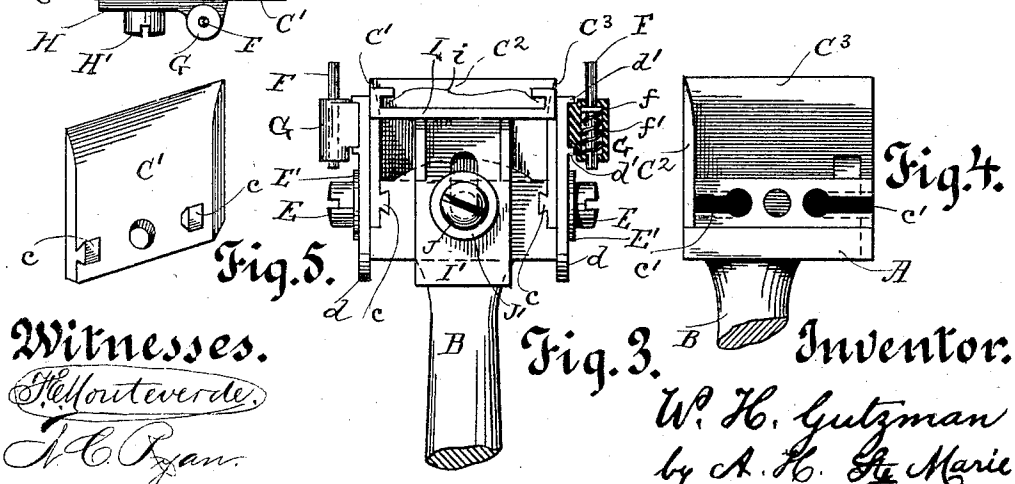

Fig. 3.

Fig. 5.

Fig. 4.

Witnesses.

H. Montevercle.

A. C. Ryan.

Inventor.

W. H. Gutzman

by A. H. Ste Marie

his atty

UNITED STATES PATENT OFFICE.

WILLIAM H. GUTZMAN, OF BERKELEY, CALIFORNIA.

HINGE-SINKER.

SPECIFICATION forming part of Letters Patent No. 453,045, dated May 26, 1891.

Application filed December 1, 1890. Serial No. 373,231. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. GUTZMAN, a citizen of the United States, residing at Berkeley, in the county of Alameda and State of California, have invented a new and useful Hinge-Sinker, of which the following is a specification.

My invention has reference to a certain tool for cutting out recesses for the reception of hinges, and its main object is to enable carpenters and joiners of ordinary skill to hang a door readily, and thus facilitate the performance of what is considered by some one of the most difficult things in the builder's art.

The invention consists in the improved construction and combination of parts, as hereinafter more fully set forth.

Referring to the accompanying drawings, which form part of this specification, and in which similar letters of reference indicate corresponding parts in all the views, Figure 1 is a side elevation of my improved tool. Fig. 2 is a partly-broken bottom view of the same, looking from the top of Fig. 1. Fig. 3 is a partly-broken front elevation, looking from the right of Fig. 1. Fig. 4 is a partly-broken elevation having one of the side chisels removed. Fig. 5 is a detail view in perspective of one of the three chisels above referred to. Fig. 6 is a perspective view of the fourth chisel, and Fig. 7 is a detail perspective view of a nut and screw adapted to check the longitudinal movement of this fourth chisel.

Let A represent the stock of the tool, and B the handle of the same. These two pieces may be cast in one piece or separate, as preferred.

To the sides of the stock are firmly secured three chisels C' C^2 C^3. These chisels are provided with dovetail studs *c*, engaging corresponding mortises *c'* in the stock; or the reverse construction may be employed—that is to say, the stock may be provided with the dovetail studs, while the chisels may be provided with the mortises, either arrangement serving the purpose equally as well. These chisels are suitably beveled at their meeting edges to form a miter-joint, and present, when put together, a continuous three-sided cutting-edge, the lines of which meet at a right angle.

D represents a three-sided open thimble fitted over the three chisels just described, and adapted to be slid above or below their cutting-edge, according as the tool is or is not in use, it being used as a gage in the former case and as a sheath in the latter. It is held in place when once set by means of screws E, passing through slotted lugs *d*, projecting from its sides and driven into the stock A. By preference washers E' are used with the screws E.

F F are pins fitted in tubes G G, formed on the inner end of slotted slides H H, movable between ribs *d'* on and across the thimble D. The slides H are secured in place by screws H' passing through their slotted end and engaging the sides of the thimble, and the pins F are made to project beyond the cutting-edge of the chisels by an enlargement or collar *f*, seated upon a spiral spring *f'*, both confined within the tubes G, between inwardly-projecting flanges at each end of the latter, as may be seen by reference to Fig. 3. Thus arranged the pins F fulfill a twofold object. In the first place they act as gages to fix the width of the recesses to be cut out for the hinge, and in the second place they prevent the inner corner of the chisels from leaving marks upon underlying moldings, sometimes to be met at the edge of jamb-linings, by counteracting to some extent the blow imparted to the stock-handle.

From the open space left between the three chisels projects out a plate I, braced to and held up by a slotted ear I', projecting at a right angle from the end thereof and engaged by a screw J, driven into the face of the stock A. A washer J' is inserted between the screw J and the ear I'; but it may be dispensed with. The edges of the plate I are doubled over, as better shown at Fig. 3, so as to form grooves *i i*, into and through which may be slid the fourth chisel C^4. The chisel C^4 is prevented from reaching too far into the empty space comprised between the three other chisels, and therefore becoming blunt in hitting against the chisel C^2 or against the thimble at the back thereof, through the medium of a nut K, rabbeted so as to fit an indented slot c^4 in the farther end of the chisel-blade and engaged by the screw L, passing through the same slot from the opposite side.

A dog *k*, projecting from the rabbeted edge of the nut, engages one of the notches in the margin of the slot and keeps the nut and screw from moving therealong when coming into contact with the outer end of the plate I. By moving the dog from one notch to the other one is enabled to measure the stroke of the chisel C^4 to suit circumstances.

A washer L′ may be interposed between the face of the chisel and the head of the screw L, if found convenient.

The operation is simple and as follows: The dimensions of the leaves composing the hinge having been ascertained, the thimble D is adjusted so as to leave the cutting-edge of the chisels C′, C^2, and C^3 uncovered and projecting out a distance corresponding to the depth of the recesses to be cut away. The slides H are moved one way or the other, according to the width of the cuts wanted, just far enough for the pins F to clear the edge of the door or of the jamb-lining and rest upon an underlying molding, if need be, as already stated, and the plate I is set so that the cutting-edge of the chisel driven along its grooves will coincide with the cutting-edges of the three others. The places where the recesses have to be cut away having been marked out, the tool is laid over the outlines of one of these in such a position that the chisel C^2 will fall into the longest or longitudinal line, and so much of the chisels C′ and C^3 as corresponds to the width of the hinge-leaf to be set in place will follow the transversal marks. A couple of smart blows are then imparted to the handle B with a mallet, so that the border of the thimble D will be brought to bear on the surface of the wood cut into, and the three chisels will penetrate to the depth required on the three sides corresponding with those of the hinge-leaf. This being done, the fourth chisel is inserted into the grooves *i* of the plate I and abutted against the edge of the door or casing to be formed with a recess. Another blow or two of the mallet upon the shank of the chisel C^4 readily forces it home and takes up the strip of wood embraced by the three other chisels, leaving a clean-cut three-sided recess. Thus recesses for a hinge may be cut out at one operation, if desired, by employing tools corresponding in dimensions to the cuts required. A small tool, however, may be used to cut out recesses of any size by marking several lines and doing the work in two or more operations, as will be readily understood by any mechanic.

Without confining myself to the precise details of construction and particular forms herein shown and described, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a hinge-sinker, the combination, with a stock provided with a series of dovetail mortises, of chisels angularly placed to the stock and presenting a continuous cutting-edge, said chisels provided with a series of dovetail studs engaging the corresponding mortises of the stock, whereby the chisels are held in proper position, substantially as set forth.

2. In a hinge-sinker, the combination of a stock, a series of chisels, and a three-sided open thimble adapted to be slid above or below the cutting-edges of the chisels and formed or provided with depending slotted lugs to receive screws which enter the stock, substantially as set forth.

3. A hinge-sinker comprising a series of three chisels set up and meeting at right angles, adjustable slides outside of the two opposite chisels, tubes at one end of said slides, pins fitted in said tubes, and springs acting upon said pins, substantially as and for the purpose set forth.

4. A hinge-sinker comprising a plate, a chisel adapted to be driven therealong, said chisel provided with an indented slot, a rabbeted nut fitted in said slot, a dog on the rabbeted edge of said nut engaging one of the notches in the margin of said slot, and a screw to keep said dog in a predetermined position, substantially as and for the purpose set forth.

5. A hinge-sinker comprising a stock, a series of mitered chisels on three sides thereof, an adjustable three-sided open thimble thereover, slides adjustably secured to opposite sides of said thimble, spring-actuated pins projecting from said slides, a plate opposite the empty space comprised between said chisels, a separate chisel adapted to be driven along said plate into said space, and means to check the movement of said separate chisel, substantially as set forth.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

WILLIAM H. GUTZMAN.

In presence of—
CHAS. T. STANLEY,
A. H. STE MARIE.