

H. McLOUGHLIN.
GAIN CUTTER.
APPLICATION FILED MAR. 4, 1916.

Patented May 15, 1917.
2 SHEETS—SHEET 1.

1,225,836.

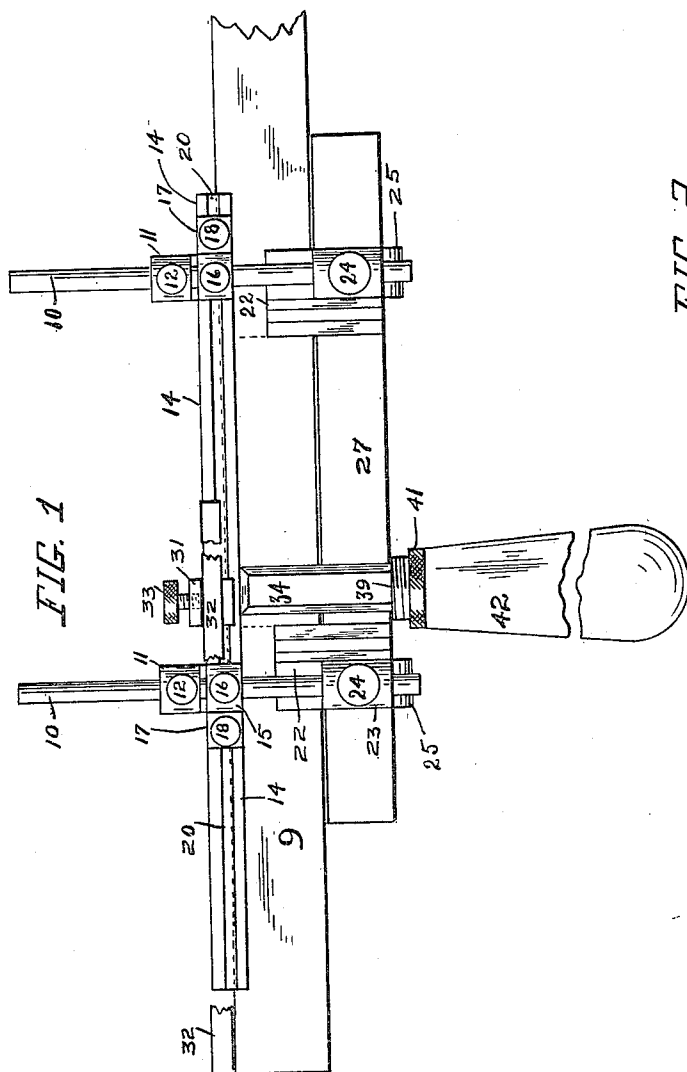
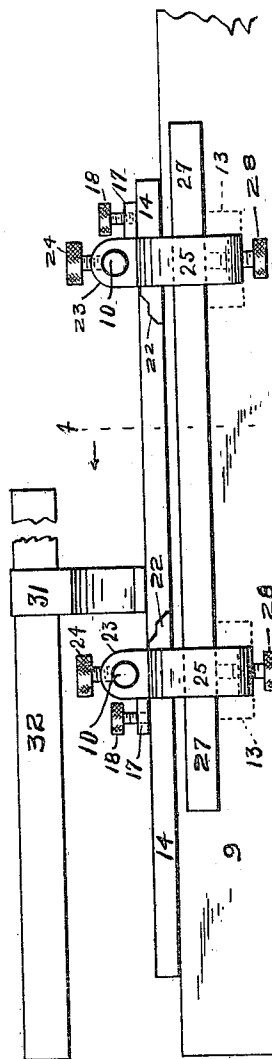


FIG. 2



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FIG. 8

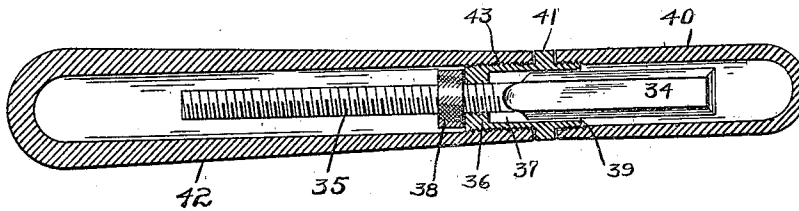
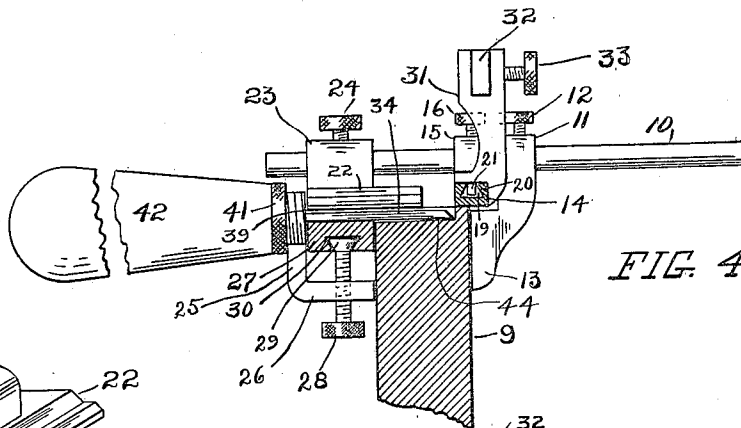


FIG. 4

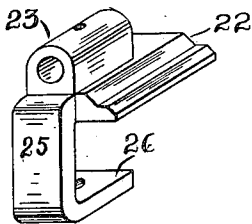


FIG. 7

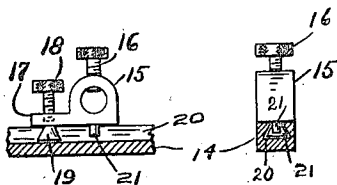


FIG. 5 FIG. 6

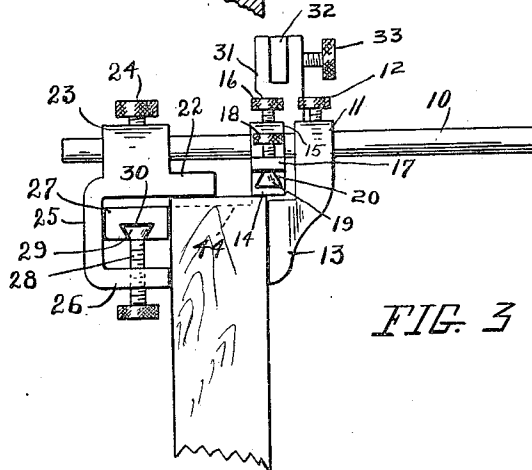


FIG. 3

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UNITED STATES PATENT OFFICE.

HENRY McLOUGHLIN, OF SIOUX CITY, IOWA.

GAIN-CUTTER.

1,225,836.

Specification of Letters Patent.

Patented May 15, 1917.

Application filed March 4, 1916. Serial No. 82,111.

To all whom it may concern:

Be it known that I, HENRY McLOUGHLIN, a citizen of the United States, and a resident of Sioux City, in the county of Woodbury and State of Iowa, have invented certain new and useful Improvements in Gain-Cutters, of which the following is a specification.

The present invention relates to means for cutting gains.

The invention has for its primary object the production of an improved tool for locating and cutting gains in doors, window-sash, and casings, to receive hinges, flush-plates and the like.

A further object of the invention resides in a tool of this sort which is readily adjustable to locate and gage the length, width and depth of gains to be cut.

A still further object of the invention is the production of an improved tool of this class, inexpensive in construction and highly efficient in operation.

With the above and other objects in view, the invention, consisting in the construction, combination and novel arrangement of parts, will be fully understood from the following description, reference being had to the accompanying drawings, which form a part of this application, and in which like characters of reference indicate corresponding parts throughout the several views, of which,—

Figure 1 is a plan of a tool constructed in accordance with the invention, and attached to the edge of a door, parts being cut away; Fig. 2 is a front elevation of the same, the cutting tool being omitted; Fig. 3 is a side elevation of the same; Fig. 4 is a vertical section, taken on the line 4, of Fig. 2; Figs. 5 and 6 are, respectively, front and side elevations of one of the rear-guide-supports, the rear-guide being shown in section; Fig. 7 is a perspective of one of the front brackets; and Fig. 8 is a longitudinal section of the chisel.

Although I have illustrated and hereinafter described the preferred form of the invention, I would not be understood as being limited to the specific structure chosen for illustration, for various alterations in the details of construction and arrangement of parts, may be made without departing

from the spirit and scope of the invention, as defined in the appended claims.

Referring, now, to the illustrations 9 represents a door, having the tool secured thereto to cut a gain in the edge thereof.

The tool comprises parallel rods, 10, disposed in mutually spaced relation and transversely of the door.

Upon the rods are slidably mounted collars, 11, releasably secured thereto by set-screws, 12, threaded into the collars and into engagement with the rod.

The said collars are formed with forwardly offset depending arms, 13, which embrace the rear side of the door to prevent forward displacement of the tool.

Disposed longitudinally of and resting upon the edge of the door, is a straight-edge, or chisel-stop, 14, so secured to the rods, 10, as to permit both longitudinal and lateral movement of the rods, the rods being inclosed by sliding collars, 15, releasably secured thereto by set-screws, 16. The said collars are formed with flanges, 17, which rest upon the chisel-stop, and are releasably secured thereto by screws, 18, threaded through the flanges and provided with conical ends, 19, engaged within a longitudinal dove-tail groove, 20, in the chisel-stop. On the said collars are studs, 21, which enter the groove and serve to maintain the collars in proper position, with respect to the chisel-stop.

The forward ends of the rods are supported by blocks, 22, which rest upon the edge of the door, and are formed with collars, 23, slidably mounted on the rods, and releasably secured thereto by set-screws, 24.

From the forward ends of the blocks, 22, depend brackets, 25, having rearwardly-disposed arms, 26, which engage the face of the door to prevent rearward displacement of the device; and serve as supports for a straight-edge, 27, disposed longitudinally of the door and serving to regulate the space between the blocks, 22; and the depth of the gain, the said straight-edge being adjustably secured to said arms, for both vertical and longitudinal movement, by screws, 28, threaded through said arms and provided with conical heads, 29, freely inclosed by a longitudinal dove-tail groove, 30, in the straight-edge.

The chisel-stop, 14, carries an upright, 31, bifurcated to receive a measuring strip, 32, adjustably retained therein by a set-screw, 33. The said measuring strip extends longitudinally of the door, and by its use the operator is enabled to instantly mount the tool a given distance from the end of the door.

It is now evident that the jaws, 13 and 26, when properly adjusted, prevent horizontal movement of the device; and that the guide-blocks, 22, and stop, 14, firmly support the tool upon the door.

In applying the device, the guide blocks, 22, are so adjusted that the space between them will equal the length of the gain to be cut; and so positioned with respect to the end of the door, that the gain will be properly positioned. The rear stop, 14, is then properly positioned to define the width of the gain; and the gage, 27, so adjusted as to regulate the depth of the gain.

The cutting tool comprises a chisel provided with a stop adapted to be so adjusted, relative to the blade, as to engage the supporting gage, at the same time the blade engages the rear stop, 14.

In the embodiment chosen for illustration, the cutting tool, comprises a blade, 34, having a chisel point and sharp side edges.

The blade is formed with an elongated shank, 35, threaded into the end of a cylinder, 36, having a counter bore, 37, to admit the blade. A lock-nut, 38, on the shank, normally prevents relative rotation between the cylinder and shank. The end of the cylinder serves as the stop, 39, and is threaded to receive a cover, 40, to inclose and protect the blade, when not in use.

The intermediate portion of the cylinder is provided with a knurled boss, 41, to afford a convenient grip for adjusting the tool; and shoulders against which the cover and a handle, 42, abut, the latter being hollow to inclose the shank, 35, and threaded onto the cylinder, as at 43.

In cutting the gain, the operator first cuts kerfs in the door, or other body in which the gain is to be cut, adjacent the rear stop and guides, 22 and then chisels away the surface within the kerfs, until the chisel rests upon the gage, 27. By moving the blade laterally the bottom of the gain may then be pared smooth. Obviously, the blade of the chisel should be moved in parallelism with the surface in which the gain is being cut.

Figs. 3 and 4 show the completed gain, as at 44.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States, is,—

1. In a device of the class described, a chisel gage adapted to be secured to a body

of stock and including two parallel rods, 65 a pair of jaws slidably secured on each of the rods and engageable with opposite sides of the stock, side chisel-guides, a rear chisel-guide movable transversely and interconnecting said rods, said rods being movable toward and from each other, and a front chisel-guide adapted to rest adjacent the side of the stock and movable vertically to regulate the depth of cutting by the chisel.

2. A device of the class described comprising a chisel movable laterally and longitudinally to cut gains in a body of stock, two pairs of interconnected jaws engageable with opposite sides of the body of stock, each pair being movable toward and from the other, and each jaw being movable toward and from its mate, guides carried by the jaws to limit lateral movement of the chisel, a chisel-guide disposed at right-angles to said first guides and movable transversely, a gage adjustable at the side of the stock to regulate the depth of the gains, and a stop carried by the chisel, said stop being adjustable longitudinally of the chisel and engageable with the gage to limit the longitudinal movement of the chisel.

3. A device of the class described comprising a chisel movable laterally and longitudinally to cut gains in a body of stock, a gage adapted to be secured to the stock and including two parallel rods, a pair of jaws slidably secured on each of the rods and engageable with opposite sides of the stock, side chisel-guides, a rear chisel-guide movable transversely and interconnecting said rods, said rods being movable toward and from each other and a front chisel guide adapted to rest adjacent the side of the stock, and movable vertically to regulate the depth of the gains, and a stop on the chisel, engageable with the latter guide to limit the longitudinal movement of the chisel.

4. A device of the class described comprising a chisel movable laterally and longitudinally to cut gains in a body of stock, a chisel gage adapted to be removably secured to the stock and including two parallel rods, front and rear jaws slidably mounted on the rods to engage opposite sides of the stock, side chisel guides carried by the front jaws and adapted to rest upon the stock, a rear chisel guide adapted to rest upon the stock and slidably secured to the rods to move forwardly and rearwardly, and a front chisel guide carried by the front jaws and movable vertically adjacent the side of the stock to regulate the depth of the gains, said rods being movable toward and from each other, and a longitudinally adjustable stop on the chisel to limit the movement of the chisel.

5. A device of the class described comprising means for cutting gains in a body of stock, and a gage adapted to be remov-

ably secured to the stock and including two
parallel rods, front and rear jaws slidably
mounted on the rods to engage opposite
sides of the stock, side guides for the cutting
5 means carried by the rods and adapted to
rest upon the stock, a rear guide for the
cutting means adapted to rest upon the stock
and slidably secured to the rods to move
forwardly and rearwardly, and a front

guide for the cutting means carried by the 10
front jaws and movable vertically adjacent
the side of the stock to regulate the depth
of the gains, said rods being movable to-
ward and from each other.

In testimony whereof I have hereunto set 15
my hand.

HENRY McLOUGHLIN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."