(No Model.)

W. H. PARRY.

GROOVE CUTTING TOOL.

No. 383,589. Patented May 29, 1888.

Fig. 1

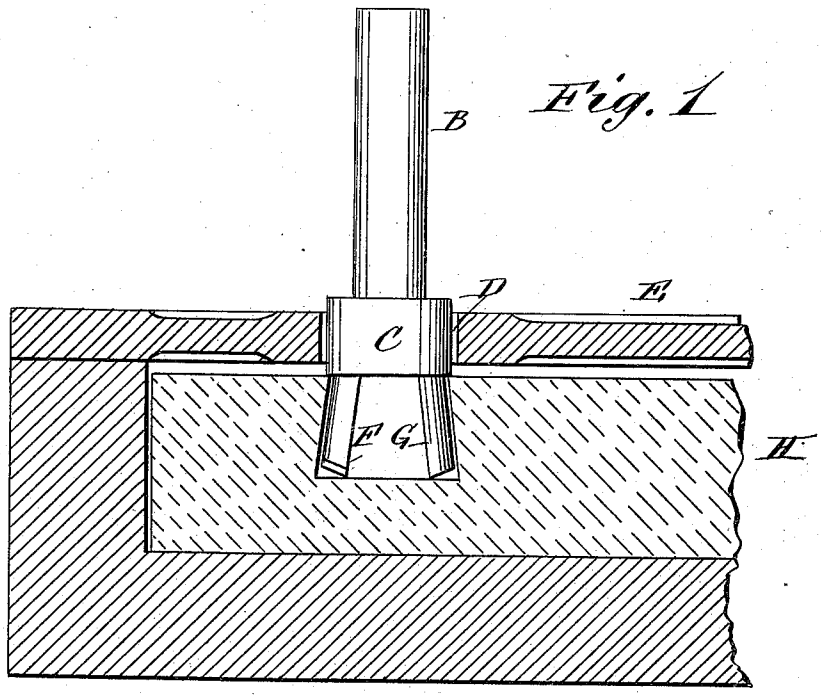


Fig. 2

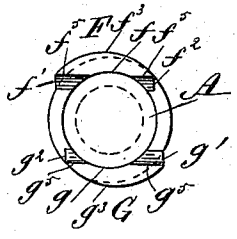


Fig. 4

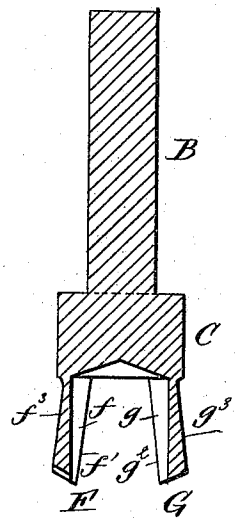


Fig. 5

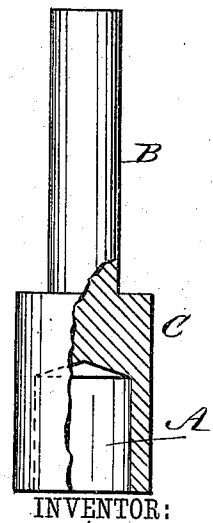
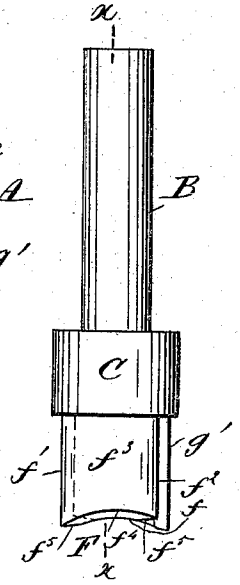


Fig. 3



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WILLIAM H. PARRY, OF NEW YORK, N. Y.

GROOVE-CUTTING TOOL.

SPECIFICATION forming part of Letters Patent No. 383,589, dated May 29, 1888.

Application filed February 10, 1888. Serial No. 263,556. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. PARRY, of the city, county, and State of New York, have invented a new and useful Improvement in Groove-Cutting Tools, of which the following is a full, clear, and exact description.

This invention relates to an improvement in groove-cutting tools particularly adapted for use on a routing-machine in connection with a templet, in gaining or dovetailing stair-stringers for reception of the treads and risers, and the object of the improvement is to secure greater strength, simplicity, and efficiency than have been heretofore generally attained.

The invention consists of a groove-cutting tool constructed substantially as hereinafter fully described, and distinctly claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents, in side view, a groove-cutting tool formed according to my improvement and in section, a part of a stringer being gained thereby, a bed sustaining the stringer, and a templet for guiding the tool. Fig. 2 is a side view of the said tool taken at right angles to that represented in Fig. 1. Fig. 3 is an inverted plan view of the tool. Fig. 4 is a longitudinal sectional view of the tool on the line $x\,x$, Fig. 2. Fig. 5 is a side view, partly in section, of the blank from which the tool is cut.

In carrying my invention into effect a short solid round bar of steel is turned off at one end to form a shank, B, adapted to the chuck of a routing-machine, and in the opposite end a hole, A, is bored lengthwise to a depth equal to about half the length of the unturned portion of the bar, so as to form a blank substantially as that represented in Fig. 5. The cutters F and G are then formed, by milling, from the tubular shell surrounding the bore A in such a manner as to project from the under side of the solid cylindrical head C, which is formed by the unbored and unturned portion of the bar and is adapted to travel while revolving in the guide-slot D of a templet, E, over the stringer H, at diametrically-opposite points, and to form approximately cylindrical segments, the concave inner faces, f and g, of which directly face each other, and the parallel side edges, f' f^2 and g' g^2, of which are sharpened. The convex outer faces, f^3 and g^3, are cut eccentrically from the diagonally-opposite sharpened edges f' and g' of the cutters, which project from the head flush with the cylindrical surface of the same, and thus form the cutting-edges to the rear edges, f^2 and g^2, respectively, which project from points on the heads slightly within the periphery thereof, so as to clear the sides of the groove or gain in cutting. The lower ends of the two cutters are beveled oppositely outward and upward to form the straight though interrupted bottom cutting-edges, f^5 and g^5, which are thus in line with the lower ends of the sharpened side edges, f' f^2 and g' g^2, respectively, and the diagonally-opposite front cutting-edges, f' and g', are made shorter by an equal amount than the rear edges, f^2 and g^2, respectively, so that the bottom cutting-edges, f^5 and g^5, are both inclined lengthwise, but in opposite directions. The real cutting is thus done at the junctions of the side and bottom cutting-edges, f' f^5 and g' g^5, the retraction of the remaining parts of the sharpened edges causing them to clear the sides and bottom of the groove, while serving to give a smooth finish to the same.

The opposite cutters are made to diverge in a downward direction, so that the grooves or gains cut will have a more or less dovetail form to better hold the ends of the treads or other pieces received therein.

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

1. A cutting-tool for gaining stair-stringers and kindred purposes, consisting of a holding-shank, a cylindrical head, and groove-cutters having side cutting-edges and inclined bottom cutting edges projecting from the outer end of the head, the head and cutters formed on a single piece of steel, substantially as described.

2. A groove-cutting tool consisting of a shank, a head, and opposite downward-diverging cutters projecting from the outer end of the head, said cutters having diagonally-opposite side cutting-edges and oppositely-inclined bottom cutting-edges, the head and cutters formed of a single piece of steel, substantially as described.

3. As an improved article of manufacture,

a groove-cutting tool formed of a single piece of steel and consisting of a shank, a solid cylindrical head, and cutters in the shape of cylindrical segments projecting from diametrically-opposite points of the outer end of the head, the outer convex faces of the cutters being formed reversely eccentric, so as to form diagonally-opposite cutting side edges and other diagonally-opposite retreating side edges, and the lower ends of the cutters being beveled upward and outward and inclined oppositely lengthwise to form the bottom cutting-edges, substantially as described.

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