F. REESE.

PORTABLE GROOVING TOOL.

APPLICATION FILED JULY 17, 1916.

1,271,618. Patented July 9, 1918.

Fig 1

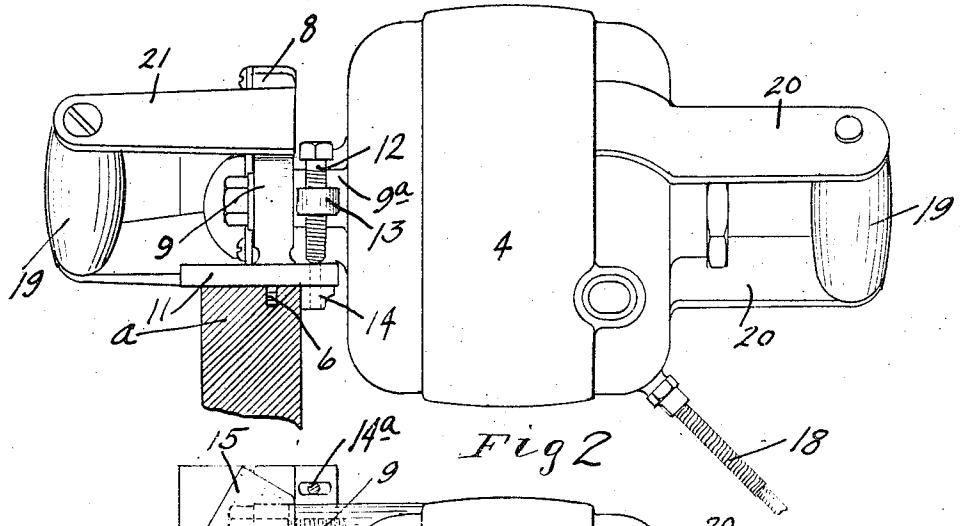



Fig 2

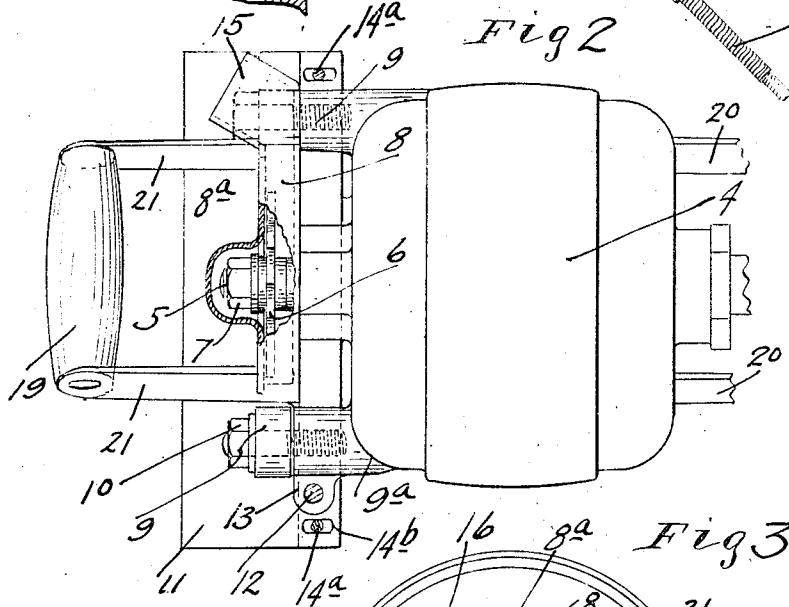
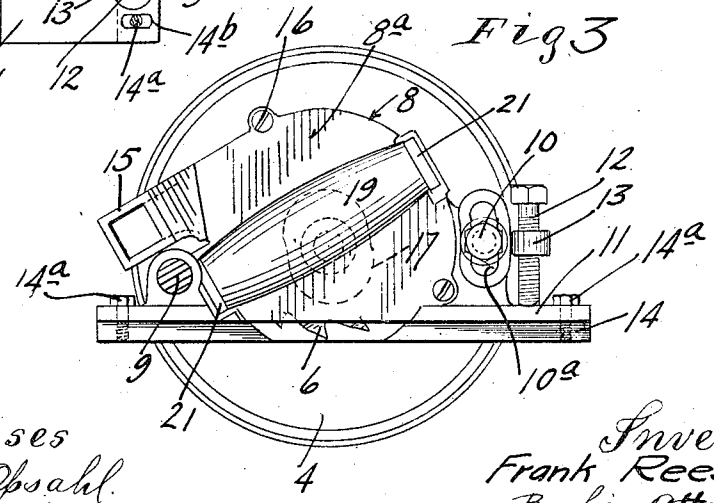



Fig 3




Witnesses
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# UNITED STATES PATENT OFFICE.

FRANK REESE, OF MINNEAPOLIS, MINNESOTA.

## PORTABLE GROOVING-TOOL.

1,271,618. Specification of Letters Patent. Patented July 9, 1918.

Application filed July 17, 1916. Serial No. 109,691.

*To all whom it may concern:*

Be it known that I, FRANK REESE, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Portable Grooving-Tools; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an extremely simple and highly efficient portable grooving tool; and to such ends, generally stated, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

A tool of the above character may be advantageously used a great many different places and for a great many different kinds of work where grooves are required, but is especially adapted for use in cutting grooves in built-up or permanent wooden structures where the part to be grooved is either fixed or cannot be conveniently presented to a fixed grooving machine. For example, the tool is very serviceable for use in cutting grooves in the edges of sash, as preparatory for the application of the metallic weather strips which have projecting flanges to work in the grooves.

In the accompanying drawings which illustrate the invention in its preferred form, like characters indicate like parts throughout the several views.

Referring to the drawings:

Figure 1 is a front elevation showing the improved grooving tool and illustrating the action thereon on a window sash.

Fig. 2 is a plan view of the above tool, some parts being broken away and some parts being sectioned; and

Fig. 3 is a right side elevation of the improved tool.

As a motor for propelling the grooving tool or cutter, I employ a comparatively small electric motor indicated, as an entirety, by the numeral 4. The armature shaft 5 of this motor projects at one side of the casing, and to the projecting end thereof, a grooving tool in the form of a small circular saw 6 is detachably secured by suitable means, such as a nut 7. This grooving tool 6 works within a housing 8 that is pivotally attached to a boss 9 on the motor casing and is adjustably connected to a similar boss $9^a$ on said casing, by a clamping screw 10 that works in a slot $10^a$ formed in an extended flange of said housing 8. The said housing 8 is provided with a flat bottom or runner plate 11 having an opening through which the lower portion of the saw or cutting tool 6 works with clearance. To assist the screw 10 in positively holding the housing in its different vertically adjusted positions on the pivot 9, a set screw 12 works through an ear 13 on the boss $9^a$ and bears against the underlying end portion of the runner plate 11. The gage strip 14 is detachably secured to the inner edge of the under surface of the runner plate 11, by screws $14^a$. To make the said gage strip 14 adjustable toward and from the lower edge of the cutter 6, the screws $14^a$ work through slots $14^b$ in the runner plate 11, as shown in Fig. 2, wherein the screws $14^a$ are sectioned so as to expose the said slots. The bottom of the housing 8 is open so that the lower portion of the grooving tool projects more or less below the same. At its rear, the said housing 8 is formed with tangentially and laterally extended discharge spout 15 for the saw dust or chips cut by the tool 6.

On its front face, the housing 8 is provided with a detachable plate $8^a$ shown as held thereto by screws 16, and which plate, when removed, affords access to the grooving tool or cutter and permits the same to be removed and another of different size or character substituted therefor.

The back or inner plate of the housing 8 is formed with a slot 17, which clears the armature shaft and bearing hub therefor, in all adjustments of the housing 8.

Current for running the motor may be supplied thereto by a long flexible cable 18. The grooving tool is adapted to be held by two hand pieces 19 secured to the ends of supporting arms 20 and 21. The pair of arms 20 are directly secured from the motor casing while the pair of arms 21 are directly secured to the housing 8.

In Fig. 1, a portion of the sash to be grooved is indicated by the character *a*.

Obviously, the depth to which the cutting tool or saw 6 will cut will depend upon the projection thereof, below the bottom of the so-called runner plate 11, and this projection may, as is obvious, be varied by adjust-

ments of the housing 8 on its pivot 9. When the tool is to be used, the runner plate 11 is placed on the surface to be grooved and the tool is moved forward with the gage strip 14 pressed against one edge thereof, as shown in Fig. 1. As the cutting tool or saw is rotated at high velocity, it will cut a clean groove even when the tool is moved rapidly along the sash or other article to be grooved. The saw dust or chips will, by centrifugal force, be thrown out through the discharge spout 15. If desired, a tool for carrying the same to a suitable receptacle might be provided. As the tool is held firmly in the two hands and kept on opposite sides of the saw or cutter and on opposite sides of the motor, the tool may be easily started and guided and held to its work.

What I claim is:

1. A grooving tool comprising a motor, having a casing and a rotor inclosed within the same, said rotor having a shaft projecting at one end and provided with a groove cutter, a housing for said groove cutter adjustably connected to the motor casing and provided at its bottom with a runner that is vertically adjustable therewith, in respect to said motor casing and groove cutter, to vary the projection of said groove cutter, means for securing said housing and motor casing in different relative adjustments, and two handles, the one secured to said motor casing and projecting from one side thereof, and the other secured to said housing and projected therefrom in opposite directions from the first noted handle, the said two handles being approximately alined with the axis of said rotor shaft.

2. A grooving tool comprising an electric motor, an armature of said motor having a projecting shaft provided with a groove cutter, a housing for said cutter pivotally connected to the motor casing at one end and rigidly but adjustably connected at its other end whereby it is made vertically adjustable, the said housing, at its bottom having a runner plate that is adjustable therewith to vary the projection of said groove cutter below the same, and two handles, one secured to that side of the motor casing that is opposite the said groove cutter and the other secured to said housing and projected therefrom in a direction opposite to the projection of the first noted handle, the said two handles being approximately alined with the axis of the motor armature.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK REESE.

Witnesses:

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