

F. J. FORSTER.
GROOVING MACHINE FOR WEATHER STRIPS.
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1,361,377.

Patented Dec. 7, 1920.

2 SHEETS—SHEET 2.

Fig. 4

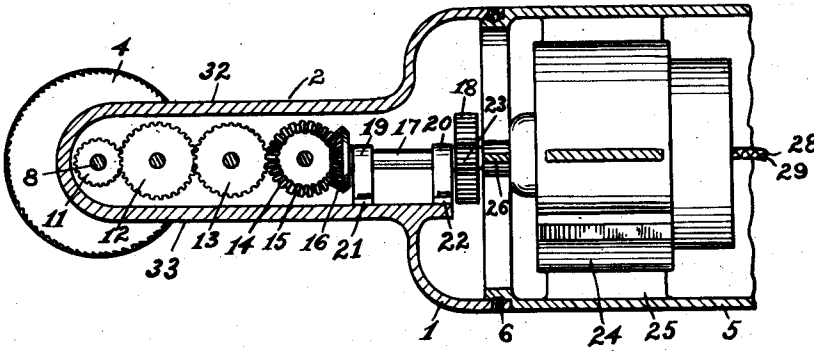


Fig. 5

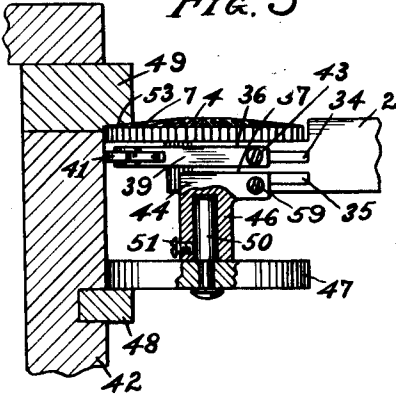


Fig. 6

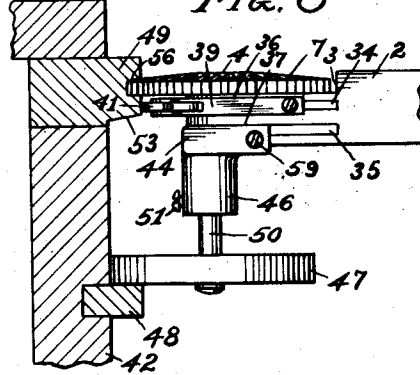


Fig. 7

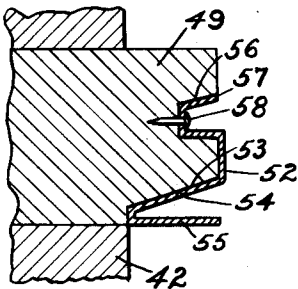
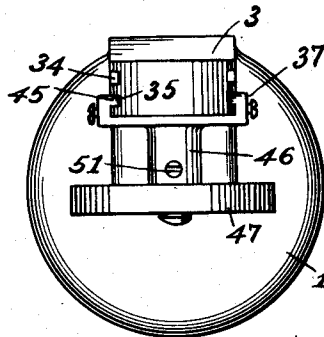


Fig. 8



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GROOVING-MACHINE FOR WEATHER-STRIPS.

1,361,377.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANK J. FORSTER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Grooving-Machines for Weather-Strips, of which the following is a specification.

This invention relates to cutting and grooving machines, and more particularly to machines for preparing window frames without removing the window sashes for the purpose of applying weather strips thereto.

The principal object of this invention is to provide a portable power machine for said purpose, which is a compact unit adapted to be easily handled by a workman.

Another object of the invention is to provide such a machine operated by electric current obtained by connecting to an ordinary lamp socket.

A further object of the invention is to provide said machine with adjustable guiding means for causing the machine to cut parts away and also grooves of uniform width and depth.

A still further object of this invention is to provide said machine with detachable guiding means, which may be removed when not desired, or removed to be replaced by other different guiding means more suitable for the particular work being done.

With the above and other objects in view as will be readily understood, the invention will be hereinafter fully described with reference to the accompanying drawings, which are simply intended to illustrate the invention, and the novel features thereof will be distinctly pointed out in the appended claims.

In the drawings, similar characters of reference are used to designate corresponding parts.

Figure 1 is a plan view of a cutting and grooving machine constructed in accordance with my invention,

Fig. 2 is a side view of the same,

Fig. 3 is a sectional view of a part of the machine, on an enlarged scale, taken on line 3-3 of Fig. 2,

Fig. 4 is a sectional view taken on line 4-4 of Fig. 3,

Fig. 5 illustrates the forward end of the machine with the stop and guide in position when cutting the inner edge of the window frame,

Fig. 6 is a similar view when cutting a groove,

Fig. 7 illustrates the weather strip as applied, and

Fig. 8 is an end view of the housing with the guide in position.

Referring to the drawings, 1 represents the forward part of a housing having a comparatively narrow forward end 2, which is cut out at 3 for accommodating a suitable rotary cutting tool 4. The rear part of the housing, indicated by 5, is fixed to said forward part of set-screws 6. The teeth 7 of the rotary cutting tool 4 are arranged on an inclination for cutting a beveled edge, as will be hereinafter explained. Said rotary cutting tool is fixed to the projecting end of a transverse shaft 8, which is rotatably mounted in the sides 9 and 10 of the forward part of the housing. To the shaft 8, between said sides of the housing, is fixed a gear wheel 11, which is driven by a train of gears 12, 13 and 14, suitably supported in the sides of the forward part of the housing. The gear 14 is formed integrally with a bevel gear 15, which is driven by a bevel gear 16 carried by a longitudinal shaft 17, having at its other end a toothed wheel 18. A pair of bearing brackets 19 and 20, which are fastened to the housing 21 and 22 respectively, support the shaft 17. Said toothed wheel 18 is driven by a pinion 23 of a suitable electric motor 24 which is preferably supported at 25 and 26 from the sides of the rear part of the housing. A handle 27 of any suitable design is secured to the rear end of the rear part of the housing for conveniently manipulating the machine, and through said handle pass electric wires 28 and 29, which are connected to the motor for carrying current thereto. At the free ends of said electric wires is a plug 30, for making convenient connection with an ordinary electric lamp socket. A suitable switch 31 on the handle 27 is adapted to turn on and cut off the current to the motor.

In a machine of this class it is important to provide means for limiting the cutting distance and for guiding it in order that the parts cut away or the grooves formed may be uniform in width or depth. This machine is provided with a stop and a guide, which will now be described. The sides 32 and 33 of the narrow forward end 2 of the forward part of the housing are provided with longitudinal slots 34 and 35,

for receiving a depth stop 36 and a width guide 37 respectively. Said depth stop consists of an arch shaped frame 38 having legs 39 with guide strips 40 on their inner sides for sliding in the slots 34. A plurality of small rollers 41 are carried by the frame 38 for bearing against the window frame, indicated by 42, to limit the depth of the peripheral cut of the cutting tool 4. Set-screws 43 in the legs 39 are adapted to fix the depth stop to the forward part of the housing in its proper adjusted position. The width guide 37 consists of a frame 44 having sliding strips 45 for entering the slots 35, and from said frame extends a boss 46, which supports a wheel 47 for traveling upon the window frame and also engaging the side of the parting stop 48 thereof. In order to provide for adjusting the wheel 47 laterally to suit different window frames, as the distance between the blind stop 49 and the parting stop 48 varies, said wheel is rotatably mounted upon an adjustable stub-shaft 50, which is fixed in position in the boss 46 by means of a set-screw 51.

When it is desired to prepare a window frame for the purpose of applying thereto a weather strip, such for instance as that indicated by 52, the machine is easily transported to the building, the plug 30 thereof is attached to an ordinary electric lamp socket, and after setting the depth stop 36, and the width guide 37, as shown in Fig. 5, to suit the particular window frame to be provided with the weather strip, the edge 53 of the blind stop 49 is cut, by running the cutting tool 4 therealong, to accommodate the bent over sides 54 and 55 of the weather strip. For cutting the groove 56 in the blind stop 49, for the purpose of receiving the channel part 57 of the weather strip, the depth stop 36, the width guide 37 and the wheel 47, are set as shown in Fig. 6. The weather strip may be secured to the window frame in any suitable manner, but preferably by nails or screws at 58.

From the drawings and description, it is readily seen that this machine is very convenient and efficient for preparing window frames, while in place and without removing the window sashes or other parts, for the purpose of applying weather strips thereto. It will be understood that slight

changes may be made in the details of construction within the scope of the claims. 55

Having fully described my invention, what I claim is:

1. In a machine of the class described, the combination of a housing, a cutting tool operatively supported by the housing, means for operating the cutting tool, a guide frame, the frame being slidably mounted upon the housing and adapted to be moved longitudinally, means for fixing the frame to the housing in its adjusted position, a wheel supported by the frame, and means for adjusting the wheel laterally with relation to the adjustment of said frame, substantially as described. 60 65 70

2. In a machine of the class described, the combination of a housing, a cutting tool operatively supported by the housing, means for operating the cutting tool, a guide frame, the frame being slidably mounted upon the housing and adapted to be moved longitudinally, means for fixing the frame to the housing in its adjusted position, the frame having a boss, a stub-shaft slidably mounted in the boss, a wheel rotatably supported by the stub-shaft, and means for fixing the stub-shaft in its adjusted position, substantially as described. 75 80

3. In a machine of the class described, the combination of a housing, a cutting tool operatively supported by the housing, means for operating the cutting tool, a frame carried by the housing, the frame carrying a plurality of rollers, the rollers being arranged on the arc of a circle for limiting the cutting depth of the cutting tool, the frame being adjustable longitudinally, and a guide carried by the housing for causing the cutting tool to travel uniformly, substantially as described. 85 90 95

4. In a machine of the class described, the combination of a housing, a cutting tool operatively supported by the housing, means for operating the cutting tool, a guide frame carried by the housing for limiting the cutting depth of the cutting tool, a guide carried by the housing for causing the cutting tool to travel uniformly, and said guide being adjustable longitudinally and laterally with relation to the cutting edge of the cutting tool, substantially as described. 100 105

In testimony whereof I affix my signature.

FRANK J. FORSTER.