

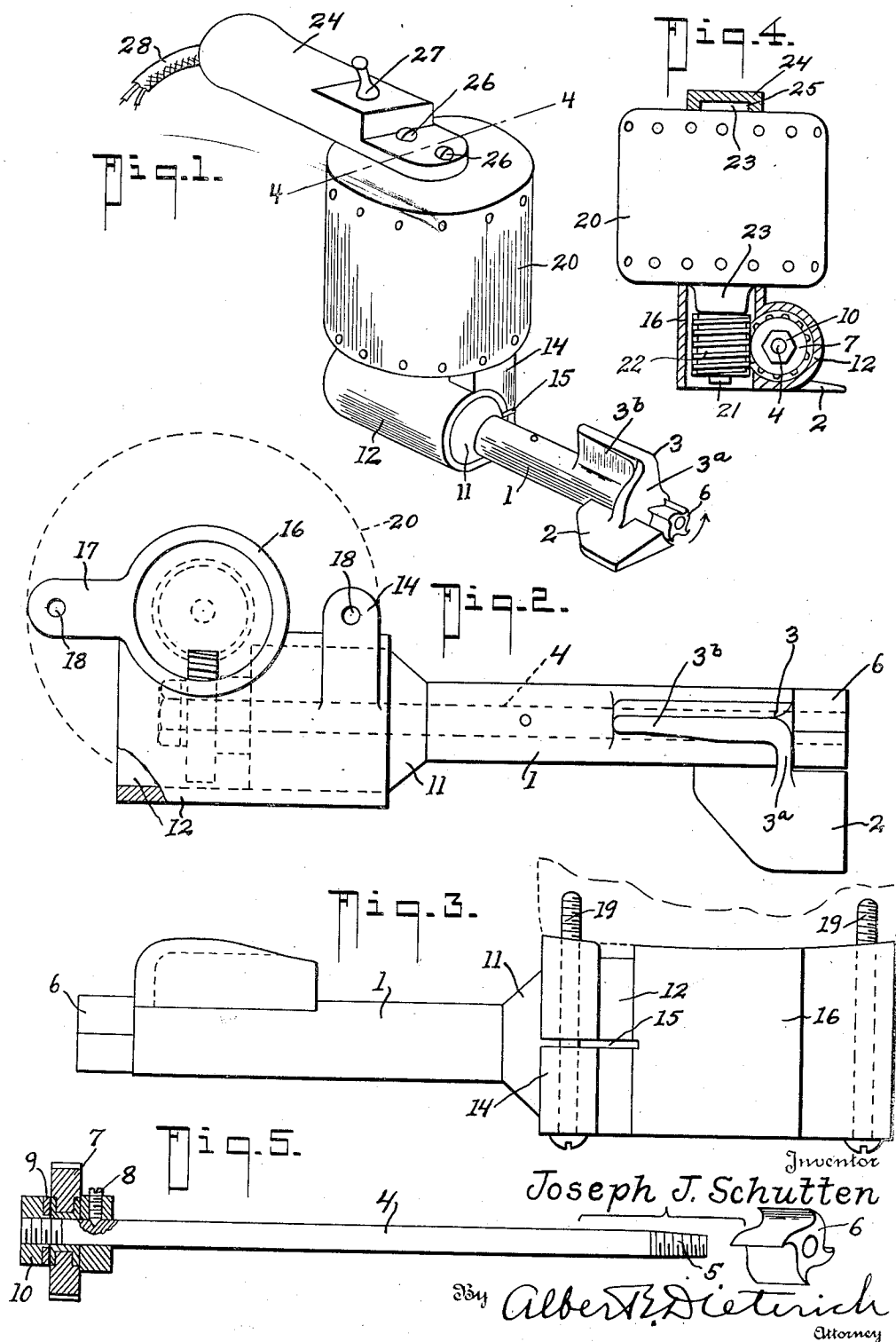
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PORTABLE PUTTY CUTTING MACHINE

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PORTABLE PUTTY CUTTING MACHINE

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7 Claims. (Cl. 18—3.5)

My invention relates to means for cutting dried putty from window frames and the like in which the glass has become broken. The invention particularly has for its object to provide a portable, motor-driven cutting tool of a simple and inexpensive construction, one which is easy to manufacture and which has been designed to use motors already on the market.

The invention resides in the provision of an electric motor, a fitting secured thereto and chambered to receive the driving end of the motor shaft and the driven end of the cutting tool shaft, together with worm and worm gear connections between the shafts and a rod-like support for the cutting shaft which is swivelly mounted in the fitting for adjustment about its axis.

Further, the invention resides in the provision of means adjustably guarding the hand of the operator while at work in order to prevent injury of the same.

Further, it is an object of the invention to provide a motor-driven cutter of relatively high speed of operation whose cutter blades bear a definite relation to the speed of the motor used so as not to powder the putty which is being cut away, but to take it off in shavings or chips.

Other objects will in part be obvious and in part be pointed out hereinafter.

To the attainment of the aforesaid objects and ends, the invention still further resides in the novel details of construction, combination and arrangement of parts, all of which will be first fully described in the following detailed description, and then be particularly pointed out in the appended claims, reference being had to the accompanying drawing, in which:—

Figure 1 is a perspective view of my invention.

Figure 2 is a plan view of the fitting and the cutter mechanism proper.

Figure 3 is an elevation thereof.

Figure 4 is a cross section on the line 4—4 of Figure 1.

Figure 5 is a detail view of the cutter shaft and its parts.

In the drawing, in which like numerals of reference indicate like parts in all of the figures, 1 represents a tubular body having at its front end a rear guide or tracker 2 which projects laterally and forwardly of the tubular body 1. The tubular body 1 is also provided at the front end with a finger guard 3, composed of a vertical longitudinal wing 3b and a transverse wing 3a, as best shown in Figures 1, 2 and 3 of the drawing.

Mounted within suitable bearings in the tubular body 1 and its enlarged rear end 11, is the cutter shaft 4 whose front end is reduced and threaded as at 5 to receive the cutter 6, the thread being a right-hand thread so that rotation of the shaft tends to secure the cutter in place more tightly.

The rear end of the shaft 4 is provided with a collar and set screw 8, a worm wheel 7, a lock washer 9 and a nut 10, the collar, washer and nut serving rigidly to secure the worm wheel 7 to the shaft 4.

The cutter 6 is of a shape clearly indicated in Figure 5, and for motors running under 900 R. P. M. a four-bladed cutter has been found most advantageous, while for motors running over 900 R. P. M. a three-bladed cutter has been found preferable.

The fitting by which the member 1 and the parts carried thereby are operatively joined with the motor 20 consists of a tubular portion 12 which is split at one end, as shown at 15, and from which end a split lug 14 projects laterally, the lug 14 being bored at 18 to receive one of the screws 19 by which the fitting is fastened to the case of the motor 20. The fitting also includes a tubular member 16 extending with its axis at right angles to the axis of the tubular portion 12, but offset to one side thereof, as best shown in Figure 4. The member 16 intersects and communicates with the member 12. A lug 17 projects laterally of the member 16 (longitudinally of the member 12) and also has a bore 18 through which another screw 19 passes. The lower bearing 23 of the motor 20 projects into the tubular member 16, as does also the motor shaft 21 which carries a worm 22 to mesh with the worm gear 7 when the parts are assembled.

A handle 24 carrying a circuit-controlling switch 27 and the necessary connections to an electric circuit (not shown) is fastened to the motor case 20 at the end opposite that to which the fitting is connected, by screws 26, the handle being recessed at 25 to fit over the other bearing 23 of the motor shaft. 28 designates the lead-in wires to the handle which connect with the motor winding through the switch 27, in a well known manner.

It is to be observed that by placing the cylindrical member 11 in the cylindrical or tubular socket 12 of the fitting and securing it by a split clamp and screw, the member 11 may be rigidly secured in any position of adjustment around the axis of the tubular member 1 so as to locate the handle 24 and the motor 20 in such position as

will be most convenient to the operator. Further, by loosening the screw 19 which passes through the split lug 14, the member 1 may be turned on its axis to adjust it to any angular position with respect to the motor that may be found desirable from time to time, and by thereafter tightening up the screw again the parts may be held in rigid relation.

In using the invention the operator grasps the member 1 with his right hand, placing his thumb against the guard 3, and holds the handle 24 with his left hand. He then turns on the switch 27 by means of the thumb of his left hand, which starts the cutter 6 rotating. The cutter is then applied against the putty of a window, or the like, with the rear guide or tracker 2 lying in contact with the wood of the window frame from which the putty has been removed by the rotating cutter. The machine is advanced parallel to itself and the cutter continues cutting away the putty, as will be readily understood by those familiar with the art.

From the foregoing description, taken in connection with the accompanying drawing, it is thought that the construction, operation and advantages of the invention will be clear to those skilled in the art to which it relates.

What I claim is:

1. In a putty cutting machine, a fitting including two tubular bodies intersecting one another with their axes at right angles, a motor mounted on said fitting and having a shaft carrying a worm projected into one of said tubular bodies, a cutter-carrying unit comprising an elongated rod-like member having a shaft bearing, a cutter shaft journaled in said bearing and passing longitudinally through said rod-like member, said rod-like member projecting into the other of said tubular bodies and secured therein, said cutter shaft having an end projecting into said other tubular body and carrying there a worm wheel to mesh with said worm, the other end of said cutter shaft projecting beyond the free end of said rod-like member, a cutter mounted on said last-named projected end of said cutter shaft, a rear guide or tracker carried by said rod-like member and projecting beyond the free end thereof in position to cooperate with said cutter, and a handle secured to said motor.

2. In a portable putty cutting machine, an electric motor, a fitting secured thereto and chambered to receive the driving end of the motor's shaft, a worm on said end, a cutting tool unit comprising an elongated supported member, a cutter shaft mounted in said supporting member and having a worm gear on one end to mesh with said worm and having a cutter on the other end, and a rear guide or tracker on said supporting member adjacent and cooperating with said cutter.

3. In a portable putty cutting machine, an electric motor, a rod-like support, a cutter shaft journaled in bearings in and projecting beyond the ends of said support, a worm wheel on one end of said shaft and a cutter on the other end thereof, said motor having a shaft with a worm, a fitting secured to said motor and carrying said

support and having a chamber to receive said worm and worm wheel in mesh, a handle on said motor with a switch for controlling said motor and consequently said cutter, a rear guide or tracker on said support for said cutter, and a finger guard on said support adjacent said cutter, said guard comprising a longitudinal wing and a transverse wing.

4. In a portable putty cutting machine, an electric motor having a shaft, a cutting tool shaft, a cutter on said cutting tool shaft, a rod-like support for said cutting tool shaft, a fitting secured to said motor and chambered to receive the driving end of said motor's shaft and the driven end of said cutting tool shaft, and a gear connection between said shafts within the chamber of said fitting, and means swivelly mounting said rod-like support in said fitting for purposes described.

5. In a portable putty cutting machine, an electric motor having a shaft, a cutting tool shaft, a cutter on said cutting tool shaft, a rod-like support for said cutting tool shaft, a fitting secured to said motor and chambered to receive the driving end of said motor's shaft and the driven end of said cutting tool shaft, a gear connection between said shafts within the chamber of said fitting, and means swivelly mounting said rod-like support in said fitting, said fitting including two tubular portions intersecting one another at right angles into one of which sections the motor's shaft projects and into the other of which sections said rod-like support projects.

6. In a portable putty cutting machine, an electric motor having a shaft, a cutting tool shaft, a cutter on said cutting tool shaft, a rod-like support for said cutting tool shaft, a fitting secured to said motor and chambered to receive the driving end of said motor's shaft and the driven end of said cutting tool shaft, a gear connection between said shafts within the chamber of said fitting, means swivelly mounting said rod-like support in said fitting, said fitting including two tubular portions intersecting one another at right angles into one of which sections the motor's shaft projects and into the other of which sections said rod-like support projects, said means for swivelly mounting said rod-like member comprising a split portion of the tubular portion of the fitting into which said rod-like member projects, and a screw passing through the split portion of said fitting and into the motor.

7. In a portable putty cutting machine, an electric motor having a shaft, a cutting tool shaft, a cutter on said cutting tool shaft, a rod-like support for said cutting tool shaft, a fitting secured to said motor and chambered to receive the driving end of said motor's shaft and the driven end of said cutting tool shaft, and a gear connection between said shafts within the chamber of said fitting, said fitting having lugs and screws passing through said lugs to secure the fitting to the motor, one of said lugs and the adjacent part of said fitting which holds said rod-like support being split for the purpose of swivelly securing said support to said fitting.

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