Feb. 9, 1937. H. H. HENGSTENBERG 2,070,358

PLASTER CAST CUTTING MEANS

Filed Dec. 4, 1934

Fig. 1.

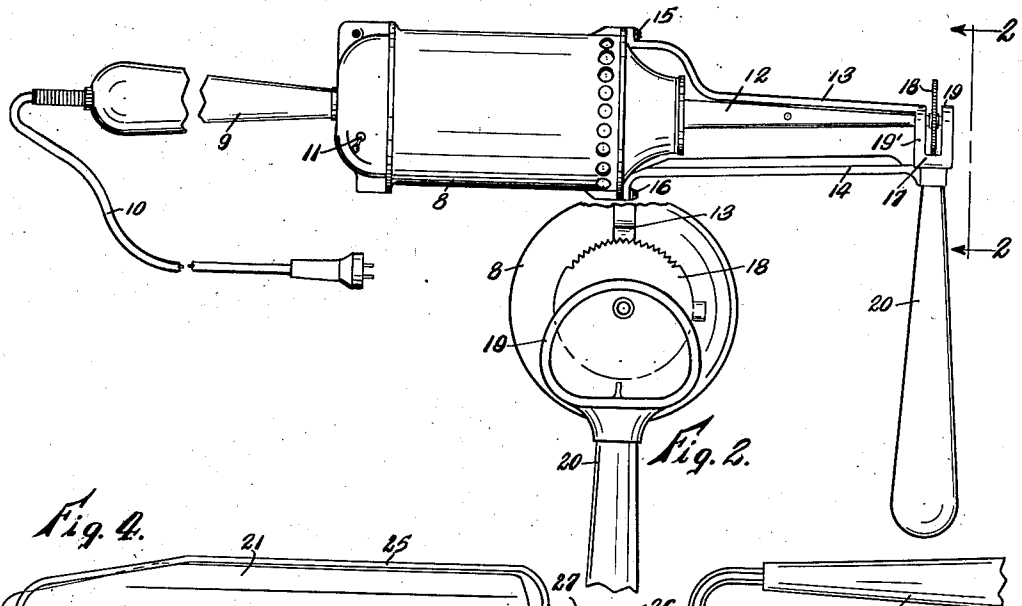


Fig. 2.

Fig. 4.

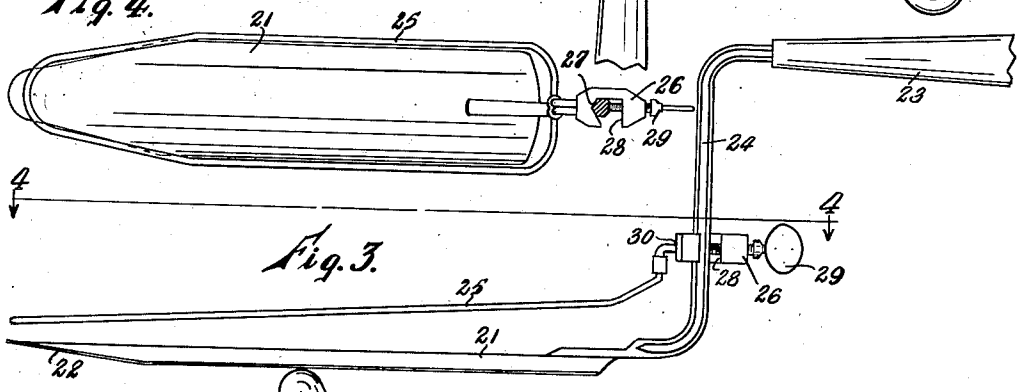
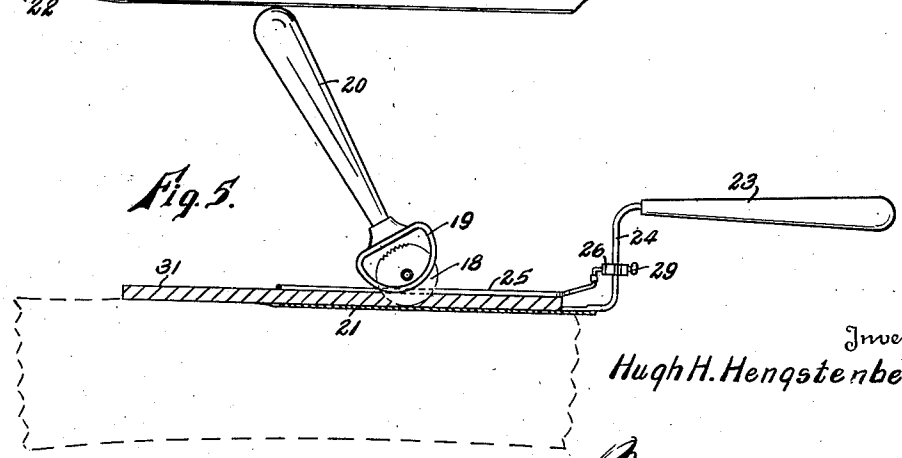


Fig. 3.

Fig. 5.



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Patented Feb. 9, 1937 2,070,358

UNITED STATES PATENT OFFICE

2,070,358

PLASTER CAST CUTTING MEANS

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Application December 4, 1934, Serial No. 755,926

6 Claims. (Cl. 128—317)

This invention relates to means for cutting plaster casts and comprises an improved form of saw and a cooperating shield and guard, the shield precluding contact of the saw with the cast-covered member and the guard precluding movement of the saw outside the limits of the shield.

An object of the invention is to provide an improved and efficient combination of the kind described.

Another object is to provide an improved type of plaster cast saw having guard means designed likewise to serve as a rotatable fulcrum adapted to be moved for selectively varying the depth of saw cut.

Another object is the provision of an improved shield and associated adjustable guard, the shield being adapted for positioning beneath the cast and the guard adjacent the outer face of the cast in overlying relationship with the shield for providing an operating field for the saw restricted to the limits of the shield.

Another object is to provide means of the kind indicated for simple and efficient and prolonged use.

These and other objects are attained by the means described herein and illustrated in the accompanying drawing, in which:

Fig. 1 is a plan view of the plaster cast saw of this invention, parts being broken away.

Fig. 2 is a view taken on line 2—2 of Fig. 1, with parts broken away.

Fig. 3 is a side elevational view of the shield and guard means of this invention.

Fig. 4 is a view, partly in cross section, taken on line 4—4 of Fig. 3.

Fig. 5 is a conventional view showing the plaster cast saw of this invention in operative relationship with the shield and guard means and with a cast-covered member, shown in broken lines, the plaster cast being shown in cross section.

The plaster cast saw of this invention comprises a housing 8 adapted to house a small motor (not shown). At one end of the housing a suitable handle 9 is provided and through which the electric wire or conduit 10 may extend to the motor. A suitable switch 11 is positioned on the housing adjacent the handle 9 so that it may be conveniently manipulated by the hand grasping the handle.

Through the opposite end of the housing 8 an extended motor armature shaft 12 projects and has a circular saw blade 18 removably mounted on its outer end. A frame comprising a pair of arms 13 and 14 is attached at one end to the housing, as at 15 and 16, and at the outer end terminates in a saw guard 17. This saw guard comprises a pair of spaced arcuate rails 19 and 19' which between them embrace the saw blade 18, the latter being disposed eccentrically with relation to the arcuate rails whereby the blade projects beyond the rails at one side.

A handle 20 is secured to the saw guard opposite the projecting portion of the blade.

The shield and guard means of this invention comprise a plate 21 which may be curved in cross sectional outline in order to conform with the surface curvature of a cast-covered member. As is seen in Fig. 3, the outer end of the plate 21 may be turned up at its edges, as at 22, to facilitate insertion of the shield between the cast and the underlying member and to preclude injury to said member. It may be here pointed out that the plate 21 may be of other forms than that herein illustrated, such as possessing a greater or a shorter length or a greater or a different cross sectional form to meet with the requirements of different parts of the body. The opposite end of plate 21 has a handle 23 secured thereto, the latter being connected to the plate by means of a stem 24 which may be substantially vertical with relation to the plate so that when the latter is disposed beneath the cast, the stem and handle project outwardly thereof. The stem 24 may be of non-circular cross sectional outline, for a purpose to be described.

A guard is provided according to this invention and is associated with the shield for precluding movement of the saw beyond the limits of the positioned shield. The guard may consist of a continuous wire 25 of substantially the same outline as the plate with which it is associated. The wire 25 is adapted to be connected with the stem 24 and for this purpose is secured, as at 30, to a slide block 26 formed with a stem receiving aperture of which a portion at least, such as at 27, is of the same outline as the sectional outline of the stem so that when the like portions of said aperture and the stem are held in firm association, the block is non-rotatable on the stem. For introducing the block onto the stem there may be formed in the block a lateral opening 28 and for firmly binding together the stem and block in the manner above described there may be provided a screw bolt and wing nut member 29 that may be advanced through the rear of the block against the stem 27 as seen in Fig. 4. It will be seen that the guard 25 is vertically adjustable along the stem 24 but non-rotatable with relation thereto so that the guard is

always held in alignment with the underlying plate 21.

In the operation of the saw, shield, and guard means described, the shield is first inserted beneath a portion of a plaster cast 31 (Fig. 5). During this insertion, the guard 25 may either be raised well above the plate 21 to permit free entry of the latter, or the guard may be removed altogether and replaced after positioning of the plate. After the latter has been accomplished, the block 26 is lowered on the stem 24 until the guard 25 bears firmly against the outer face of the cast. It may be noted here, that the wire guard 25 has a downward deflection toward its outer end, as seen in Fig. 3, so that it bears with resilient force against the surface of the cast when positioned. The wing nut member 29 binds the guard in place.

The saw is adapted to be operated within the confines of the guard 25. It may now be explained, in connection with Fig. 5, that the rails 19' and 19 of the saw guard are likewise designed to serve as a rotatable fulcrum, these rails bearing against the outer face of the cast whereby when the handle 20 is moved toward the vertical, the center of the saw blade is lowered and the depth of saw cut correspondingly increased. When the handle 20 is moved toward the horizontal, the rotatable fulcrum raises the saw blade center away from the cast for effecting a less deep cut. It will be clearly seen in Fig. 5 that the guard 25 precludes movement of the saw beyond the limits of the underlying shield 21 so that danger of injury to the cast-covered member is obviated. When the saw cut reaches the limit of the guard 25, the stem 24 is advanced through the cut just made so that the shield or plate 21 is moved to a new position beneath the cast. This procedure is continued until the cast has been completely severed.

Modifications suggest themselves upon disclosure of the means herein described but these are believed to be comprised within the spirit and scope of the present invention.

What is claimed is:

1. Plaster cast cutting means comprising a power-driven manually-directed circular saw, a shield independent of the saw and adapted to be inserted between a cast and the cast-covered member, a wire guard adapted to be positioned adjacent the outer face of the cast and having substantially the same outline as the shield, the saw blade being adapted to be operated within the confines of the guard, and means for maintaining the guard in overlying relationship with the shield to preclude movement of the saw blade beyond the limits of the shield.

2. Plaster cast cutting means comprising a power-driven manually-directed circular saw, a shield independent of the saw and adapted to be inserted between a cast and the cast-covered member, a handle on the shield and adapted to project outside of the cast when the shield is positioned, a wire guard to be disposed adjacent the outer face of the cast and having substantially the same outline as the shield, the saw blade being adapted to be operated within the confines of the guard, and means for attaching the guard to said handle and for maintaining the guard in overlying relationship with the positioned shield to preclude movement of the saw blade beyond the limits of the shield.

3. A shield adapted to cooperate with a plaster cast saw for precluding injury to a cast-covered member, said shield comprising a plate adapted to be inserted between the cast and the cast-covered member, a guard connected with and having substantially the same outline as the plate, and means for positioning the guard adjacent the outer face of the cast in overlying relationship with the shield to provide an operating field for the saw restricted to the limits of the plate.

4. A shield member adapted to cooperate with a plaster cast saw for precluding injury to a cast-covered member, said shield comprising a plate adapted to be inserted between said member and the cast, a handle attached to the plate and adapted to project outside the cast, the handle comprising a stem disposed substantially vertically relative to the plate, a slide block on the stem, a wire guard attached to the block and of substantially the same outline as said plate, and means to fix the block in selected positions for holding the guard adjacent the outer face of the cast and in overlying relationship with the plate for providing an operating field for the saw restricted to the limits of the plate.

5. A shield member adapted to cooperate with a plaster cast saw for precluding injury to a cast-covered member, said shield comprising a plate adapted to be inserted between said member and the cast, a handle attached to the plate and adapted to project outside the cast, the handle comprising a stem disposed substantially vertically relative to the plate, and of non-circular cross sectional outline, a slide block on the stem provided with a stem-receiving aperture similar in outline to said sectional outline of the stem for rendering the block non-rotatable, means for fixing the block in selected positions on the stem, and a wire guard fixed to the block and extending out over the plate, the guard being of substantially the same outline as the plate and being adapted to be positioned adjacent the outer face of the cast in overlying relationship with the plate to provide an operating field for the saw restricted to the limits of the plate.

6. A shield member adapted to cooperate with a plaster cast saw for precluding injury to a cast-covered member, said shield comprising a plate adapted to be inserted between said member and the cast, a handle attached to the plate and adapted to project outside the cast, the handle comprising a stem disposed substantially vertically relative to the plate and of non-circular cross sectional outline, a slide block on the stem provided with a stem-receiving aperture similar in outline to said sectional outline of the stem for rendering the block non-rotatable, means for fixing the block in selected positions on the stem, the block being further formed with a lateral opening communicating with said stem-receiving aperture to provide for removal of the block from the stem, and a wire guard fixed to the block and extending out over the plate, the guard being of substantially the same outline as the plate and being adapted to be positioned adjacent the outer face of the cast in overlying relationship with the plate to provide an operating field for the saw restricted to the limits of the plate.

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