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PLASTER CAST CUTTING DEVICE

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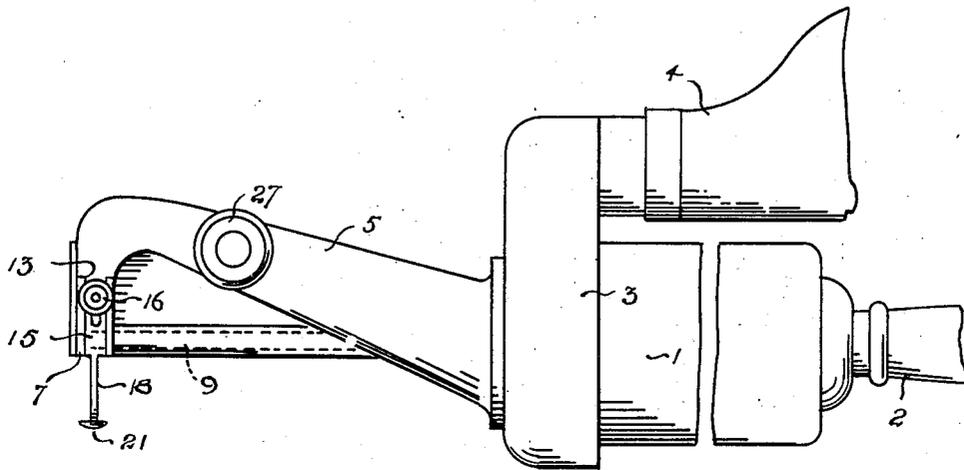


Fig. 1.

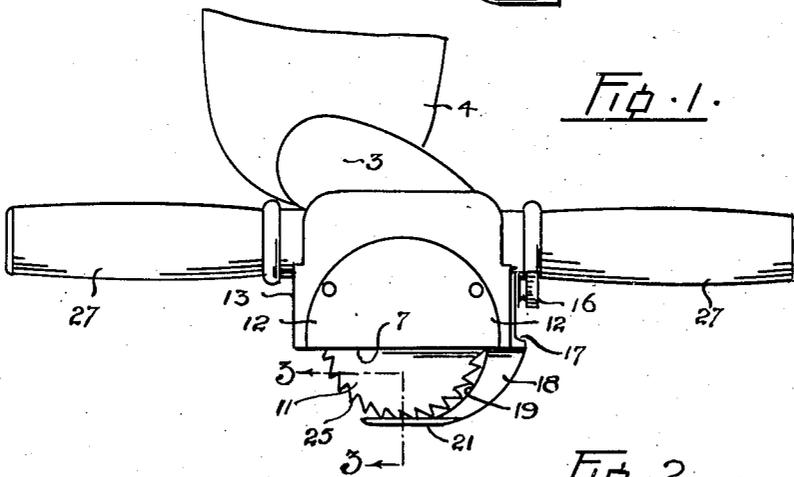


Fig. 2.

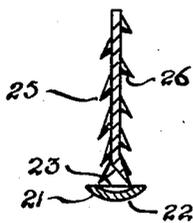


Fig. 3.

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PLASTER CAST CUTTING DEVICE

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2 Claims. (Cl. 30—124)

Our invention relates to improvements in plaster cast cutting devices, which are particularly adapted for use in hospitals for so cutting plaster casts that they may be quickly removed from a limb or other part of a patient's body with absolute safety to the patient.

The particular objects of the invention are to provide means whereby the plaster of the cast together with all lint or bandages may be cleanly severed at any place without pulling any bandage threads to cause discomfort to the patient and to provide means capable of shielding the cutting element from engaging the skin and to provide said means of a shape and thickness as to permit it to freely pass between the skin of the patient and the bandage and cast, and also to slide freely over any protruding part of the body such for instance as the ankle bone, without causing any discomfort. A further object is to provide a cutting element of the circular saw type which can be conveniently cut along a curve of relatively short radius.

Referring to the drawing,

Fig. 1 is a side view of the invention.

Fig. 2 is a front elevation.

Fig. 3 is an enlarged sectional view taken on the line 3—3 of Figure 2.

In the drawing like characters of reference indicate corresponding parts in each figure.

The numeral 1 indicates an electric motor having a detachable handle 2 at one end and a scroll casing 3 at the opposite end. The scroll casing is fitted with a distensible bag 4 at its outlet and is provided with a suction head 5. The casing encloses a blower, not shown, which produces a partial vacuum at the free end or inlet portion 7 of the suction head.

Extending lengthwise of the suction head is an enclosed shaft 9 shown in dotted line in Figure 1 which is integral with the motor shaft and is fitted at its outer end partly within the inlet 7 with a circular saw 11. The inlet portion 7 is provided with a detachable plate 12 to afford access to the saw to remove it from its shaft 9 when sharpening or other attention thereto is necessary. Each side edge of the inlet portion 7 as seen in Figure 2 is provided with a vertical groove 13 in which a saw guard 15 is adapted to be detachably secured by a thumb screw 16.

The saw guard consists of a slotted vertical plate 17 having a depending web 18 which is curved on its forward edge concentrically with the periphery of the saw as at 19 and is curved on its rear edge to provide a gradual diminution in its width from the plate 17 downwards as viewed in the same plane as the saw. At the base of the web 18 is a shoe 21 having a convex lower face 22 and a depression 23 in its upper surface

into which the tips of the saw teeth may slightly project without touching the metal of the shoe.

The saw 11 is provided with teeth 25 of the conventional pointed profile. These teeth are alternately set to opposite sides of the saw body and are filed or ground on the opposite side to which each is set as at 26, see Figure 3, so that each tooth terminates in a point viewed both from the face and the edge of the saw. By filing the saw teeth in this manner cutting edges are provided which form a kerf in the material being cut which is in the form of an inverted V at its base and by virtue of the wide set of the teeth and that cutting edges extend from the root to the point of each tooth a kerf of substantially three times the width of the saw body is effectively cut and also by virtue of the extremely broad cut the saw can be moved to diverge sharply from a straight line to facilitate cutting around bony projections under the cast if desired.

On each side of the suction head 5 a detachable handle 27 is mounted by which the device is manipulated along the cast to be cut.

In operation the saw 11 is presented to an edge of the cast with the shoe 21 resting upon the body or limb of the patient, the shoe slides along the skin beneath the cast and its inner layer of bandages or gauze, which latter is cut clearly by the saw simultaneously with the cutting of the plaster. The dust and lint from the operation of the saw is carried up into the inlet portion by the suction within the scroll casing 3 and is delivered into the bag 4.

What we claim as our invention:

1. A cast cutting device comprising a motor having a shaft and a suction device, said suction device including a scroll casing secured to the motor, a suction head extending substantially lengthwise of the motor shaft and an inlet portion to the suction head, said shaft being fitted with a cutting tool, the upper portion of said tool being housed within the inlet portion of the suction head.

2. A cast cutting device comprising a motor having a shaft and a suction device, said suction device including a scroll casing, and a suction head having an inlet portion, said shaft having a cutting tool at its outer extremity, and the upper part of said cutting tool being housed within the suction head, said scroll casing and suction head being substantially disposed between the motor and the outer end of the motor shaft and a guard for the cutting tool carried by the inlet portion.

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