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SHEARS FOR CUTTING PLASTER BANDAGES

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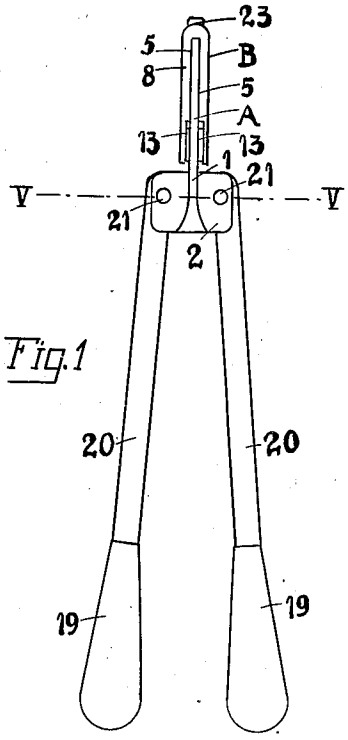


Fig. 1

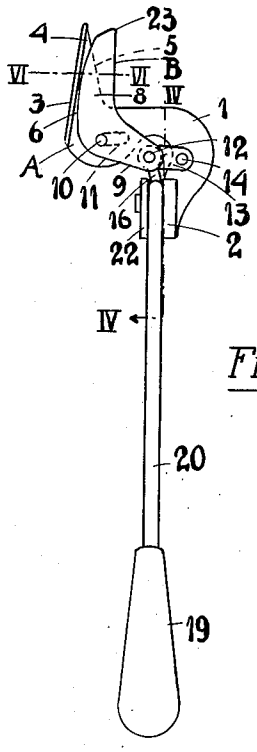


Fig. 2

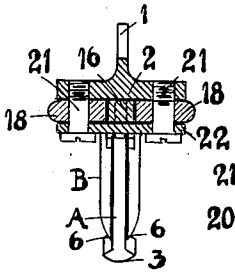


Fig. 5

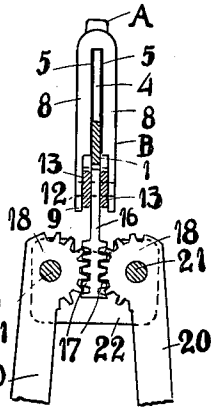


Fig. 4

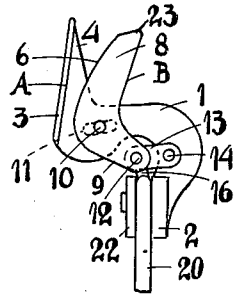


Fig. 3

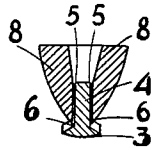


Fig. 6

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SHEARS FOR CUTTING PLASTER BANDAGES

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3 Claims. (Cl. 128—318)

The invention relates to shears for use in cutting plaster-bandages. The invention relates particularly to shears having two jaws movable to and from each other by means of handle-arms.

The invention has for its object to provide shears of this kind which are handier in use than prior shears for the same purpose.

The invention has for its further object to provide shears the use of which will involve a minimum of pain for the patient in the cutting of the plaster-bandage when the fractured spot is passed by the shears.

Further objects of the invention will be evident by the following description with reference to the accompanying drawing.

In the drawing, illustrating an embodiment of the invention, Fig. 1 is a plan view of the shears, Fig. 2 is a side elevation thereof with the jaws in the closed position, Fig. 3 is a side elevation of the foremost parts of the shears with the jaws in the open position, Fig. 4 is a section on the line IV—IV of Fig. 2, Fig. 5 is a section on the line V—V of Fig. 1 and Fig. 6 is a section on the line VI—VI of Fig. 2. Figs. 4 to 6 are drawn on a larger scale than Figs. 1 to 3.

One jaw, which in the cutting of the plaster-bandage is designed to be placed inside the bandage, is, in its entirety, denoted by A, and the other jaw, which operates from the outside of the bandage, is, in its entirety, denoted by B. By means of a curved piece 1 the jaw A is rigidly connected with a plate 2. One side of the jaw A is formed by a surface 3 which is curved in cross-section and may come in contact with the patient in the cutting of the bandage. From said surface 3 a plate 4 projects, said plate having a decreasing height towards the extreme end of the jaw. The plate 4 on the side opposite to the surface 3 forms two edges 5 with which sharp edges 6 of the other jaw B cooperate in the cutting of the plaster-bandage. The jaw B has substantially the shape of a guard, the shanks 8 of which embrace the plate 4, and the foremost end 23 of which is closed. Said shanks 8 are substantially wedge-shaped in cross-section as shown by Fig. 6, so that each shank 8 at one side forms the edge 6 extending along the plate 4. From the side, the shanks of the guard are angular, each shank being formed by the portion 8 extending along the plate 4 and carrying the edge 6, as well as by an arm or extension 9 forming an obtuse angle to the portion 8. Where the portions 8 and 9 merge into each other, the shanks of the guard are connected with each other by means of a pin 10 extending through an oblong hole 11 in the piece 1. The guard-shaped jaw B by means of a pin 12 extending through the extreme ends of the arms 9 is connected with one end of a link, or, as shown in the drawing, two links 13, the other ends of which by means of a pin 14 are connected with the piece 1. The two links 13 are provided on each side of the piece 1 and extend into the intermediate space between the arms 9. One end of a bar 16 is connected with the pin 12, said bar along a portion of its length being provided with a series of teeth 17 on two opposite sides (Fig. 4). The teeth 17 of the bar 16 engage on each side of the bar with a toothed wheel or a segment of such wheel 18 upon one end of an arm 20 with handle 19. Said wheels are pivotable each about a pin or pivot 21, the pivots 21 also holding the plate 2 in a determined distance from a second plate 22. Between these two plates the toothed segments 18 and the toothed bar 16 are provided.

The planes in which the mutual movement of the jaws A, B takes place form substantially a right angle to the planes in which the arms 20 are swung, due to the position of the pivots 21 and the described connection between the arms 20 and the movable jaw B. The cutting of the plaster-bandage in most cases takes place in vertical cutting planes. Thus, the handle-arms 20 will be swung in substantially horizontal planes which facilitates the work.

In the opening of the jaws, the handle-arms 20 are swung so that the toothed bar 16 is pulled backwards towards the handles 20, whereby the jaw B by the guiding of the pin 10 in the oblong hole 11 will be pulled away from the jaw A at the same time pivoting about the pin 10 so that the foremost end 23 of the jaw B will be swung out from the jaw A as shown in Figure 3. The cutting proper is effected when the toothed bar 16 is pushed out from the plates 2, 22 (the arms are swung towards each other), whereby the jaw B will effect the same movement as above mentioned though in opposite direction, so that the sharp edges 6 cut off the material in co-action with the edges 5 of the plate 4.

As is evident by the above description the jaw A operating inside the plaster-bandage will not effect any cutting movements which are effected exclusively by the jaw B operating from the outside of the bandage. Thus, the jaw effecting cutting movements will not come in contact with the patient. In other shears known to the art for cutting plaster-bandages the jaw operating

inside the plaster-bandage partakes in the cutting movement, whereby it is hardly possible to avoid the exerting of a pressure by the inner jaw upon the part of the body on which the plaster-bandage is applied.

The invention is not restricted to the embodiment above described and shown in the drawing but the details of the invention may be varied without departing from the spirit of the invention. For instance, it is not necessary to connect the movable jaw B with the handle-arms by means of a toothed bar and toothed wheels. A link-connection (or a ball-joint) may be used for the same purpose. It is also not necessary to connect the rigid or immovable jaw and the movable jaw by means of links 13. Such links may also be absent though the toothed bar 15 or corresponding means in such a case will be exposed to greater strains in the operation of the shears.

What I claim is:

1. Shears for cutting plaster-bandages comprising a plate, a male cutting jaw designed for operating within the plaster-bandage and being fixedly mounted upon said plate, a female cutting jaw designed for operating from the outside of the plaster-bandage being slidably and pivotally connected to and arranged for embracing said male jaw for being positively guided thereby, a pair of handle-arms pivotally arranged on and carried by said plate for being moved in planes that are substantially perpendicular to the planes in which the female jaw is movable and means operatively connecting the handle-arms with said female jaw.

2. Shears for cutting plaster-bandages comprising a plate, a male cutting jaw designed for operating within the plaster-bandage and being fixedly mounted upon said plate, a female cutting jaw designed for operating from the outside of the plaster-bandage being slidably and pivotally connected to and guided by said male jaw, a pair of handle-arms pivotally arranged on and carried by said plate for being moved in planes that are substantially perpendicular to the planes in which the female jaw is movable, means operatively connecting the handle-arms with said female jaw comprising a tooth-bar connected with said female jaw, and tooth segments journalled on said plate and engaging with said tooth-bar being operated by said handle-arms.

3. Shears for cutting plaster-bandages comprising a plate, a male cutting jaw designed for operating within the plaster-bandage and being fixedly mounted upon said plate, a female cutting jaw designed for operating from the outside of the plaster-bandage being pivotally and slidably connected to and arranged for embracing said male jaw for being positively guided thereby, a pair of handle-arms pivotally mounted on said plate and means operatively connecting said handle-arms to said female jaw.

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