June 26, 1934. F. SCHMITZ 1,964,676

SCISSORS OR LIKE CUTTING INSTRUMENT

Filed March 27, 1931

Fig. 1.

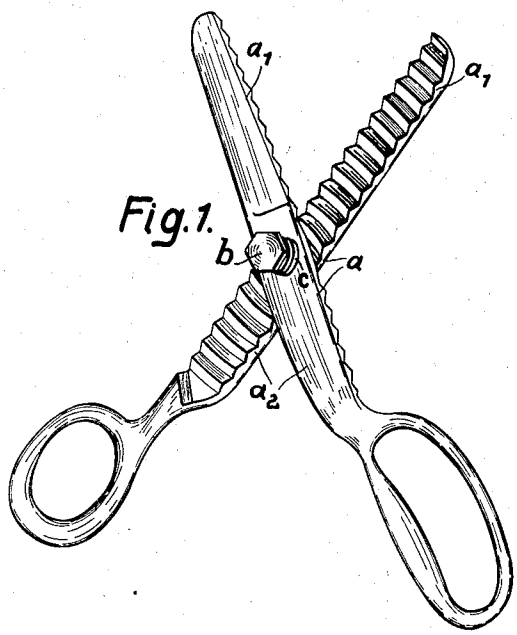


Fig. 2.

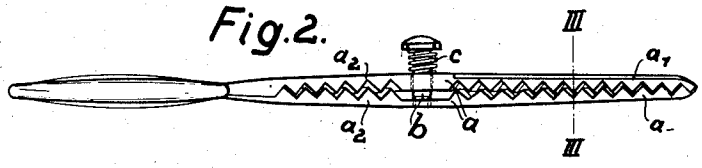


Fig. 3.



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SCISSORS OR LIKE CUTTING INSTRUMENT

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5 Claims. (Cl. 164—81)

This invention relates to scissors, shears, or the like with cutting blades having curved teeth or an undulating edge.

According to the invention not only the parts which serve as cutters are dentated or undulated, but also the shanks which are on the grip-side of the joint are formed with dentations or undulations. This ensures that, in the process of cutting, the guidance of the shanks is good and eliminates any jambing, further, that the blades are worn evenly and finally that the effort required for cutting is reduced. The guidance of the blades is still further improved if the shanks which lie on the grip-side of the joint are formed wider than the cutter blades. In this way it can be ensured that the guide-teeth which are on the grip-side, will be in mesh before the actual cutting process begins. It is also of advantage to press the blades together, by a spring arranged on a hinge bolt, so that they cross in such a way, that during the cutting the blades are gradually lifted away from each other and that therefore a particularly strong pressure exists at the point where the blades are cutting.

These scissors are used, for example, for cutting cloth, American cloth, leather, paper, thin metal sheets, etc. If patterns are cut out, especially if they are used for textiles, the resulting dentated cut has the advantage that the free edge or the edges which lie next to the rabbet will not fray.

In the accompanying drawing which illustrates, by way of an example, one convenient mode of carrying the invention into effect:—

Fig. 1 is a perspective view shewing a pair of scissors embodying the invention and with the blades in the open position.

Fig. 2 is a side elevation of the scissors shown in Fig. 1 with the blades closed and with the crossing of the cutter shanks shown on a somewhat exaggerated scale.

Fig. 3 is a cross section through the cutter shanks of the closed scissors, also with the crossing shown in exaggerated scale.

Referring now to the accompanying drawing in detail, the cutter blades (a) are dentated or undulated on the inner side, not only on the free shanks (a_1), which are used for cutting, but also on those parts of the shanks (a_2), which are on the grip-side, from the hinge bolt (b) and both sets of undulations are curved concentrically with respect to the hinge bolt (b). On the hinge bolt (b) is arranged a spring (c) which presses the cutter blades on against the other. The shanks (a_2) which lie on the grip-side, are wider than the shanks (a_1), so that the resulting guide-teeth will be as long as possible and that the guide-teeth will be in mesh as soon as possible, i. e. before the cutting process begins.

As can be seen particularly in Fig. 3 the cutter blades cross in such a way that as a result of the crossing the cutting edge at the end of the cutter shank is most strongly pressed against the opposite cutter blade. The result of this is that when the scissors are wide open, the spring (c) presses the blades together near the hinge bolt.

When the scissors are gradually closed the blades are lifted away one from the other, more and more, on the hinge bolt, until when the scissors are entirely closed, they lie one against the other only at the ends of the cutting shank and the guiding shank. This way of crossing increases the pressure on the place where the cutting takes place and reduces the friction of one shank against the other. This also facilitates the handling of the scissors. This crossing can be attained either by suitable curving of the cutter blades, or by suitably adjusting the tool or the machine by which the teeth are cut out.

Having thus described my invention I declare that what I regard as new, and desire to secure by Letters Patent, is:—

1. Scissors comprising a pair of spring pressed cutting blades pivotally connected on a hinge bolt, said blades including cutting members disposed at one side of said bolt and grip shanks on the other side of said bolt, the inner portions of the cutting members and grip shanks having interfitting teeth curved concentrically with respect to the pivotal axis of the blades.

2. Scissors comprising a pair of pivotally connected and resiliently pressed cutting blades, the portions of the blades lying at one side of the pivotal connection being provided with interfitting cutting teeth and the portions of the blades lying at the opposite side of the pivotal connection being provided with interfitting guiding teeth, the first and second mentioned teeth being curved concentrically with the pivotal axis of the blades.

3. Scissors comprising a pair of spring pressed cutting blades pivotally connected on a hinge bolt, said blades including cutting members disposed at one side of said bolt and grip shanks on the other side of said bolt, the inner portions of the cutting members and grip shanks having interfitting teeth curved concentrically with respect to the pivotal axis of the blades, the width of the portions of the grip shanks carrying the teeth being greater than that of the toothed portions of the cutting members.

4. Scissors comprising a pair of cutting blades pivotally connected on a hinge bolt, said blades including cutting members disposed at one side of said bolt and grip shanks on the other side of said bolt, the inner portions of the cutting members and grip shanks having interfitting teeth curved concentrically with respect to the pivotal axis of the blades, and a spring on the hinge bolt normally pressing the blades together.

5. Scissors comprising a pair of spring pressed cutting blades pivotally connected on a hinge bolt, said blades including cutting members disposed at one side of said bolt and grip shanks on the other side of said bolt, the inner portions of the cutting members and grip shanks having interfitting teeth curved concentrically with respect to the pivotal axis of the blades, the teeth of the cutting members and grip shanks being so disposed that during the cutting movement of the cutting members the blades are gradually lifted away from each other in the region of the hinge bolt.

FRITZ SCHMITZ.