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PETER WILD-FIERZ  
ATTACHMENTS FOR HOLDING AN APPARATUS DESIGNED  
TO BE RECIPROCATED BY HAND

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2 Sheets-Sheet 1

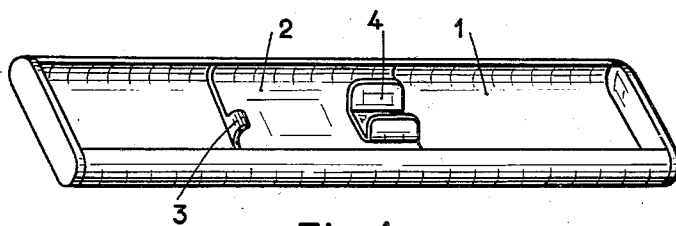


Fig. 1.

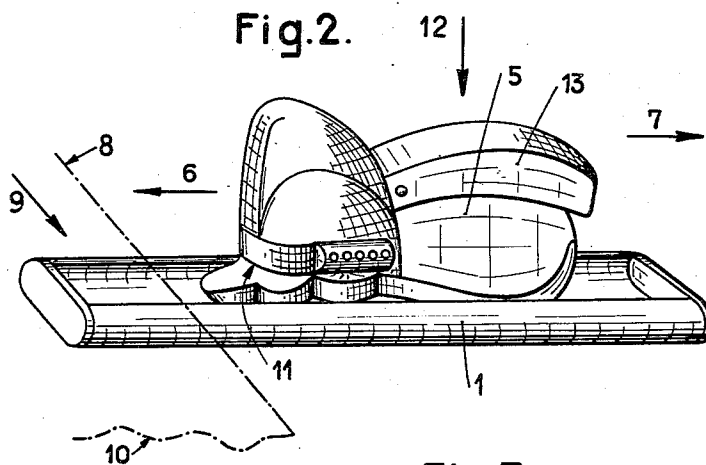


Fig. 2.

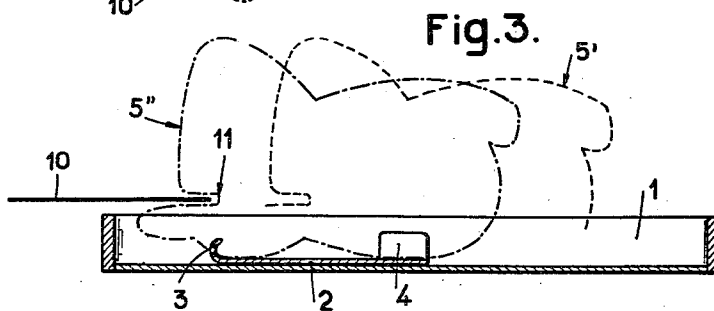


Fig. 3.

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Fig. 4.

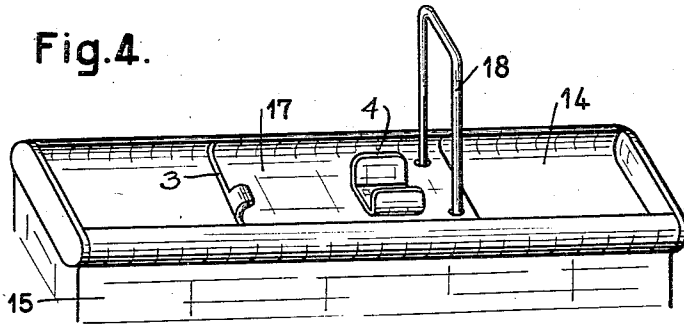


Fig. 5.

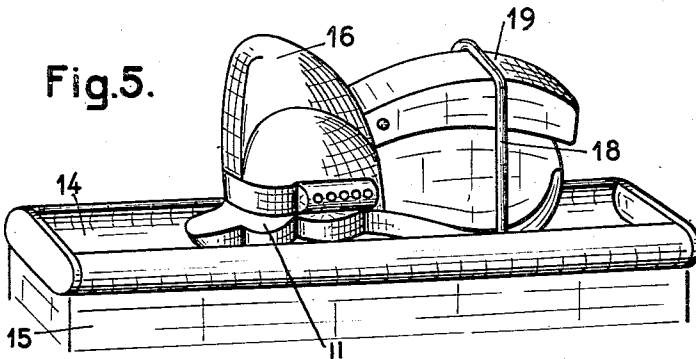
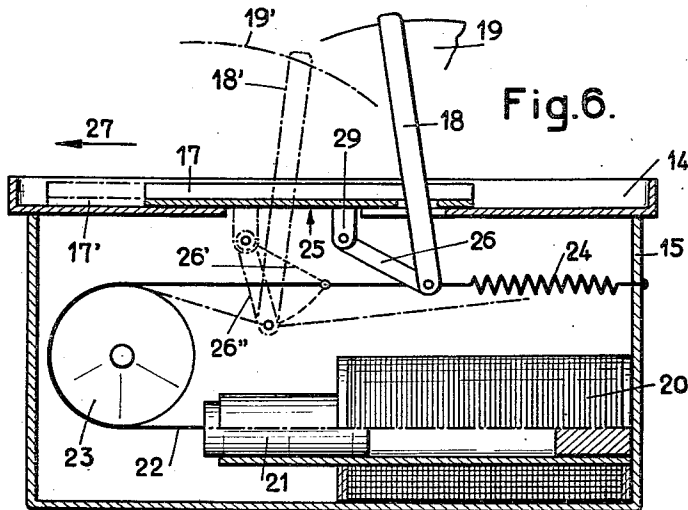


Fig. 6.



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**ATTACHMENTS FOR HOLDING AN APPARATUS  
DESIGNED TO BE RECIPROCATED BY HAND**

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4 Claims. (Cl. 28—1)

There are various hand apparatus which have to be continually reciprocated by the user, thus tiring his hand, wrist and arm.

Let us take as an example the marking apparatus which is frequently used in the textile industry, and with which marks in the form of threads are applied to the edge of a continuously moving fabric. Apparatus of this type often weigh 750 grams and not only must they be held, advanced and withdrawn by hand at the correct height in relation to the fabric edge, but in addition to their actual operation they demand the expenditure of still more effort every time the marking thread has to be applied and knotted.

To make this work easier and to relieve the hand of the person performing it, the present invention envisages the incorporation of a reciprocable slide in a rectilinear guide, which slide possesses means to hold the hand apparatus concerned.

This extremely simple solution, which relieves the hand of the apparatus' weight, can be supplemented by making electrically or pneumatically controlled members operate the advance and withdrawal of the slide together with the hand apparatus, or operate the said apparatus automatically.

The attached drawing shows two typical embodiments of the object of the invention.

Fig. 1 illustrates the attachment according to the first embodiment, without separate drive.

Fig. 2 shows the same attachment with the hand apparatus mounted on it.

Fig. 3 is a longitudinal section, showing the positions occupied by the hand apparatus in use.

Figs. 4 to 6 are two illustrations and one section respectively and refer to the second embodiment with an electro-magnetic drive.

The attachment according to the first embodiment, which is illustrated in Fig. 1 and the perspective of which is inclined forwards a little in order to reveal the inside more clearly, consists of a sheet metal, through-like, profiled guide 1 in which a suitable profiled plate 2, designed as a slide, can reciprocate in a longitudinal direction.

This plate has a hook 3 and a clamp 4 which serve to hold a predetermined hand apparatus and must in every case be adapted to the apparatus concerned.

The guide 1 may be attached to a base of its own, or also to a suitable part of e. g. a cloth examining machine or a loom.

Fig. 2 shows how a hand apparatus 5 can be mounted on the clamping slide and advanced or withdrawn together with the latter in the direction of the arrows 6 and 7 respectively.

The hand apparatus illustrated corresponds to the marking apparatus already mentioned as an example and serves to arrange threads on the edge 8 of a fabric 10 which moves past the user in the direction of arrow 9 and has to be checked.

To mark this edge, the apparatus 5 is advanced in the

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direction of arrow 6 until the edge 8 of the fabric enters the opening 11 in the apparatus, whereupon a piece of thread is applied and knotted by pressing the downwardly swivelable lever 13 in the direction of arrow 12.

When the mark has been made, the apparatus is withdrawn in the direction of arrow 7 until it releases the web of material.

The section illustrated in Fig. 3 clearly shows these two positions, i. e. the withdrawn rest position 5' (unbroken line) and the advanced operative position 5'' (broken line). In the latter position it can easily be seen how the fabric 10 has penetrated the opening 11 in the apparatus.

The user is thus enabled to mark the fabric without having to lift the apparatus; also, he is completely relieved of the need to make sure that the edge of the material enters the apparatus in a flawless manner. All he has to do is to slide the apparatus to and fro, which requires no effort, and merely to exert pressure on it every time, helped by the weight of his own hand.

In the case of the second embodiment, according to Figs. 4 to 6, a guide 14 similar to the guide 1 in the first embodiment is used and is secured to a box 15 which is partly visible in Figs. 4 and 5 and contains the operating mechanism.

The slide on profiled plate 17 holding the hand apparatus 16 (see Fig. 5) and fitted to guide 1 is also similar to the one described in connection with the first embodiment; the only difference is that this slide or plate 17 has two holes through which the two legs of a stirrup 18 are passed.

This stirrup is designed to be placed round the hand apparatus and is operated from below in such a manner as to press the lever 19 downwards.

Arranged for this purpose in the box 15 is an electromagnet 20 with a core 21 (lower half in section), which latter tensions via cord 22 and roller 23 the spring secured to the box wall. At the same time the spring serves to withdraw the core 21 into the rest position illustrated.

The spring and cord act on the bottom free end of a lever 26 which is flexibly attached to the slide or plate 17 and projects into the box through an opening 25 in the bottom of the guide 14.

Normally and in respect of the advance direction 27 of the slide this lever is swivelled to the rear and is locked in this position by the stirrup 18 flexibly attached to the said slide or plate 17. The stirrup itself, as already stated, is supported on the operating lever 19 of the hand apparatus selected by way of example, which therefore opposes a resistance to the dropping of the stirrup.

If the electromagnet is excited, it withdraws the core 21, whereby the slide or plate 17 is first advanced into position 17' and the lever 26 into the parallel position 26'. The spring 24 is tensioned accordingly.

The lug 29, however, to which the lever 26 is flexibly attached, bears against the edge of the lower guide opening 25 before the core 21 has completed its working stroke. Additional tension on the cord 22 finally causes the lever 26 to be swivelled into position 26'', which results in the stirrup 18 being drawn downwards into position 18'.

This latter movement actuates the lever 19 which is swivelled towards 19'.

If the attachment is suitably positioned to bring the hand apparatus into operative, or "marking" connection with a fabric when the slide or plate 17 is advanced, it can easily be seen that the apparatus advanced by the core of the electromagnet will grip the edge of the fabric and then apply the desired mark.

When the current is interrupted, the spring 24 with-

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draws the slide or plate 17 together with the hand apparatus into the starting position illustrated.

Instead of being operated electrically, an attachment of this type could be operated pneumatically. For this purpose, the electromagnet merely needs to be replaced by a cylinder and piston, the piston playing the part of the core 21.

The means for switching the current on or off or for opening and closing a compressed-air supply line could be arranged on the attachment itself (guide or box) or could be designed as so-called remote-control members. In addition, these means or any moving part of the attachment could be used to operate a counter which would record the attachment's every function.

It is also feasible to arrange several attachments according to the invention side by side or to form them into a combined unit, e. g. for the purpose of marking a fabric with different colours, depending on which hand apparatus is set in operation.

What I claim is:

1. In an apparatus for marking cloth and like material, a stationary mounted trough-shaped guide base having one end projecting beneath the edge of the web of material to be marked, a plate formed to fit within and slidingly arranged in said guide base, clamping means carried by said plate, a marking device having a recess to receive the edge of the web of material and adapted for operation when the material is in the recess for marking the material, said marking device being detachably held in position on said plate by said clamping means, means associated with said marking device and plate for reciprocating the same in the direction of the length of said trough-shaped base to position the edge of the web of material in said recess, and means for stopping the marking device and plate when the edge of the web of the material is in the recess and for actuating the device to apply a mark to said material.

2. An apparatus according to claim 1 in which the means for reciprocating the marking device and plate comprises power-operated means.

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3. An apparatus according to claim 2 in which the said power-operated means automatically causes actuation of said marking device at the end of the movement of the device that brings the web of the material into the recess thereof.

4. In an apparatus for marking cloth and like material, a stationary-mounted trough-shaped guide base having one end projecting beneath the edge of the web of material to be marked, a plate formed to fit within and slidingly arranged in said guide base, clamping means carried by said plate, a marking device having a recess to receive the edge of the web of material and adapted for operation when the material is in the recess for marking the material, said marking device being detachably held in position on said plate by said clamping means, means associated with said marking device and plate for reciprocating the same in the direction of the length of said trough-shaped base to position the edge of the web of material in said recess, said means comprising a yoke extending about and engaging the actuating member of said actuating device, said means for reciprocating the marking device and plate comprising power-operated means connected with said yoke and operable for first reciprocating the marking device and plate into position where the edge of the material is located within the recess, and for then moving said yoke to cause actuation of the marking device to mark the material.

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