

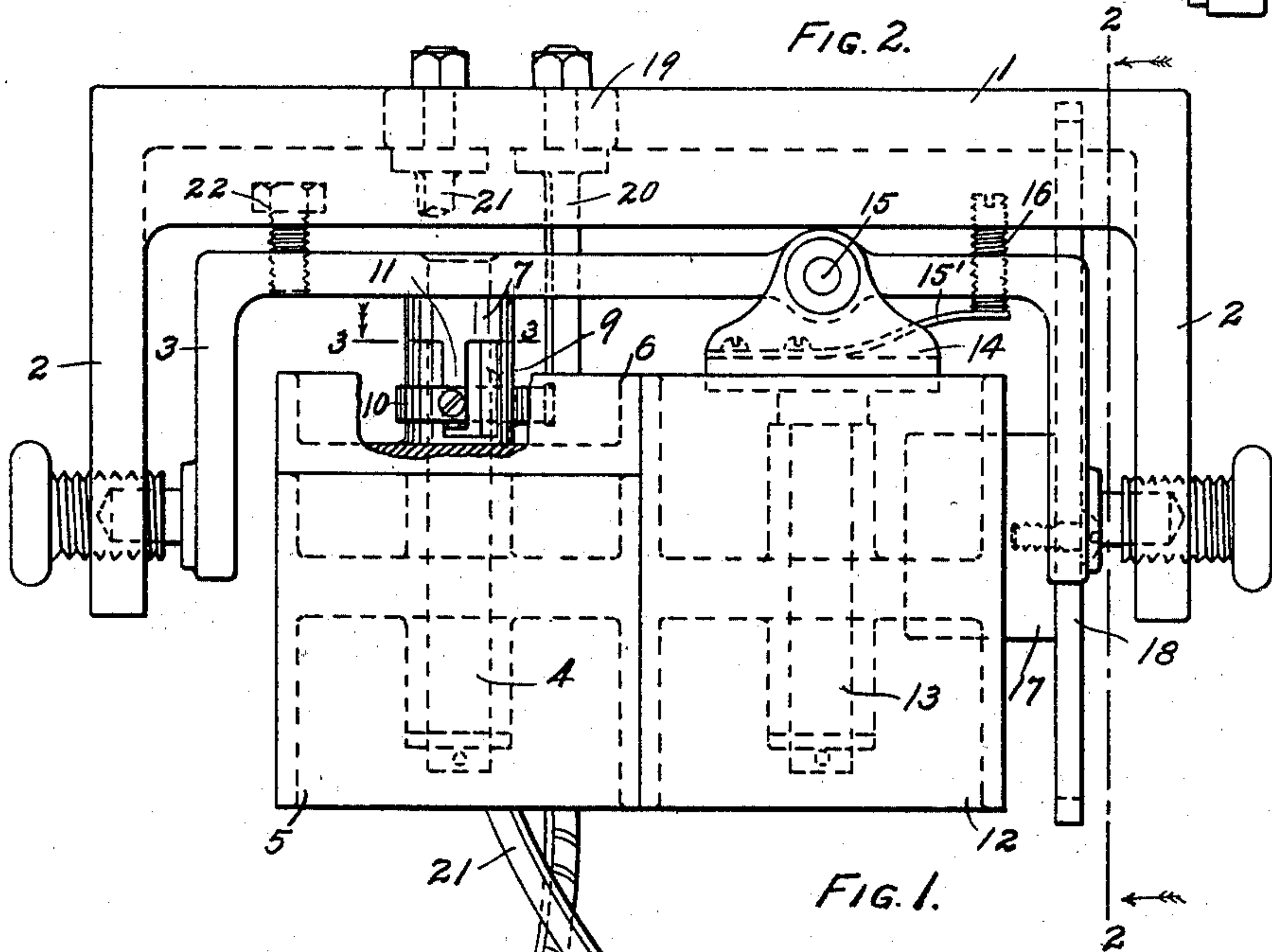
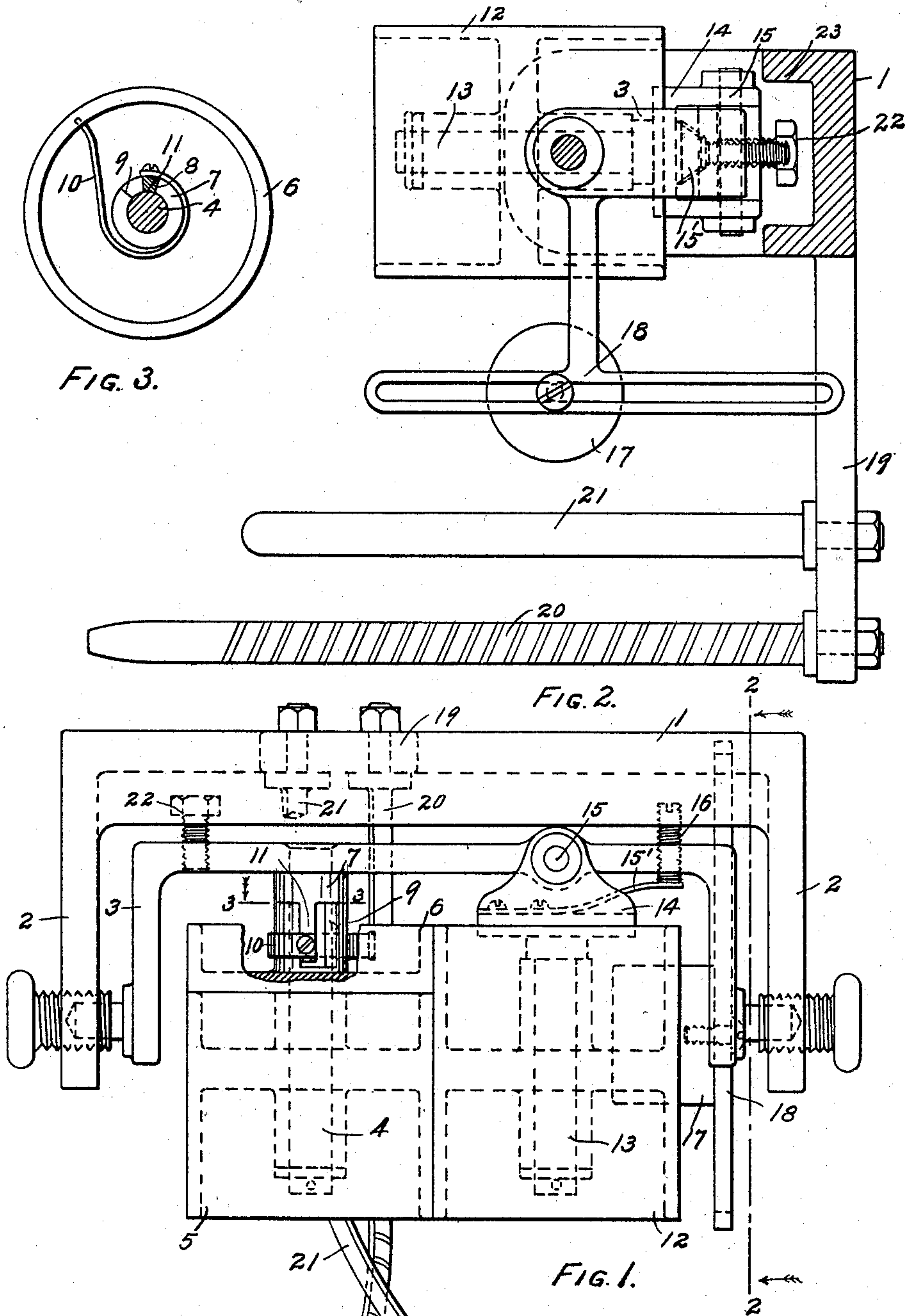
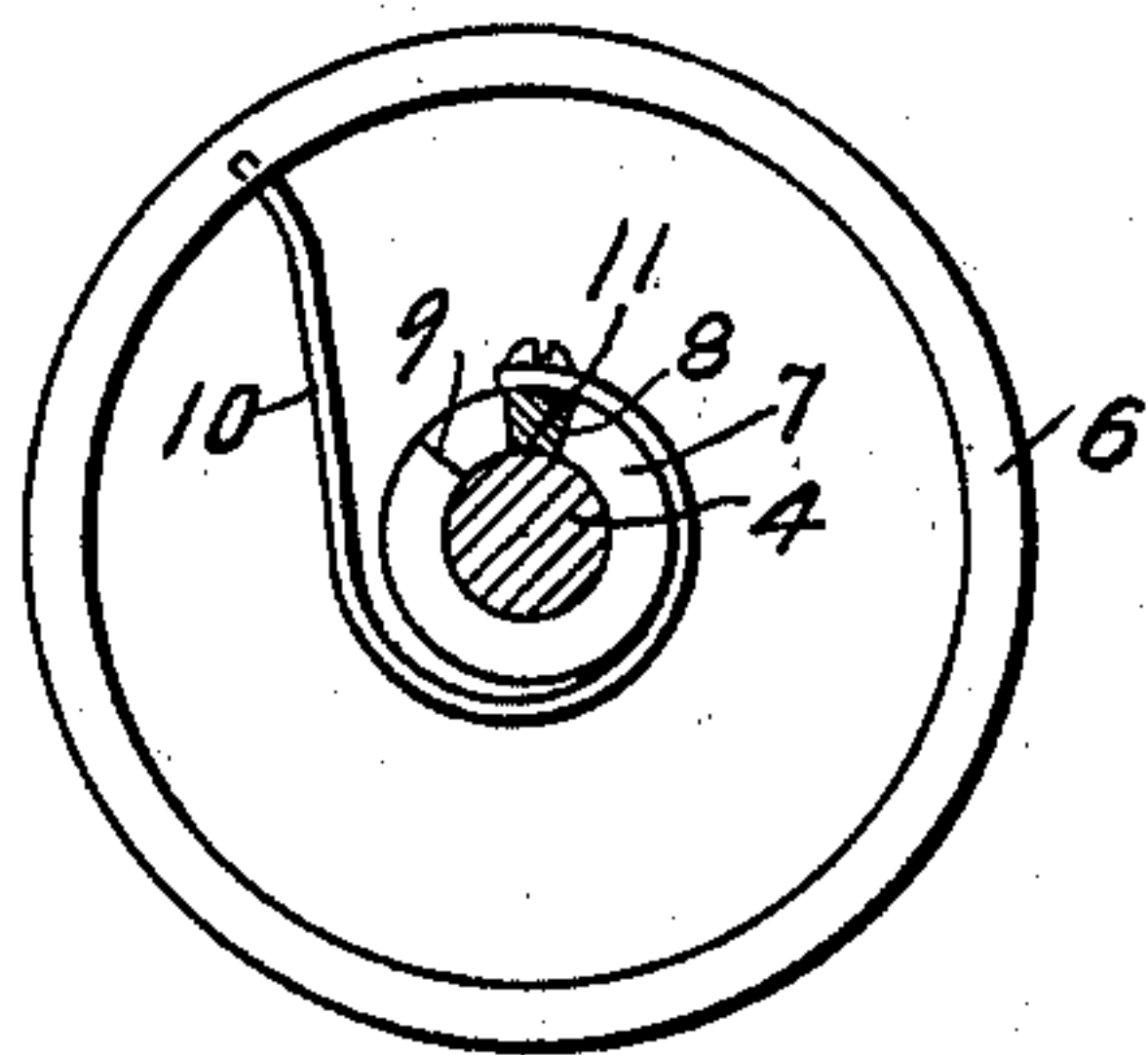
No. 609,059.

Patented Aug. 16, 1898.

H. A. TILLINGHAST.
GUIDING DEVICE.

(Application filed July 21, 1897.)

(No Model.)



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GUIDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 609,059, dated August 16, 1898.

Application filed July 21, 1897. Serial No. 645,354. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. TILLINGHAST, of Providence, county of Providence, and State of Rhode Island, have invented certain new and useful Improvements in Guiding Devices; and I do hereby declare the following specification, taken in connection with the accompanying drawings, forming a part of the same, to be a full, clear, and exact description thereof.

The present invention relates to a device for accurately guiding the edges of a web of cloth or other material to traveling carriers—such as grippers, chains, or feeding-rolls—and while said device is more especially designed for use in guiding the edges of a web of fabric to the chain hooks or grippers of a cloth-tentering machine said device may be used wherever it is desired to guide the edges of a web of fabric or other material.

The object of the invention is to provide a simple and efficient device for accurately guiding a web and which may be readily applied in any of the relations where such guides are now used or where it may be desired to use such guides; and to that end the invention comprises a guide-roll mounted to revolve upon a movable support and an engaging surface connected to the support and arranged adjacent the guide-roll, so that the web, if it runs to one side, will engage said surface, and thus exert a pull upon said surface and said support and move the guide-roll into such a position that the web will be returned to its proper position. The engaging surface may be connected to the movable support by being formed integral therewith or rigidly secured thereto, in which case there will be no relative movement between said surface and support; but it is preferred to so connect the surface and support that there may be a slight relative movement between said parts as the cloth engages the surface, as with this construction the support is moved gradually, and less strain is put upon the edges of the web when the support is moved to return the web to its proper position.

In the accompanying drawings, in which is shown a guide device embodying the present improvements in their preferred form, Figure 1 is a plan view. Fig. 2 is a sectional ele-

vation on line 2 2, Fig. 1. Fig. 3 is a sectional detail view on line 3 3, Fig. 1.

In the drawings, 1 represents a bracket for supporting the guide device, which may be attached in any suitable manner to the frame of the tentering-machine or other machine in connection with which the guide devices are to be used. It will be understood that two devices will be used, one upon each side of the web, as is usual with this class of devices. The bracket 1 is provided with two projecting arms 2, between which is pivoted the movable support or frame 3. A stud 4 projects from the support 3 and a guide-roll 5 is mounted to turn freely on said stud. An engaging surface, preferably in the form of a narrow roll or disk 6, is also mounted on the stud 4, adjacent the end of roll 5. The disk 6 may be connected to the support by rigidly securing it to the stud 4, if desired; but it is preferred to mount said disk in such a manner that it may have a slight movement relative to said support and to connect the disk to the support by means of a shoulder carried with said surface, which shoulder engages the support. As shown, the disk is provided with a hub 7, having the shoulders 8 and 9, formed by a recess in said hub, and the stud 4 is provided with a projection or lug 11, which projects within said recess and is in effect a part of the support 3. A flat spring 10, having one end secured to the lug 11, is wound around the hub 7, and has its other end secured to the rim of disk 6. The spring thus acts to normally hold the shoulder 8 against the lug 11, said shoulder and lug forming stops for limiting the movement of the disk. A weight may be used for this purpose in lieu of the spring, and the stops may be dispensed with, if desired, the spring in such case being so formed that it will not be under tension when the engaging surface is in its normal position. Instead of forming the shoulder for engaging and moving the support 3 upon the hub of disk 6 said shoulder may be in the form of a pin or stud projecting from said disk and arranged to engage the side of the support 3, or other means for connecting the engaging surface to the support, so that the web will exert a pull upon the support, may be used. It will also be understood that the roll or disk

6 may be segmental instead of cylindrical, or the form of the engaging surface may be otherwise changed and the manner of mounting said surface may also be varied, as desired.

5 The web may be held in engagement with the guide-roll 5 in any suitable manner, as by passing over suitable guides in passing to and from the guide device; but it is preferred to provide a pressure-roll 12 for pressing the web

10 upon the guide-roll and engaging surface. The roll 12 is mounted upon a stud 13, projecting from a bracket 14, pivoted at 15 to the support or frame 3. A leaf-spring 15', secured to the bracket 14 and engaged by a screw 16

15 upon the support 3, serves to hold the roll 12 against the roll 5 and the engaging surface, and by adjusting the screw 16 the pressure upon the web may be varied, as desired.

The support 3 is maintained normally in

20 the proper position by means of the weight 17, which is adjustably secured to a slotted arm 18, depending from the support 3. By adjusting the weight 17 the angle between the rolls 5 and 12 and the edge of the web

25 may be adjusted so that the web will be properly guided. The bracket 1 is provided with a depending arm 19, to which the guides 20 and 21, over which the web passes to the guide-roll 5, are adjustably secured.

30 The operation is as follows: One of the guiding devices is located at each side of the web, and the edges of the web pass over the guides 20 and 21 and the guide-rolls 5, the weights 17 acting to hold the rolls at such an

35 angle that the web will be accurately guided. If now for any cause the web works to one side, the edge of the web will engage the disk 6 upon that side and exert a pull upon said disk tending to revolve the same. This tendency

40 will be resisted by the spring 10, and thus the pull of the web will be transmitted to the frame 3 with increasing force until the shoulder 9 engages the lug 11 and positively connects the disk and support, when the entire

45 pull of the web will be exerted upon the support 3. The pull upon the support 3 will rock the support upon its pivots, and thus move the guide-roll 5 at an angle to the web and guide said web back to its proper position

50 and off of the disk 6. As the edge of the web passes from the surface of disk 6 the pull upon said disk and support 3 will be removed and the spring 10 will return the disk to its normal position relative to the support

55 3 and the weight 17 will return the support to its normal position. The rocking movement of the support 3 is limited by the head of bolt 22, which engages the web 23 of bracket 1. Thus if the web works to either side it is

60 quickly returned to its proper position and the accurate guiding of the web is insured.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a guide device, the combination of a movable support, a guide-roll upon said support, an engaging surface adjacent said roll and connected to said support, to transmit the pull of the web directly to said support, substantially as described. 65

2. In a guide device, the combination of a movable support, a guide-roll upon said support, an engaging surface adjacent said roll, and a shoulder carried with said surface and arranged to engage said support, to transmit the pull of the web directly to said support, substantially as described. 70 75

3. In a guide device, the combination of a pivoted support, a guide-roll upon said support, an engaging surface adjacent said roll, a shoulder secured to said surface and arranged to engage said support, and means for yieldingly holding said shoulder out of engagement with said support, substantially as described. 80

4. In a guide device, the combination of a pivoted support, a guide-roll upon said support, a disk adjacent said roll and connected to said support, to transmit the pull of the web directly to said support, substantially as described. 85 90

5. In a guide device, the combination of a pivoted support, a stud projecting from said support, a guide-roll on said stud, a disk on said stud adjacent said roll and a shoulder on said disk for engaging said support, substantially as described. 95

6. In a guide device, the combination of a pivoted support, a stud projecting from said support, a guide-roll mounted on said stud, a disk on said stud adjacent said roll, a shoulder on said disk for engaging said support, and a spring connected to said support and disk, substantially as described. 100

7. In a guide device, the combination of a pivoted support, a stud projecting from said support, a guide-roll on said stud, a disk on said stud adjacent said roll, a shoulder on said disk for engaging said support, and a pressure-roll mounted on said support, substantially as described. 105 110

8. In a guide device, the combination of a pivoted support, a stud projecting from said support, a guide-roll on said stud, a disk on said stud adjacent said roll, means for connecting said disk and support, a pressure-roll bearing upon said roll and disk, and a weight for holding said support in its normal position, substantially as described. 115

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Witnesses:

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