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[56]

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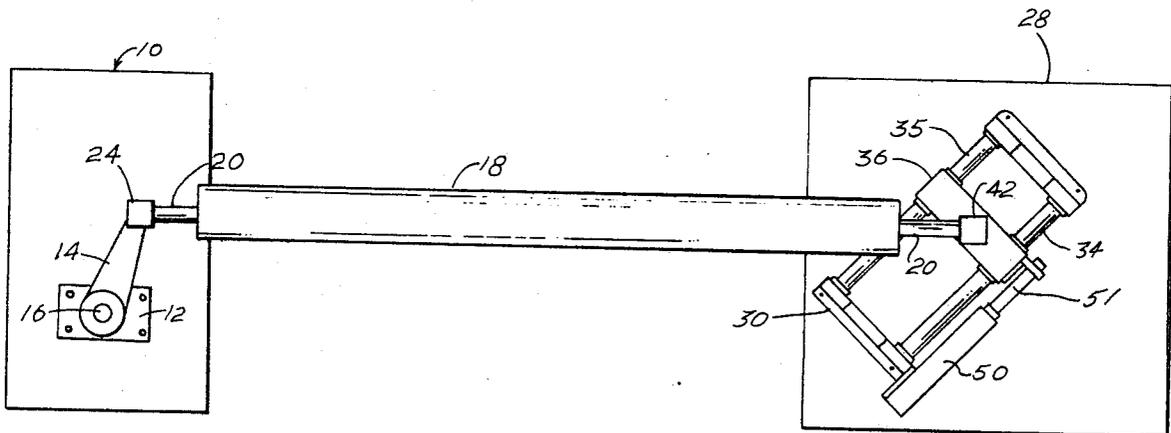
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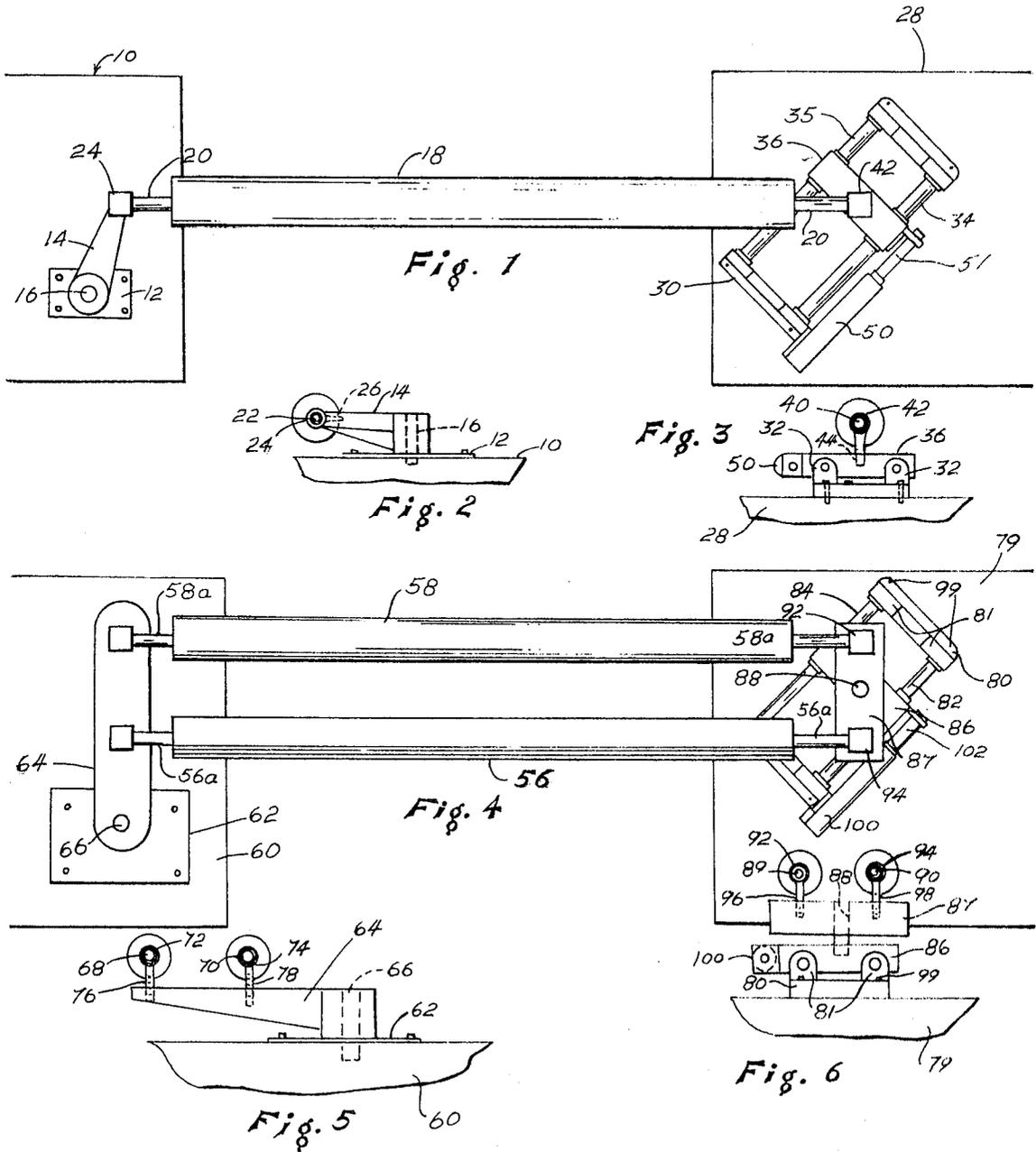
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[54] **GUIDER FOR STRAIGHTENING TRAVELING WEBS**
8 Claims, 11 Drawing Figs.

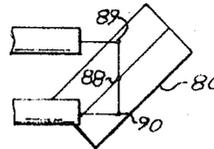
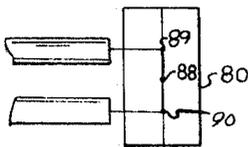
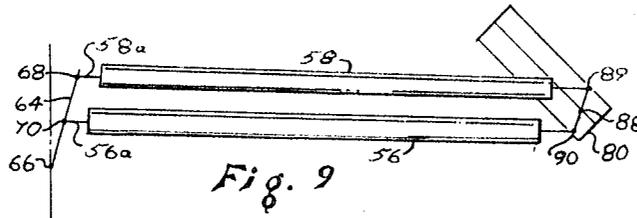
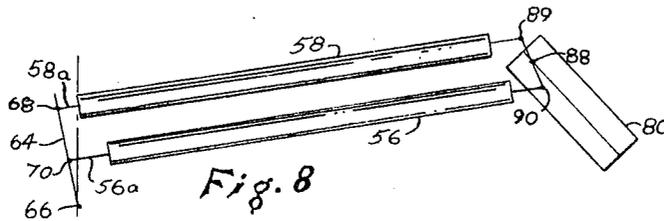
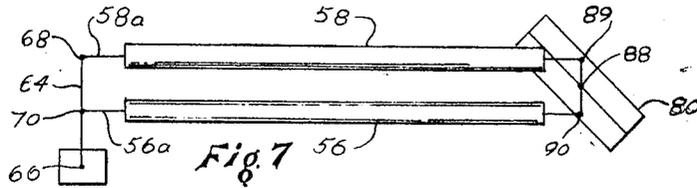
[52] U.S. Cl. 226/199,
 226/21
 [51] Int. Cl. **B65h 23/26**
 [50] Field of Search 226/199,
 21—23, 15, 18, 180

ABSTRACT: A guider for traveling webs of cloth has one or more web rollers to which a pivot arm is connected which arm moves in an arc, and connected at the opposite side are sliding means which, when actuated, causes the web roller or rollers to move laterally, in either one of two opposite directions, as needed to straighten a traveling web.





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GUIDER FOR STRAIGHTENING TRAVELING WEBS

The principal object of my invention is to provide a guider that has different motions including an arcuate movement, whereby to change the position laterally of one or more web rollers as needed to correctly guide a web over one or more rollers.

Another object is to provide a guider that can move web rollers, when at least two are used, to vary the space between said rollers as well as to move one roller sidewise a different distance than the other is moved.

The foregoing and other objects, which will appear as the nature of the invention is better understood, may be accomplished by a construction, combination and operative arrangement of parts such as is disclosed by the drawings. The nature of the invention is such as to render it susceptible to various changes and modifications, and, therefore, I am not to be limited to the construction disclosed by the drawings nor to the particular parts described in the specifications; but am entitled to all such changes therefrom as fall within the scope of my invention.

FIG. 1 is a top plan view of my guider having one web roller, and the actuating mechanism therefor.

FIG. 2 is a fragmentary, side elevational view of the pivot mechanism shown at the left side in said FIG. 1.

FIG. 3 is a fragmentary, side elevational view of the sliding mechanism shown at the right side in said FIG. 1.

FIG. 4 is a top plan view of my guider showing two web rollers and the straightening mechanism therefor.

FIG. 5 is a fragmentary side elevational view of the pivot mechanism shown at the left side in said FIG. 4.

FIG. 6 is a fragmentary, side elevational view of the sliding mechanism shown at the right side in said FIG. 4.

FIG. 7 is a diagrammatic view showing the position of two web rollers and straightening mechanism in normal position.

FIG. 8 is a diagrammatic view showing the position of the straightening mechanism after two web rollers have been moved laterally to the left and moved closer together than when in normal position.

FIG. 9 is a diagrammatic view showing the position of the straightening mechanism after two web rollers have been moved laterally to the right and moved closer together than when in normal position.

FIG. 10 is a fragmentary, diagrammatic view showing the supporting plate for the sliding mechanism in another position than previously shown.

FIG. 11 is a fragmentary, diagrammatic view similar to FIG. 10; but showing the supporting plate in another position to enable my straightening mechanism to function when the rotation of said rollers is reversed.

As illustrated, supporting means has a table top or base 10 that fixedly receives a fixed support 12 for a pivot arm 14 rotatably mounted in the latter adjacent one end, being rotatably held in said means by a pin 16. A rotatable web roller 18 has a shaft 20 projecting at opposite ends and which rotatably enters a well-known ball joint 22 movably retained in a mount 24 from which a screw member 26 extends that is fixed on said arm 14. Movement of said pivot arm 14, in an arc, results in a movement of said web roller 18 as later explained.

At a laterally opposite side to said supporting means is a base 28 to which is adjustably affixed a supporting plate 30 having upstanding sides 32 that fixedly receive two guide bars 34 and 35 extending between them. A carriage or moving block 36 is slidably mounted on said bars. A well-known ball joint 40 rotatably receives an end of said shaft 20, said ball joint 40 being movably retained in a mount 42 from which a screw member 44 extends that fixedly enters said carriage 36.

In operation when the carriage 36 is actuated, as by a well-known actuating cylinder 50 attached thereto, and having a piston 51, said carriage slidably travels on said guide bars 34 and 35 carrying said web roller 18 laterally in the direction of movement of said carriage 36. This results in practically simul-

taneous movement of said pivot arm 14 in an arc at the opposite side of said web roller 18. Movement of said roller 18 in either lateral direction is thus possible as illustrated in said FIGS. 8 and 9. Since said supporting plate 30 is adjustable on said base 28, as by loosening a bolt, if the direction of the web roller is reversed, said plate 30 may be adjusted to extend diagonally in another direction as shown in said FIG. 7. Said cylinder 50 is adapted to be operably connected to a well-known sensing or detector means, not shown.

In said FIG. 4 I show two rotatable web rollers 56 and 58 oppositely and laterally disposed similar to roller 18, having shafts 56a and 58a. A supporting means has a base 60 that receives a fixed support 62 on which is rotatably mounted a pivot arm 64 that is rotatably held by a pin 66 pivotally mounted in said latter means. Said shafts 56a and 58a rotatably enter well-known ball joints 68 and 70 respectively which are movably retained in mounts 72 and 74 respectively from which latter screw members 76 and 78 respectively extend that are fixed in said arm 64. Movement of said pivot arm 64 in an arc, as later shown, results in movements of said web rollers sidewise although the lateral movement of web roller 56, being nearer said pivot point 64, is less than said web roller 58, but in the same direction.

At a side laterally opposite to said base 60 the supporting means has a base 79 on which is adjustably mounted a supporting plate 80 having upstanding sides 81 that fixedly receive two guide bars 82 and 84 extending between them. A carriage block 86 is slidably mounted on said bars 82 and 84 above which is a connector 87 pivotally connected by a pin 88 to said carriage 86. Two well-known ball joints 89 and 90 movably receive ends of said shafts 56a and 58a respectively, said latter ball joints being movably retained in mounts 92 and 94 respectively from which screw members 96 and 98 respectively extend and enter said connector 87. The operation of said carriage 86 and said two web rollers 56 and 58 is similar to that of said carriage 36, except that two web rollers are carried instead of only one, thus using said connector 87.

While said carriage supporting plate 80 is fixed when my guider is in use, its position may be changed by loosening bolts 99 that hold it fixed to a table top or other supporting means. For instance, it may extend diagonally inward, from front to rear, as shown in said FIGS. 1 and 4, if the web rollers rotate clockwise, whereas its position may be changed to extend diagonally outward from front to rear if the web rollers are to rotate counterclockwise for instance.

What I claim is:

1. A guider for straightening traveling webs comprising supporting means, a web roller, a pivot arm pivotally supported on said means, said roller being movably connected to said arm at a first side of said roller, guide means supported by said supporting means, a carriage slidably mounted on said guide means, said web roller being movably connected to said carriage at a side laterally opposite said first side whereby said roller responds to sliding movement of said carriage and pivotal movement of said arm.

2. A guider for straightening traveling webs as set forth in claim 1, and a plate supporting said guide means and carriage and supported by said supporting means, and means adjustably connecting said plate to said latter means.

3. A guider for straightening traveling webs as set forth in claim 1, said guide means having two guide bars, spaced laterally apart, said carriage being slidably mounted on said guide bars.

4. A guider for straightening traveling webs as set forth in claim 1, said pivot arm being pivotally supported on said supporting means adjacent a first side of said arm and connected to said roller adjacent a side opposite said first side of said arm.

5. A guider for straightening traveling webs as set forth in claim 1, and another web roller spaced forwardly from said first-mentioned roller, said pivot arm being movably connected to said other roller, and a connector movably connected to said two rollers and pivotally connected to said carriage.

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6. A guider for straightening traveling webs as set forth in claim 5, said guide means having two guide bars spaced laterally apart slidably supporting said carriage said connector extending above said guide bars.

7. A guider for straightening traveling webs as set forth in claim 5, and a plate supporting said guide means and carriage and supported by said supporting means, and means adjustably connecting said plate to said latter means.

8. A guider for straightening traveling webs as set forth in claim 5, said guide means having two guide bars spaced laterally apart slidably supporting said carriage, and a plate supporting said guide means and carriage and supported by said supporting means, and means adjustably connecting said plate to said supporting means.

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