

Oct. 21, 1958

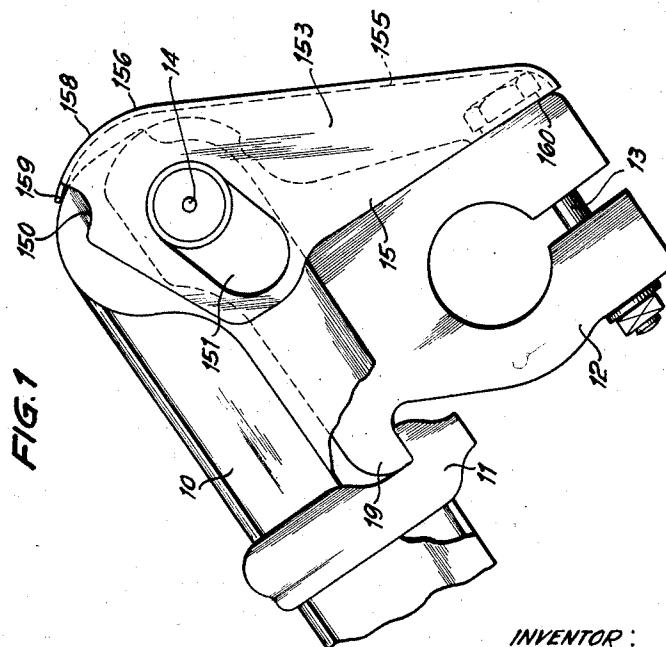
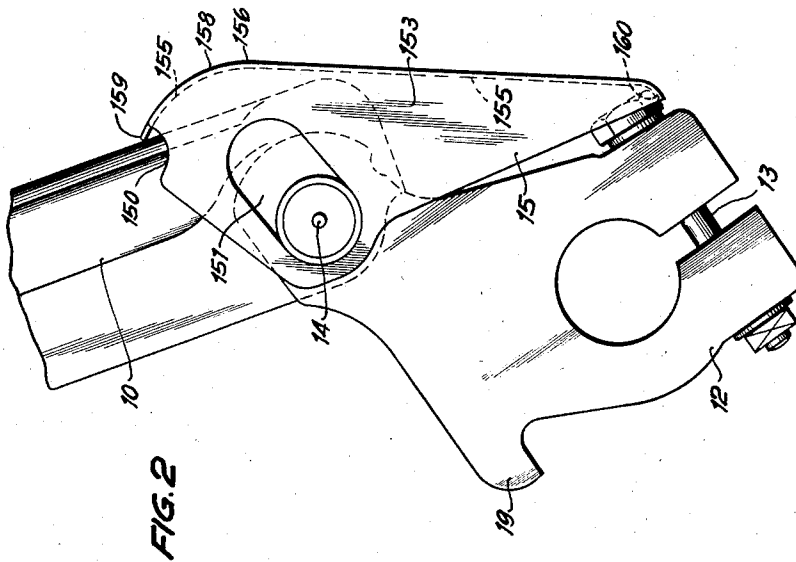
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2,856,642

APPARATUS FOR COVERING PARTS OF A TEXTILE DRAWING MECHANISM

Filed March 10, 1953

3 Sheets-Sheet 1



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FIG. 3

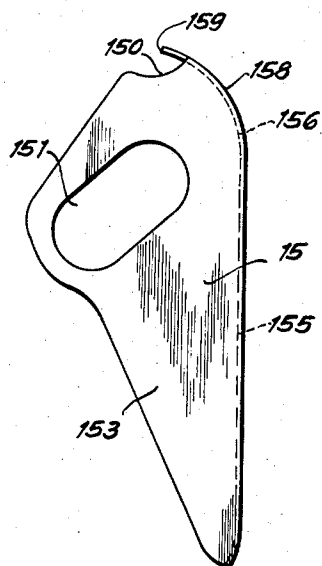


FIG. 4

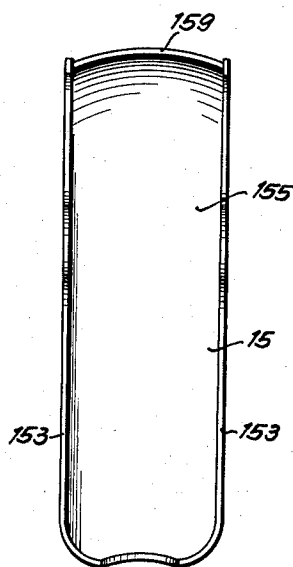


FIG. 6

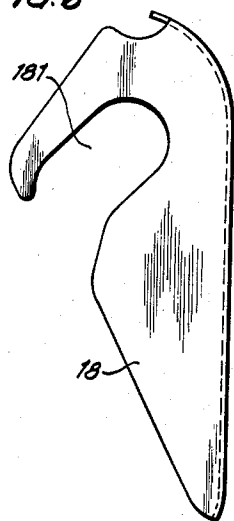
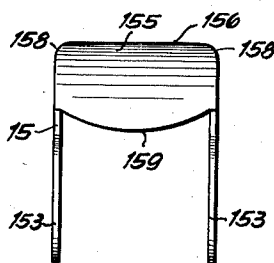


FIG. 5



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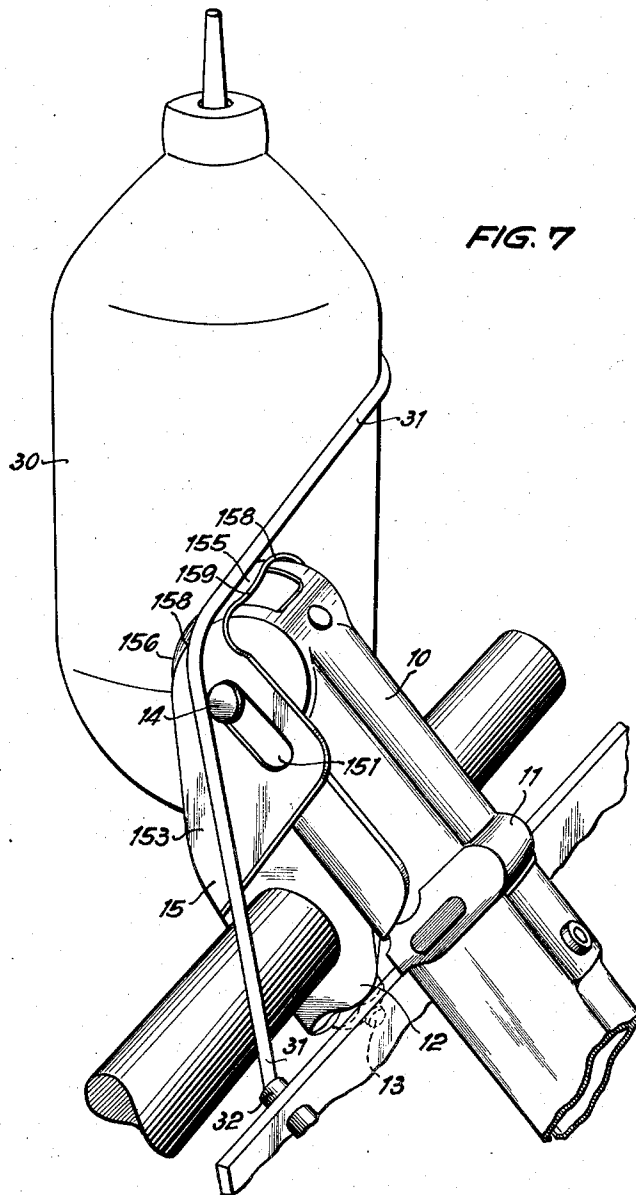
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APPARATUS FOR COVERING PARTS OF A TEXTILE DRAWING MECHANISM

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3 Sheets-Sheet 3



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APPARATUS FOR COVERING PARTS OF A
TEXTILE DRAWING MECHANISM

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Claims priority, application Germany March 18, 1952

10 Claims. (Cl. 19—134)

The present invention relates to textile drawing mecha-
nisms.

It is frequently a difficult matter to feed rovings to the drawing plane of a drawing mechanism of a spinning machine without catching and tearing the roving on parts of the drawing mechanism, particularly during the times when the apparatus is being threaded and started up. Moreover, parts of the drawing mechanism are located well to the rear of the front of the machine and are fairly inaccessible so that it is difficult to clean these parts.

One of the objects of the present invention is to overcome these difficulties by providing a means for covering such parts of the apparatus so that they do not become dirty and so that a roving cannot become caught or torn thereon.

A further object of the present invention is to provide a cover of the above type which is easy to mount and dismount on the machine.

Another object of the present invention is to provide a cover which does not require the conventional drawing mechanism structure to be altered to accommodate the cover.

An additional object of the present invention is to provide a cover which will automatically remain in engagement with the drawing mechanism at all times.

With the above objects in view, the present invention mainly consists of a drawing mechanism which includes a stationary support having a front side and rear side and an elongated arm having a rear end pivotally connected to the support for movement about a horizontal axis and being adapted to carry the top rolls of the drawing mechanism. A cover member has a pair of opposite side walls respectively facing opposite sides of the support and arm and a rear wall interconnecting the side walls and facing the rear side of the support and the arm, this cover member being mounted on the support for free movement in a forward direction toward the latter and said arm so as to remain in engagement with the support and arm in all positions of the latter.

The novel features which are considered as characteristic for the invention are set forth in particular in the appended claims. The invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the following description of specific embodiments when read in connection with the accompanying drawings, in which:

Fig. 1 is a fragmentary side view of the rear portion of a top rolls carrying arm and support therefor together with a cover apparatus constructed in accordance with the present invention.

Fig. 2 illustrates the structure of Fig. 1 in a different position thereof;

Fig. 3 is an elevational side view of a cover member constructed in accordance with the present invention;

Fig. 4 is a view of the cover of Fig. 3 as seen from the left side thereof;

Fig. 5 is a top plan view of the cover of Fig. 4;

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Fig. 6 is a side elevational view of a different embodiment of a cover constructed in accordance with the present invention; and

Fig. 7 is a fragmentary, partly diagrammatic, perspective view of the structure of the invention illustrated in association with a roving being guided to the drawing plane.

Referring now to the drawings, Fig. 1 shows the stationary support 12 which is clamped to the rear stationary bar of the drawing mechanism by the bolt 13, this rear bar not being shown in Figs. 1 and 2 and being carried by the stationary base of the apparatus on which the bottom rolls are mounted. A pin 14 is fixed to and extends through the support 12 with opposite end portions of the pin 14 respectively extending beyond the opposite sides of the support 12. The arm 10, which carries the top rolls of the drawing mechanism, is pivotally mounted at its rear end on the pin 14 for movement about the horizontal axis of pin 14 between the operative position shown in Fig. 1 and the inoperative position shown in Fig. 2. In the operative position of Fig. 1, the arm 10 extends downwardly and forwardly in a direction parallel to the drawing plane. The arm 10 is channel shaped and is provided with outwardly pressed side portions which are respectively located at the opposite sides of support 12 and respectively formed with openings through and beyond which the end portions of the pivot pin 14 respectively extend. The arm 10 carries a catch member 11 which cooperates in a known way with the portion 19 of the support 12 to releasably hold the arm 10 in the operative position of Fig. 1.

Figs. 1 and 2 show the cover member 15 of the invention mounted on the apparatus, and the details of this cover member are further illustrated in Figs. 3-5 of the drawings. This cover member 15 includes a rear wall 155 which is curved forwardly at the part 156 thereof. A pair of parallel substantially triangular side walls 153 extend forwardly from the opposite rounded side edges 158 of the rear wall 155, and the cover member is formed with a pair of elongated aligned cutouts taking the form of slots 151 respectively passing through the side walls 153. The top edge 159 of the rear wall 155 is curved, as is best shown in Figs. 4 and 5, and the opposite side walls 153 are each formed with a cutaway portion 150 (Fig. 3) located adjacent to the top edge 159 of the rear wall 155.

As is apparent from Fig. 1, the slots 151 extend forwardly and downwardly so that the cover member 15 rests at the upper edges of the slots 151 on the pin 14 and is urged forwardly by its own weight. Thus, the top edge 159 engages the arm 10, and the bottom portion of the cover member 15 engages the support 12 at the part 160 thereof. As is apparent from Fig. 2, upon release of the catch means 11, 19 and upward turning movement of the arm 10 to the inoperative position shown in Fig. 2, the arm 10 through its engagement with top edge 159 of cover 15 moves the latter rearwardly along the opposite end portions of pin 14 to the position shown where the cover member is still in engagement with the support 12 as well as the arm 10. Upon return of the latter to the operative position of Fig. 1, the cover 15 will automatically move by gravity to the position of Fig. 1. During movement of cover 15 between the positions of Figs. 1 and 2, the forwardly and downwardly inclined upper edges of slots 151 slide along pin 14. It is also possible to provide a resilient spring means of any type which is connected to the cover 15 for yieldably urging the latter to the position of Fig. 1.

The cover member 15 is preferably made of a resilient sheet material, such as sheet metal, so that its opposite sides 153 may be yieldably moved away from each other to pass over the opposite end portions of pin 14 when the cover member is being mounted on and removed

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from the machine. However, this is not essential since it is within the purview of the present invention to provide a cover having the construction of cover member 13 of Fig. 6 which is identical in all respects with the cover member 15 except that instead of slots 151 the cover member 13 is provided with cutouts in the form of notches 181 which may be moved onto the opposite ends of pin 14 without moving the opposite side walls of the cover member away from each other. As a matter of convenience, however, the cover member 13 may also be made of a resilient sheet material, if desired.

The cover member 15 is shown in association with a roving 31 in Fig. 7 which also shows the rear bar on which the support 12 is clamped by the bolt 13. The roving 31 is taken from a spool 30 located to the rear and to one side of the support 12, arm 10, and cover member 15. An eye 32 is mounted on a stationary part of the apparatus to guide the roving 31 to the drawing plane. When the roving is first threaded through the apparatus and before the latter is started up, the roving 31 usually rests against the top part of the arm 10. Upon starting of the apparatus, the loose roving is pulled and moves rearwardly along the arm 10 and slips downwardly about the curved rear portion thereof and over the top curved edge 159 of the cover 153 to the position shown in Fig. 7 where the roving passes about one of the rounded side edges 158 of rear wall 155 of the cover 15 to the eye 32 and through the latter to the drawing plane.

The top edge 159 prevents catching of the roving due to the curved shape of this top edge, and the rounded side edge 158 of the rear wall 155 guides the roving 31 with a minimum of friction. Thus, with the apparatus of the invention the roving 31 cannot tear or become caught on projecting parts of the apparatus and moreover is guided with a minimum of friction to the drawing plane. During operation, the roving moves up and down along the rear wall 155 through a small portion of the length thereof. The invention is of particular significance when used with an arrangement similar to that shown in Fig. 7 where the spool 30 is located to the rear and to one side of the support 12 and arm 10, because it is with just such an arrangement of parts that catching and tearing of the roving would most frequently occur if the apparatus were not provided with a cover 15.

It will be understood that each of the elements described above, or two or more together, may also find a useful application in other types of textile drawing mechanisms differing from the types described above.

While the invention has been illustrated and described as embodied in cover apparatus for textile drawing mechanisms, it is not intended to be limited to the details shown, since various modifications and structural changes may be made without departing in any way from the spirit of the present invention.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can by applying current knowledge readily adapt it for various applications without omitting features that, from the standpoint of prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalents of the following claims.

What is claimed as new and desired to be secured by Letters Patent is:

1. In a textile drawing mechanism, in combination, a stationary support having a front side and a rear side; an elongated arm having a rear end pivotally connected to said support for movement about a horizontal axis and being adapted to carry the top rolls of the drawing mechanism; and a cover member having a pair of opposite side walls respectively facing opposite sides of said support and arm and having a rear wall interconnecting said side walls and facing said rear side of said support and

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said rear end of said arm, said cover member being mounted on said support for free movement in a forward direction toward the latter and said arm so as to remain in engagement with said support and arm in all positions of the latter.

2. In a textile drawing mechanism as recited in claim 1, said rear wall having a top curved edge and said side walls respectively being formed with cutaway portions respectively located next to the ends of said top curved edge of said rear wall.

3. In a textile drawing mechanism, in combination, a stationary support having a front side and a rear side; an elongated arm having a rear end pivotally connected to said support for movement about a horizontal axis and being adapted to carry the top rolls of the drawing mechanism; and a cover member having a pair of opposite side walls respectively facing opposite sides of said support and arm and having a rear wall interconnecting said side walls and facing said rear side of said support and said rear end of said arm, said cover member being mounted on said support for free movement under the influence of gravity in a forward direction toward the latter and said arm so as to remain in engagement with said support and arm in all positions of the latter.

4. In a textile drawing mechanism, in combination, a stationary support having a front side and a rear side; an elongated arm having a rear end pivotally connected to said support for movement about a horizontal axis and being adapted to carry the top rolls of the drawing mechanism; a pin member mounted on said support and having opposite end portions respectively extending beyond opposite sides of said support; and a cover member having a pair of opposite side walls formed with elongated cut outs, respectively, through which said end portions of said pin member respectively extend and having a rear wall facing said rear side of said support and said rear end of said arm and interconnecting said side walls, said cover member resting on said end portions of said pin member for free movement in a forward direction toward said support and arm so as to engage said support and arm in all positions of the latter.

5. In a textile drawing mechanism, in combination, a stationary support having a front side and a rear side; an elongated arm having a rear end pivotally connected to said support for movement about a horizontal axis and being adapted to carry the top rolls of the drawing mechanism; a pin member mounted on said support and having opposite end portions respectively extending beyond opposite sides of said support; and a cover member having a rear wall facing said rear side of said support and said rear end of said arm and having a pair of opposite side walls respectively extending forwardly from opposite side edges of said rear wall and respectively being formed with forwardly extending and downwardly inclined cutouts through which said end portions of said pin respectively extend, said cutouts respectively having forwardly and downwardly inclined upper edges so that said cover member rests at said upper edges of said cutouts on said end portions of said pin, respectively, and is thereby constantly urged forwardly by its own weight so as to remain constantly in engagement with said support and arm in all positions of the latter.

6. In a textile drawing mechanism, in combination, a stationary support having a front side and a rear side; an elongated arm having a rear end pivotally connected to said support for movement about a horizontal axis and being adapted to carry the top rolls of the drawing mechanism; a pin member mounted on said support and having opposite end portions respectively extending beyond opposite sides of said support; and a cover member having a rear wall facing said rear side of said support and said rear end of said arm and having a pair of opposite side walls respectively extending forwardly from opposite side edges of said rear wall and respectively being

formed with forwardly extending and downwardly inclined slots through which said end portions of said pin respectively extend, said slots respectively having forwardly and downwardly inclined upper edges so that said cover member rests at said upper edges of said slots on said end portions of said pin, respectively, and is thereby constantly urged forwardly by its own weight so as to remain constantly in engagement with said support and arm in all positions of the latter, said cover member being made of a resilient sheet material so that it may be snapped onto and off from said end portions of said pin.

7. In a textile drawing mechanism, in combination, a stationary support having a front side and a rear side; a pin member fixed to said support and having opposite end portions respectively extending beyond opposite side faces of said support; an elongated arm having a rear end portion pivotally carried by said pin and located inwardly of said end portions thereof, said arm being adapted to carry the top rolls of the drawing mechanism; and a cover member having a rear wall facing said rear side of said support arm said rear end of said arm and having a pair of opposite side walls respectively extending forwardly from opposite side edges of said rear wall and respectively being formed with forwardly extending and downwardly inclined cutouts through which said end portions of said pin respectively extend, said cutouts respectively having forwardly and downwardly inclined upper edges so that said cover member rests at said upper edges of said cutouts on said end portions of said pin, respectively, and is thereby constantly urged forwardly by its own weight so as to remain constantly in engagement with said support and arm in all positions of the latter.

8. In a textile drawing mechanism, in combination, a stationary support having a front side and a rear side; an elongated arm having a rear end pivotally connected to said support for movement about a horizontal axis and being adapted to carry the top rolls of the drawing mechanism; a pin member mounted on said support and having opposite end portions respectively extending beyond opposite sides of said support; and a cover member having a rear wall facing said rear side of said support and said rear end of said arm and having a pair of opposite side walls respectively extending forwardly from opposite side edges of said rear wall and respectively being formed with forwardly extending and downwardly inclined cutouts through which said end portions of said pin respectively extend, said cutouts respectively having forwardly and downwardly inclined upper edges so that said cover member rests at said upper edges of said cutouts on said end portions of said pin, respectively, and is thereby constantly urged forwardly by its own weight so as to remain constantly in engagement with said support and arm in all positions of the latter, and said rear wall of said cover member having a top curved edge engaging said arm.

9. In a textile drawing mechanism, in combination, a stationary support having a front side and a rear side; an

elongated arm having a rear end pivotally connected to said support for movement about a horizontal axis and being adapted to carry the top rolls of the drawing mechanism; a pin member mounted on said support and having opposite end portions respectively extending beyond opposite sides of said support; and a cover member having a rear wall facing said rear side of said support and said rear end of said arm and having a pair of opposite side walls respectively extending forwardly from opposite side edges of said rear wall and respectively being formed with forwardly extending and downwardly inclined cutouts through which said end portions of said pin respectively extend, said cutouts respectively having forwardly and downwardly inclined upper edges so that said cover member rests at said upper edges of said cutouts on said end portions of said pin, respectively, and is thereby constantly urged forwardly by its own weight so as to remain constantly in engagement with said support and arm in all positions of the latter, and said opposite side edges of said rear wall being smoothly rounded so as to guide a roving to the drawing plane with a minimum of friction.

10. In a textile drawing mechanism, in combination, a stationary support having a front side and a rear side; an elongated arm having a rear end pivotally connected to said support for movement about a horizontal axis and being adapted to carry the top rolls of the drawing mechanism; a pin member mounted on said support and having opposite end portions respectively extending beyond opposite sides of said support; and a cover member having a rear wall facing said rear side of said support and said rear end of said arm and having a pair of opposite side walls respectively extending forwardly from opposite side edges of said rear wall and respectively being formed with forwardly extending and downwardly inclined cutouts through which said end portions of said pin respectively extend, said cutouts respectively having forwardly and downwardly inclined upper edges so that said cover member rests at said upper edges of said cutouts on said end portions of said pin, respectively, and is thereby constantly urged forwardly by its own weight so as to remain constantly in engagement with said support and arm in all positions of the latter, and said rear wall of said cover member having a top curved edge engaging said arm, and said opposite side edges of said rear wall being smoothly rounded so as to guide a roving to the drawing plane with a minimum of friction.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 2,856,642

Ernst Rogner

October 21, 1958

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 3, line 69, for "read" read -- rear --.

Signed and sealed this 6th day of January 1959.

(SEAL)
Attest:

KARL H. AXLINE
Attesting Officer

ROBERT C. WATSON
Commissioner of Patents