F. CASABLANCAS.

MECHANISM FOR DRAWING FIBERS WITH ENDLESS BELTS.

APPLICATION FILED MAR. 12, 1917.

Patented Sept. 18, 1917.

1,240,670.

Fig. 1.

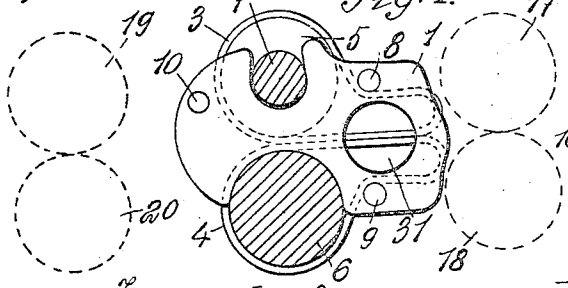


Fig. 2.

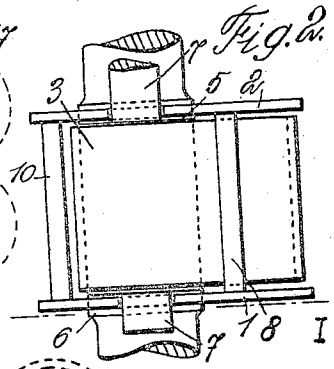


Fig. 3.

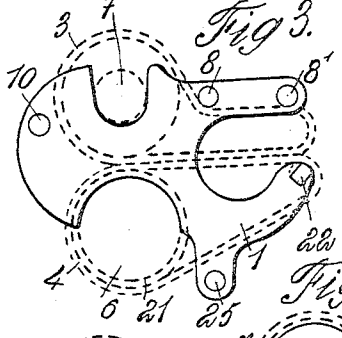


Fig. 4.

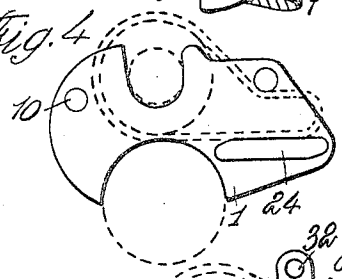


Fig. 8.

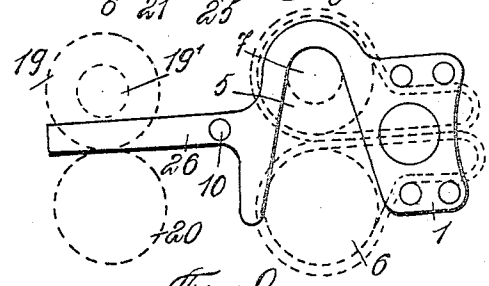


Fig. 5.

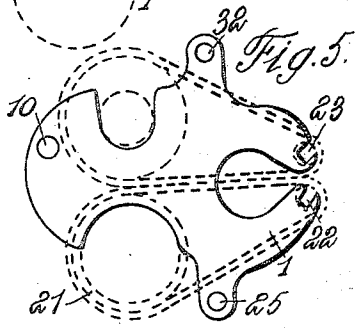


Fig. 9.

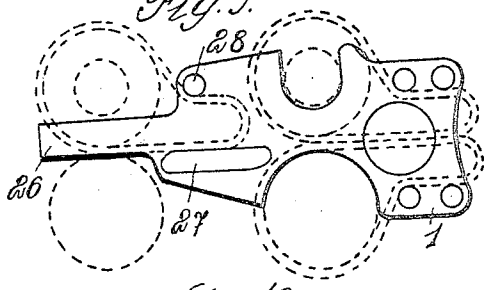


Fig. 6.

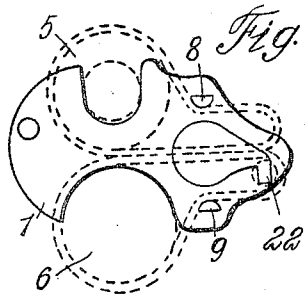


Fig. 10.

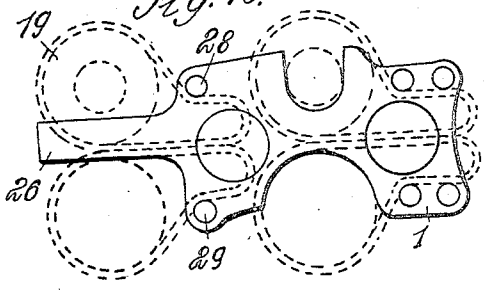
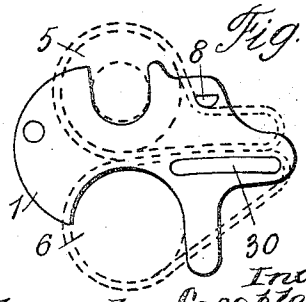


Fig. 7.



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UNITED STATES PATENT OFFICE.

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MECHANISM FOR DRAWING FIBERS WITH ENDLESS BELTS.

1,240,670. Specification of Letters Patent. **Patented Sept. 18, 1917.**

Application filed March 12, 1917. Serial No. 154,357.

To all whom it may concern:

Be it known that I, FERNANDO CASABLANCAS, a subject of the King of Spain, residing at Sabadell, Barcelona, Spain, have invented certain new and useful Improvements in Mechanism for Drawing Fibers with Endless Belts, of which the following is a specification.

My invention relates to drawing mechanisms for textile rovings used in spinning frames or other spinning machinery in which there is employed one or more belts to carry the roving to the drawing rollers. These mechanisms are usually composed of two endless straps or belts trained over rollers which drive them; said belts being guided by rods or rollers of small diameter so that the two belts come into contact one against the other along one of their sides. The roving passes between them, and they conduct it to the drawing rollers and retain the fibers which have not yet been caught by the drawing rollers so as to avoid such fibers being picked off and dragged along by the fibers which have already been drawn by the drawing rollers. Sometimes there is employed in these mechanisms a plate or a series of rollers instead of one of the belts, the mechanism being then composed of a fixed plate and a belt that runs in contact with the plate and the roving passes between the plate and the belt.

In the operation of present devices it occurs that the belts are made to shift from side to side with evil results to the drawing; this sidewise movement being the combined result of the rotary movement of the rollers, the unevenness in the thickness and in the surface of the belts, and the varying thickness and lateral movement of the rovings that pass between the belts.

My invention has for one object to obtain a device that prevents effectively the transversal slipping of the belts so that they work constantly in the proper position to obtain the best results.

Another object of my invention is to provide a simple, efficient, cheap and readily attachable and detachable support for the rods or other members that guide the movement of the belts and force them to contact one against the other; such support being constructed to receive and uphold also the plates or rods that may be substituted for one of the belts.

My invention consists of two metal sheets or plates separated one from the other at a distance corresponding to the width of the belts, and cut in such manner that they can rest on the driving rollers or on the driving and on the feeding rollers. Said plates guide the belts and support the guiding rods of the belts acting therefore as belt guides and guiding rod supports.

During the drawing, the belts move between the two guiding plates, and as these plates rest on the driving rollers or on both the driving and the feeding rollers, transverse slipping of the belts is prevented. At the same time the belts keep the support in balance having very little rubbing on the rollers.

If the guiding rods are exterior to the belts they may be secured to the plates, serving at the same time to strengthen them; if they are interior they are put in slots made in the plates, so that it is easy to take them off when the support has to be taken out.

My invention may be applied to various devices for effecting drawing by belts, for example, when there are employed exterior guiding rods, guiding plates instead of rods, interior guiding rods, a plate instead of one of the belts, as in the simple drawing and previous drawing by belts.

The accompanying drawings show a guiding support according to my invention.

Figure 1 is a side elevation, and Fig. 2 is a plan view of my guiding support applied to a single set of belts.

Figs. 3 to 7 are different forms of the support.

Fig. 8 is an elevation of the support suspended from the upper driving roller with an extension resting on the feeding rollers.

Figs. 9 and 10 show the support combined with belts to produce the preliminary drawing.

The apparatus consists of the plates or metal sheets 1, 2, duly separated to allow the belts 3 and 4 to move between them, which belts are operated in the known way by the driving rollers 5 and 6. The plates 1 and 2 have the rear portions strengthened by the rods 8 and 9, serving at the same time as exterior guide for the belts 3 and 4.

Fig. 1 represents in dotted lines the relative positions of the drawing rollers 17 and 18 and the feeding rollers 19 and 20. In the other figures these rollers are omitted. In Figs. 1 and 2 the belts and the driving rollers are represented in full lines, and in the

other figures only the support plates represented in full lines. The hole 31 made in the support plates has for its object to diminish the weight and permit of the inspection of the working of the belts.

The form in Fig. 3 differs only from Fig. 1 in that the belt 3 has two exterior rods 8 and 8′ and the belt 4 has an interior guide rod 22, and the plates 1 and 2, that constitute the guiding support, are inserted in a groove 21 made in the lower roller 6; this same arrangement being shown in Fig. 5. Furthermore, to strengthen the plates 1 and 2, the lower edge is extended to reach the brace 25. The ends of the rod 22 rest in slots made in the plates 1 and 2.

Fig. 4 shows my invention applied in the case where the lower belt is replaced by a plate 24, which plate is riveted or secured by its ends to the plates 1 and 2 of the guiding support, or it is fitted to them in any other convenient manner.

In Fig. 5 the guiding supports 1 and 2 are applied to the case where the belts have interior guiding rods 22 and 23, these rods resting on the plates 1 and 2 in the same way as represented in Fig. 3. To the end that the plates 1 and 2 be sufficiently strengthened, they are extended at the lower ends forming lugs wherein the brace 25 is fitted.

Fig. 6 shows the guiding support applied to the case wherein the upper belt is combined with an exterior half round guiding rod 8, and the lower belt with an exterior rod 9 also half round and with an interior rod 22.

Fig. 7 illustrates the modification of the guiding plates 1 and 2, necessary to adapt them to receive an upper belt with a half round guiding rod 8 and a lower belt with an interior plate 30.

The form shown in Fig. 8 differs from the others in that the plates 1 and 2 instead of resting on the lower driving roller 6 and on the axle-neck 7 of the upper roller 5, hang from said neck 7 and are extended at their rear ends, forming the tails 26 which rest against the axle-neck 19′ of the upper feeding roller 19 and on the lower roller 20, preventing them revolving around the axle-neck 7. The brace 10 of the rear part is approximately in the same position as in the other figures.

Figs. 9 and 10 show constructions which are applied in cases where a preliminary drawing is worked with a belt and a plate 27, as in Fig. 9, which plate is riveted or fixed to the support plates 1 and 2 as indicated, or the preliminary drawing is effected with two endless belts, as in Fig. 10. In these cases also the support plates 1 and 2 carry the tails 26 to establish contact with the feeding rollers 19, and at the same time to guide the belts for the preliminary drawing. These tails 26 are wider than shown in Fig. 8, to support the guiding rods 28 and 29 shown in Fig. 10, and the rod 28 and plate 27 which replaces the lower belt in Fig. 9.

It is obvious that those skilled in the art may vary the details of construction and arrangements of parts without departing from the spirit of my invention, and therefore I do not wish to be limited to such features except as may be required by the claims.

I claim:

1. In a drawing mechanism having endless belts of the kind referred to, two metal plates one at each side of the belts to prevent lateral slipping, transversal rods that bind said plates and maintain them separated to a distance corresponding to the width of the belts, said plates resting on the driving rollers of the belts so that they remain in an invariable position, and means fixed in said plates to guide the belts forcing them to contact one against the other.

2. In a drawing mechanism having endless belts of the kind referred to, two metal plates separated to a distance corresponding to the width of the belts and placed one at each side of the belts to prevent lateral slipping, transversal rods that connect said plates and hold them at the required distance apart, said plates having the necessary form to rest on the driving rollers of the belts, and having sufficient resting points so that they stay in an invariable position and transversal rods supported by said plates to guide the belts forcing them to contact one against the other.

3. In a drawing mechanism, the combination with an endless traveling belt and another coacting element for receiving the roving and conducting it to the drawing rollers, of two plates one at each side of the belt to prevent lateral slipping thereof, transversal rods that connect said plates and maintain them separated at a distance corresponding to the width of the belt, said plates having portions for receiving the driving roller of the belt, and a transverse rod supported between said plates for guiding the belt and forcing it into contact with its coacting element.

4. In a drawing mechanism, the combination with an endless traveling belt and another coacting element for receiving the roving and conducting it to the drawing rollers, of plates at each side of said belt to prevent lateral slipping thereof, means for connecting said plates to maintain them separated at a distance corresponding substantially to the width of said belt, and tail pieces on said plates for engaging between portions of the feeding rollers, substantially as described.

5. In a drawing mechanism, the combina-

tion with an endless traveling belt and another coacting element for receiving the roving and conducting it to the drawing rollers, of side plates to prevent lateral slipping of said belt, means connecting said plates to maintain them separated at a distance corresponding substantially to the width of said belt, said plates having portions for receiving the driving roller of said belt, means extending between said plates for guiding the belt and forcing it into contact with its coacting element, tail pieces on said plates extending between portions of the feeding rollers, and means extending between said tail pieces for guiding the feeding belt and forcing it into contact with its coacting element, substantially as described.

In testimony whereof I affix my signature.

FERNANDO CASABLANCAS.