Sept. 28, 1948. J. NOGUERA 2,450,251

COLLECTOR FOR TEXTILE DRAFTING MECHANISMS

Filed April 9, 1946

FIG. 1.

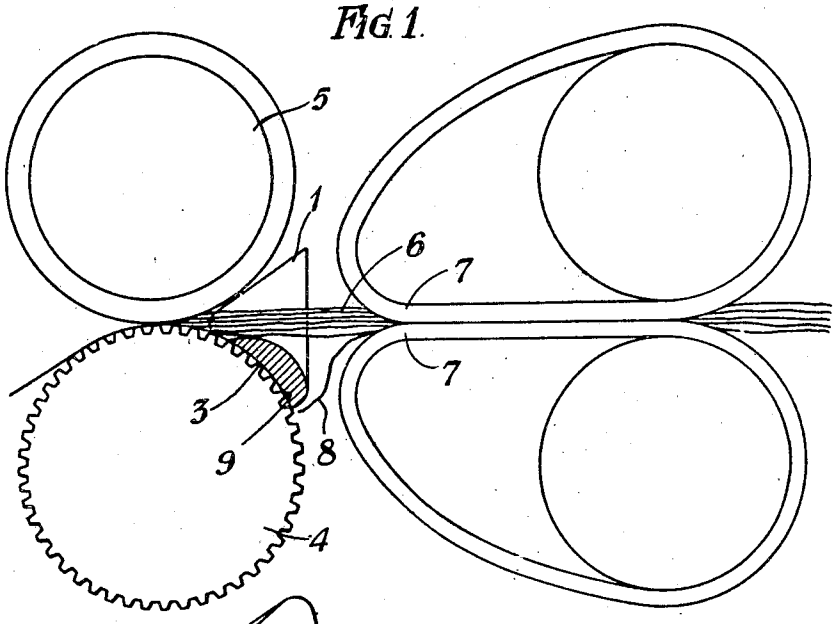


FIG. 2.

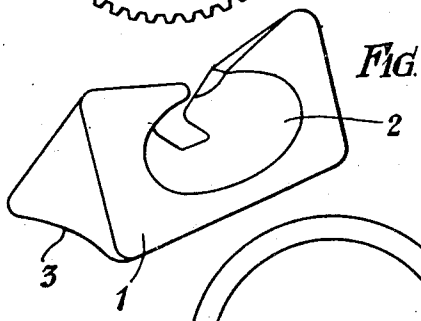


FIG. 4.

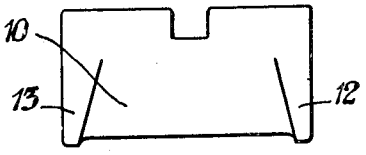


FIG. 3.

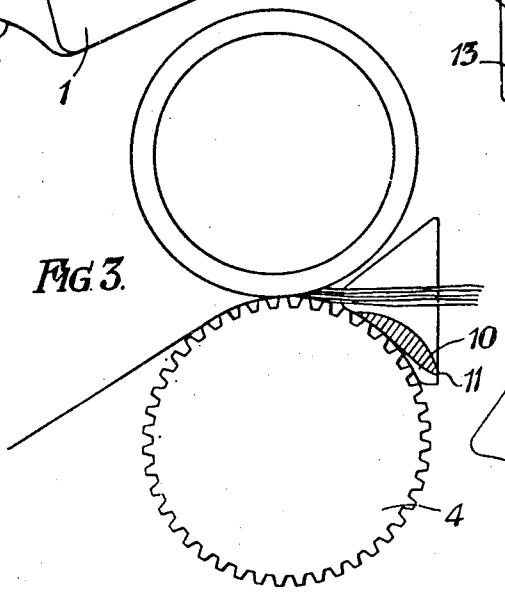
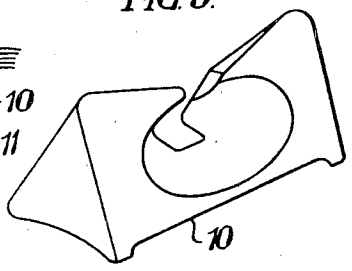


FIG. 5.



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COLLECTOR FOR TEXTILE DRAFTING MECHANISMS

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2 Claims. (Cl. 19—157)

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This invention relates to condensers or reducing devices for drafting mechanisms for textile fibres. Up to the present the known devices essentially consisted of a prismatic member supported on one face upon a drafting roller and having a funnel-shaped trough through which the fibres pass, the member acting as a collector.

In practice, it was found that when the material being drafted is in a very open state, as it usually is in compound drafting mechanisms, the collector may become unthreaded during use, that is to say, the material may come out of the funnel-shaped passage and thereafter travel forward by the side of the collector instead of through it.

It is practically impossible to observe this unthreading of the material since it is too rapid and too infrequent, and the solution of the difficulty provided by the present invention is based upon the following theory as to how the unthreading occurs, although the scope of the invention is not to be considered as in any way limited by such theory.

The supporting face of the known collector is curved to conform to the curvature of the roller upon which it rests, and a nip is thus formed between the lower edge of said face and the fluted adjacent surface of the roller. The tips of stray fibres are liable to be caught in this nip and if such stray fibres are sufficiently interlaced with the others in the strand, the whole strand is pulled down and forced to pass under the collector. Immediately this happens, the strand pushes the collector out of the way and subsequently proceeds in the unthreaded position.

According to the invention, this drawback is overcome by forming the face (or each face) of the collector that may be arranged to be adjacent the associated drafting rollers, with a recess which extends from the inlet side of said face, whereby a clearance is afforded between the (or each) face of the collector and the adjacent surface of the roller with which it is associated.

To show how the invention may be carried into effect reference will now be made to the accompanying drawings in which:

Figure 1 is a diagrammatic view of known drafting mechanism,

Figure 2 is an isometric view of a known collector,

Figure 3 is a diagrammatic representation of a drafting mechanism with a collector of the invention applied thereto, the collector being shown in section,

Figure 4 is a plan view of the collector of Figure 3 showing the face thereof which is supported upon one of the drafting rollers, and

Figure 5 shows the collector of the invention in isometric projection.

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Referring first to the known mechanism shown in Figures 1 and 2, it will be seen that the known collector is formed with a triangular prismatic body 1 having a trough 2 formed therein to act as a funnel. The face 3 of the collector 1 is shaped so as to lie upon the surface of a fluted draft roller 4 operating against a roller 5. The fibres 6 pass from between the bands 7 of a Casablancas drafting mechanism through the collector 1 and hence between the roller pair 4 and 5. It can occur, as previously indicated, that a loose fibre 8 becomes detached from the main bulk of the fibres and enters between the lower end 9 of the supporting surface 3 of the collector, and the adjacent outer surface of the fluted roller 4. If the fibre 8 separates from the main bulk, the occurrence has no consequence. If however, the fibre or fibres 8 should be sufficiently interlaced with the fibres of the strand 6, the latter is pulled down and forced to pass under the collector body. As a result, the strand pushes the collector laterally out of the way and will proceed to pass through the roller pair 4 and 5 without being properly threaded through the collector.

Referring now to Figures 3, 4 and 5, it will be observed that the collector body, whilst being of the same general shape as that hitherto usual, has the supporting face thereof which seats upon the fluted roller 4, formed with a recess 10 which affords a clearance between the lower end 11 of the supporting surface and the adjacent part of the fluted roller 4. The recess 10 is formed over the length of the supporting surface except for two rib-like portions 12 and 13 which remain at each end of the surface. The recess slopes upwardly towards the end of the supporting surface so as to merge into said surface. It will of course be appreciated that by the provision of the recess, the collector is effectively supported upon the two rib-like portions 12 and 13, and of course, upon the upper part of the surface of the body in contact with the roller 4.

During drafting with the mechanism indicated in Figure 3 any loose fibres which find their way into the clearance 10 will not be nipped between the collector and the fluted roller 4 and will not therefore be carried under the collector as was the case with the known drafting mechanism.

It is of course, possible to construct collectors which differ from those described above and the invention may be applied thereto. Thus for

example, a collector can be formed with a body which is more truly of triangular base prismatic shape, in that the inlet mouth of the trough therein opens only onto one face of the body. In this case both the faces adjacent the pair of associaed draft rollers are substantially similar and in applying the invention both said adjacent faces are preferably provided with a recess.

I claim:

1. A collector for use in drafting mechanism for textile fibres comprising a substantially triangular base prismatic-shaped body formed with a funnel-shaped trough having an inlet in one face of said body and an outlet adjacent the line of convergence of the other two faces of said body, and rib-like projections on each end of at least one of said convergent faces, said projections being shaped to lie on the surface of a draft roller and to provide a recess therebetween which extends over substantially the width of the face on which said projections are formed, at the inlet side of said collector body, and merges into said face towards the outlet side of said collector body.

2. A collector for use in drafting mechanism for textile fibres comprising a substantially triangular base prismatic-shaped body formed with a funnel-shaped groove which extends through the said body from one face to a point adjacent the line of convergence of the other two faces, and rib-like projections on each end of that face of said body which bears against a drafting roller when said fibres are passing through the collector, said projections being shaped to lie on the surface of said drafting roller and to form a recess therebetween which extends over substantially the width of said bearing face at the inlet side of said collector body, and merges into said bearing face towards the outlet side of said collector body.

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