

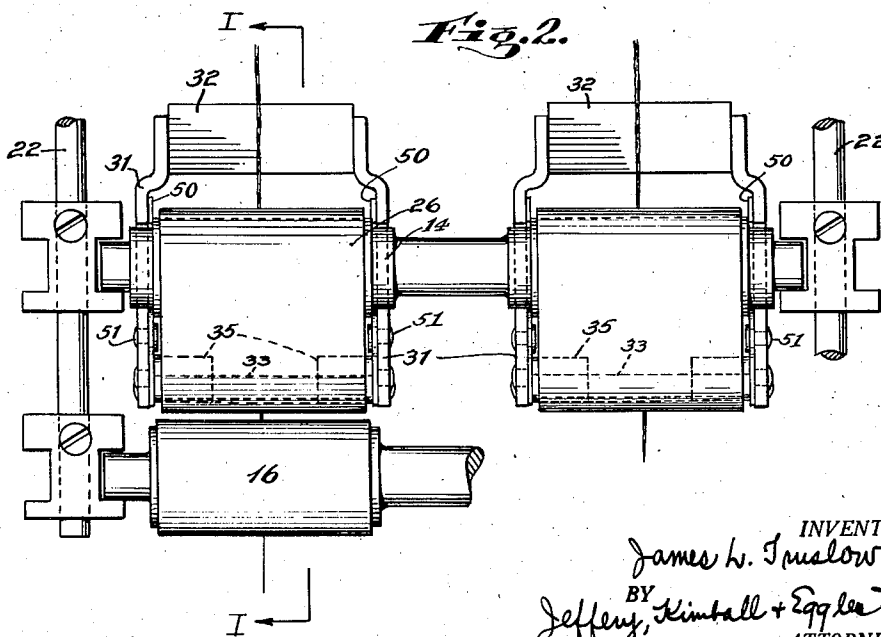
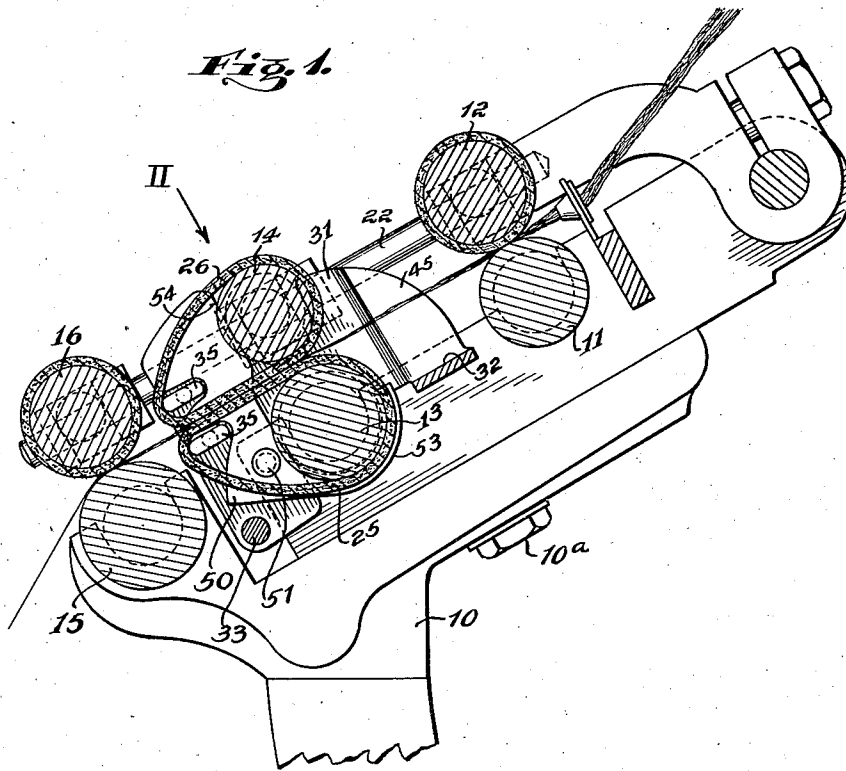
Nov. 12, 1935.

J. L. TRUSLOW  
LONG DRAFT SPINNING

2,020,483

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2 Sheets-Sheet 1



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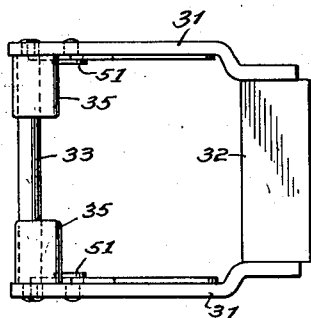
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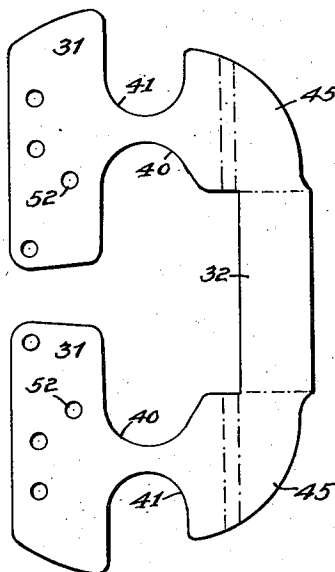
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2 Sheets-Sheet 2

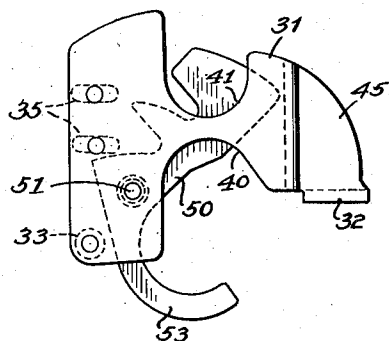
*Fig. 3.*



*Fig. 5.*



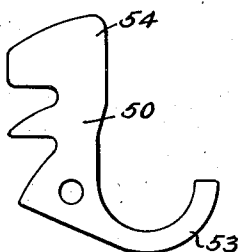
*Fig. 4.*



*Fig. 7.*



*Fig. 6.*



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## UNITED STATES PATENT OFFICE

2,020,483

## LONG DRAFT SPINNING

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Application January 2, 1934, Serial No. 704,873

8 Claims. (Cl. 19—131)

The invention relates to apron guides for Casablanca and like long-draft spinning or roving machinery, and its purpose is to facilitate the assembly of the aprons and their guiding means in proper relation to the drawing rolls, and their disassembly, and generally to improve the construction and operation of this class of apparatus. In the arrangement now customary such aprons are supported at their forward ends on bearings constituted of slender rods or cross pins, removably carried on removable frames called cradles which rest on the rolls themselves and hold the aprons so that they run close to the bites of the next succeeding pairs of rolls. Inasmuch as the aprons circle both the rolls and the cross pins or bearings, the process of removing the cradles so as to gain access to underlying parts for cleaning or repair, requires that the cradles be more or less taken apart, which is a slow and somewhat complicated operation involving the risk that some of the parts may drop into the machine or become lost or misplaced or improperly replaced. According to this invention the cradle with their apron-bearings and all their associated parts are organized each into a unitary structure, readily separable as such from its apron or aprons and from the rolls without risk of losing any part and also affording additional advantages as will presently become apparent.

The principles involved in this invention can be variously embodied, as will also presently appear. The drawings hereto represent the form at present preferred.

Fig. 1 being a vertical section through a roll head of a spinning frame, on line I—I of Fig. 2;

Fig. 2 a top plan in the direction of arrow 2;

Fig. 3 a top plan of a cradle with aprons removed;

Fig. 4 a side view of Fig. 3, illustrating the cradle lock;

Fig. 5 the blank from which the preferred form of cradle is stamped;

Fig. 6 a detail of the guard, and

Fig. 7 a perspective of one of the apron-bearing members.

The roll stand and drawing rolls will be recognized as conforming to the Casablanca design being of the type having upper and lower aprons between which the roving is carried and drafted, but the invention is not limited to such type except as pointed out in the claims. The drafting system comprises three pairs of rolls of successively greater surface velocities and marked 11—12, 13—14 and 15—16, respectively, and which will be understood to be appropriately

weighted as usual. The intermediate rolls which may be geared together, if desired, though not so shown, are respectively circled by the endless leather belts or aprons 25 and 26, and the forward end of each apron is supported by and travels upon an apron-bearing represented by a pair of studs or fingers 35 referred to below. These studs are permanently attached to the side or cheek plates 31 which are rigidly joined together by a riveted cross bar 33 and a flat integral cross plate 32. The lower margins of the side plates are recessed or notched as at 40 to fit over or rest upon the bottom draft roll 13. The upper margins of the side plates are also notched as at 41 to receive the top roll 14, which is set as usual in the slots of its cap bars 22. The detail of the cradle frame will be clear from the blank Fig. 5 from which it is formed.

Proper placement of the cradle on the bottom roll is insured by means of a guard 50 pivoted to the cheek 31 at 51, and provided with a part or parts adapted to coact with the bottom roll in the bottom notch so as to control the entrance of the top roll into the top notch of the cradle. For this purpose the guard 50 is so arranged as to be engaged by the bottom roll when the latter has fully entered the bottom notch and be moved thereby so that its upper end 54 is shifted out of alignment with the top notch and only until such movement can the top roll be inserted in the top notches. In all other positions of the guard it obstructs such placement of the top roll. By this device the cradle must be fully seated on the bottom roll before the top roll can be placed in position. The guard 50 has also a hook portion 53 which more or less closes the bottom notch 40, when the bottom roll is within it, thus also locking the cradle to the roll and preventing top roll insertion until such locking has been effected. By employing one guard on the inner face of each cheek plate and giving them both such contour that their hooks span the entrances to the bottom notches, they present extended flat and smooth surfaces for the edges of the aprons to rub against at the bottom notches as well as elsewhere and this guides the aprons so that they do not lap over the ends or shoulders of the rolls which is injurious to them.

The integral cross plate 32 of the cradle frame constitutes a guide table for the advancing end of the roving when the machine is being creeled up or a broken end repaired. It deflects the drooping end of the advancing roving into contact with the upwardly moving surface of the lower apron which picks it up and carries it through the aprons. The guard and deflector mechanism

above described form the subject of a copending application, Serial No. 680,692, filed July 17, 1933.

The invention of the present case concerns the apron-bearings, which are permanently fastened to the cradle frames instead of being loose members or cross-pins as heretofore and the invention consists in the provision of a space or gap in association with such permanent apron-bearings through which the apron which normally circles it can be passed and thus separated from the cradle. Such gap is formed in the illustrated case by the space between the proximate ends of the pair of fingers 35 constituting the apron-bearing for each apron and this space is large enough so that by slightly buckling or bending the apron it can be slipped out of position and off the ends of the fingers and thus removed through the gap. Although shown at the center, the exit space or gap can be at one side or the other and still provide the convenience of quick removability without the use of loose parts requiring to be taken apart and separately manipulated, which is to say, that the fingers 35 are not necessarily of equal length though so shown and that one or the other of them can, if desired, be so long as to perform the most or all of the apron supporting function. Specially satisfactory support however is afforded by two spaced apart inward projections such as the bearing members 35, which engage only the side portions of the aprons and give no direct support to their central portions. It is found that the texture of the leather or material commonly used for these aprons is such that in thus spanning a central gap they exert a desirably constant and also well distributed pressure upon the roving. Accordingly the gap may be wide and the studs short. Although the bearing members have been referred to as studs or fingers and shown as of oblong section and riveted to the side plates, it will be apparent that their described functions will be properly performed if made of any appropriate configuration integral or otherwise, so long as space is made or provided through which the apron may be passed. However they are preferably formed of oblong section, the lower faces of the upper fingers being flat and parallel to the upper faces of the lower fingers, inasmuch as this makes for better contact of the aprons with the roving and in practice runs clean off.

The guard members 50 are provided with extensions which occupy the spaces between the studs and above and below them when the guards are up and thereby provide smooth faces for contact with the edges of the aprons to reduce wear and assist in steadying them on their bearings. With the guards and apron-bearings both permanently fastened to the side plates, the cradle constitutes a unitary structure with no loose parts requiring to be kept track of or likely to be lost or dropped into the machine, and its use and maintenance are correspondingly simplified.

I claim:

1. A cradle for long-draft spinning aprons comprising a frame composed of side members shaped to fit between pairs of draft rolls and inwardly projecting members on said side members, said inwardly projecting members constituting an apron-bearing circled by the apron and being

separated from each other by a space through which such apron may be removed from the cradle.

2. A cradle for long-draft spinning aprons comprising a frame composed of united side plates having top and bottom notches to receive the top and bottom draft rolls and having upper and lower pairs of inwardly projecting bearing members respectively constituting apron bearings for the top and bottom aprons of said rolls and circled respectively thereby, the members of each pair being separated by a gap suited for the removal of the apron therefrom.

3. A cradle for long-draft spinning machines comprising side plates rigidly united to form a frame and provided with top and bottom notches for the top and bottom draft rolls, apron bearings respectively circled by the aprons of said draft rolls, and composed of inward projections rigidly fastened to said frame, the inner ends of said projections being unobstructed for apron removal and the cross-sections of said projections being oblong.

4. In long-draft spinning mechanism, the combination of pairs of draft rolls of successively greater surface velocity, an apron on a roll of less velocity delivering to a pair of rolls of higher velocity, and a bearing for said apron comprising opposed members supporting the side portions only of said apron.

5. In long-draft spinning mechanism, the combination of pairs of draft rolls of successively greater surface velocity, coating-aprons on a pair of less velocity arranged to deliver the roving to a pair of rolls of higher velocity, and short bearings for said aprons engaging only the side portions thereof.

6. A cradle for long-draft spinning aprons comprising a frame with apron-guiding side wall members respectively shaped to be removably seated between draft rolls and apron-bearing means permanently attached to said frame, said means being circled by the apron and affording a space at the forward end of the apron permitting removal of the latter from said bearing means and frame.

7. A cradle for long-draft spinning aprons comprising a frame composed of apron-guiding side members formed to seat removably in fixed relation to a bottom draft roll and shaped to accommodate the complementary top roll, upper and lower aprons encircling said rolls and apron-bearing means constituting permanent parts of the cradle also encircled by the respective aprons, both said means being respectively associated with openings at the forward ends of the aprons for the separation of the latter from the frame, said openings intervening between the frame side members and forming exits through which the aprons may be passed.

8. A cradle for long-draft spinning aprons comprising a frame shaped to receive top and bottom draft rolls, apron bearings permanently mounted thereon circled by aprons on said rolls, and provided with exit spaces for such aprons, located at the forward ends of the latter and an apron guard movably mounted on said frame adjacent said apron bearings.

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