

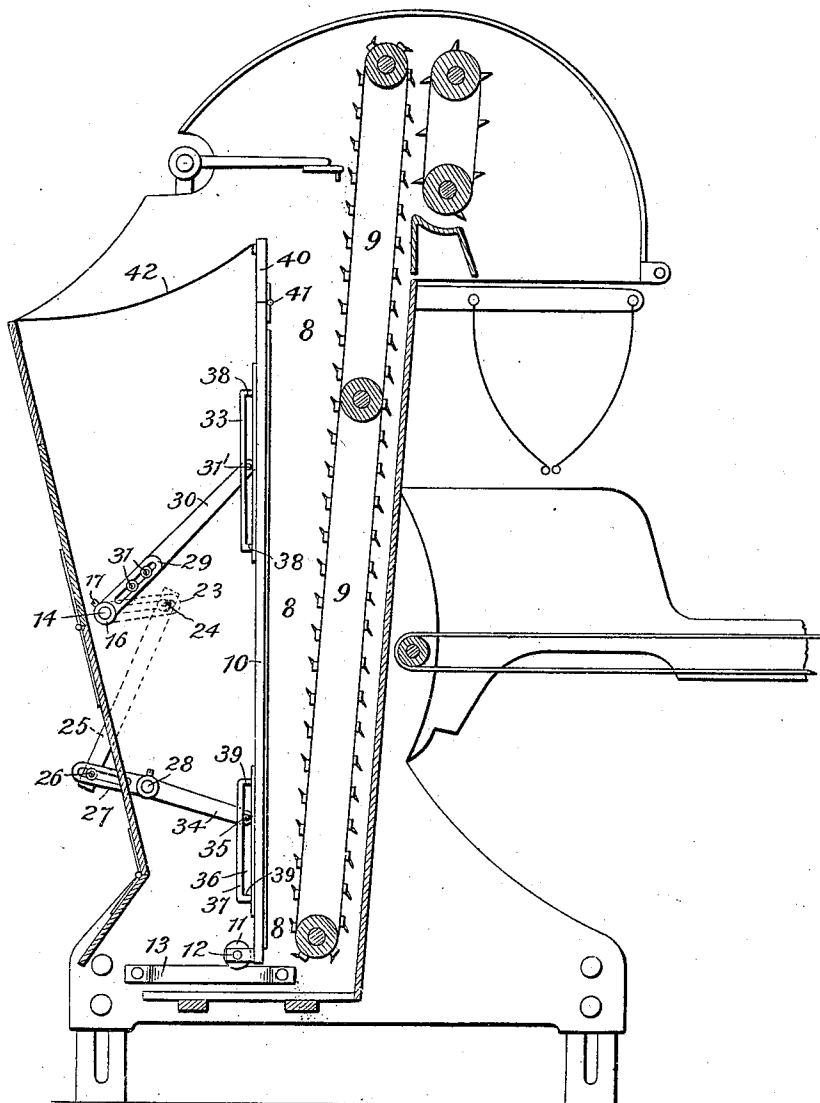
980,000.

J. A. PINKSTONE.
FIBER FEEDING MACHINE.
APPLICATION FILED NOV. 27, 1909.

Patented Dec. 27, 1910.

4 SHEETS—SHEET 1.

Fig. 1.



Witnesses:

James Hutchinson
Carrie A. Krey

Inventor:

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By *Royal E. Burnham*, Attorney:

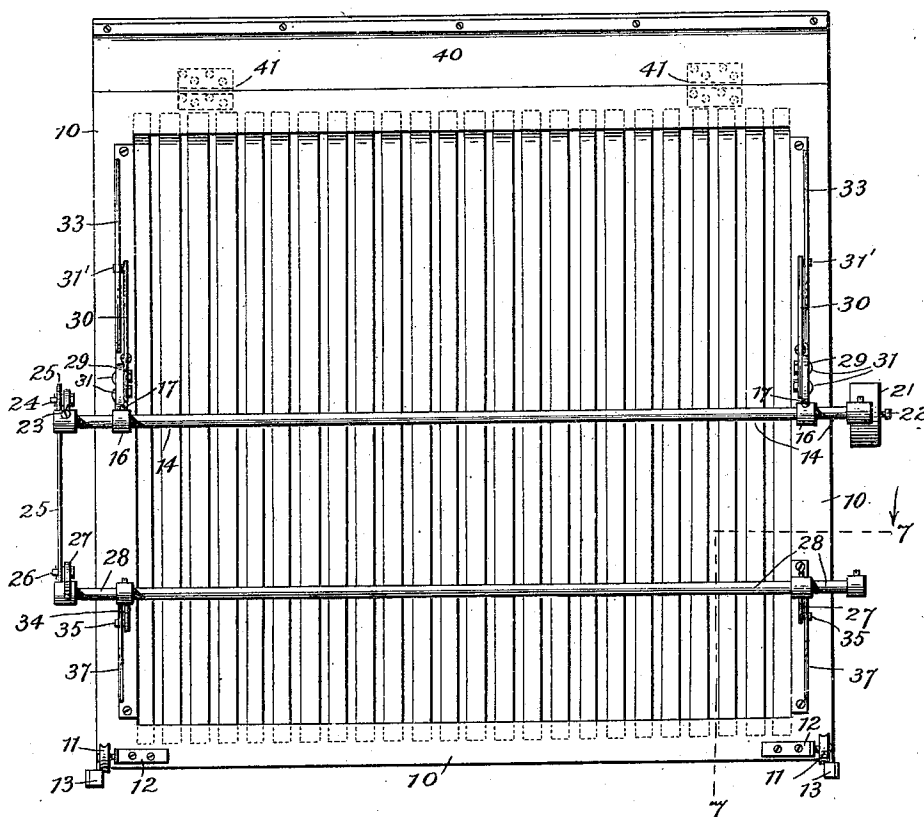
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4 SHEETS-SHEET 2.

Fig. 2



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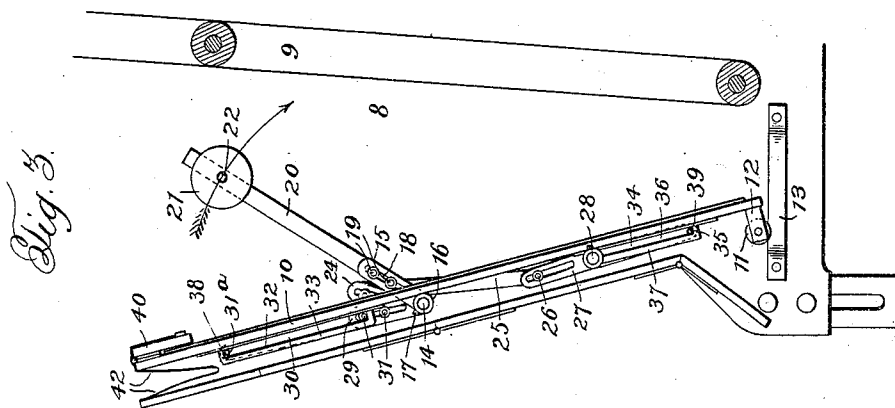
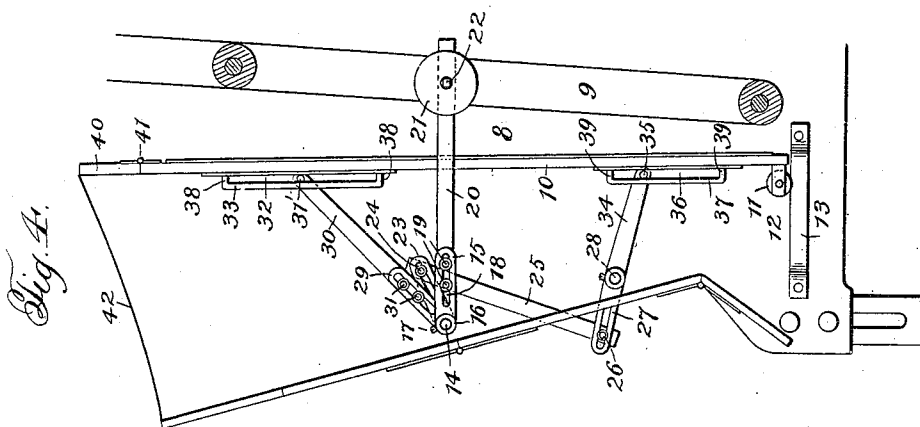
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4 SHEETS—SHEET 3.



Witnesses:

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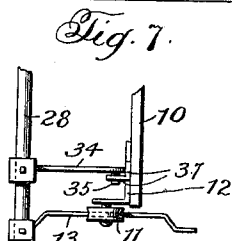
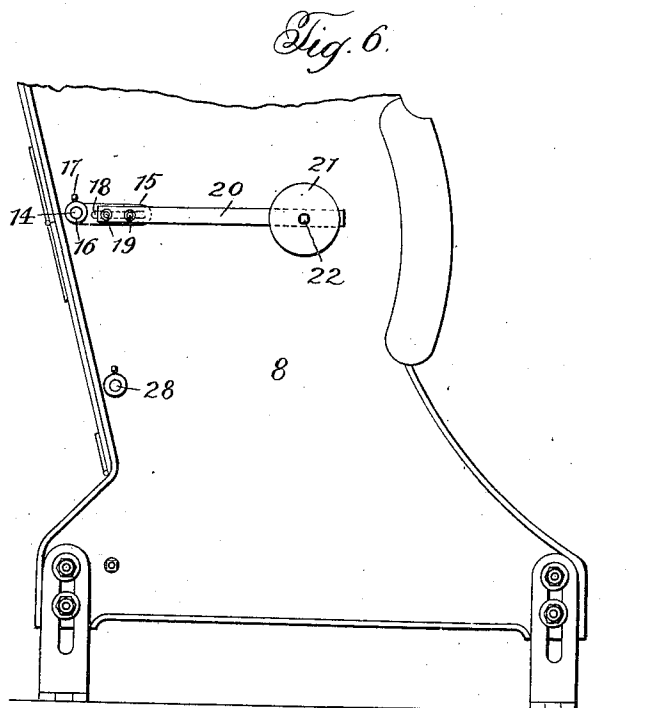
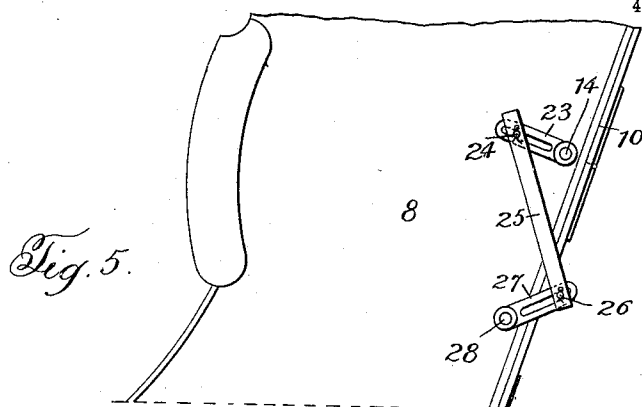
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4 SHEETS-SHEET 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES A. PINKSTONE, OF CLINTON, MICHIGAN.

FIBER-FEEDING MACHINE.

980,000.

Specification of Letters Patent.

Patented Dec. 27, 1910.

Application filed November 27, 1909. Serial No. 530,188.

To all whom it may concern:

Be it known that I, JAMES A. PINKSTONE, a citizen of the United States, residing at Clinton, in the county of Lenawee and State of Michigan, have invented certain new and useful Improvements in Fiber-Feeding Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to means for pressing stock against a transferring device, and it particularly pertains to means for pushing material against the spike-apron or equivalent element of the feeding mechanism of a carding or other fiber-treating machine.

15 It is an object of the invention to provide means of this character which will evenly and reliably feed stock, throughout the entire area of the pressing agent, such as a rack or frame, against a spike-apron or the like, and thereby obviate the objections against a hinged presser member, such as commonly used in fiber-feeding mechanisms, which feeds the stock in decreasing quantities from the part most distant from the pivotal line toward that line where there is little, if any, feed.

20 When read in connection with the description herein, the details of construction and arrangement of parts contemplated by this invention will be apparent from the accompanying drawings, forming part hereof, wherein an embodiment of the invention as applied to the feeding mechanism of a carding-machine is disclosed, for purposes of illustration, only such parts being described as are necessary for an adequate exposition of the invention.

30 While the embodiment of the invention shown in the drawings is preferred, it is to be understood that the several instrumentalities of which the invention consists can be variously organized, without departing in the least from the nature and spirit of the invention, and that it is not the intention to be necessarily limited to the precise delineation of the invention herein in the interpretation of the claims hereinafter.

40 Like reference-characters refer to corresponding parts in the several views of the drawings, of which—

Figure 1 is a vertical sectional view; Fig. 2 is a back view, with a portion of the hop-

per omitted; Fig. 3 is a side view of the presser member and the operating mechanism thereof in retracted position, with certain parts omitted; Fig. 4 is a side view of the presser member and the operating mechanism thereof in extended position, with certain parts omitted; Fig. 5 is a fragmentary side view; Fig. 6 is a fragmentary view of the opposite side; and Fig. 7 is a fragmentary horizontal sectional view, on the line 7—7, Fig. 2.

65 Having more particular reference to the drawings, 8 designates the sides of the hopper or other suitable source of supply of a fiber-feeding mechanism, on which are journaled or supported certain parts contemplated by the invention. An endless spike-apron or other suitable transferring device 9, for taking stock from the hopper, is supported and actuated therein in the usual manner at or near one side.

70 A presser member 10, preferably in the nature of a slatted frame, is disposed in the hopper and arranged to press stock against the apron. For convenience of description, herein the presser member will, at times, be referred to as a frame and the side thereof facing the apron as the front. The frame is devoid of pivotal connection with a support and is bodily movable toward and away from the apron on rollers 11, journaled on brackets 12 secured to the frame at or near the bottom on each side, and these rollers are capable of travel on tracks 13 which are secured to the sides of the hopper at or near the bottom.

85 For the purpose of moving the frame toward the apron, both at the top and bottom, to feed stock, the invention provides a mechanism which includes an upper transverse rock-shaft 14, journaled in the sides of and extending through the hopper to the rear of the frame. An arm 15 is secured to shaft 14 outside of the hopper on one side, the shaft passing through a collar portion 16 of the arm and being engaged by a set-screw 17 in the collar. The arm is formed with a slot 18, through which are passed bolts 19 of an arm 20, whereby the two arms are removably connected, and whereby arms 20 of different lengths may be put into use to meet varying conditions of service. The latter arm carries a weight 21, which is slidable on the arm and held in an adjusted position by a set-screw

22, the construction permitting the weight to be adjusted on the arm to afford greater or less pressure, as desired, on the parts moved thereby. It is obvious, however, that tension may be imposed upon arm 20 by a suitable spring and that rotative tendency may be given shaft 14 in any other suitable manner. A slotted arm 23 is secured to shaft 14 exteriorly of the hopper on the other side and projects in the same general direction as weighted arm 20. A pivot 24 is adjustably secured in the slot of arm 23, and thereon is journaled a link 25, which in turn has pivotal connection with a pivot 26 similarly held in the slot of a slotted arm 27. This latter arm is positioned below and exteriorly of the hopper on the same side as arm 23, and it extends in a general direction opposite to arms 20 and 23. It is secured on a lower transverse rock-shaft 28, journaled in the sides of and extending through the hopper to the rear of the frame. The arrangement of the arms and link is such that on rotary or rocking movement being imparted to the upper shaft in one direction a like movement will be given to the lower shaft in the opposite direction. The link 25 may be adjusted by movement of one or both of pivots 24 and 26 on their respective arms, whereby relative movements of the shafts 14 and 28 may be altered, as desired.

Two arms 29, of formation similar to slotted arm 15, are fitted to upper shaft 14 inside of the hopper, one adjacent to each side thereof. An arm 30 is secured to each of these arms 29 in much the same manner as the connection between arms 15 and 20 by bolts 31 passing through the slots of arm 29, whereby arms of different lengths may be put into use to meet varying conditions of service. Each arm 30 has at or near its free end a transversely-extending lug 31', which is movable in a slot 32 of a slide 33, one of which slides is positioned on the frame at each side on the upper portion thereof.

Two arms 34 are fixed on the lower shaft 28 inside of the hopper, one adjacent to each side thereof. Each arm 34 has at or near its free end a transversely-extending lug 35, which is movable in a slot 36 of a slide 37, one of which slides is positioned on the frame on each side of the lower portion thereof. The ends of the slots 32 and 36 of the slides are formed by, or constitute, stops 38 and 39, respectively, with which the lugs 31 and 35 respectively engage and whereby they have their range of movement limited. The ends of arms 29 and 34 on one side of the frame engage their respective slides on sides opposite to the corresponding arms on the other side, that is, the arms engage the slides either on the outside or inside, in order that lateral movement of the frame may be prevented and the lugs kept in proper engagement with the slots of the slides. The

arms 23, 27, and 29 are preferably of formation like arm 15, with a collar and set-screw, for connection with their respective shafts, and with a slot, whereby they are interchangeable and whereby standard fittings of this nature may be employed.

The arms and shafts described as parts of the mechanism to move the frame are so proportioned and arranged that, when shaft 14 is given rocking or rotary motion in one direction, as by lifting the weighted arm 20, the arms 30 will move upwardly and the arms 34 downwardly and both sets of arms to the rear, with their lugs in the slots of the slides on the frame, and draw the frame away from the apron to position for stock to be placed in the hopper between the frame and apron, as shown in Fig. 3. Thereafter, the weighted arm, through the instrumentality of the upper and lower shafts and the connection between the two shafts will operate to force arms 30 and 34 forwardly and cause them to press the frame, throughout its entire area, toward, and thereby the stock against, the apron.

It is preferable that the frame should be capable of being withdrawn entirely back against the rear side of the hopper, both at the top and bottom, in order that the full capacity of the hopper may be utilized in filling with stock. The hoppers of fiber-feeding mechanisms are usually wider at the top than at the bottom. In such case, the upper arms 30 are made longer than the lower arms 34, in order that they may have faster movement at the ends and operate to bring the upper portion of the frame through the greater distance at the top between the back of the hopper and the apron while the lower arms are bringing the lower portion of the frame through the lesser distance at the bottom; and the parts are so proportioned that movement will be stopped by engagement of lugs 31 and 35 with the stops of the slides on which they respectively operate, before the frame is brought against the apron and when it has reached a position substantially parallel to the apron and as near thereto as necessary in practice to insure all of the stock being taken up by the apron. In the case of frames which are pivoted, either at the top or bottom, the pivotal point has to be located fairly close to the apron, in order that the stock adjacent to the pivotal point may be caught by the apron, and thereby the capacity of the hopper, or of the space between the frame and apron, is lessened. It will be seen that this invention avoids this objection by making the frame in its entirety capable of withdrawal from the apron and of movement toward the apron at practically uniform speed, thereby rendering substantially all parts of the hopper available for deposit of stock to be fed. The presser member 10 at the top

is formed with a cross piece 40, which is pivotally secured by hinges or other suitable pivotal connections 41 to the frame along the upper edge and forms a part of the frame. This cross piece is arranged to swing downwardly against the frame on the side of the presser member facing the apron. A piece of flexible material 42, such as canvas, is secured to the top edge of the cross piece and to the upper edge of the back of the hopper and extends therebetween. The hinged cross piece, when in uppermost position extends the frame, almost up to the feeder-comb in a feeding mechanism of a carding-machine and serves to prevent stock from rolling back out of the space between the frame and apron. In its position down against the frame proper, it is out of the way of the operator when placing stock in the hopper. The piece of flexible material prevents any stock from falling down behind the frame between it and the back of the hopper.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a stock-feeding mechanism, the combination, with a source of supply and a transferring device, of a support, a presser member movable bodily on said support toward, and operable to force material during such bodily movement against, said transferring device, and a device for so moving said presser member.

2. In a stock-feeding mechanism, the combination, with a source of supply and a transferring device, of a track, a presser member movable bodily on said track toward and from said transferring device, and means for so moving said presser member.

3. In a stock-feeding mechanism, the combination, with a source of supply and a transferring device, of a support, a presser member movable bodily on said support toward, and operable to force material during such bodily movement against, said transferring device, a device for so moving said presser member, and means whereby movement of said presser member toward said transferring device is limited.

4. In a stock-feeding mechanism, the combination, with a source of supply and a transferring device, of a presser member, a shaft, an arm actuated by said shaft in sliding engagement with said presser member, and means whereby motion is imparted to said shaft and said presser member moved toward said transferring device.

5. In a stock-feeding mechanism, the combination, with a source of supply and a transferring device, of a presser member, a shaft, an arm actuated by said shaft in engagement with said presser member, means whereby motion is imparted to said shaft and said presser member moved toward said

transferring device, and means associated with said arm whereby movement of said presser member is limited.

6. In a stock-feeding mechanism, the combination, with a source of supply and a transferring device, of a presser member, shafts disposed opposite to different portions of said member, arms on said shafts in engagement, respectively, with the corresponding portions of said member, and means whereby motion is imparted to said shafts and said member moved toward the transferring device.

7. In a stock-feeding mechanism, the combination, with a source of supply and a transferring device, of a presser member, a shaft, an arm on said shaft, a slide on said member with which said arm has operative engagement, and means whereby motion is imparted to said shaft and said member moved toward said transferring device.

8. In a stock-feeding mechanism, the combination, with a source of supply and a transferring device, of a presser member, a shaft, an arm actuated by said shaft, a slide on said presser member with which said arm has operative engagement, means whereby motion is imparted to said shaft and said presser member moved toward said transferring device, and means associated with said slide whereby movement of said presser member is limited.

9. In a stock-feeding mechanism, the combination, with a source of supply and a transferring device, of a presser member, shafts disposed opposite to different portions of said member, arms on said shafts, slides on correspondingly-opposed portions of said member with which said arms have operative engagement, and means whereby motion is imparted to said shafts and said member moved toward the transferring device.

10. In a stock-feeding mechanism, the combination, with a source of supply and a transferring device, of a presser member, shafts disposed opposite to different portions of said member, means whereby motion is imparted to said shafts, a connection whereby motion is imparted from one shaft to the other, and arms on said shafts in engagement, respectively, with correspondingly-opposed portions of said member, whereby said member is moved toward the transferring device.

11. In a stock-feeding mechanism, the combination, with a source of supply and a transferring device, of a presser member, upper and lower rock-shafts journaled adjacent to said member, means whereby one shaft is rocked by the other, means whereby rocking movement is imparted to said shafts, upper and lower slides on said member, arms on the upper and lower shafts in engagement, respectively, with said upper and

lower slides, and means on said slides whereby movement of said arms with respect thereto is limited, the arms being arranged on rocking of the shafts to move said member toward the transferring device.

12. In a stock-feeding mechanism, the combination, with a source of supply and a transferring device, of a presser member, upper and lower rock-shafts journaled in rear of said member, means whereby one shaft is rocked by the other, means whereby rocking movement is imparted to said shafts, upper and lower slides on said member, arms on the upper and lower shafts having lugs in engagement, respectively, with said upper and lower slides, and stops on the slides whereby movement of the lugs thereon is limited, the arms being arranged on rocking of the shafts to move said member toward the transferring device.

13. In a stock-feeding mechanism, the

combination of a hopper having a back, a presser member in the hopper, and a piece of flexible material extending between the top of the back of the hopper and the top of the presser member and arranged to prevent accumulation of material between the back of the hopper and presser member.

14. In a stock-feeding mechanism, the combination of a hopper having a back, a presser member in the hopper, a cross piece pivotally secured to the top of the presser member, and a piece of flexible material extending between the top of the back of the hopper and the cross piece.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES A. PINKSTONE.

Witnesses:

EDWARD L. PARKER,
FRANK L. PARKER.