

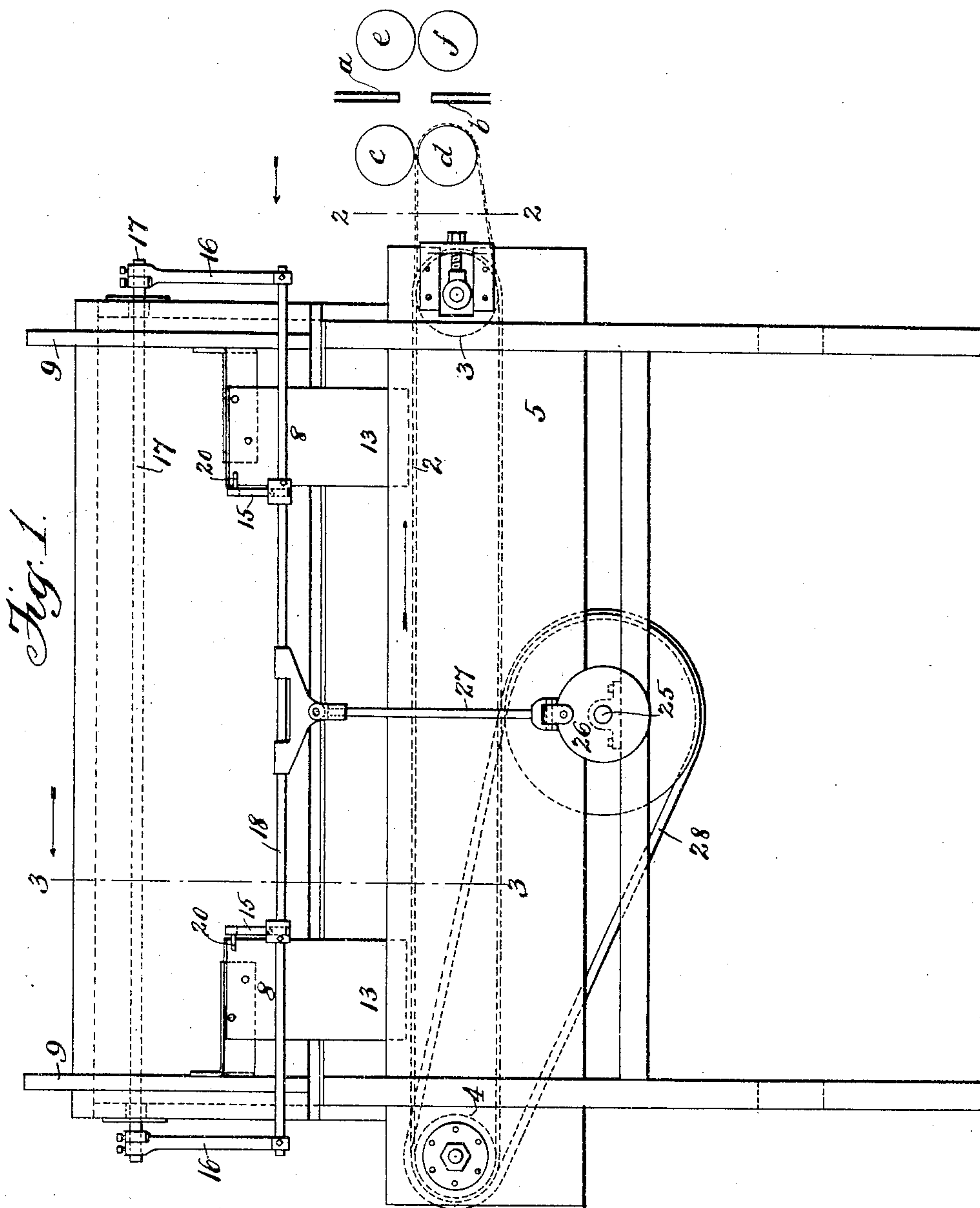
No. 779,712.

PATENTED JAN. 10, 1905.

C. JACKSON.  
FEEDING MECHANISM FOR BOARDED FABRICS.

APPLICATION FILED MAY 27, 1904.

2 SHEETS—SHEET 1.



Witnesses  
*Adam L. Ottsheim*  
*Caleb J. Becker*

*Calvin Jackson*  
Inventor

By *[Signature]*  
Attorney

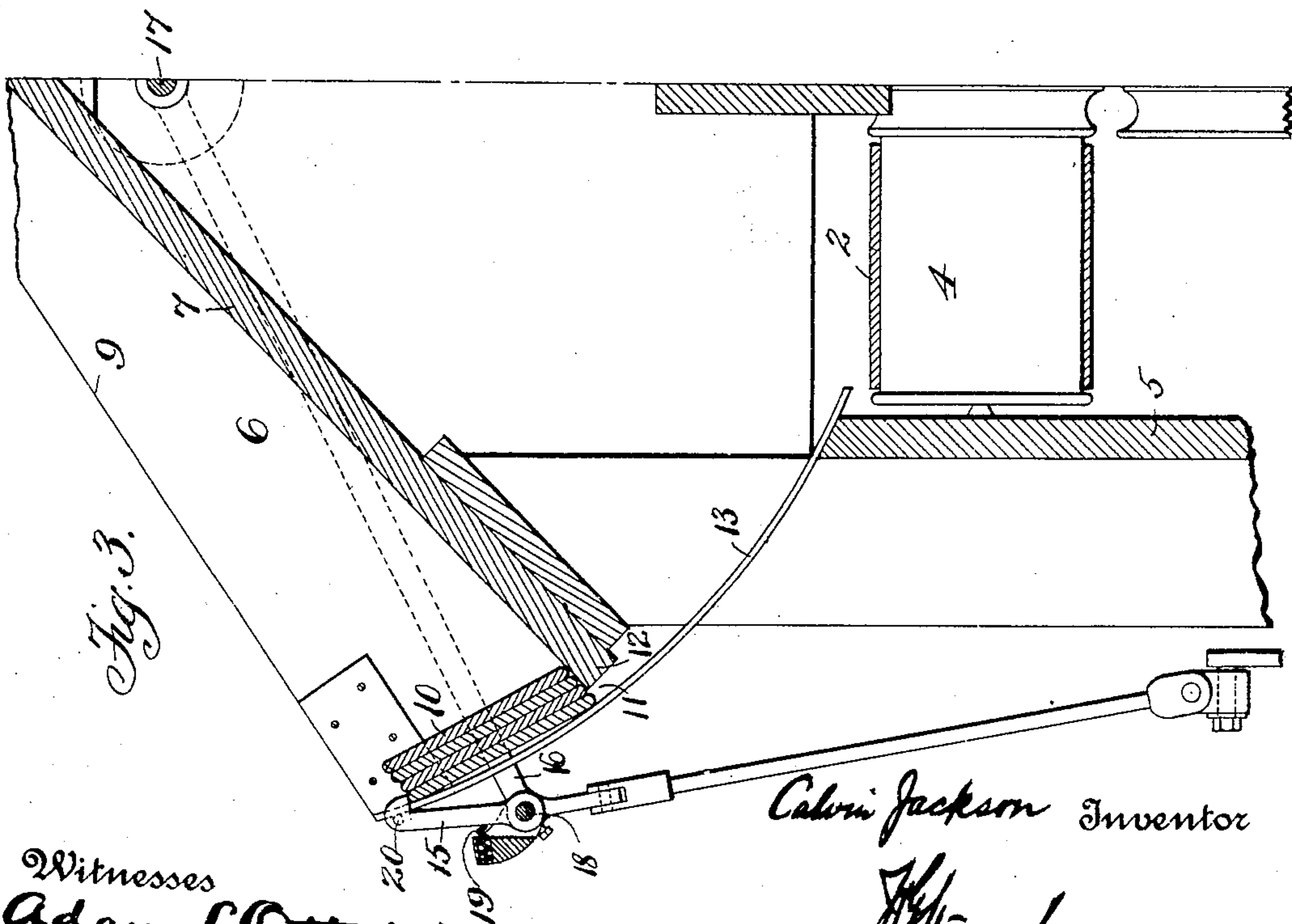
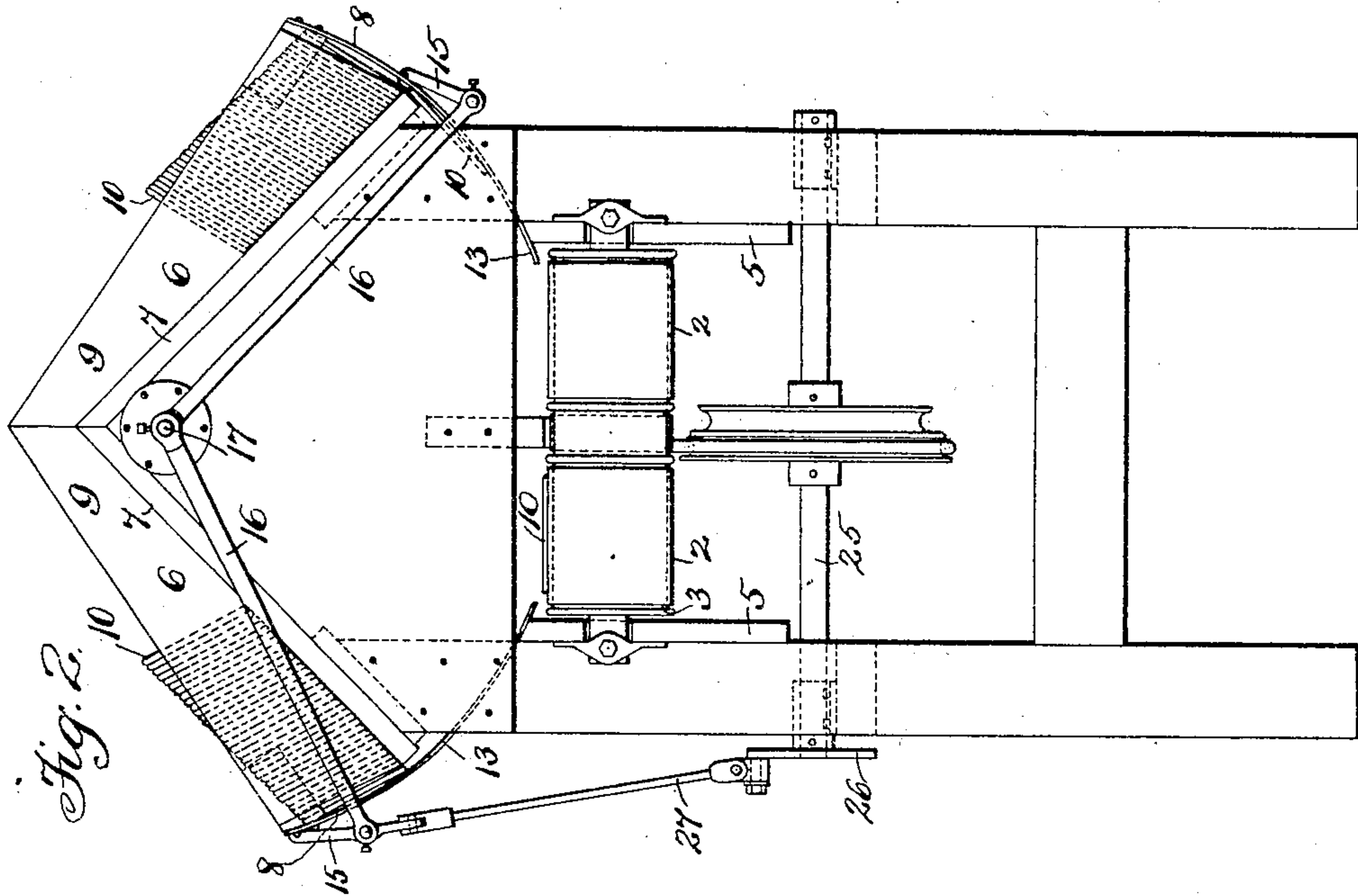
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# UNITED STATES PATENT OFFICE.

CALVIN JACKSON, OF READING, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO OTTO REISSMANN, OF READING, PENNSYLVANIA.

## FEEDING MECHANISM FOR BOARDED FABRICS.

SPECIFICATION forming part of Letters Patent No. 779,712, dated January 10, 1905.

Application filed May 27, 1904. Serial No. 210,012.

*To all whom it may concern:*

Be it known that I, CALVIN JACKSON, a citizen of the United States, residing in the city of Reading, county of Berks, State of Pennsylvania, have invented certain new and useful Improvements in Feeding Mechanism for Boarded Fabrics, of which the following is a specification.

My invention relates to apparatus for finishing articles which are mounted upon interior supports during the finishing operation, such as singeing-machines for boarded stockings; and my object is to provide, in connection with the finishing means and means for carrying the boarded articles thereto, means for automatically feeding the boarded articles to the carrying means from a piled series of boards, as particularly described hereinafter in connection with the preferred form of mechanism indicated in the accompanying drawings, the novel features being clearly pointed out in the claims.

Heretofore boarded stockings have been fed to the carrying means by hand, the top board of a pile on either side of the operator being ordinarily lifted and conveyed by him to the carrying means of a double machine. The purpose and effect of my invention is to dispense with this operator and at the same time increase the capacity of the apparatus and secure greater economy and more satisfactory results in operation.

Figure 1 is a side elevation of a portion of a stocking-singeing apparatus embodying my invention, the singeing means and carrying-rolls being merely indicated diagrammatically as forming no part of my present invention. Fig. 2 is a forward end elevation showing the driving belt for the carrier-rolls in section on the line 2 2 of Fig. 1. Fig. 3 is an enlarged half-section taken on the line 3 3 of Fig. 1 looking rearward as indicated by the arrow.

The usual singeing means of a stocking-singeing machine are diagrammatically indicated in Fig. 1 by burners *a* and *b*, located, respectively, above and below the line of travel between two pairs of carrier-rolls *c d* and *e f* of the traveling former-board upon which the stock-

ing is mounted for finishing treatment on its opposite sides by the gas-jets from the burners. 50

The boarded stockings are carried to the carrier-rolls *c d* in two parallel series, as usual, by a pair of belts 2 2 passing around a forward driving-drum 3 and a rear drum 4, both suitably mounted in the side bars 5 5 of the supporting-frame for the automatic board-feeding mechanism shown. This feeding mechanism comprises separate hoppers for holding the piled boards from which separate boards are to be fed to the respective carrying-belts 2. Each of these hoppers 6, as shown, is provided with a suitably-inclined supporting-wall 7, arranged above the carrying-belt 2 and inclined downward and outward, as shown, to one side of said belt, and with bottom strips 8 8, secured to the hopper ends 9 9. The boards 10 are supported, as indicated in Figs. 2 and 3, in an oblique pile upon these bottom strips 8, with their lower longitudinal edges bearing upon the inclined supporting-wall 7, so that a large portion of their weight is directly borne by said inclined wall and only a moderate pressure brought upon the lowermost board by the obliquely-superimposed boards. The lowermost board, as shown, is fed from the pile in the hopper to the carrying-belt 2. To provide for its discharge from the hopper, a sufficient space 11 is allowed between the lower edge 12 of the inclined wall and the hopper-bottom 8 8, and to guide the discharged board onto the carrying-belt a slideway extension 13 of said bottom is provided, over the extremity of which the board drops onto the belt. 60 65 70 75 80

The means for discharging the separate boards from each hopper comprises, as shown, a pair of hooked devices 15, carried by radius or rock arms 16, preferably fixed to a central longitudinal shaft 17, carrying similar arms for discharging boards from the twin hopper provided for the second carrying-belt. The free ends of each pair of radius-arms are connected by a longitudinal rod 18 beyond the hopper-bottom, upon which the hooked devices 15 are pivotally mounted at suitable points, as shown, so as to have a limited outward 85 90 95



swing thereon against springs 19 sufficient to permit the free upward passage of the device past the lowermost board on its return movement. As indicated in Fig. 3, the hooked devices 15 when moved beyond the lowermost board are sprung into engagement with the outer edge of the latter, the extent of this engaging movement being limited, as shown, by a lateral projection 20 on the hooked end of the device arranged to bear against the adjacent bottom strip 8 and its slideway extension during the discharging movement.

The reciprocating movement of the radius-arms is effected, as shown, from a transverse shaft 25, having a crank-disk 26, to which is suitably jointed a crank-rod 27, connected at its upper end to the rod 18, so as to raise and lower the latter, with its connected radius-arms and board-engaging devices, at each revolution of the shaft 25. This shaft is rotated, as shown, by a driving belt or rope 28 from the drum 4.

The length of the hoppers is sufficient to receive the longest boards required; but it is of considerable advantage to use shorter boards when the articles to be treated permit of so doing, providing they are fed from the hopper with the greater rapidity which such reduced length makes possible without causing one board to contact with a preceding one. I therefore provide for varying the frequency of the discharging movements, this being effected, as shown, by merely shifting the driving-belt 28 to one or other of the different sized pulleys provided on the drum 4 and shaft 25, respectively, thus changing the speed of rotation of the latter to suit one or other of the two different lengths of board ordinarily employed.

The two pairs of radius-arms 16 provided for the respective hoppers are both fixed, as shown, to the common shaft 17 and are operated in unison by the single crank-rod 27. An effect of this arrangement is to feed a board from each hopper alternately, which is considered preferable. It is obvious, however, that by merely duplicating the crank 26 and crank-rod 27 and allowing the radius-arms to turn upon the shaft 17 instead of being fastened thereto the two pairs of arms may be operated in unison, so as to discharge a board from each hopper at the same time instead of alternately.

The particular mechanism shown and described for carrying my invention into effect may obviously be readily modified without departing from the spirit of my invention, and I do not desire to limit myself to such preferred construction; but

What I claim is—

1. The combination of means for treating fabrics mounted on formers, means for carrying said formers with the articles to be treated through said treating means, and means for feeding said formers to the carrying means.

2. The combination of means for treating fabrics mounted on formers, means for carrying said formers with the articles to be treated through said treating means, a hopper for the piled formers and means for feeding the formers *seriatim* to the carrying means.

3. The combination of means for treating fabrics mounted on formers, means for carrying said formers with the articles to be treated through said treating means, a hopper for the piled formers arranged to one side of the line of travel to the treating means, and means for feeding the formers *seriatim* to the carrying means.

4. The combination of means for treating fabrics mounted on formers, means for carrying said formers with the articles to be treated through said treating means, a hopper for the piled formers, and means for feeding the lowermost formers *seriatim* to the carrying means.

5. The combination of means for treating fabrics mounted on formers, means for carrying said formers with the articles to be treated through said treating means, a hopper for the piled formers arranged to one side of the line of travel to the treating means, and means for feeding the lowermost formers *seriatim* to the carrying means.

6. The combination of means for treating fabrics mounted on formers, means for carrying said formers with the articles to be treated through said treating means, a hopper for the piled formers arranged at an incline to the line of travel to the treating means, and means for feeding the formers *seriatim* to the carrying means.

7. The combination of means for treating fabrics mounted on formers, means for carrying said formers with the articles to be treated through said treating means, a hopper for the piled formers arranged to one side of and at an incline to the line of travel to the treating means, and means for feeding the formers *seriatim* to the carrying means.

8. The combination of means for treating fabrics mounted on formers, means for carrying said formers with the articles to be treated through said treating means, a hopper for the piled formers arranged to one side of and at an acute angle to the line of travel to the treating means, and means for feeding the formers *seriatim* to the carrying means.

9. The combination of means for treating fabrics mounted on formers, means for carrying said formers with the articles to be treated through said treating means, a hopper for the piled formers arranged to one side of and at an incline to the line of travel to the treating means, and means for feeding the lowermost formers *seriatim* to the carrying means.

10. The combination of means for treating fabrics mounted on formers, means for carrying said formers with the articles to be treated through said treating means, a hopper for the



piled formers arranged to one side of and at an acute angle to the line of travel to the treating means, and means for feeding the lowermost formers *seriatim* to the carrying means.

11. The combination of means for operating upon stockings carried on boards, means for carrying the boards to the operating means, and means for feeding the boards singly to the carrying means from a piled series of boards.

12. A machine for singeing stockings or similar articles embodying means for feeding the boarded stockings singly from a piled series, to the singeing means.

13. The combination of singeing means, means for carrying boarded articles through the said singeing means, and means for feeding the boarded articles singly from a piled series, to the carrying means.

14. The combination of singeing means, means for carrying boarded articles through the said singeing means, and means for feeding the lowermost of a piled series of the boarded articles *seriatim* to the carrying means.

15. The combination of singeing means, means for carrying boarded articles through the said singeing means, and means for feeding the boarded articles laterally to the carrying means.

16. The combination of singeing means, means for carrying boarded articles through the said singeing means, and means for feeding the boarded articles singly from a piled series to the carrying means, the feeding movement being across the line of travel of the carrying means.

17. The combination of singeing means, means for carrying boarded articles through the said singeing means, and means for feeding the lowermost of a piled series of the boarded articles *seriatim* to the carrying means, the feeding movement being across the line of travel of the carrying means.

18. The combination with singeing means and means for carrying boarded articles through said singeing means, of a hopper for the piled boards, a slideway extending from the bottom of the hopper to the carrying means, and means for periodically discharging the lowermost board from the hopper onto said slideway.

19. The combination with singeing means and means for carrying boarded articles through said singeing means, of a hopper for the piled boards having a lateral outlet at the base thereof for the lowermost board, and means for delivering said board to the carrying means.

20. The combination with singeing means and means for carrying boarded articles through said singeing means, of a hopper having an inclined supporting-wall for the piled boards with an outlet at the base thereof

for the lowermost board only, and means for delivering said board to the carrying means.

21. The combination with singeing means and means for carrying boarded articles through said singeing means, of a hopper having an inclined supporting-wall for the piled boards with an outlet at the base thereof for the lowermost board only, a slideway extending from the bottom of the hopper to the carrying means, and means for periodically discharging the lowermost board from the hopper onto said slideway.

22. The combination with a singeing means and means for carrying boarded articles through said singeing means, of a hopper for the piled boards having a lateral outlet at the base thereof for the lowermost board, and means for delivering said board to the carrying means comprising a device for engaging said board and mechanism for reciprocating said device to successively discharge the lowermost boards from the hopper.

23. The combination with a singeing means and means for carrying boarded articles through said singeing means, of a hopper for the piled boards having a lateral outlet at the base thereof for the lowermost board and means for delivering said board to the carrying means comprising a reciprocating arm carrying a spring-hook arranged to successively engage the lowermost boards and discharge the same from the hopper.

24. The combination with a singeing means and means for carrying boarded articles through said singeing means, of a hopper for the piled boards having a lateral outlet at the base thereof for the lowermost board and means for delivering said board to the carrying means comprising a slideway extending from the bottom of the hopper to the carrying means and a reciprocating arm carrying a spring-hook guided by said way and arranged to successively engage and discharge the lowermost boards.

25. The combination with singeing means and means for carrying boarded articles through said singeing means, of a hopper for the piled boards, and means for successively delivering the lowermost boards to the carrying means.

26. The combination with singeing means and means for carrying boarded articles through said singeing means, of a hopper for the piled boards, means for successively delivering the lowermost boards to the carrying means, and means for independently varying the frequency of such delivery.

27. The combination with singeing means and means for carrying boarded articles through said singeing means, of a hopper for the piled boards, means for successively delivering the boards to the carrying means, and means for independently varying the frequency of such delivery.

28. The combination with means for singe-



ing and means for carrying two parallel series of boarded articles through said singeing means, of separate hoppers for the piled boards, and means for delivering the boards  
5 singly from said hoppers, in parallel series to said carrying means.

29. The combination with means for singeing and means for carrying two parallel series of boarded articles through said singeing  
10 means, of separate hoppers for the piled boards, and means for delivering single boards alternately from said hoppers in parallel series to said carrying means.

30. The combination with means for singeing and means for carrying two parallel series of boarded articles through said singeing  
15 means, of separate hoppers for the piled boards, and means for delivering the boards singly from said hoppers, in parallel series to  
20 said carrying means, comprising radius-arms

each carrying a board-engaging device and means for reciprocating said arms in unison.

31. The combination with means for singeing and means for carrying two parallel series of boarded articles through said singeing  
25 means, of separate hoppers for the piled boards, and means for delivering the boards singly from said hoppers, in parallel series to said carrying means, comprising radius-arms  
30 each carrying a board-engaging device and means for reciprocating said arms to deliver single boards alternately from the respective hoppers.

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

CALVIN JACKSON.

Witnesses:

ROBERT N. HECKMAN,  
ADAM L. OTTERBEIN.