

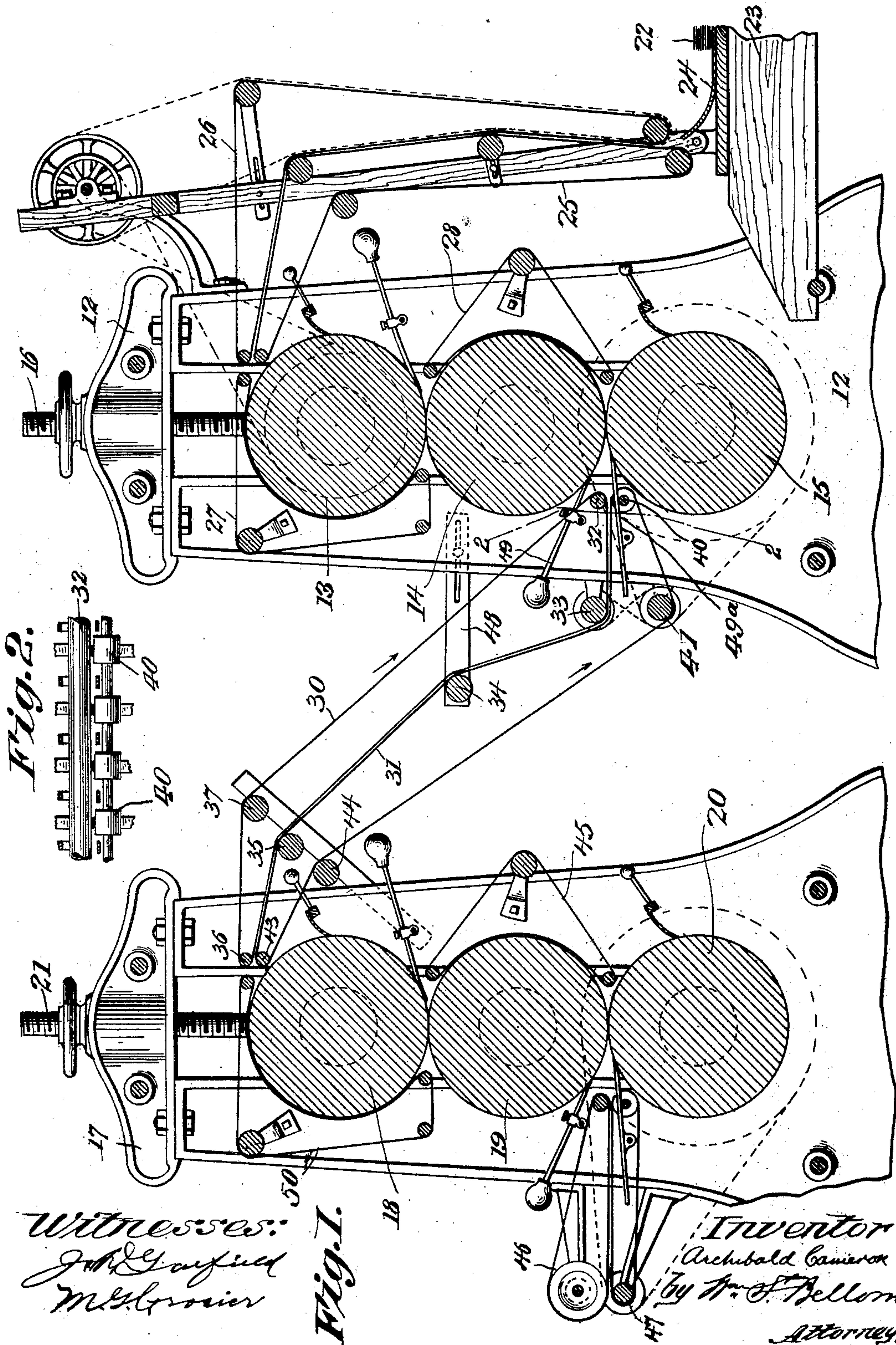
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Patented Dec. 2, 1902.

A. CAMERON.
PAPER CALENDERING MACHINE.

(Application filed July 8, 1902.)

(No Model.)



UNITED STATES PATENT OFFICE.

ARCHIBALD CAMERON, OF WEST SPRINGFIELD, MASSACHUSETTS.

PAPER-CALENDERING MACHINE.

SPECIFICATION forming part of Letters Patent No. 715,017, dated December 2, 1902.

Application filed July 8, 1902. Serial No. 114,972. (No model.)

To all whom it may concern:

Be it known that I, ARCHIBALD CAMERON, a citizen of the United States of America, and a resident of West Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Paper-Calendering Machines, of which the following is a full, clear, and exact description.

10 This invention relates to feeding devices for paper-making machinery, especially to the means for conveying paper that has passed through one series of calender-rolls to an adjacent series of calender-rolls.

15 The object of the invention is to provide a means for receiving paper from the lowermost roll of a series of calender-rolls and conveying it to and feeding it into the uppermost pair of an adjacent series of calender-rolls.

20 In the accompanying drawings, representing an apparatus embodying my invention, Figure 1 is a vertical section through two series of calender-rolls, certain parts being shown in elevation. Fig. 2 is an elevation on the line 2 2 of Fig. 1.

Like characters of reference indicate the same parts in the views.

Referring now to the drawings, 12 represents a suitable framework in which is mounted a series of calender-rolls 13, 14, and 15. These rolls are arranged to be very strongly pressed together by a screw 16 in the usual manner. In an adjacent frame 17 are mounted a vertical series of calender-rolls 18, 19, and 20, that are forced together by a screw 21. The sheets of paper 22 are guided from a table 23 by a plate 24, so that the edge enters between the cooperative bands 25 and 26 in the usual manner. The sheet of paper is thereby carried upwardly and then across on top of the upper roll 13. A suitable band or bands 27 cause the sheet of paper to pass around the roll 13, so that it is thereby fed between the rolls 13 and 14. After passing between these said rolls a band 28 causes the sheet of paper to pass downwardly around the roll 14 and feeds it between the latter roll and the roll 15.

50 In order to convey the sheets of paper that have passed through the rolls 13, 14, and 15 to an adjacent series of rolls, I provide a pair of

coacting bands 30 31. The band 30 passes around guide-rolls 32 33 in proximity to the rolls 14 15, then around a guide-roll 34, and thence around guide-rolls 35, 36, and 37 in proximity to the uppermost roll of the series of the calender-rolls in the frame 17. The band 31 passes around guide-rolls 40 and 41, around guide-roll 34, and thence around guide-rolls 35 43 44 in proximity to the calender-roll 18.

It will be observed that the two bands 30 and 31, moving in the direction indicated by the arrows, are arranged parallel and in alignment with the contacting rolls 14 and 15. Consequently when the paper emerges from between the rolls 14 and 15 it will pass between the bands that are engaged by the guide-rolls 32 and 40 and will then be carried between the horizontal portions of the bands until the guide-roll 33 is reached. The sheet will then be carried upwardly between the engaging bands, around the guide-roll 34, thence around the guide-roll 35, and the sheet of paper will be delivered where the coacting bands separate at the guide-rolls 36 and 43. At this place the sheet of paper will be guided onto and around the calender-roll 18 by the band 50. The latter will cause the sheet to pass between the rolls 18 and 19, and thereupon the sheet of paper will be engaged by a band 45, that will cause it to pass between the rolls 19 and 20. It may then be conducted away from the latter roll by suitable bands 46 and 47.

Where the sheet of paper emerges from the rolls 14 and 15, I provide suitable stripping-blades 49 and 49^a to prevent the sheet from being carried around either of the said rolls by adhesion thereto, and thus insure it being fed between the guide-rolls 32 and 40.

The guide-roll 34 is preferably mounted on an adjustable arm 48 in order to provide suitable tension to the bands 30 and 31.

There are preferably a plurality of the bands 30 and 31, guided by a series of parallel guide-rolls; or one elongated roll 32 and a series of individual rolls 40, as indicated in Fig. 2.

Having thus described my invention, what I claim is—

1. In a device of the character described, the combination with two sets of vertically-

disposed calender-rolls, of a conveyer consisting of a pair of coacting endless bands arranged to receive between them a sheet delivered from the lower rolls of one set, and
5 to convey the sheet to the upper rolls of the other set.

2. In a device of the character described, the combination with two sets of vertically-disposed calender-rolls, of a conveyer consisting of a parallel series of pairs of coacting
10 endless bands arranged to receive between them a sheet delivered from the lower rolls of one set, and to convey the sheet to the upper rolls of the other set.

3. In a device of the character described, the combination with two sets of vertically-disposed calender-rolls, of a conveyer consisting of a pair of coacting endless bands arranged to receive between them a sheet delivered from the lower engaging rolls of one
20 set, said receiving portions of the bands being arranged in horizontal alinement with the contacting portions of said lower rolls, the bands being arranged to convey the sheet to
25 the upper roll or rolls of the other set.

4. In a device of the character described, the combination with two sets of vertically-disposed calender-rolls, of a conveyer consisting of a pair of coacting endless bands arranged to receive between them a sheet delivered from the lower rolls of one set, and
30 to convey the sheet to the upper roll of the other set, and an adjustably-mounted guide-roll arranged to engage the bands.

5. In a device of the character described, the combination of two sets of vertically-disposed calender-rolls, of the guide-rolls 32 and

33 arranged in horizontal alinement with the contacting portions of the lower pair of rolls in one set, the guide-rolls 36 and 37 arranged
40 in proximity to the upper roll of the upper set, the guide-rolls 40 and 41 arranged respectively in proximity to said guide-rolls 32 and 33, the guide-rolls 43 and 44 arranged in proximity to said guide-rolls 36 and 37, the
45 guide-roll 35 arranged between said guide-rolls 37 and 44, the endless band 30 engaging the said rolls 32, 33, 35, 36 and 37, and the endless band 31 engaging said guide-rolls 40, 41, 44, 43, 35 and 33.

6. In a device of the character described, the combination of two sets of vertically-disposed calender-rolls, of the guide-rolls 32 and 33 arranged in horizontal alinement with the contacting portions of the lower pair of rolls
55 in one set, the guide-rolls 36 and 37 arranged in proximity to the upper roll of the other set, the guide-rolls 40 and 41 arranged respectively in proximity to said guide-rolls 32 and 33, the guide-rolls 43 and 44 arranged in proximity to said guide-rolls 36 and 37, the guide-
60 roll 35 arranged between said guide-rolls 37 and 44, the endless band 30 engaging the said rolls 32, 33, 35, 36 and 37, the endless band 31 engaging said guide-rolls 40, 41, 44, 43, 35
65 and 33, and the adjustable guide-roll 34 arranged to regulate the tension on the bands passing between guide-rolls 35 and 33.

Signed by me at Springfield, Massachusetts, in the presence of two subscribing witnesses. 70

ARCHIBALD CAMERON.

Witnesses:

ALICE CAMERON,

WM. S. BELLWS.