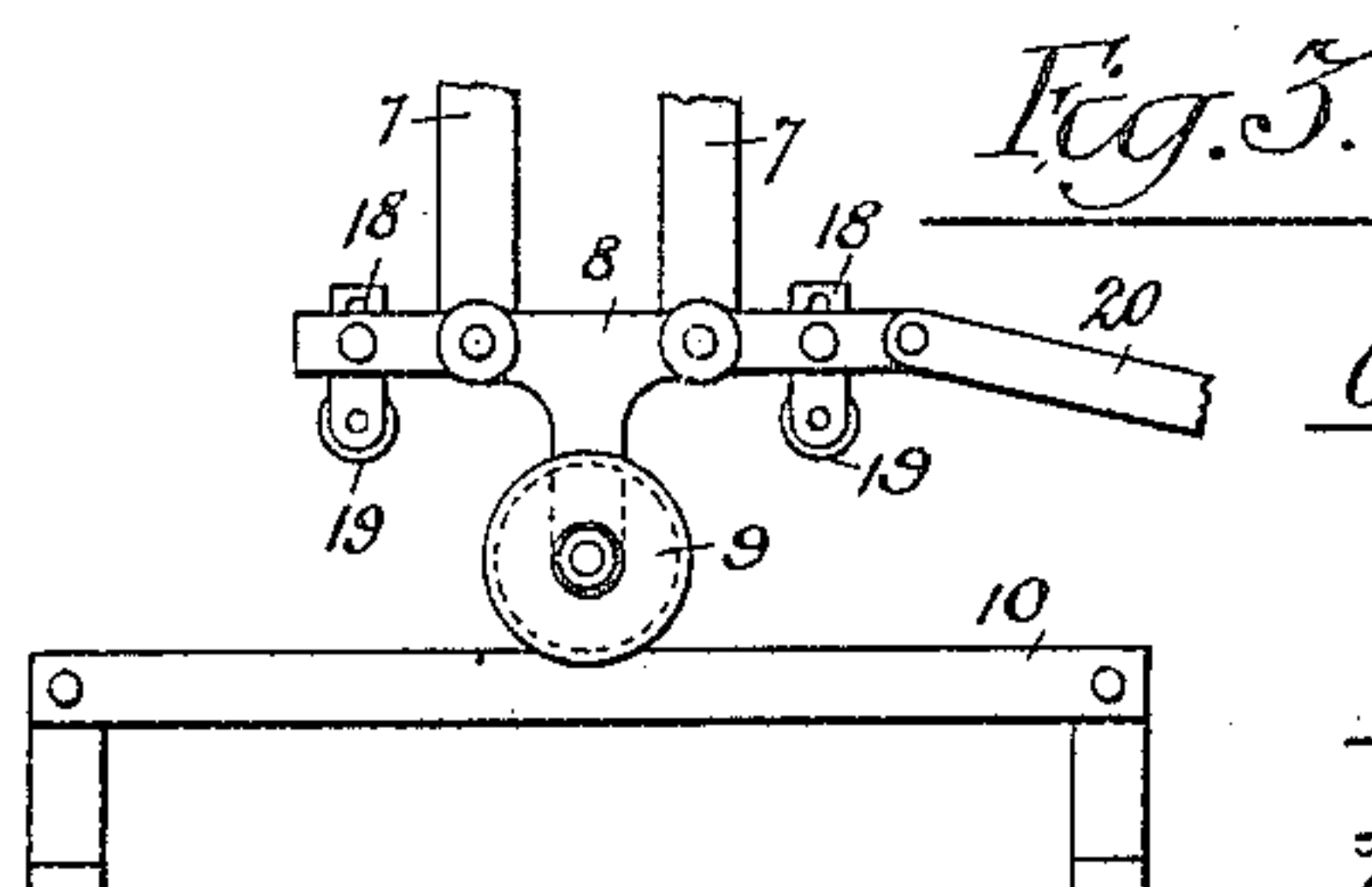
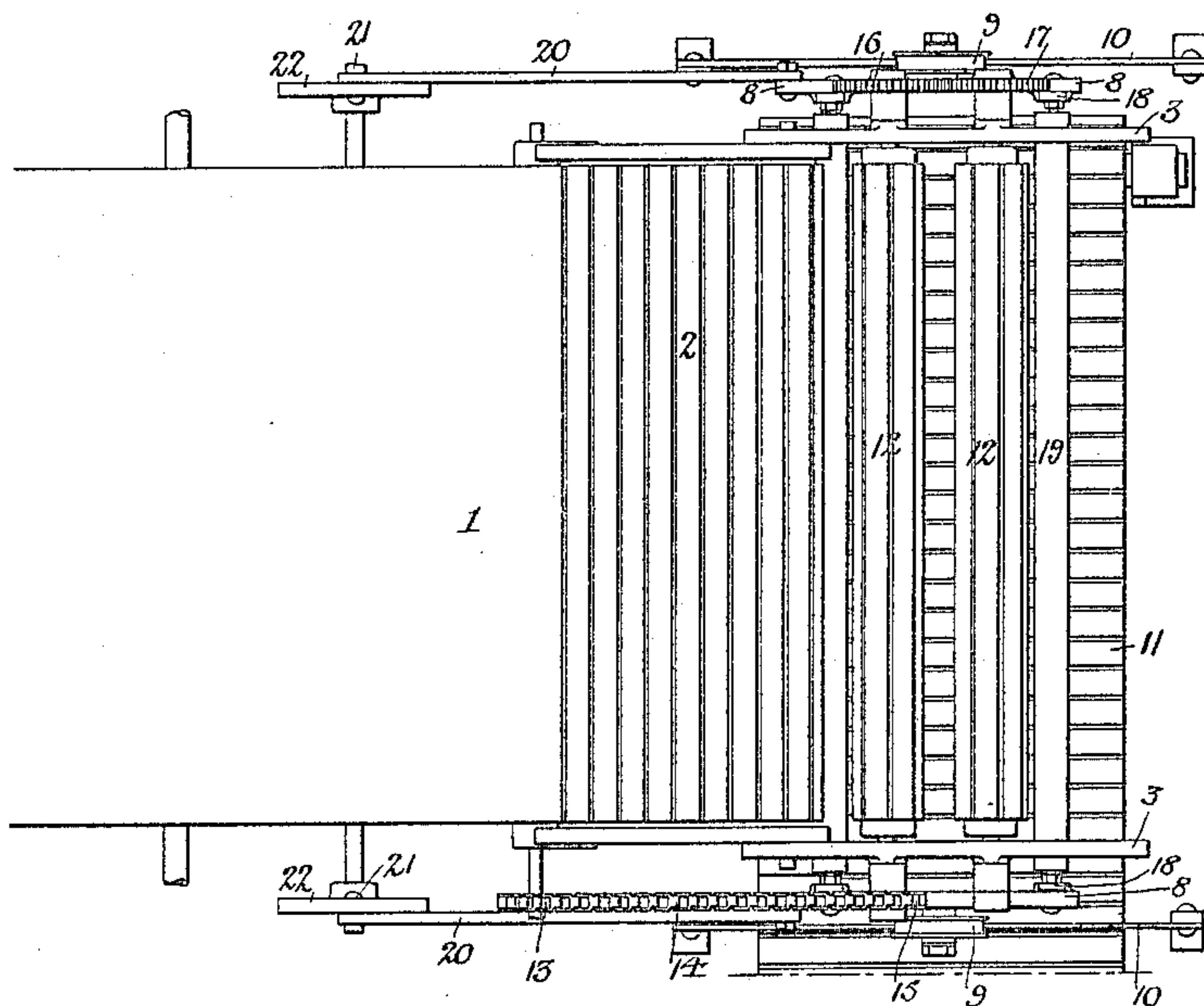
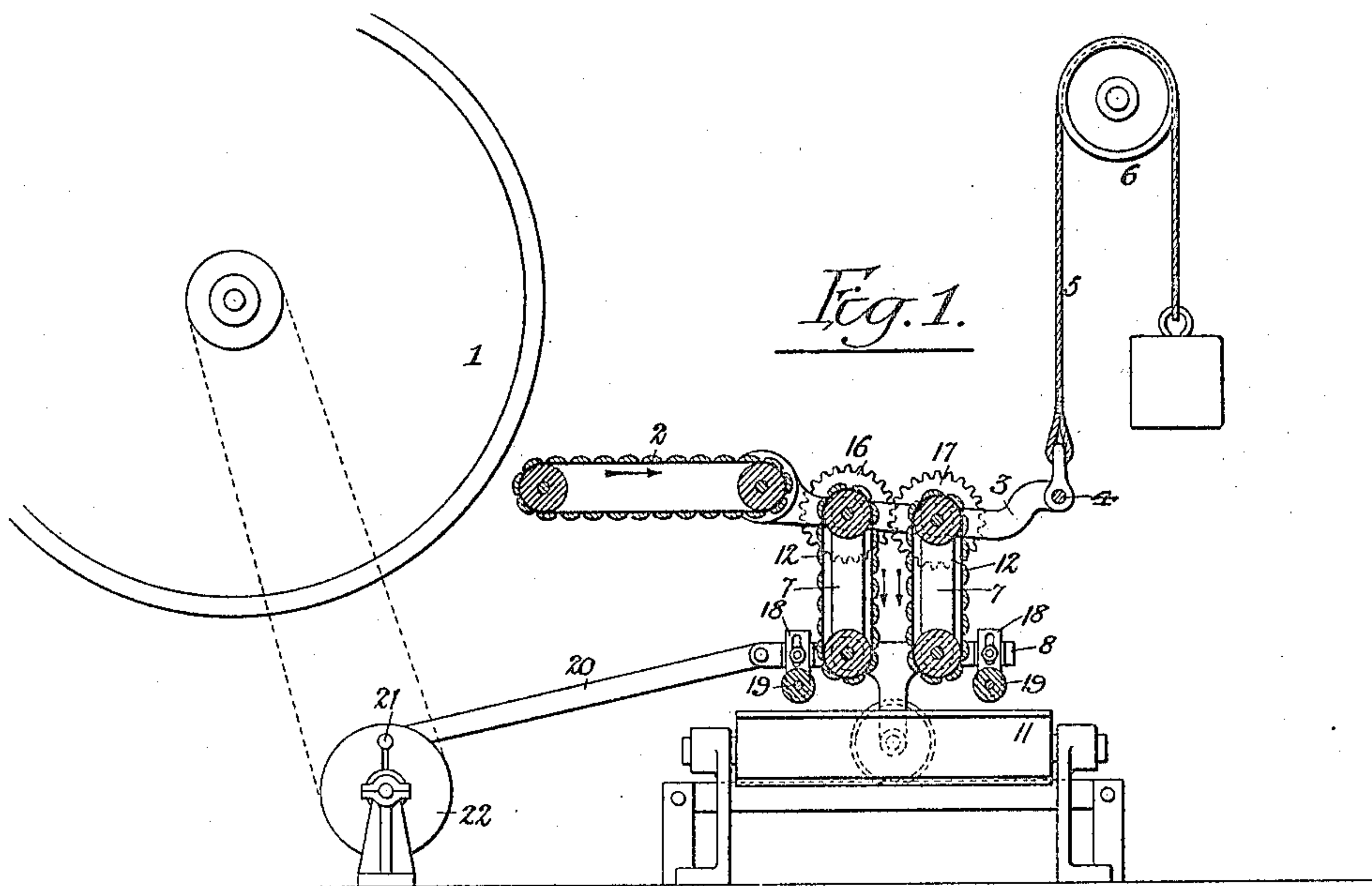


No. 818,302.

PATENTED APR. 17, 1906.

C. SCHOFIELD & I. REEDER.
LAP FEEDING DEVICE FOR CARDING MACHINES.

APPLICATION FILED MAY 12, 1903.



Witnesses:-

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UNITED STATES PATENT OFFICE.

CHARLES SCHOFIELD AND ISAAC REEDER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS TO WILLIAM SCHOFIELD COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

LAP-FEEDING DEVICE FOR CARDING-MACHINES.

No. 818,302.

Specification of Letters Patent.

Patented April 17, 1906.

Application filed May 12, 1903. Serial No. 156,808.

To all whom it may concern:

Be it known that we, CHARLES SCHOFIELD and ISAAC REEDER, citizens of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Lap-Feeding Devices for Carding-Machines, of which the following is a specification.

Our invention consists of certain improvements in the lap-feeding devices for carding-machines forming the subject of Letters Patent No. 348,419, granted August 31, 1886, to William Schofield, one object of our present improvements being to provide for the more effective transmission of the web or fleece from the delivery-apron of the carding-machine to the lateral transfer-apron constituting one of the elements whereby said web or fleece is conveyed to an adjoining machine.

A further object is to provide simple and effective means for compacting the lapped web or fleece upon said lateral transfer-apron.

These objects we attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a view, partly in vertical section and partly in elevation, of a lap-feeding device constructed in accordance with our invention. Fig. 2 is a plan view of the same, and Fig. 3 is a side view of part of the mechanism.

1 represents part of the cylinder, doffer, or other delivery element of a carding-machine, and 2 the slatted or other delivery apron onto which the web or fleece is delivered from said element 1 of the machine, this delivery-apron being suitably driven, so as to travel in the direction of the arrow, Fig. 1. To the outer end of the frame which carries the delivery-apron 2 is pivoted a swinging frame comprising upper bars 3 and lower bars 8, connected by depending links 7, each of the upper bars being provided with a weighted rope 5, passing around an elevated sheave 6 and serving to counterbalance or partially counterbalance the weight of said swinging frame and the parts carried thereby. Each of the lower bars 8 carries a flanged wheel 9, one of these wheels running upon a horizontal track 10 at one end of the frame which carries a lateral transfer-belt 11 and the other wheel running upon a similar track which bridges said belt, as shown in Fig. 2.

Transverse shafts are mounted in suitable

bearings in the upper and lower bars 3 and 8 of the swinging frame, and these shafts carry drums, to which are adapted slatted or other vertical conveyer-belts 12, to which movement in the direction of the arrows, Fig. 1, is imparted in the following manner: On the shaft of the forward drum of the delivery-belt 2 of the machine is a sprocket-wheel 13, Fig. 2, to which is adapted a chain belt 14, the latter also engaging a sprocket-wheel 15 on the shaft of the upper drum of one of the belts 12, and to this shaft is secured a spur-wheel 16, which meshes with a similar spur-wheel 17 on the shaft of the upper drum of the other belt 12. The lower bars 8 of the frame carry vertically-adjustable brackets 18, which serve as bearings for the shafts of a pair of rollers 19, and each of said bars 8 is connected by a link 20 to a radially-adjustable crank-pin 21 on a disk 22, which is rotated from the shaft of the cylinder 1 or other element of the machine or in any other appropriate manner, so that reciprocating movement will be imparted to the suspended lower members of the swinging frame, and the lower portions of the vertical belts 12 will thereby be caused to travel back and forth over the lateral transfer-belt 11.

The web or fleece is delivered by the apron 2 to the conveyer-belts 12 and is carried downwardly thereby and delivered onto the surface of the lateral transfer-belt 11, which carries it to the camel-back or other feeder, whereby it is applied to the feed-apron of the adjoining machine, the fleece being lapped back and forth on the surface of the lateral transfer-belt owing to the swinging movement of the lower ends of the conveyer-belts 12, due to the reciprocation of the lower members of the frame which carries said belts. By reason of the use of these vertical conveyer-belts the web or fleece is under control at all times in its passage from the drum 1 to the lateral transfer-belt. Hence it is less liable to become broken or injured than if it passed directly from the delivery-apron 2 to a pair of rolls adjacent to the transfer-belt 11, as in the former patented device.

The folded web is compacted upon the surface of the transfer-belt 11 by means of the rollers 19, which can be adjusted vertically to suit the different thicknesses of web subjected to their action, the mounting of the wheels 9 upon the horizontal rails 10 insuring the

travel of the rollers 19 and of the lower ends of the conveyer-belts 12 in a horizontal course parallel with the upper surface of said lateral transfer-belt.

5 It will be noted that the lower bars 8 and their flanged wheels 9 constitute a horizontally-moving carriage, but that the movement of this carriage does not affect the position of the delivery-apron 2, the latter being
10 carried by vertically-fixed drums, and in this respect our invention is distinct from that class of machines in which the conveyance of the web or fleece from the carding-machine to the mechanism for lapping it upon the trans-
15 verse conveyer-apron is effected through the medium of an upwardly-inclined conveyer-belt which is so connected to the lapping devices that its upper end rises and falls with the movement of said devices. In many
20 cases thin fleeces of short staple or inferior fiber cannot be handled by a machine of the latter type because of such inclination and movement of the primary conveyer-apron; but when said conveyer-apron is horizontal
25 and is vertically fixed, as in our machine, the weakest and thinnest grades of fleece can be effectively handled. It will be noted that in our machine there is no lift of the fleecy web after it leaves the doffer-roll, and hence no
30 upward drag upon the thin fleece. Moreover, there is no constantly-changing angle of delivery from the doffer-roll to the conveyer-apron or from the conveyer-apron to the layer-aprons, and hence no strain upon
35 the fleece at these points, and both of these factors are of importance in bringing about the successful operation of the machine when dealing with fleeces of the character described.

40 Having thus described our invention, we claim and desire to secure by Letters Patent—

1. The combination of the delivery-apron of a carding-machine, a transfer-apron
45 mounted at a lower level than said delivery-apron and traveling in a direction transverse to the direction of travel of the same, and a web-guiding device interposed between said delivery and transfer aprons and having as
50 elements a horizontally-guided carriage and means for reciprocating the same, said carriage being free from any connection with the delivery-apron which would cause rising-and-falling movement of the latter as the carriage reciprocates, substantially as specified.
55

2. The combination of the delivery-apron of a carding-machine, disposed in a horizontal plane, a transfer-apron mounted at a
60 traveling in a direction transverse to the di-

rection of travel of the same, and a web-guiding device interposed between said delivery and transfer aprons, and having as elements a horizontally-guided carriage and means for reciprocating the same, said carriage being
65 free from any connection with the delivery-apron which would cause rising-and-falling movement of the latter as the carriage reciprocates, substantially as specified.

3. The combination of the delivery-apron
70 of a carding-machine, disposed in a horizontal plane, a vertically-fixed support for said apron, a transfer-apron mounted at a lower level than said delivery-apron and traveling in a direction transverse to the direction of
75 travel of the same, and a web-guiding device interposed between said delivery and transfer aprons and having as elements a horizontally-guided carriage and means for reciprocating the same, said carriage being free from any
80 connection with the delivery-apron which would cause rising-and-falling movement of the latter as the carriage reciprocates, substantially as specified.

4. The combination of the delivery-apron
85 of a carding-machine, a transfer-apron mounted at a lower level than said delivery-apron and traveling in a direction transverse to the direction of travel of the same, and a web-guiding device having as elements op-
90 posite web-feeding devices, means for imparting forward or feeding movement thereto, a horizontally-guided carriage and means for reciprocating the same, said carriage being free from any connection with the deliv-
95 ery-apron which would cause rising-and-falling movement of the latter as the carriage reciprocates, substantially as specified.

5. The combination of the delivery-apron
100 of a carding-machine, a vertically-fixed support for both ends of said apron, a transfer-apron mounted at a lower level than said delivery-apron and traveling in a direction transverse to the direction of travel of the
105 same, a pair of web feeding and guiding belts interposed between the conveyer-apron and the transfer-apron, a horizontally-guided carriage for the lower drums of said belts, and a pivoted frame free to swing vertically and carrying the upper drums of said belts, substan-
110 tially as specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

CHARLES SCHOFIELD.
ISAAC REEDER.

Witnesses:

FRANK E. BECHTOLD,
WILLIAM E. BRADLEY.