

No. 751,284.

PATENTED FEB. 2, 1904.

C. G. HARRIS.

FEEDER FOR PRINTING OR OTHER MACHINES.

APPLICATION FILED OCT. 18, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

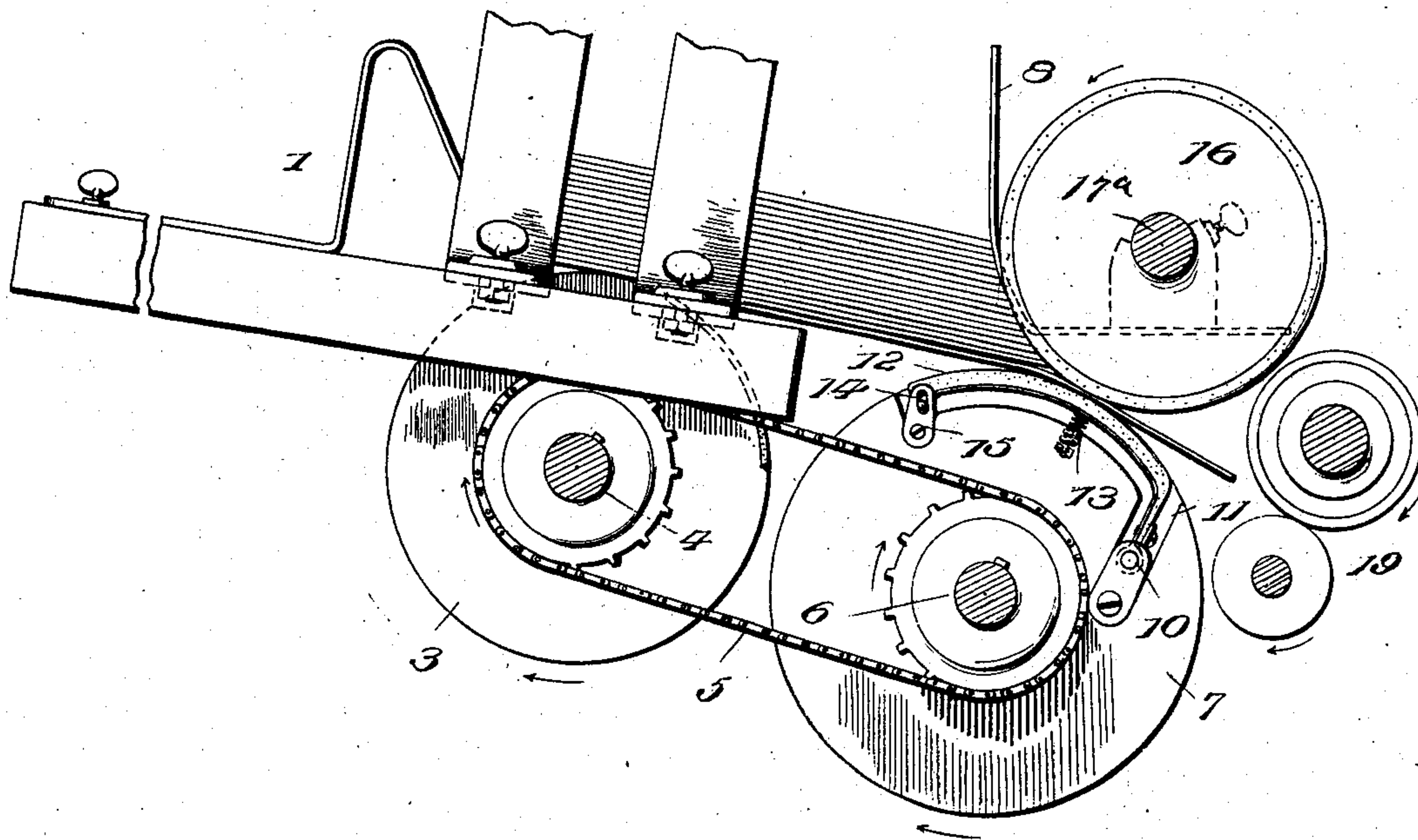
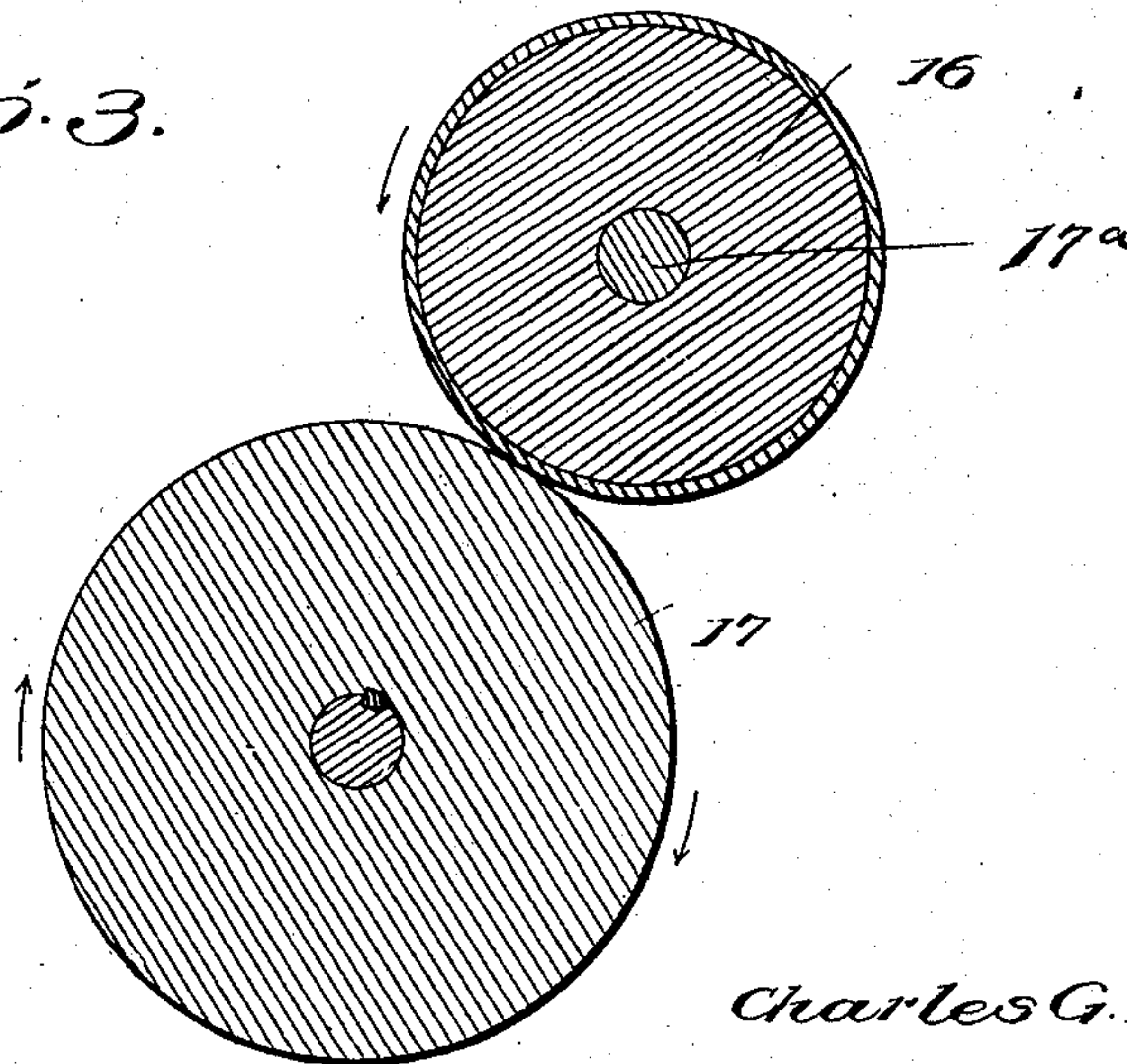


Fig. 3.



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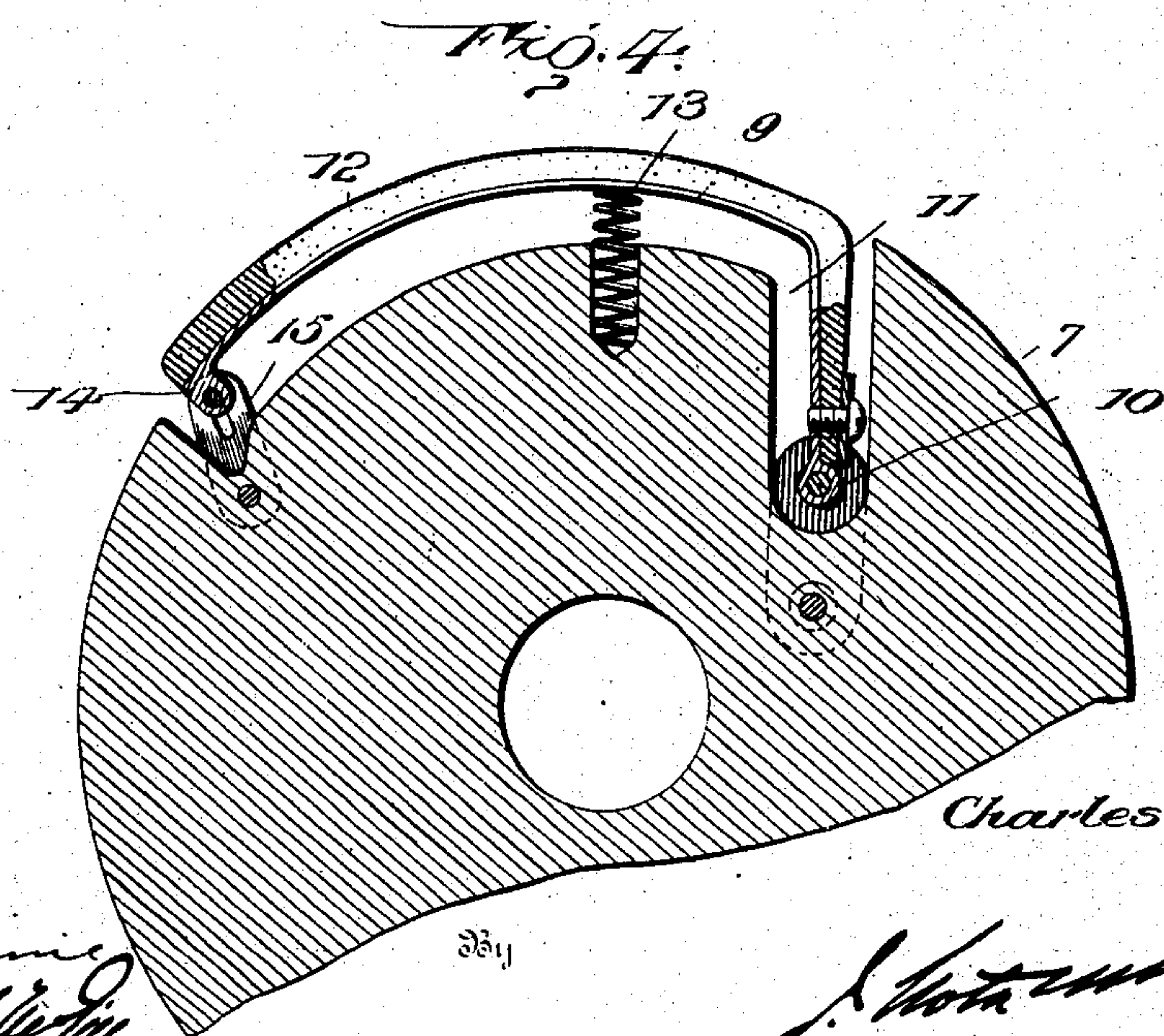
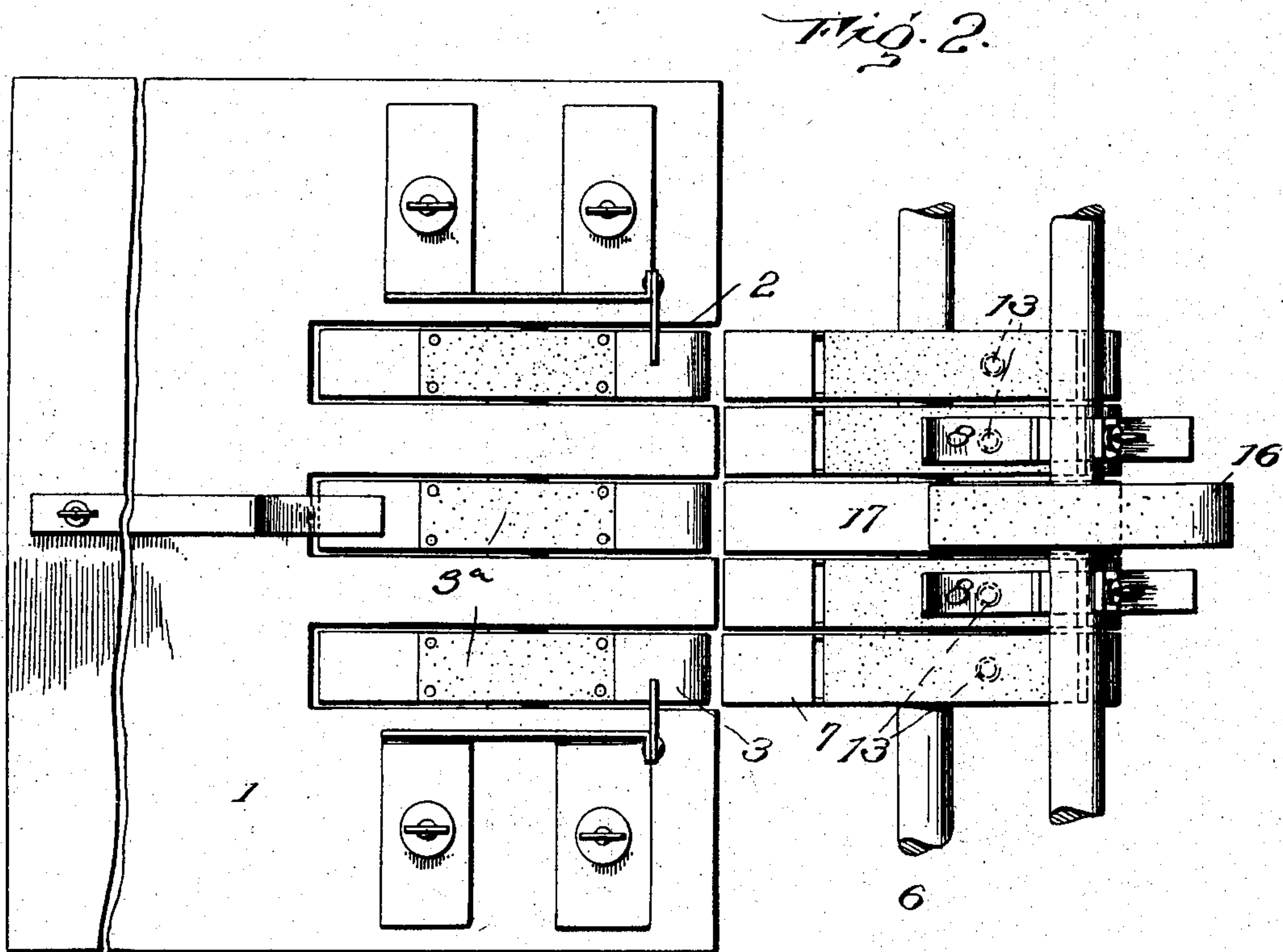
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2 SHEETS—SHEET 2.



Inventor

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UNITED STATES PATENT OFFICE.

CHARLES GRANT HARRIS, OF NILES, OHIO, ASSIGNOR TO THE HARRIS
AUTOMATIC PRESS COMPANY, OF NILES, OHIO, A CORPORATION
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FEEDER FOR PRINTING OR OTHER MACHINES.

SPECIFICATION forming part of Letters Patent No. 751,284, dated February 2, 1904.

Application filed October 18, 1902. Serial No. 127,872. (No model.)

To all whom it may concern:

Be it known that I, CHARLES GRANT HARRIS, of Niles, in the county of Trumbull and State of Ohio, have invented certain new and useful
5 Improvements in Feeders for Printing or other Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make
10 and use the same.

The objects of this invention are to provide an improved feeder especially adapted for stock of certain thicknesses—such as paper bags, &c.—to avoid the formation of kinks in
15 the stock as it is fed up to the gate, to so construct the gate as to insure proper passage, avoiding the consequences usually resulting from wear of the gate-block, which latter instead of impeding will tend to facilitate the
20 passage of the stock, and also to so construct the feeding-rolls as to compensate for any bend or irregularity in the pile.

The invention will be hereinafter fully set forth, and particularly pointed out in the
25 claims.

In the accompanying drawings, Figure 1 is a side view with parts in section. Fig. 2 is a plan view with parts broken away. Fig. 3 is a section through the gate. Fig. 4 is an enlarged sectional view of one of the feed-rolls.
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Referring to the drawings, 1 designates the feed table or hopper, in the bottom of which are open-ended slots 2 to accommodate auxiliary feed-rolls 3, mounted on a shaft 4, driven
35 by a chain belt 5, which derives its power from the positively-driven shaft 6 of the main feed-rolls. On the periphery of each roll 3 is a segment of rubber 3^a.

7 designates the main feed-rolls, mounted
40 fast on shaft 6 and located in advance of the auxiliary feed-rolls and the forward edge of the feed-table. These rolls are designed to engage the bottom of the pile of stock set on an incline on the feed-table and held by the side
45 and rear gages up against forward gages 8, the articles being fed one at a time from the bottom of the pile by the feed-rolls 7 engaging therewith.

A segment of the periphery of each feed-roll is cut out to accommodate a curved plate 50 9, pivoted at 10 within a slot 11, leading from the cut-out, such plate having a rubber covering 12 on its outer face. These rubber-covered plates are normally held tangentially beyond the circumference of the rolls by springs 55 13, the outward movements of their free ends being limited by studs 14, working in slotted plates 15. The tendency of these tangential segments is to "reach out," so to speak, and engage the stock and feed it forward in the
60 rotation of the rolls, the springs allowing the segments to adjust themselves to the conditions of the stock, which is widely variant.

The gate is composed of an upper stationary member 16 and a lower member or block 17, 65 which in the present instance is rotary, so as to travel with the stock and aid in feeding it forward. The upper or stationary member is shown in the form of a rubber-covered roll fast on a cross-rod 17^a, while the block consists 70 of a metallic roll mounted on the feeder-shaft 6 at the center of the series of feed-rolls. The upper stationary member may be adjusted axially to readily compensate for wear occasioned by contact of the stock with its periphery. 75 The forward edge of the pile of stock is guided in between the two members of the gate, the space between which allows of the passage of but one article at a time. The gate-block being rotary tends also to feed the stock
80 forward, and as it constantly presents a fresh surface the difficulties arising from the wear on a stationary block, resulting in retarding the passage of the stock, are successfully overcome. 85

As the stock is fed by the feed-rolls beyond the gate it is engaged by the withdrawal rolls 19 and pulled forward, so as to be taken up by the gripper mechanism (not shown) of the press. The stock being caught at the center 90 of the pile by the two members of the gate has a tendency to bend upward on either side of its center. The engaging or rubbing portions of the feed-rolls being normally extended beyond the circumferences of the latter 95 will extend outwardly and contact with the

bottom of the pile, regardless of the bends therein. It is not essential, however, that the feed-rolls be equipped with these tangential rubber sections, as the rubbers may be secured directly to the peripheries, as is the case with the auxiliary feed-rolls. These latter rolls are designed for use in feeding large stock, and being driven at the same speed as the main feeders materially aid in advancing the lowermost article of a pile. With small stock the auxiliary feed-rolls may be dispensed with.

In speaking of the yielding segmental sections of the feed-rolls as "rubbers" reference is meant to the function performed by such parts—namely, that of feeding or separating the stock by a rubbing action.

I claim as my invention—

1. In a feeder for printing and other machines feed-rolls having each a rubber section, means for causing such sections to normally occupy tangential positions relative to the rolls, and means for guiding and limiting the outward movements of such sections, as set forth.

2. In a feeder for printing and other machines, rotary feed-rolls having each a segment of its periphery pivotally secured thereto at one end, means for normally holding such segments tangentially to the rolls, means for guiding and limiting the outward movements of such sections, and rubber coverings for the latter, as set forth.

3. In a feeder for printing and other machines, rotary feed-rolls having each a cut-out in its periphery, segmental plates located in such cut-outs, each plate being pivoted at one end and having a rubber covering, springs tending to hold such plates tangentially to the rolls, and stops for limiting the outward movements of such plates, as set forth.

4. In a feeder for printing and other ma-

chines, a gate composed of an upper stationary member having a curved rubber-covered edge, and a gate-block having a correspondingly curved smooth edge, such block being movable in the direction of the passage of the stock.

5. In a feeder for printing and other machines, a gate composed of an upper member having a curved rubber-covered edge, and a gate-block consisting of a metallic roll designed to rotate in the direction of travel of the stock, as set forth.

6. In a feeder for printing and other machines, a gate composed of an upper stationary member in the form of a roll having a rubber periphery, and a rotary metallic roll forming the gate-block, as set forth.

7. The combination with the main feeder-shaft and the feed-rolls, of the gate having an upper stationary member provided with a curved edge, and a gate-block consisting of a metallic roll mounted on such shaft intermediate said feed-rolls, said feed-rolls having each a rubber section on its periphery, as set forth.

8. The combination with the main feeder-shaft and the feed-rolls, of the gate having an upper stationary member provided with a curved edge, and a gate-block consisting of a metallic roll mounted on such shaft intermediate said feed-rolls, said feed-rolls having each a rubber section pivotally secured thereto at one end and normally extended tangentially to the rolls, and means for limiting the movements of such sections, as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CHARLES GRANT HARRIS.

Witnesses:

CHARLES GINDER,
F. G. ALLEN.