

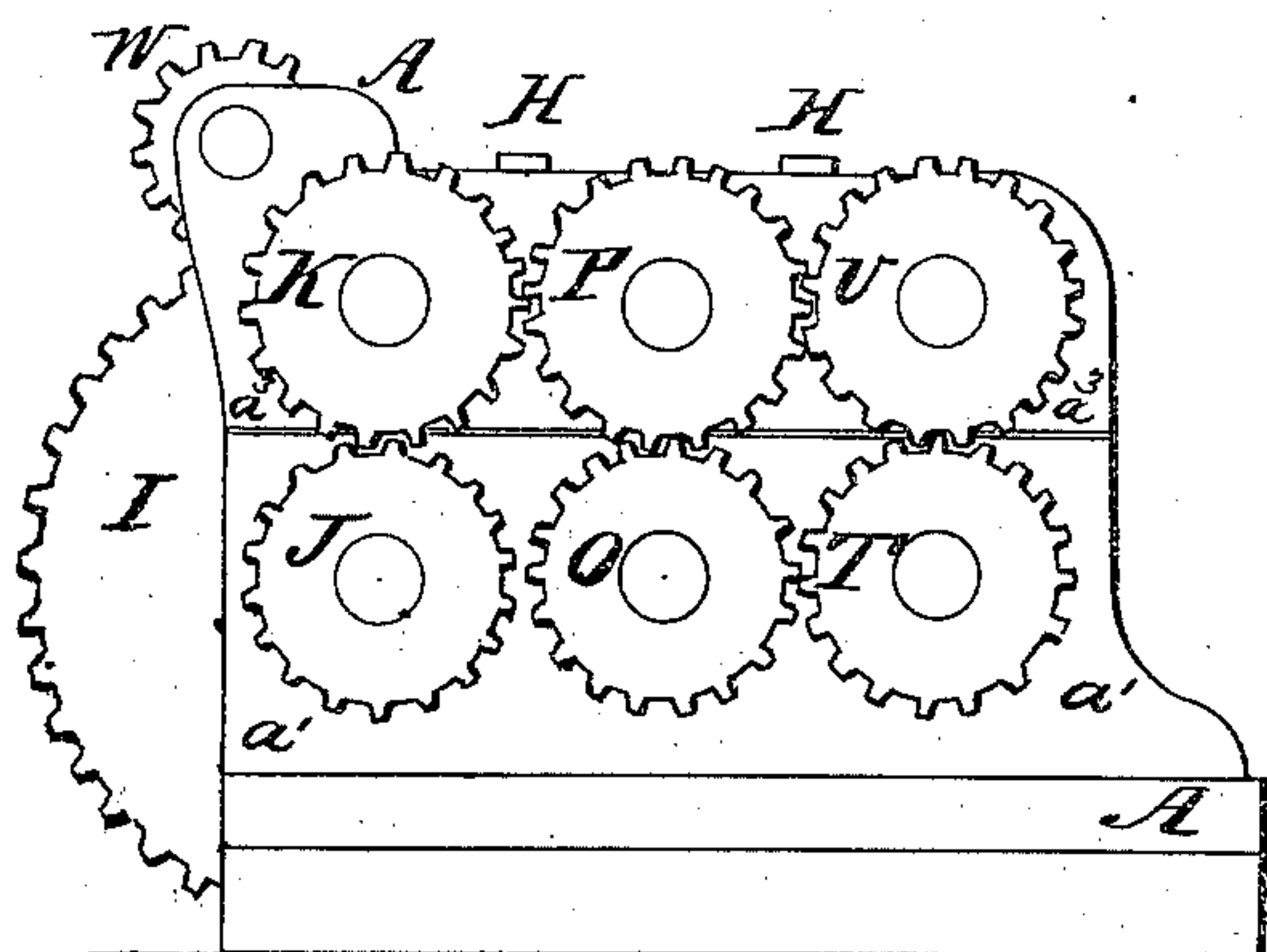
*J. Demjster.*

*Roller Feed for Cards and Pickers.*

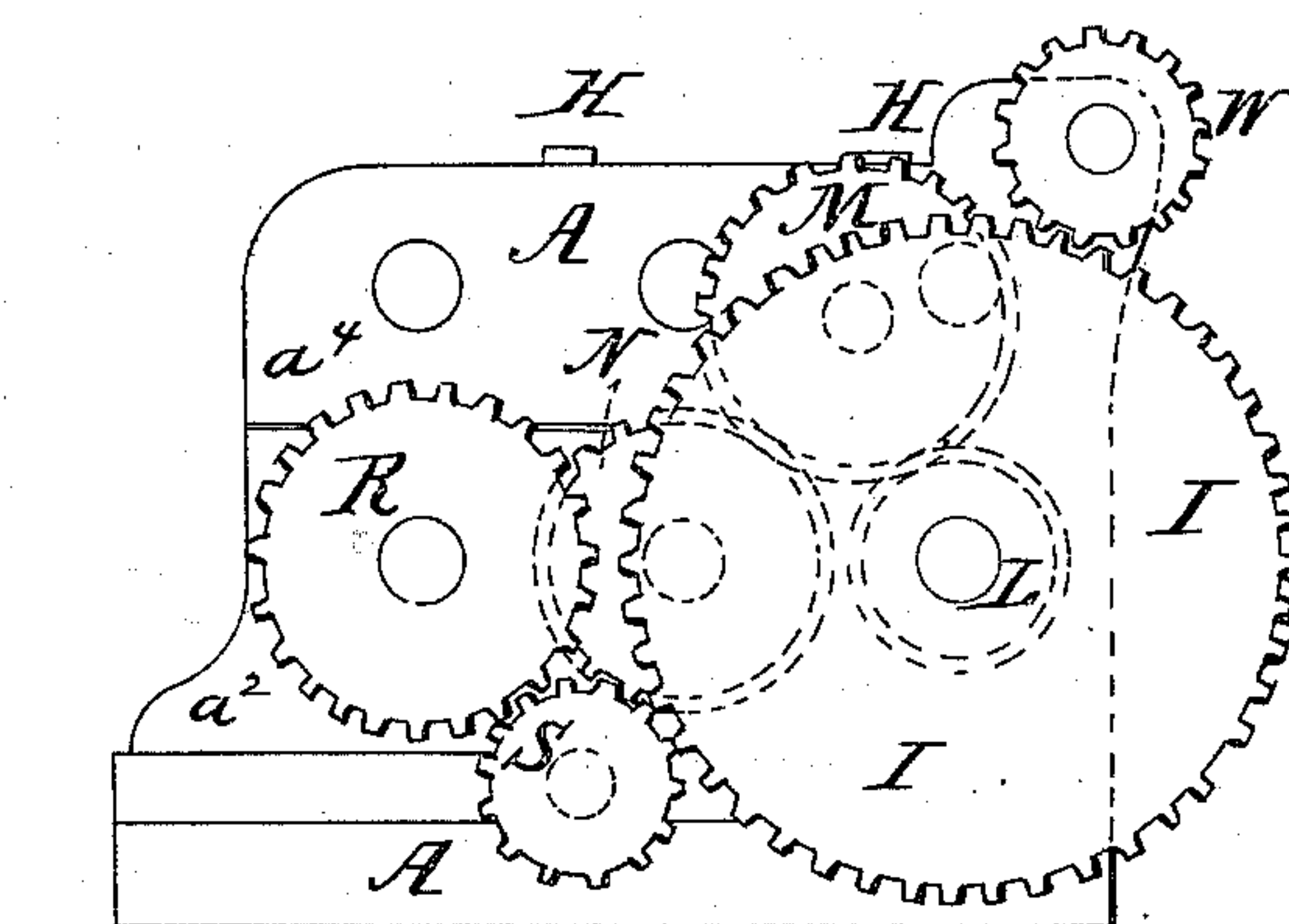
*N<sup>o</sup> 55,828.*

*Patented Jun. 26, 1866.*

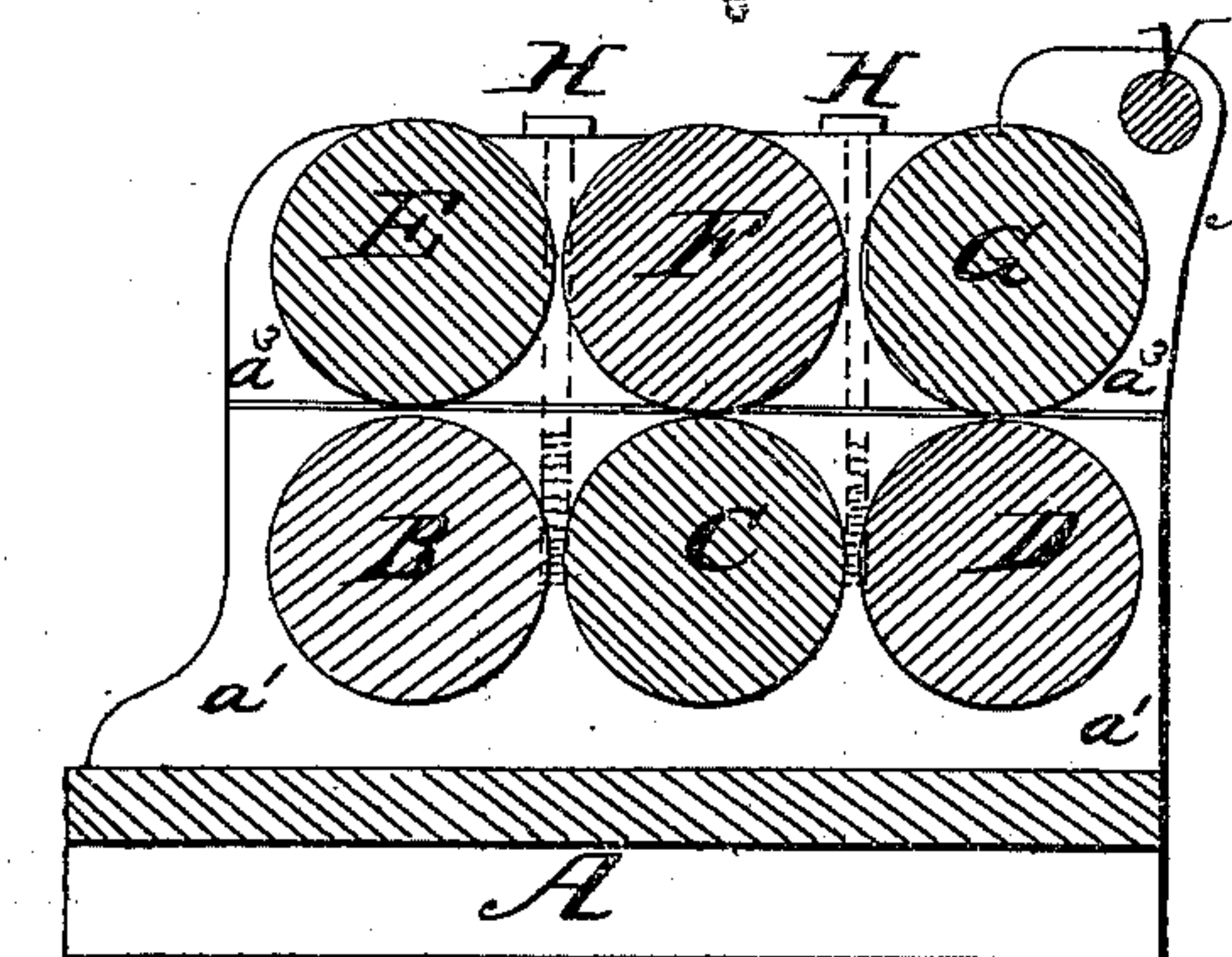
*Fig. 1.*



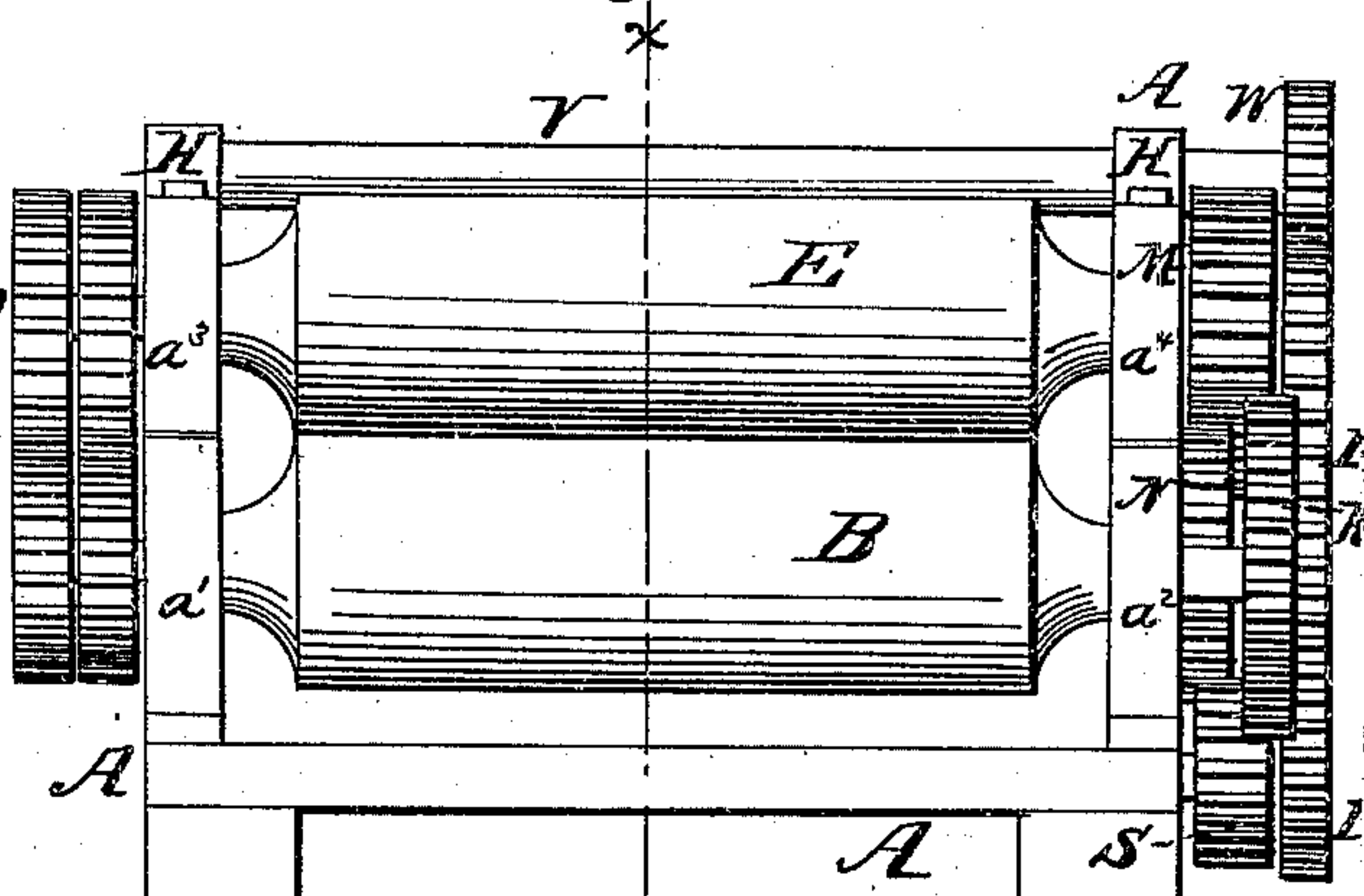
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



*Witnesses.*

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# UNITED STATES PATENT OFFICE.

JAMES DEMPSTER, OF NAUGATUCK, CONNECTICUT.

IMPROVEMENT IN ROLLER-FEEDS FOR CARDING AND PICKING MACHINES.

Specification forming part of Letters Patent No. 55,828, dated June 26, 1866.

## *To all whom it may concern:*

Be it known that I, JAMES DEMPSTER, of Naugatuck, New Haven county, State of Connecticut, have invented a new and useful Improvement in Roller-Feed for Cards and Pickers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an end view of my improved machine, showing the gearing by which motion is communicated from the lower to the upper roller of each pair. Fig. 2 is an end view of my improved machine, showing the gearing by which motion is communicated to the lower roller of each pair and from one pair to another. Fig. 3 is a vertical section of the same, taken through the line  $xx$ , Fig. 4. Fig. 4 is a front view of the same.

Similar letters of reference indicate like parts.

My invention has for its object to furnish an improvement in roller-feed for cards and pickers, so constructed and arranged that the material may be delivered to the tumbler in such a condition as will enable the tumbler to act in a free manner without winding, so that the amount of work done by the machine will be much increased; and it consists in the combination and arrangement of the rolls and gearing by means of which the upper and lower rolls of each pair are made to revolve with the same velocity, and each consecutive pair from the front toward the rear is made to revolve with an increased velocity, so that the fibers may be drawn out and straightened as it (the material) passes from one pair of rolls to another, and finally delivered at the rear of the machine in proper condition.

A is the frame of the machine. B C D E F G are iron rolls, which may be smooth, fluted, or covered with card-cloth, according to the material operated upon and the particular purpose for which it is to be prepared. These rolls are arranged in two rows, one directly above the other, as seen in Figs. 3 and 4, and they revolve in bearings formed in the side pieces,  $a'$   $a^2$   $a^3$   $a^4$ , of the frame A, as shown in Fig. 4. The parts  $a^3$  and  $a^4$  are made adjusta-

ble by means of the set-screws H, so that the space between the rows of rollers may be regulated according to the requirements of the material passing through the machine.

I is a large gear-wheel, by means of which motion is communicated to the machine. This wheel is attached to the axle of the roller D, projecting through the part  $a^2$  of the frame A. To the other end of the axle of the said roller D is attached the gear-wheel J, which meshes into the gear-wheel K, of exactly the same size, attached to the projecting axle of the roller G, as shown in Fig. 1, so that the rollers D and G must move with the same velocity.

To the axle of the roller D, between the wheel I and the side of the frame A, is attached a gear-wheel, L, which meshes into the gear-wheel M, the journal of which is attached to the side of the frame A. This wheel is designed to transmit motion from the roller D to the roller C, and it meshes into the gear-wheel N, attached to the projecting end of the roller C.

The gear-wheel N is a little larger than the gear-wheel L, so that the roller C may move with a little less velocity than the roller D, from which it derives its motion. To the other end of the axle of the roller C is attached a gear-wheel, O, meshing into the gear-wheel P, the wheels O and P being of the same size, to cause the rollers C and F to move with the same velocity.

R is a gear-wheel attached to the projecting axle of the roller B, which is a little larger than the wheel N, from which it receives motion through the gear-wheel S, the journal of which is attached to the side of the frame A, so that the velocity of the roller B may be a little less than the velocity of the roller C.

The roller E receives motion from and is made to revolve at the same velocity with the roller B by means of the gear-wheels T and U, attached to the axles of the said rollers and meshing into each other, as shown in Fig. 3.

V is a small roller revolving in bearings attached to the upper edge of the parts  $a^3$  and  $a^4$  in such a position as to be just above and in the rear of the roller G, as shown in the drawings. This roller receives its motion from the gear-wheel I, by means of the gear-wheel W, attached to its end and meshing into the said

gear-wheel I, as shown in Fig. 2, and is designed to be used, when necessary, to clean the roller G and deliver the material to the tumbler.

I claim as new and desire to secure by Letters Patent—

As an improvement in roller-feed for cards and pickers, the combination and arrangement of the rolls B C D E F G and the gear-wheels

I L M N S R and the gear-wheels J K O P T U with each other and with the frame A of the machine, substantially as described, and for the purposes set forth.

JAMES DEMPSTER.

Witnesses:

GEO. HINE,

E. A. SAUNDERS.