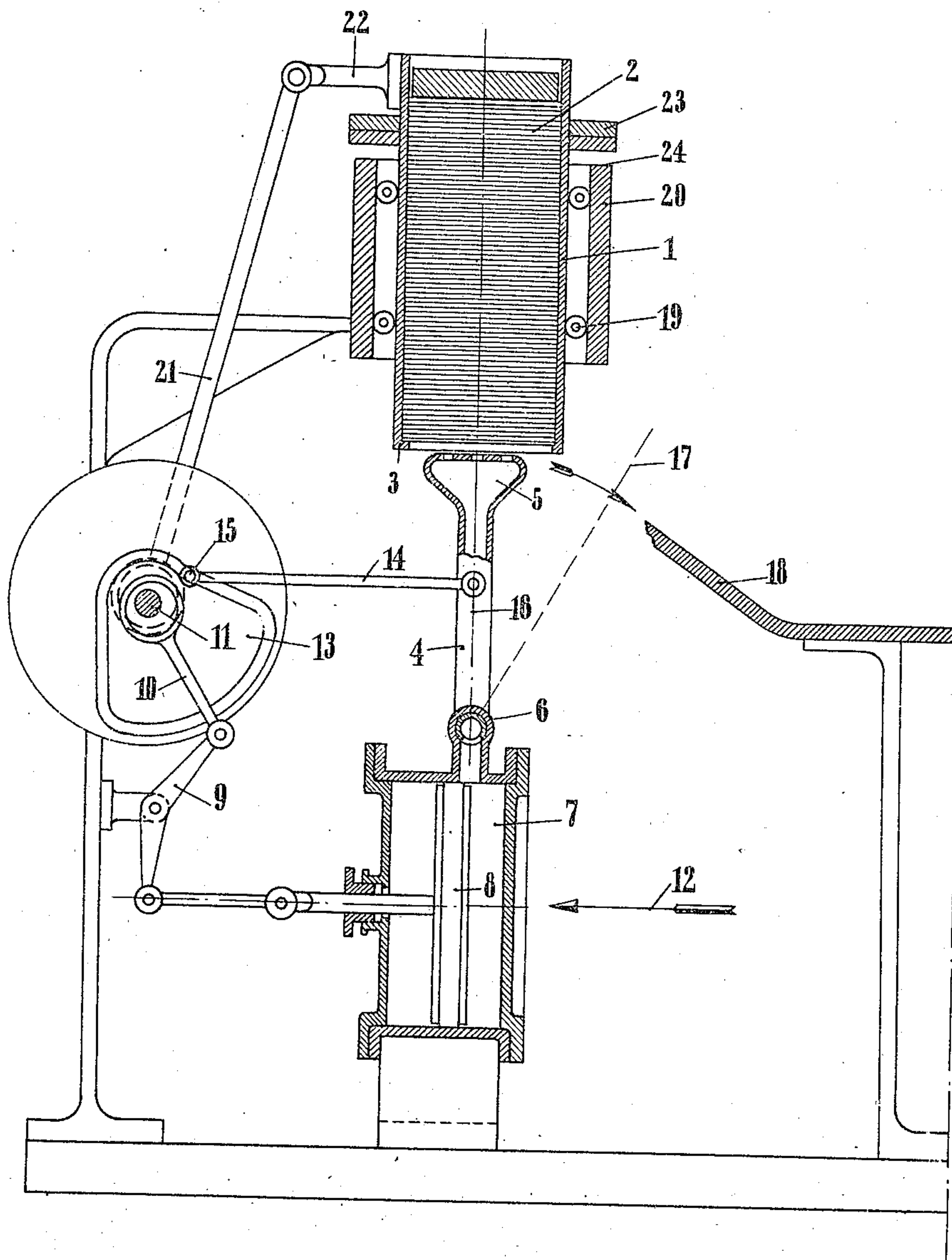


H. A. F. FRANKE.
 DEVICE FOR FEEDING CIGARETTE PAPERS.
 APPLICATION FILED JAN. 10, 1911.

996,012.

Patented June 20, 1911.



Witnesses:

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UNITED STATES PATENT OFFICE.

HEINRICH AUGUST FRIEDRICH FRANKE, OF CHARLOTTENBURG, GERMANY.

DEVICE FOR FEEDING CIGARETTE-PAPERS.

996,012.

Specification of Letters Patent. Patented June 20, 1911.

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To all whom it may concern:

Be it known that I, HEINRICH AUGUST FRIEDRICH FRANKE, a subject of the German Emperor, and resident of Charlottenburg, Germany, have invented a certain new and useful Improvement in Devices for Feeding Cigarette-Papers, of which the following is a specification.

The manufacture from blades of maize of cigarette "papers" which are not used in rolled form like known papers, but are used when already cut and stacked in piles has hitherto been impossible in the production of machine made cigarettes, because the gripping and lateral feeding of the individual "papers" from the pile has been practically impossible mechanically as in lateral movement of a "paper," in consequence of the projecting veins, the papers directly above the one abstracted have been carried forward with it.

The present invention relates to mechanical means for abstracting the individual "papers" from the pile without also feeding those adjacent the same and for delivering the papers for the next operation.

According to the invention a movable suction member is guided below the lowest or over the uppermost paper of the pile, whereupon the pile of "papers" is lowered or raised against the mouthpiece of the suction member so that the lowest (or the uppermost) "paper" is removed exactly vertically of the pile and clings closely to the mouth-piece. Thereupon the pile is again raised or lowered and the suction member moved laterally. The "paper" is then delivered to the apparatus for performing the next operation by forcing air under pressure through the suction member. With this mode of transport of individual cigarette "papers" by means of a suction device it is thus possible to use in the mechanical production of cigarette "papers" stacked in a pile and composed of blades of maize.

Apparatus for carrying out the present method is shown diagrammatically by way of example in the accompanying drawing.

Referring to the drawing, 1 is the holder in which the pile of leaves 2 is fed in from above while for supporting the pile 2, short projections 3 are provided on the four corners of the lower open end of the holder 1.

Beneath the holder 1 is arranged the movable member 4 serving for transporting the

leaves 2. This member comprises a tube having a mouth piece 5 of oval cross section which tube is pivoted about a horizontal branch 6. The branch 6 is connected to a pump 7, the piston 8 of which is moved by a bell crank lever system 9 through the intermediary of an eccentric rod 10 from a continuously rotated driving shaft 11. On movement of the piston 8 in the direction of the arrow 12 air is drawn through the pipe 4, while on movement of the piston in the opposite direction air is blown through the pipe 4. By means of a grooved-cam 13 keyed on the driving shaft 11, the tube 4, through the intermediary of the connecting rod 14, which engages with a roller 15 in the groove of the cam 13, after removal of the lowest paper from the pile is vibrated out of its central position 16 into the extreme position 17. On this movement taking place, in consequence of the return movement of the piston 9 in the direction opposite to that of the arrow 12 air is blown through the tube 4 so that the "paper" is released from the mouth-piece 5 and delivered for the next operation, being fed to a feeding table 18 or in other manner according to the mechanical arrangement employed.

In order that the withdrawal of the lowest "paper" from the pile may be effected reliably by means of the suction mouth-piece 5, the pile, at the moment of withdrawal, must lie close against the mouth-piece 5. To this end, the mouth-piece may also be connected with the branch 6 by a suitable hose connection so as to be movable in a vertical direction, or, as shown, the pile holder itself may receive a vertical movement from the driving shaft 11 at the correct moment. For this purpose the holder 1 is movably mounted by means of rollers 19 in a vertical guide 20.

The lowering of the holder 1 is effected by an eccentric rod 21 keyed on the driving shaft, the eccentricity corresponding with the required amount of movement; the rod engaging a fork 22 mounted on the holder 1. In order to prevent adhesion of the pile 2 in the holder 1 to the mouth-piece 5 which might take place when the eccentric mechanism for the holder is at one of its dead points, a stop 23 provided with a buffer cushion is arranged on the upper end of the holder 1, which stop on the descent of the

holder comes in contact with the edge of the guide 24.

The rod 21 for actuating the holder 1 is keyed to the cam disk 13 at such an angle that the holder 1 is lowered against the suction pipe when the latter is stationary, while the holder 1 is raised shortly before the suction pipe 4 is moved toward the right.

As already indicated, instead of moving the holder 1 relatively to the suction pipe 4 and vibrating the latter I may impart any other combined movement to the pipe 4 so that the pipe 4 shall first move vertically upward against the pile and then after removal of a "paper" move laterally relative to the pile.

Having described my invention what I claim and desire to secure by Letters Patent of the United States is:—

1. In a paper feeding machine the combination of a guide carrying rollers, a holder for a pile of papers mounted to move vertically on said rollers, a laterally movable suction member arranged below the pile of papers in the holder, an air compressor connected with the suction member, and means for moving the holder vertically, the suction member laterally, and operating the air compressor to draw air through the suction member when same is under the pile of papers in the holder and for forcing air there-through when it is in another position, substantially as described.

2. In a paper feeding machine the combination of a box-shaped guide carrying rollers on the inside thereof, a holder for a pile of papers mounted to move vertically on said rollers, a pivoted suction member arranged below the pile of papers in the holder, an air compressor connected with the suction member, a shaft, a cam fixed to the shaft, a connection between the cam and the suction member whereby the latter is actuated, means for moving the holder by the shaft, and means for operating the air com-

pressor from the shaft, substantially as described.

3. In a paper feeding machine the combination of a box-shaped guide carrying rollers on the inside thereof, a holder for a pile of papers mounted to move vertically on said rollers, an air compressor, a suction member pivotally connected to the air compressor and arranged below the pile of papers in the holder, a shaft, a cam fixed to the shaft, a connection between the cam and the suction member for actuating the latter, means for moving the holder from the shaft, an eccentric on the shaft, an eccentric rod operated by the eccentric, and a bell-crank forming a connection between the eccentric rod and the piston of the air compressor, substantially as described.

4. In a paper feeding machine the combination of a box-shaped guide carrying rollers, a holder for a pile of papers mounted within the guide on said rollers adapted to move vertically, a stop carried by the holder for limiting its downward movement, an air compressor having an outlet, a suction member pivotally connected to the outlet and arranged below the pile of papers in the holder, a shaft, a cam fixed to the shaft, a connection between the cam and the suction member for actuating the latter, an arm projecting from the holder, means connecting the arm and the shaft for moving the holder, an eccentric on the shaft, an eccentric rod operated by the eccentric, and a bell crank pivotally connected to the eccentric rod and to the piston of the air compressor, substantially as described.

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

HEINRICH AUGUST FRIEDRICH FRANKE.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.