June 25, 1929. W. ROCKSTROH 1,718,581

SHEET FEEDING DEVICE WITH SHEET SEPARATION BY A BLAST OF AIR

Filed Oct. 15, 1928

Fig. 1.

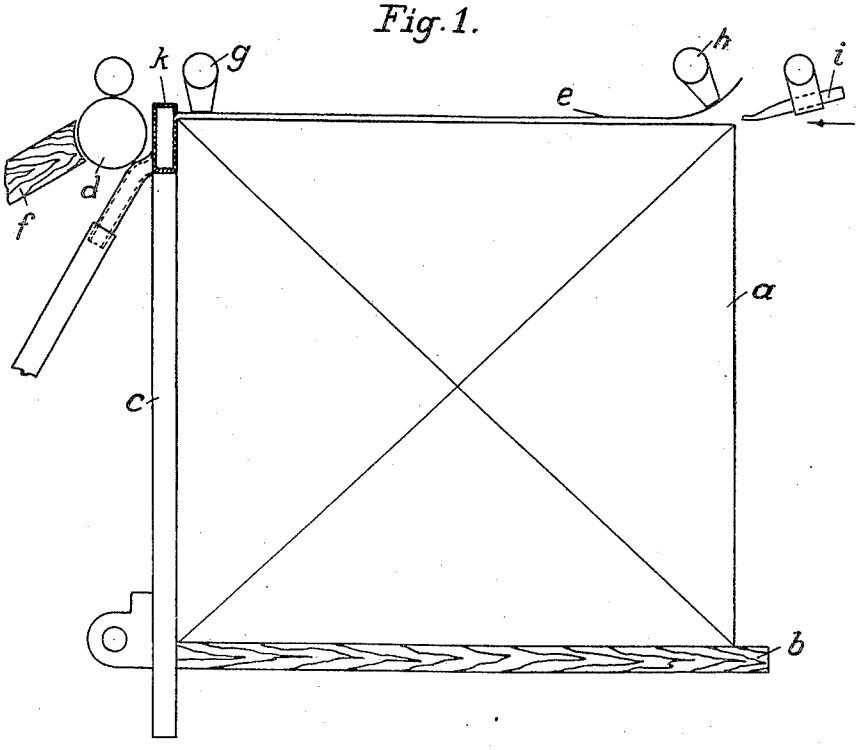
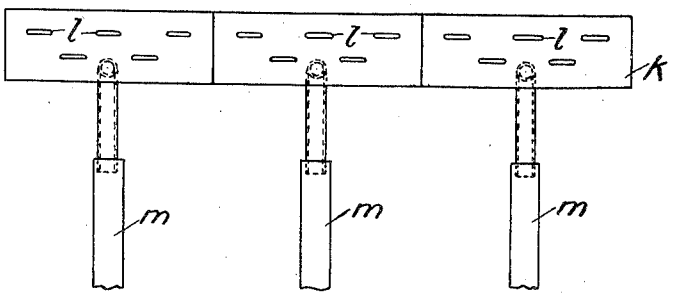


Fig. 2.



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UNITED STATES PATENT OFFICE.

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SHEET-FEEDING DEVICE WITH SHEET SEPARATION BY A BLAST OF AIR.

Application filed October 15, 1928, Serial No. 312,728, and in Germany November 8, 1927.

In the sheet feeding devices in which the separation of the topmost sheet of a pile is effected through the intermediary of a blast of air, more or less air is introduced between the sheets according to the nature and weight of the paper. This air at the same time removes the dust from the sheet, which is well known to be an advantage of this method. This removal of dust is a disadvantage in so far as the said dust is arbitrarily blown into the machine room and thus soils the machine. This phenomenon is particularly prominent in sheet feeding devices, in which the separation of the sheet by means of a blast of air takes place at the end of the pile opposite to the conveyor, because the dust-laden stream of air is in such a case led directly into the machine dealing with the sheet, so that more especially in the case of papers creating a considerable amount of dust, stoppages may be caused both in the sheet feeding device and in the machine connected therewith.

This drawback is obviated according to the invention by providing a dust suction device. The invention is illustrated in the accompanying drawing in Figure 1 in elevation, while Figure 2 shows by way of example a form of the suction device.

a represents the pile of paper, resting on a table *b*; *c* is the front supporting ledge, *d* a conveyor roller, which receives the sheet *e* which happens to be at the top, from the suction device *g*, and delivers it to the table *f*. *h* is a suction device, which tilts up and separates the topmost sheet, *i* a nozzle, which assists the separation of the sheet and removes the dust, *k* a box-shaped hollow body between pile *a* and conveyor roller *d*. This hollow body is provided in the present example with apertures *l*, through which the dust can be sucked in. The further removal of the dust is effected through the tubular connection *m*. The nozzle *i* forces a stream of air under the topmost sheet *e*, the whirls of dust are at the same time blown towards the conveyor roller and withdrawn by suction by the hollow member *k* connected to a suction pump, the dust being rendered inocuous by means of a filter.

What I claim is:—

A sheet feeding device having means for separating the sheets, said means comprising a nozzle for introducing a stream of air under the topmost sheet of a pile, and hollow members arranged in the direction of the stream of air and at the opposite end of the pile from the nozzle, whereby the dust disturbed by the stream of air is withdrawn by suction and rendered inocuous.

In testimony whereof I have signed my name to this specification.

WALTER ROCKSTROH.