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 APPARATUS FOR SEPARATING SHEETS OF PAPER OR OTHER MATERIAL
 WHILE TRAVELING IN THE SAME DIRECTION
 Filed Sept. 4, 1931

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Fig. 1.

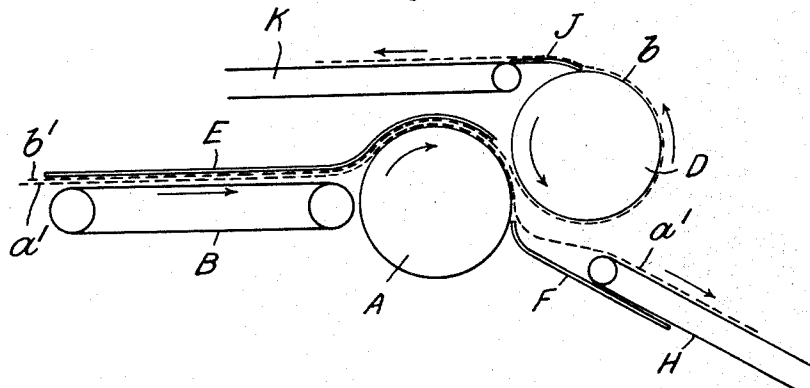


Fig. 2.

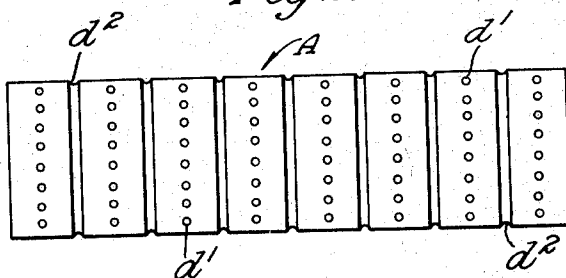
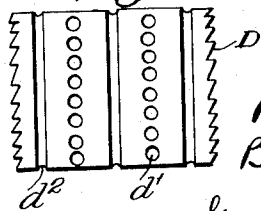


Fig. 3.



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APPARATUS FOR SEPARATING SHEETS OF
PAPER OR OTHER MATERIAL WHILE
TRAVELING IN THE SAME DIRECTIONBenjamin James Hall and Benjamin Fairfax Hall,
London, EnglandApplication September 4, 1931, Serial No. 561,291
In Great Britain October 23, 1930

2 Claims. (Cl. 271-74)

This invention relates to means whereby at a predetermined point two sheets of paper, cloth or other material of the same kind and size or of varying kinds and sizes traveling in the same direction are separated and the upper sheet made to travel in a direction differing from that of the other sheet.

According to this invention, which we will describe as applied to a photo-copying machine, we arrange at the issuing end of the endless band on which the paper is traveling an exhaust or suction roller, that is, a revolving drum or cylinder provided with alternative holes and grooves along its circumference with means to create suction through the holes. Fixed above this endless band and extending over the drum or cylinder is a plate or guide. Also arranged at the rear of the exhaust or suction roller is another similar exhaust or suction roller, but the holes in this latter roller are preferably slightly larger.

When the sensitized paper and tracing to be copied, after traveling along the endless band under the guide plate reach the first exhaust or suction roller, the paper, as is generally the case, being larger than the tracing, adheres to said suction roller and travels round till it reaches pick off fingers, which engage in the grooves already mentioned provided for the purpose, and transfer it on to another endless band, arranged a suitable distance from said suction roller. The tracing is meanwhile picked up by and travels around the second suction roller until it is removed by another set of pick off fingers on to staggered rollers or suitable means of conveyance which carry it to a return trough arranged near the feed end of the machine.

In order that the invention may be clearly understood we have appended the accompanying drawing.

Fig. 1 is a diagrammatical view showing the application of our invention to a photo-copying machine.

Fig. 2 is a front view of the exhaust or suction roller A, showing the alternate holes and grooves provided along its periphery.

Fig. 3 is a fragmentary front view of the exhaust or suction roller D.

A represents the exhaust or suction roller arranged at the issuing end of the endless band B on which the paper is traveling, D the other exhaust or suction roller arranged at the rear of the exhaust roller A, and E the plate or guide fixed above the endless band B and extending over the suction roller A.

The sensitized paper a^1 , and tracing b^1 to be copied, travel along the endless band B under the guide plate E, and on reaching the first suction roller A, the paper a^1 , as is generally the case, being larger than the tracing b^1 , adheres to said

roller A around which it travels until it reaches the pick off fingers F which transfer it on to the endless band H arranged a suitable distance from the roller A, such band H conveying the paper to its desired destination. The tracing b^1 meanwhile is picked up by and travels around the suction roller D until it is removed by the pick off fingers J on to the endless band K or other means which carry it back to the feed end of the machine.

When however the tracing b^1 is larger than the paper a^1 it will be evident such tracing will also adhere to and travel round with said suction roller A, but as it passes between rollers A and D a portion of it will adhere to the roller D, and as the pick off fingers F will then have released the front portion of the paper a^1 and consequently the tracing b^1 from the roller A, such tracing b^1 will ultimately be carried round roller D back to the feed end of the machine as previously described.

The suction holes d^1 which are preferably slightly larger in the roller D than those in the roller A, and the alternate grooves d^2 , in which the pick off fingers F and J engage, are clearly shown by Fig. 2 and these suction rollers may be gear driven at the same speed in contact, or at a different peripheral velocity not in contact with one another.

What we claim as our invention and desire to secure by Letters Patent is:

1. In a device for separating sensitized paper from tracings, comprising a pair of suction rollers and endless feed means for feeding said paper tracings to said rollers, one of said rollers being located in front of and in a slightly lower plane than the second roller, circumferential rows of perforations on the periphery of first roller to engage the paper, circumferential rows of slightly larger perforations on the periphery of the second roller to engage the tracings, circumferential grooves on the peripheries of both rollers between each row of perforations, pick off fingers adapted to seat in said grooves and separate the respective paper and tracings from said rollers and endless means adjacent the pick off fingers of each roll for delivering the separated paper and tracings to different depots.

2. In a device for separating sensitized paper from tracings, comprising a pair of suction rollers and endless feed means for feeding said paper tracings to said rollers, one of said rollers being located in front of and in a slightly lower plane than the second roller, circumferential rows of perforations on the periphery of first roller to engage the paper and circumferential rows of slightly larger perforations on the periphery of the second roller to engage the tracings.

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