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H. LAMBERGER.

METHOD OF AND APPARATUS FOR REMOVING SUPERFLUOUS BRONZE.

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Fig. 1.

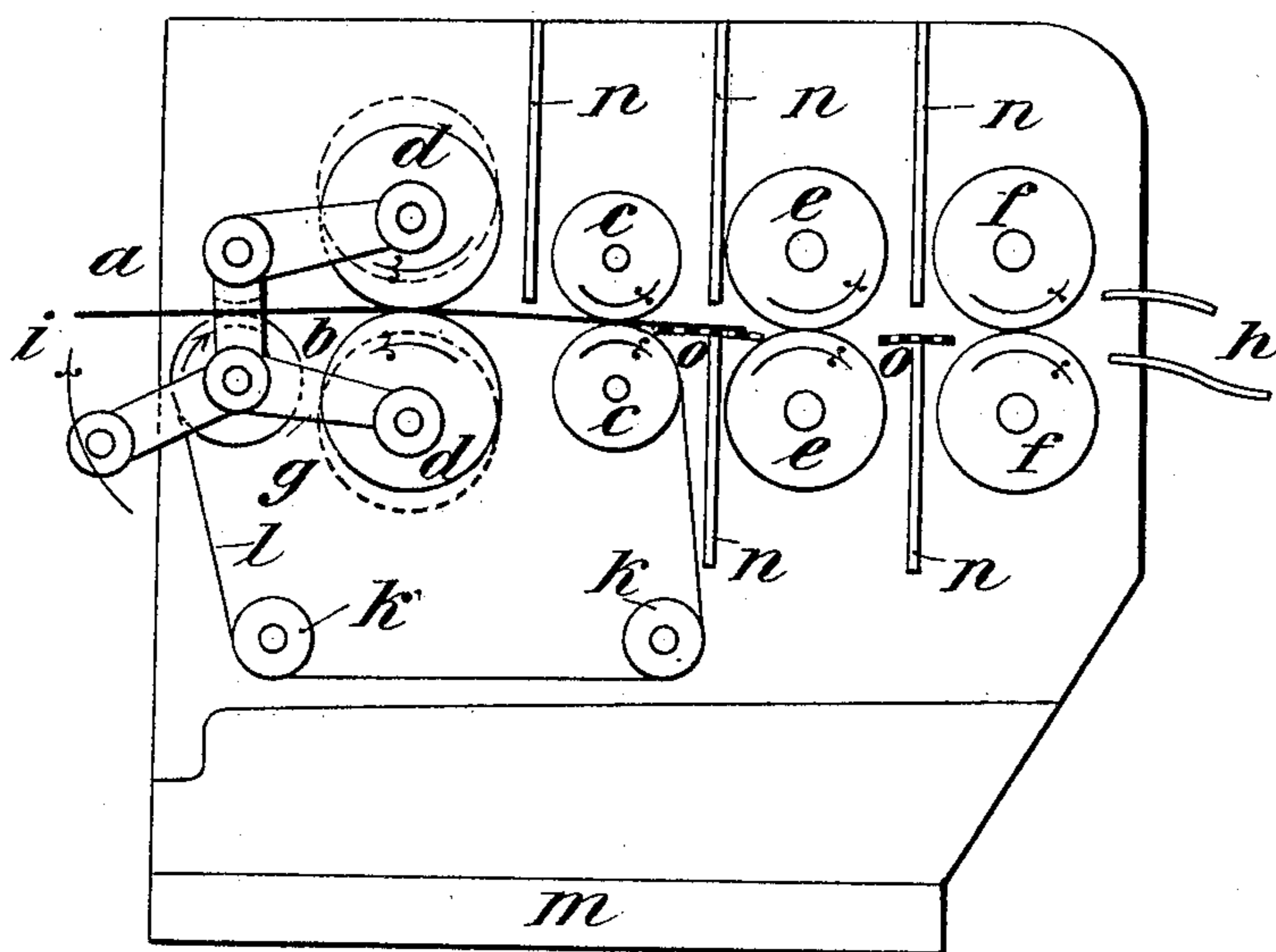
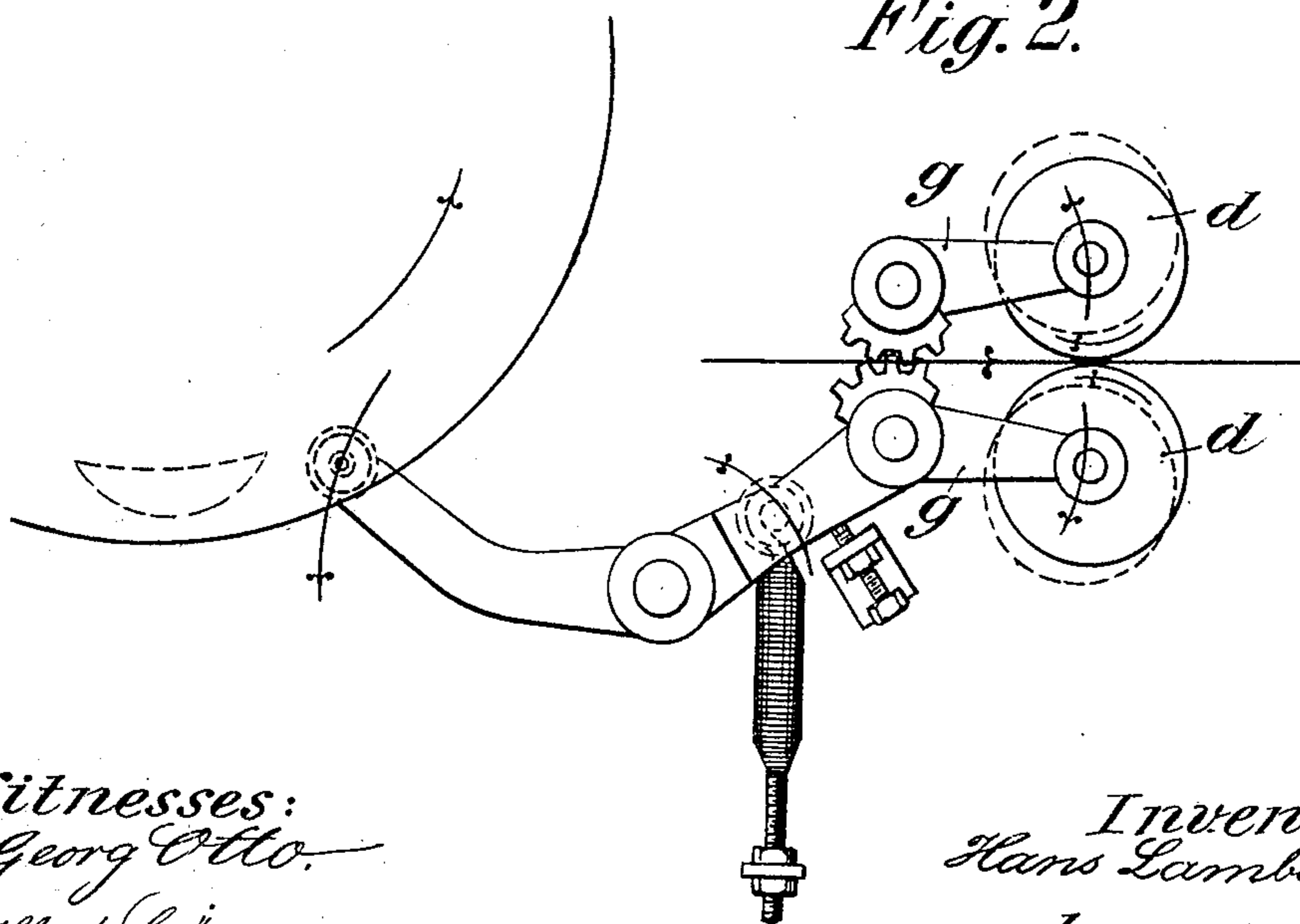


Fig. 2.



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METHOD OF AND APPARATUS FOR REMOVING SUPERFLUOUS BRONZE.

No. 885,491.

Specification of Letters Patent.

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Application filed June 22, 1907. Serial No. 380,303.

To all whom it may concern:

Be it known that I, HANS LAMBERGER, general manager, citizen of Germany, subject of the King of Bavaria, residing at Leipzig, in the Kingdom of Saxony and Empire of Germany, have invented certain new and useful Improvements in Methods of and Apparatus for Removing Superfluous Bronze, of which the following is a full, clear, and exact description.

This invention relates to a process and an apparatus for dusting sheets of any kind of paper, or of cardboard, sheet metal, celluloid, gelatin or the like which may be used either separately or in connection with cylindrical or flat apparatus for applying bronze, talc or other powder or rubbing in the same.

The essential features of the invention consist in the simultaneous use of dusting rollers that run in the direction of movement of the sheet and of dusting rollers that run in the opposite direction. Bronzers are already known wherein pairs of rollers running in the same direction as the sheet and in the opposite direction are used to bronze and dust stiff materials, such as cardboard covers, sheet metal and the like. In such apparatus, however, the rollers running in the one direction are used only for bronzing and guiding the sheets, while the rollers running in the opposite direction are used solely for dusting. The apparatus to which this invention relates differs from such known arrangements inasmuch as by means of the rollers running in the opposite directions any material however soft, such, for instance, as tissue paper and other thin sheets can be dusted; this being effected by an arrangement according to which the dusting rollers which run in the direction opposite to that of the sheet are moved apart from each other until the sheet has been gripped by the guide rollers lying in front of them. The complete cleaning of the sheet, including the narrow strip which being gripped by the guide rollers has not been cleaned by the first pair of rollers is effected by means of the succeeding pair of dusting rollers, which run in the same direction as the sheet.

In the accompanying drawing, Figure 1 is a vertical longitudinal section of an apparatus embodying the invention. Fig. 2 is a side elevation of the separable dusting rollers and means for separating the same.

The operation of the apparatus is as fol-

lows:—The sheet *i* after it has been introduced through the aperture *a* is by means of cords *l* which pass over the rollers *b*, *d* and *c*, conveyed between the guide-rollers *b* towards the guide-rollers *c*; the two dusting rollers *d*, which lie between *b* and *c* and rotate in a direction contrary to that of the movement of the sheet being meanwhile moved apart by means of a suitable contrivance *g*. The rollers *d* are mounted in arms *g*, which are provided with toothed sectors, so that when the lower roller *d* is moved by means of a suitable contrivance in the direction of the arrow, a corresponding movement of the upper roller is positively effected. As soon as the rollers *c* have gripped the sheet, the two rollers *d* are again brought together to such an extent as to operate on the sheet both on its upper and on its lower side to remove the superfluous powder which is caught in the receptacle *m* or drawn off upwards by suction in the direction of the sheets not yet cleaned. The sheet is now passed by means of the pair of guide rollers *c* over the perforated sheet metal plates *o* and through the pairs of rollers *e* and *f* which rotate at a somewhat greater speed in the direction of its movement. The last particles of powder or the like being by this means removed and either by suction, drawn off or allowed to fall through the perforated plates *o* into the receptacle *m*. The sheets *n* by means of which the individual pairs of rollers are separated from each other prevent the powder from passing from one roller to the other. The sheet passes at *h* completely out of range of the dusting device.

Claims.

1. The method of dusting a sheet consisting in feeding the sheet and simultaneously dusting it in the direction it is being fed and in an opposite direction.

2. A sheet dusting apparatus of the character described comprising a pair of initial dusting rollers both of which move in the direction opposite to that of the sheet and a pair of dusting rollers both of which run in the same direction as the sheet and are adapted to grip and draw the sheet forward.

3. A sheet dusting apparatus of the character described having guide rollers and dusting rollers which rotate in the direction of travel of the sheet and a pair of dusting rollers which run in an opposite direction to the travel of the sheet the latter being arranged

and adapted to be moved apart until the sheet is engaged and moved forward by the nearest guide rollers.

4. An apparatus of the character described
5 having a pair of dusting rollers arranged and adapted to rotate in a direction opposite to the travel of the sheet, two arms on which said rollers are mounted, said arms being provided with toothed sectors engaging with each
10 other in such manner that when one arm and

its roller is moved in one direction the movement of the other roller in the opposite direction is positively effected.

In witness whereof, I subscribe my signature, in presence of two witnesses.

HANS LAMBERGER.

Witnesses:

RUDOLPH FRICKE,
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