May 6, 1930. H. A. INMAN 1,757,528

DUSTING DEVICE

Filed Sept. 25, 1925

Fig. 1

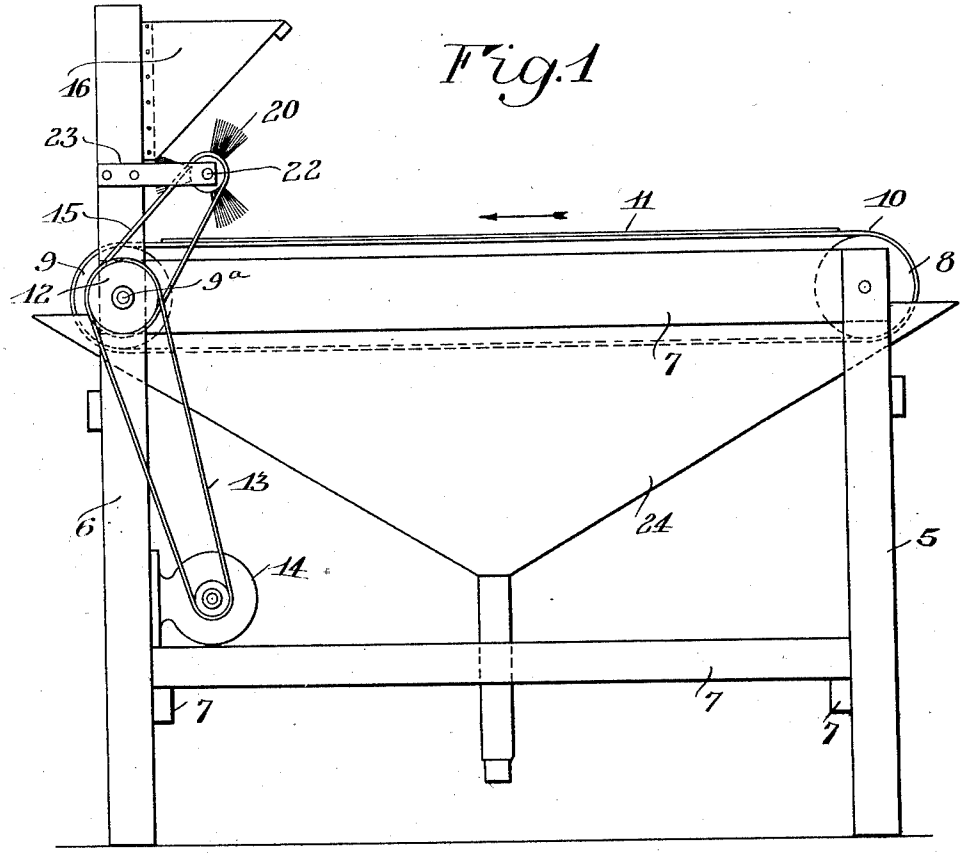
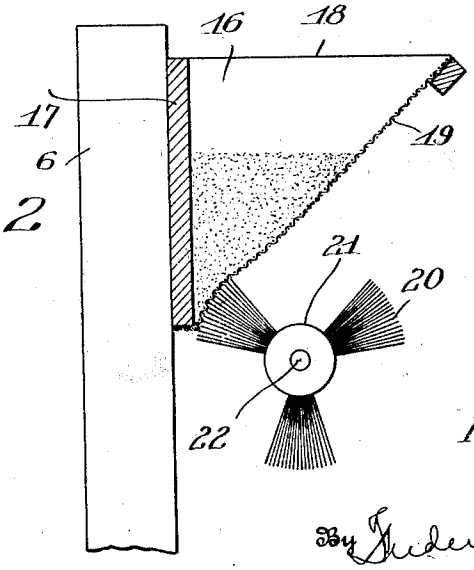


Fig. 2



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UNITED STATES PATENT OFFICE

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DUSTING DEVICE

Application filed September 25, 1925. Serial No. 58,679.

This invention relates to devices for applying a film of dust or powder to work such as sheets or webs of paper or other material or objects which have been freshly printed or otherwise coated with a substance likely to adhere to or be smeared by contact with other sheets or objects before drying, the chief object of the invention being to provide a simple and practical device of this character adapted to operate in an efficient and reliable manner with a minimum of wastage of the dusting material and of attention from the operator.

To these and other ends the invention resides in certain improvements and combinations of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings:—

Figure 1 is a side elevation of an apparatus embodying the present invention, and

Figure 2 is an enlarged view of a portion of the same partly in section.

Similar reference numerals throughout the several views indicate the same parts.

The invention is shown in the present instance, by way of illustration, as applied to the dusting of sheets of material while carried by a conveyor, the latter being suitable as a part of or an attachment for a printing press, for example, but it will be understood that the invention is applicable as well to a variety of other mechanisms and uses.

In the present embodiment, there is shown a conveying mechanism comprising a frame having a pair of legs 5 at one end and at the other a pair of standards 6 serving as legs and also as upwardly extending supports for the dusting device proper. These legs or standards are interconnected by suitable cross members or braces as indicated at 7. Journaled between the upper ends of each pair of supports 5 and 6, respectively, are pulleys 8 and 9 carrying a conveyor belt 10, as shown, for sheets of paper, cardboard or the like 11. Pulley 9 carries on its shaft 9^a one or more pulleys 12 rotated by a belt connection 13 with a motor 14 on the frame and serving to drive the conveyor belt and also a belt 15 for driving the dusting device located on standards 6 above the conveyor as hereafter described. The conveyor as stated above may be a part of a printing or other work producing mechanism or may be attached to the latter for receiving sheets at its right hand end and moving the same toward the left past the dusting device as shown.

Standards 6 are extended upwardly above the conveyor and carry the container 16 for the dusting material or powder. Container 16 may have various forms comprising in the present instance a rear wall 17, V-shaped end walls 18 and a wall 19 preferably inclined inwardly and downwardly to the bottom of the container as shown and of a flexible perforate or foraminous character, such as afforded by a woven fabric material of suitable mesh through which dusting material such as starch may be sifted.

Applying means are provided in combination with the material container 16 for obtaining material therefrom and distributing or dusting the same over the work as the latter is carried past by the conveyor. A container such as described above has been found to function admirably with movable applying means of a character adapted to engage the dispensing wall portion 19 to gently vibrate the same and agitate the material to cause it to sift through for distribution by the applying means over the work. It has been found also that such an applying means is admirably provided by a rotary brush preferably having flexible bristle portions of substantial length and spaced circumferentially in groups as shown. These bristles 20 are mounted in any known or suitable manner in a holder 21 having a spindle 22 journaled at its ends in bracket arms 23 projecting horizontally from standards 6 below the container and over the conveyor as shown. Belt 15 is carried over an end of the brush or a pulley thereon to rotate the same. These parts are so proportioned and arranged that bristles 20 during rotation engage fabric wall portion 19 of the container adjacent its bottom, as indicated in Figure 2, so as to gently vibrate the fabric, agitate the dusting material and cause it to gradually sift through. At the

same time the bristles take up the material by contact therewith and with the fabric 19 and also cause a current of air which sweeps the dust downwardly into the path of the printed sheet or other work on the conveyor. The dusting material is thus kept in a finely subdivided form and so distributed and dispersed uniformly over the entire surface of the work and in quantities which may be regulated to suit various conditions by selection of the fabric 19, by varying the speed of the brush 21 or its distance from and degree of engagement with the container wall portion 19, and the like as will occur to those skilled in the art.

The invention thus provides a dusting device by which the material is fed and carried directly against the work. If desired a hood 24 may be provided and connected with an exhauster for carrying off and salvaging the dusting material not taken up by the work. The device is simple in construction and adapted to operate reliably with a minimum of attention and its construction and mode of operation are such as to afford efficient application of the dusting material with a minimum of wastage and dissipation of the same in the surrounding atmosphere.

I claim as my invention:

1. In apparatus of the character described, the combination with work supporting means, of a container for a dusting material having a foraminous dispensing portion, and a brushing device rotatable in engagement with said dispensing portion and in unobstructed relation to said supporting means, to obtain material from said container and disperse the same over the work on said supporting means.

2. In apparatus of the character described, the combination with work supporting means, of a container for a dusting material having a foraminous wall portion through which said material may be sifted and a brush rotatable in external engagement with said wall portion to obtain said material therefrom and disposed in unobstructed relation to said supporting means to disperse said material over the work carried thereby.

3. In apparatus of the character described, the combination of work supporting means, of a container for a dusting material having a flexible, foraminous wall portion through which said material may be sifted, and a brush rotatable in engagement with said wall portion to agitate and sift said material therethrough, said brush being disposed in unobstructed relation to said supporting means to disperse material obtained from said wall portion over the work carried on said supporting means.

4. In apparatus of the character described, the combination with work conveying means, of a container for a dusting material having a flexible, foraminous wall portion through which said material may be sifted, and a brush having spaced bristle portions and rotatable in engagement with said wall portion to agitate and sift said material therethrough, said brush being disposed in unobstructed relation to said conveying means for dispersing material obtained from said wall portion over the work carried by said conveying means.

5. In apparatus of the character described, the combination with work conveying means, of a container for a dusting material comprising a flexible, foraminous wall portion having a feeding inclination inwardly and downwardly to the bottom of the container and a brushing device rotatable in external engagement with said wall portion adjacent its bottom to agitate and sift said material therethrough, said device being arranged above said conveying means to receive the sifted material and to disperse the same by its rotation directly over the work carried by said conveying means.

HARRY A. INMAN.