May 20, 1930.

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DEVICE FOR DRYING TEXTURES

Filed March 20, 1928

Fig. 1.

Fig. 2.

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Patented May 20, 1930

This invention relates to devices for drying textures and otherwise removing moisture therefrom. It has been found that special devices are necessary for this purpose in order to properly pass a texture in front of a nozzle which is operated by compressed air and to fully utilize the favorable effect exerted by the compressed air.

My invention, has for its primary object to provide an improved device of this kind and consists essentially in the use of a pressure roller, which co-operates with said nozzle, said pressure roller being mounted on that side of the nozzle towards which the texture passes during the operation of drying. According to my invention, preferably, only a single pressure roller is employed. With two pressure rollers, apparently, the diameters of the rollers would have to be relatively small in order to keep the lateral dimensions of the drying device within reasonable limits and to avoid excessive pressures which, in such case would be exerted on the rollers. In addition, the direction of rotation of the pressure roller is so chosen, that it will rotate against the direction of the air current which is discharged from the nozzle, at the same time preventing with certainty a supply of moisture to the dried parts of the texture.

My invention further consists in providing a special contrivance in combination with the drying device, said contrivance serving for covering up a greater or smaller part of the width of the slot provided in the compressed air nozzle in order to avoid any excessive or superfluous discharge of compressed air from said nozzle during treatment of a texture which is of a width less than that of the slot of the nozzle. For this purpose an adjustable closure in the form of a baffle is provided within the nozzle of the drying device, said adjustable baffle serving for covering up the slot or other discharge opening of the nozzle to a greater or less extent. This baffle may either be adjusted by hand to vary the effective length of the slot of the nozzle in accordance with the width of the texture, or the required adjustment may be performed automatically by the texture itself. In the latter case, for instance, stops may be provided on said adjusting baffle, said stops being controlled by the texture. According to this invention, the said adjusting baffle is further equipped at its interior end with an extension, said extension being adapted to pass into the slot of the nozzle so as to vary the effective length of its discharge opening. In this manner a proper closure will be provided for the effective length of the discharge opening of the slot. In addition to this, said extension may serve for the purpose of conveniently cleaning said slot, as well as for varying the effective length of the latter.

In the accompanying drawing I have shown and in the following specification described in detail a preferred form of the device according to my invention. It is understood, however, that the specific disclosure is for the purpose of exemplification only and that the scope of my invention is defined in the appended claims in which I have endeavored to distinguish it from the prior art so far as known to me, without, however, relinquishing or abandoning any part of feature thereof.

In the drawing, Fig. 1 is a transverse cross-section of the new device according to my invention, said cross-section being taken along line A—B of Fig. 2, and Fig. 2 is a longitudinal section through said device.

Referring now more particularly to the drawing, the texture 1 moves around a roller 4 and passes in front of the discharge opening or slot 6 of the nozzle. This slot is arranged to extend longitudinally of a compressed air supply pipe 5, and, after passing the nozzle, the said texture is moved from the device by means of the roller 7. Immediately after the texture has passed the slot 6, it will be exposed to the action of the pressure roller 14, which is preferably equipped with a covering of rubber serving to protect the texture against the effects of acids or the like. The pressure roller is rotated in the direction as indicated by the arrow in Fig. 1.

In order to properly close a part of the discharge opening or slot 6 of the nozzle and to vary the effective length of said opening or
slot, there is provided an adjustable baffle 15. This baffle 15 may be positioned either only on one side or on both sides of the machine. At its interior end said adjustable baffle 15 is equipped with an extension 16 which is made of a width corresponding to the width of the slot 6 and closing up the slot at places which are positioned at a greater depth therein. In this manner the compressed air is safely prevented from passing out of the open part of the slot 6 into that part of the slot which is covered up by the adjustable baffle 15. Besides, when adjusting the extension 16 in the slot 6 any foreign particles which may have accumulated therein may readily be removed. Furthermore, the extension 16 may be used for conveniently ascertaining the effective length of the slot or the length of the closed parts of the slot at the time of adjustment noting the position of the baffle 15. This baffle 15, as above mentioned, may either be adjusted by hand or also automatically by the motion of the texture when entering the device. In the latter case preferably stops would have to be provided with are firmly connected with the baffle 15 and controlled by the width of the texture to be passed through the drying device.

I claim:

1. Apparatus for drying and dehydrating webs of woven material comprising a nozzle having a slot for the passage of compressed air, means for feeding a web over the nozzle and across the said slot, and a single pressure roller mounted at that side of the nozzle from which the web recedes, in its passage past the nozzle, closely adjacent the lip of said nozzle, and coacting with the said side of the nozzle to exert pressure upon the web.

2. Apparatus for drying and dehydrating webs of woven material comprising a nozzle having a slot for the passage of compressed air, means for feeding a web over the nozzle and across the said slot, a single pressure roller mounted at that side of the nozzle from which the web recedes, in its passage past the nozzle, and closely adjacent the lip of said nozzle, and coacting with the said side of the nozzle to exert pressure upon the web, and means for rotating the said pressure roller in a direction opposite to the direction of flow of the current of compressed air from the nozzle.

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

OTTO PIERON.