W. Fuzzard.

Making Wadding.

No. 28,745. Patented Jun. 19, 1860.

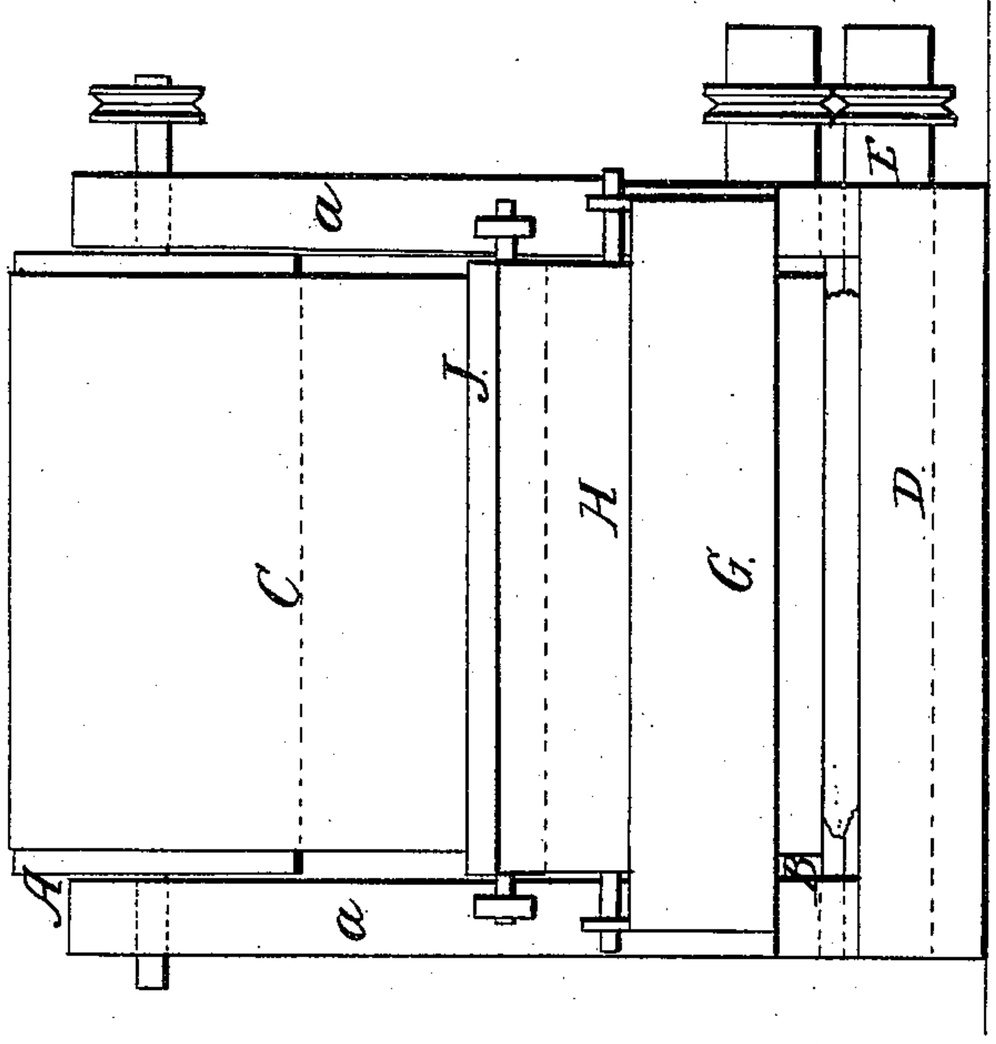

FIG. 2.

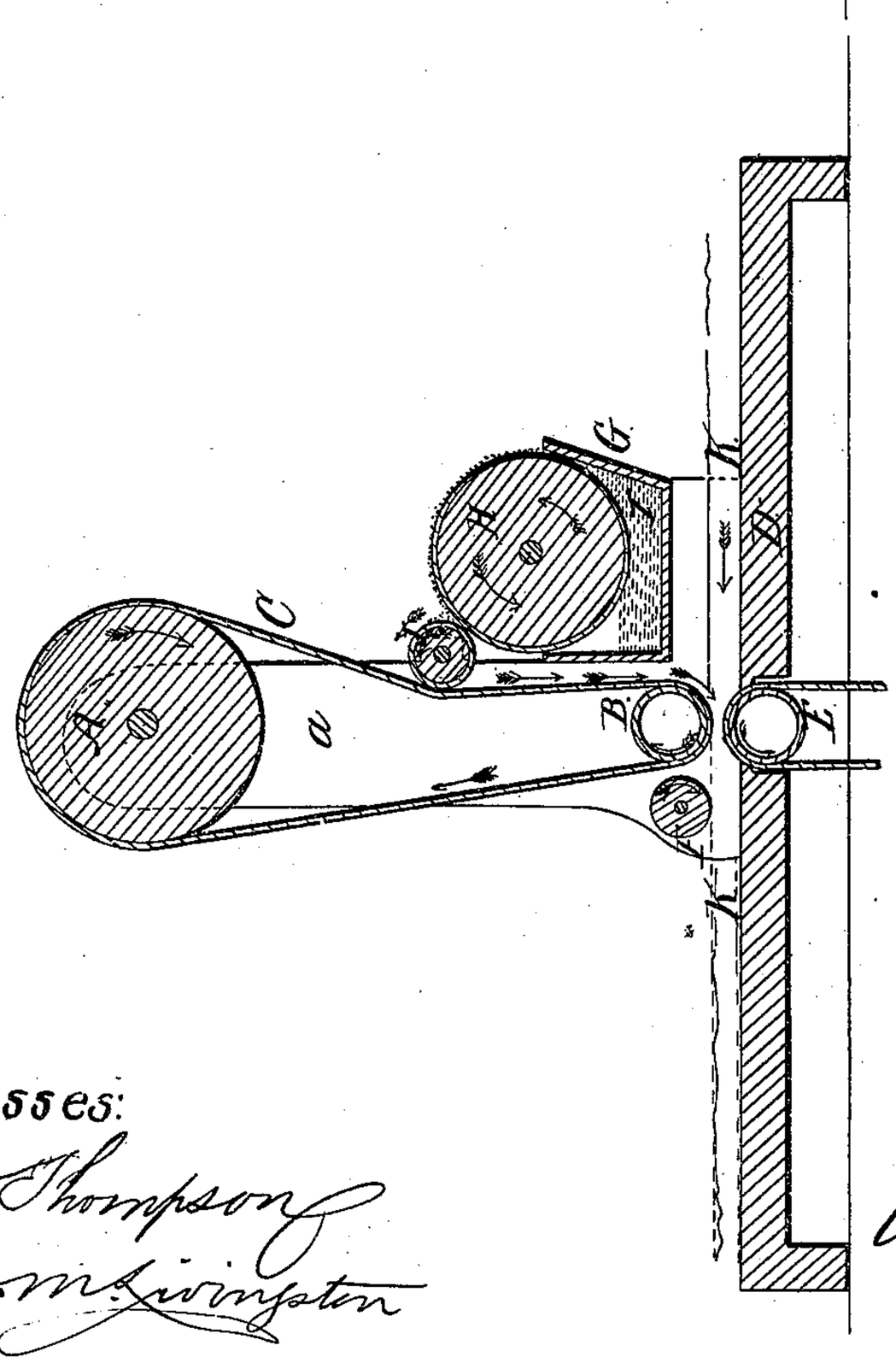

FIG. 1

Witnesses:
Wm. Thompson
M. M. Livingston

Inventor
William Fuzzard

UNITED STATES PATENT OFFICE.

WILLIAM FUZZARD, OF CHARLESTOWN, MASSACHUSETTS.

SURFACING FIBROUS MATERIAL.

Specification of Letters Patent No. 28,745, dated June 19, 1860.

To all whom it may concern:

Be it known that I, WILLIAM FUZZARD, of Charlestown, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Surfacing Fibrous Materials; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side sectional view of a device by which my invention may be practiced or carried out. Fig. 2 a front view of same.

Similar letters of reference indicate corresponding parts in the two figures.

This invention relates to an improvement in sizing or applying a glue or adhesive compound or substance to the surfaces of fibrous materials, such as cotton wadding, and which operation is technically termed "surfacing." This has been hitherto done by passing the layer or web of fibrous substance to be operated upon, over the top of a roller partly submerged in a proper adhesive fluid, so that the fibrous material as it passes over the roller may wipe the adhesive fluid therefrom and have its surface sized. This operation of "surfacing" renders the web quite wet as the adhesive fluid in which the roller revolves requires to be thin or quite fluid, the adhesive substance being very much diluted. The surfaced web is necessarily passed through a highly heated drying room to evaporate the moisture, after which it is pased between pressure rollers to flatten and smooth its rough surface. This operation is not only expensive and dangerous as regards fire but it is also very imperfect as regards the evenness of the deposit of the adhesive substance on the web. The latter can only be "surfaced" one side at a time as it is not self-supporting and therefore requires to be sustained on metallic aprons while in the drying chamber to which aprons it would stick or naturally adhere were a moist surface of the web placed on them. There is another difficulty also attending this operation, to wit, the impossibility of properly graduating the surfacing material on the various fabrics, for it is only when in a very attenuated form that it can be transferred to such loose texture. This difficulty is obvious. A thick adhesive compound will not distribute itself evenly over the unsubmerged surface of a revolving cylinder, and the loose texture of the fibrous web cannot be made to wipe off a viscid substance from the roller and a too thin or attenuated adhesive compound would not answer the purpose. By my invention it is believed that the aforesaid difficulties are fully obviated, and to enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

In the annexed drawings A, represents a drum and B, a hollow heated cylinder on which an endless apron C, is placed. The axes of the drum and cylinder are in uprights *a*, *a*, attached to a horizontal bed D, just above which is the cylinder B. E, is another hollow heated cylinder about equal in diameter to B, and placed in the bed D, just below B, in the same axial plane as shown in Fig. 1. In the rear of the cylinder B, there is placed a cold roller F, and in front of the cylinder B, a little above it there is placed a trough G, the latter having a roller H, fitted longitudinally in it and also containing a surfacing compound I. J, is a small roller which is in contact with H, and the apron C.

By rotating the drum A, the endless apron C, presses in contact, with the rollers J, receiving therefrom the surfacing compound from H, which in turn takes it from the trough G. The apron in passing around the heated cylinder B, causes the surfacing material to be heated and the latter is discharged on the web K, which passes between the two cylinders B, E, the web being smoothed and finished in passing under the cold roller F. Both sides of the web K, may be surfaced simultaneously by duplicating the apron C.

By this invention I can use finely powdered or pulverized dry surfacing substances, and I can also use melted gums with or without attenuation, or a cold composition, however cohesive, and discharge it upon the goods or web from the apron but the latter cannot be used with the facility and economy of the dry powdered material. To illustrate this, for instance, I can sift or otherwise distribute on the roller H, a finely powdered surfacing compound and as the roller revolves all superfluous or uneven amounts will be dropped before coming in contact with the roller J, which is in contact

with the apron; the charge taken up by the rollers H, J, may be graduated by their number and clothing or covering.

I do not confine myself to an endless apron as a medium for conveying the surfacing compound or material to, and discharging the same on the fibrous web in connection with heated cylinders for various modifications of the within described device or mechanism might be used and all answer a good purpose, for instance, a reciprocating apron might be used with a plane heated surface and the same result obtained.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is—

The employment or use, in connection with a heated surface, of an apron formed of any textile or other similar or suitable fabric, as a vehicle to convey and discharge on the fibrous web the surfacing compound or material.

WILLIAM FUZZARD.

Witnesses:

WM. THOMPSON,

M. M. LIVINGSTON.