(No Model.)

G. V. B. CLARK.

MACHINE FOR SURFACE SIZING WADDING.

No. 598,608. Patented Feb. 8, 1898.

Fig. 1.

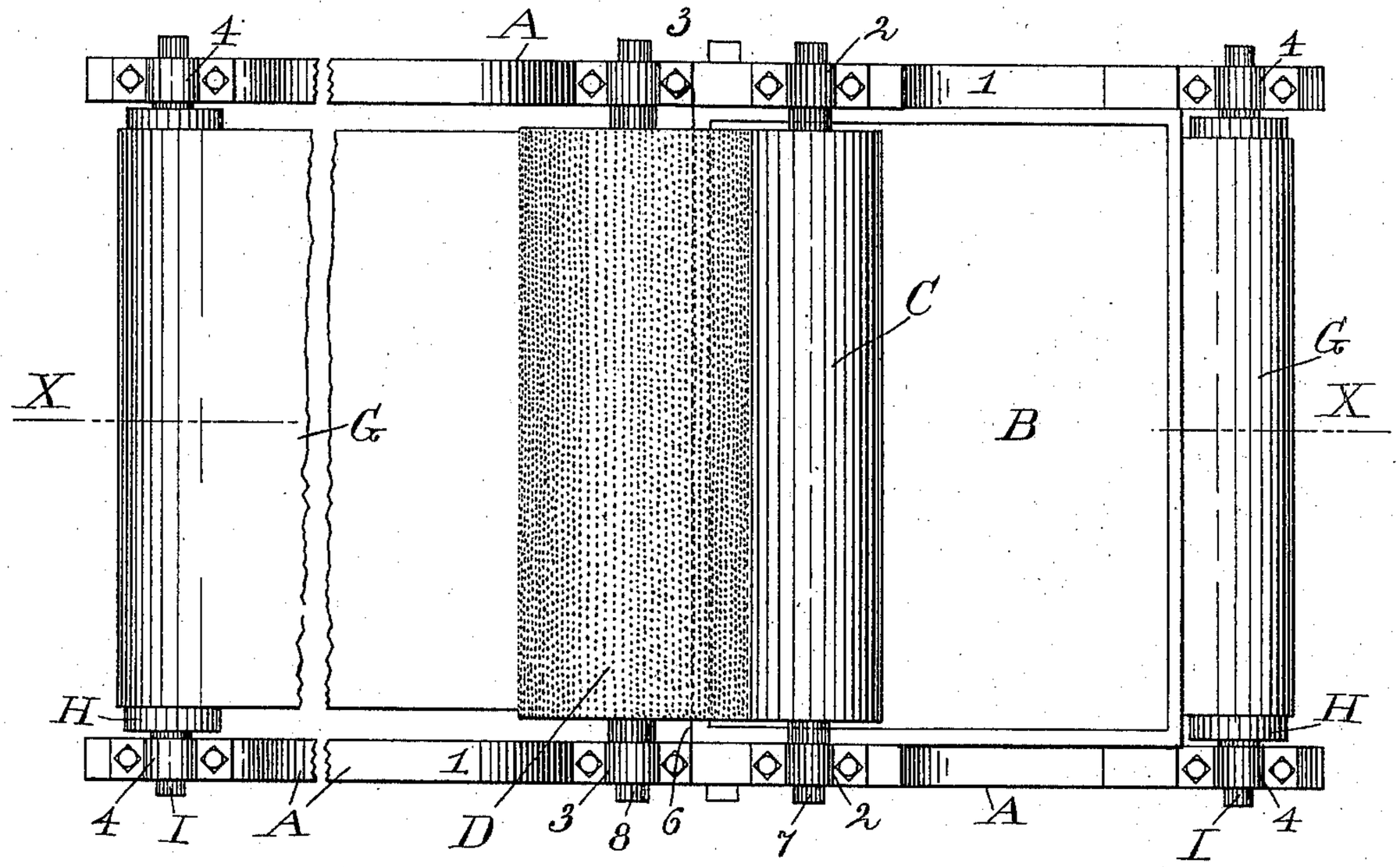
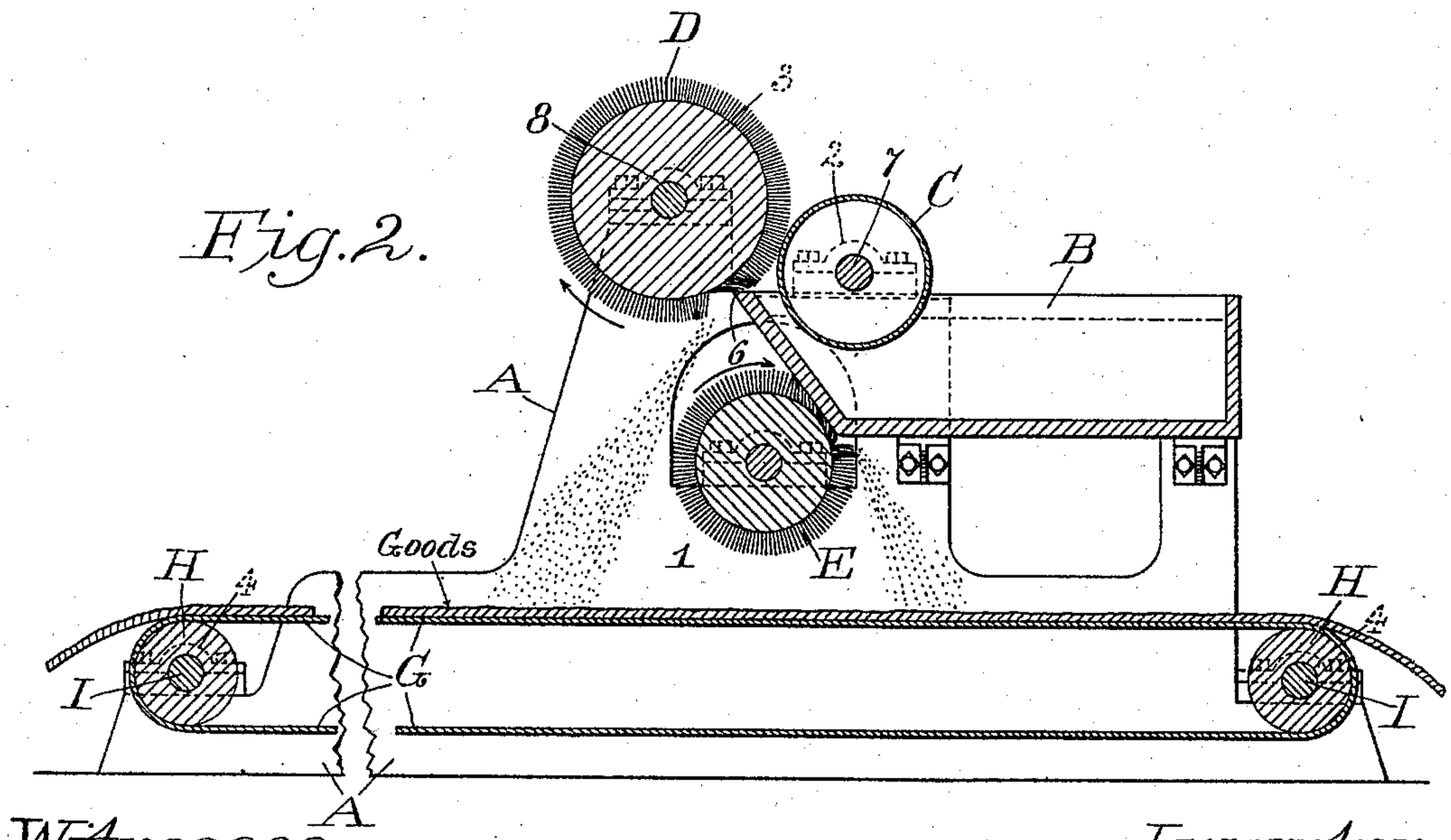


Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE V. B. CLARK, OF VALATIE, NEW YORK.

MACHINE FOR SURFACE-SIZING WADDING.

SPECIFICATION forming part of Letters Patent No. 598,608, dated February 8, 1898.

Application filed May 12, 1897. Serial No. 636,129. (No model.)

To all whom it may concern:

Be it known that I, GEORGE V. B. CLARK, a citizen of the United States, residing at Valatie, in the county of Columbia and State of New York, have invented new and useful Improvements in Machines for Surface-Sizing Wadding and other Goods, of which the following is a full and exact description, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in machines for surface-sizing wadding and other goods; and the particular object of my improvement is to provide means for preventing the sizing from falling onto underpassing goods in splotches or unduly large drops, which by failing to become sufficiently dried in proper time will render the goods blotchy and imperfect in finish.

Revolving brushes have heretofore been employed for effecting the sizing of goods, the tufts of bristles or other resilient material being bent backward and then by being suddenly released returning to their normal positions to discharge the sizing upon the goods in the form of spray; but it is found by experience that the sizing is liable to become deposited on the end of the sizing-tank and will there accumulate sufficiently to run down and drop in large splotches upon the surface of goods that are passing under said tank, thereby producing an imperfect surface on the goods. I provide a remedy for this defect by means of an auxiliary revolving brush, which is arranged to receive drops of sizing that may fall from the sizing-tank and to remove the accumulation of sizing from the outer side of the end of the sizing-tank and discharging the same in the form of spray onto the underpassing goods, the discharge of such spray being projected, preferably, at oppositely-inclined angles, so that the two cannot conflict with each other.

As represented in the accompanying drawings, Figure 1 is a plan view of a machine in which my invention is embodied, and Fig. 2 a longitudinal vertical section of Fig. 1 at the line X X.

In said drawings, A designates the frame of the machine, which frame may be constructed of any suitable material and in any form suited to the purpose. As shown, said frame consists of side pieces 1, which are provided with journal-bearings 2, 3, and 4 for purposes hereinafter set forth.

B is a tank or trough for containing sizing in a proper state of liquidity. Said tank is secured between the side pieces of the frame A, and one end of said tank is formed to incline outwardly, as shown in Fig. 2, from the plane of the bottom of the tank. At the upper part of said end an angular edge 6 is formed for a purpose that will be fully explained later herein; but it should be understood that it is not essential that such edge should form an acute angle to the top of the tank, for a similar effect, but not so efficient, can be produced by forming said edge at a right angle to the top of the tank.

C is a sizing-roller which is arranged to revolve in the sizing contained in the tank B, and thereby a coating of said sizing is taken up by said roller preparatory to its removal from said roller and its distribution on the surface of the goods as they pass through the machine. The sizing-roller is preferably made in a hollow cylindrical form of any material that will not corrode or impart color to the sizing, and it is secured to a shaft 7, that is arranged to revolve in journal-bearings 2 of the frame A.

D is a revoluble cylindrical brush attached to a shaft 8, that is arranged to revolve in journal-bearings 3 of the frame A. The cylindrical surface of the brush D is provided with resilient bristles and is arranged in such manner that while in the machine the ends of the bristles will touch against the surface of the sizing-cylinder C, so as to become charged with the sizing from the surface of said cylinder and so that by the rotations of said brush the bristles will be carried into contact with the edge 6, whereby the bristles will momentarily be bent backward, and then after the bristles are successively cleared from said edge their resilience will cause them to spring into their normal positions, thereby causing the sizing to be forcibly discharged in the form of spray from said brush, which discharge will be delivered in an angular direction, as indicated by dotted lines under the brush 9 on Fig. 2.

G is an endless apron that is carried on drums H, fixed on shafts I, arranged to re-

volve in journal-bearings 4 on the frame A. Said endless apron is arranged to carry the goods to which the sizing is to be applied.

Up to the point last described the machine, or the greater part of it, is old and well known, and consequently forms no part of my invention, only in so far as it may form elements of new combinations, and I will now describe my invention.

E is a revoluble cylindrical brush that is ancillary to the brush D and is made substantially like the brush D, and it is arranged so that its bristles will sweep down the surface of the adjacent end of the sizing-tank, thereby removing therefrom all surplus of sizing that may have dropped from, or been left by, the revolving brush D in passing from the edge 6 of the sizing-tank B, said surplus of sizing being liable to (and as a rule will) fall from the end of said tank in great splotches upon the goods carried on the endless apron G, and thereby producing damage to the goods in the manner hereinbefore described. After the goods are properly sized they are usually passed through a drying apparatus, (not shown in the drawings,) whereby they will be dried before leaving the machine.

What I claim as my invention is—

1. The combination, with a sizing-tank, B, a feeding-roller, C, arranged to rotate in said tank, and a revoluble brush, D, provided with resilient bristles which contact with the surface of said roller and also with an adjacent edge of said tank, of an auxiliary revoluble brush, E, arranged under the brush D and provided with resilient bristles which sweep the adjacent end of the tank, as and for the purpose specified.

2. In a machine for sizing goods, the combination of a sizing-tank, B, means—substantially as herein set forth—for primarily spraying the sizing on the underpassing goods, and a revoluble brush, E, arranged near the bottom of said tank but exteriorly thereto; said brush being provided with resilient bristles which sweep the adjacent end of said tank and remove therefrom the sizing that has dripped thereon; said brush being arranged to spray the sizing from the outer side of the tank upon the underpassing goods, as and for the purpose specified.

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