

(No Model.)

A. H. DINGMAN.
MACHINE FOR WAXING PAPER.

No. 351,748.

Patented Nov. 2, 1886.

Fig. 1.

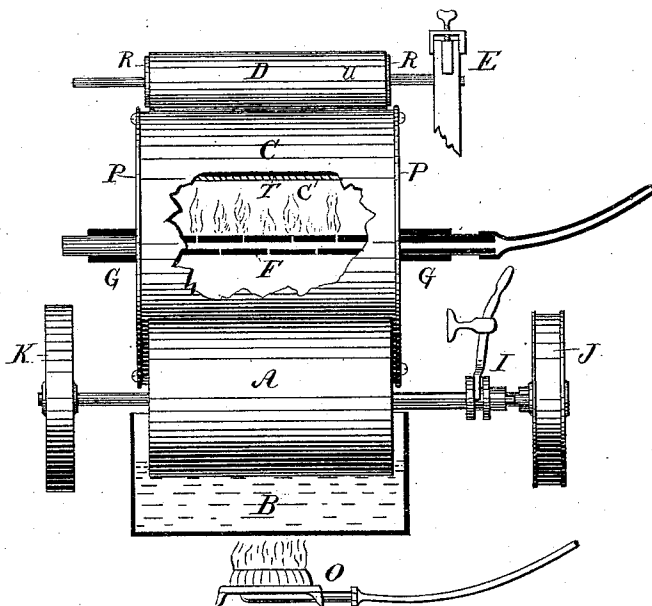


Fig. 2.

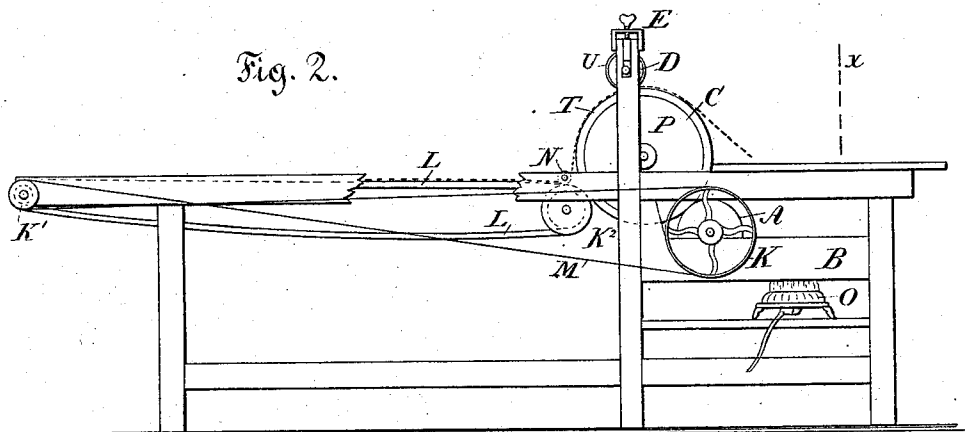
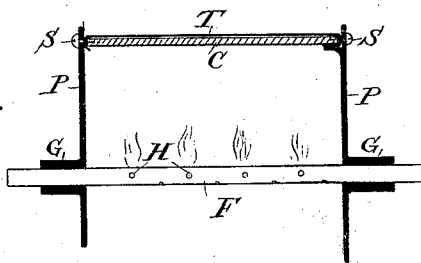


Fig. 3.



Witnesses:
B. Harvey
B. Ritchie.

Allen H. Dingman
Inventor.
A. Harvey
Attorney.

UNITED STATES PATENT OFFICE.

ALLAN HOOVER DINGMAN, OF TORONTO, ONTARIO, CANADA.

MACHINE FOR WAXING PAPER.

SPECIFICATION forming part of Letters Patent No. 351,748, dated November 2, 1886.

Application filed November 2, 1885. Serial No. 181,705. (No model.) Patented in Canada January 30, 1885, No. 21,006.

To all whom it may concern:

Be it known that I, ALLAN HOOVER DINGMAN, of the city of Toronto, in the county of York, Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Machines for Waxing Paper, (for which I have obtained a patent in Canada, No. 21,006, bearing date January 30, 1885;) and I do hereby declare that the following is a full, clear, and exact description of the same, reference being made to the accompanying drawings, in which—

Figure 1 is a sectional elevation on line *x x* of a machine embodying my invention, one of the standards being only partly shown. Fig. 2 is a side elevation of the same on a smaller scale. Fig. 3 is a longitudinal section of the cylinder C.

The first part of my invention relates to the combination of revolving cylinders and cloth covers in such a manner that the cylinders shall at the same time distribute the wax on the waxing-surfaces, feed the paper to be waxed, and wax the paper.

The second part of my invention relates to the application of heat to the wax and waxing and distributing cylinder.

The third part of my invention relates to the combination of a separator and carrier with the revolving cylinder, by which the waxed paper is taken from the cylinder and cooled as fast as waxed.

In the drawings, A is a metallic cylinder on suitable bearings, dipping into a metallic tank, B.

C is a metallic cylinder covered with cloth T, or other flexible material, in line contact with cylinder A.

D is a metallic cylinder covered with cloth U in line contact with C.

E is a tension-bearing in connection with cylinder D at each end, by means of which pressure is increased or decreased at will upon the cylinder D.

F is a tube passing through the axis of cylinder C by means of suitable connections through the bearings G G and pierced with holes H H H for gas.

I is a clutch for throwing the cylinder A in and out of gear with the pulley J, to which the motive power is applied.

K is a pulley on the axle of the cylinder A,

driving the roller K' by means of a belt, M, the roller K giving motion to the carrier L, running also over the roller K".

N is a separator for taking the waxed paper from cylinder C and throwing it onto carrier L.

O is a gas-heater for melting the wax in tank B.

P P and R R are metallic ends on the cylinders C and D, having screws S S, by means of which the flexible coverings on cylinders C and D are firmly stretched over the cylinder and secured at the ends, as shown in Fig. 3.

The method of working my invention is as follows: The gas is lighted in cylinder C and also at the heater O and the tank B is filled with wax. When the wax in the tank is sufficiently melted, motion is given to the cylinder A by throwing it into gear with the pulleys J by means of the clutch I. The cylinder A drives the cylinder C, and cylinder C drives cylinder D, by friction. Carrier L is also driven by A from pulley K, cylinder D is heated by absorption of heat from cylinder C, and cylinder A by absorption from cylinder C and the hot wax in tank B. By revolving A the hot wax is carried up to C, and from C to D, an even distribution of the wax following on those cylinders. The paper to be waxed is fed in between the cylinders C and D, and the cloth coverings T and U on those cylinders retain sufficient hot wax to thoroughly wax the paper on each side. The cloth coverings also make a close and thorough contact between the cylinders and the paper being waxed and allow an easy separation of the paper from the waxing-cylinder C. The separator N takes the paper from the cylinder C and throws it on the carrier L, which, being made of gauze or perforated material, allows the air to cool the wax on the paper thoroughly by the time it is deposited by the carrier L on the packing-board.

It is not essential to my invention that heat should be applied in the manner stated, as heat can be quite as successfully used by closing the ends of cylinder C and introducing steam or hot water in place of gas also at the bottom of tank B.

I am aware of Patent No. 193,867, and I do not broadly claim a waxing-machine for continuous webs, such as is therein shown and claimed; but

I claim as my invention—

1. The combination of the trough B, having heat applied thereto, the distributing-cylinder A, suitably driven, the heated cylinder C, driven by contact with the cylinder A, and the
5 pressure roller or cylinder D, driven by contact with the cylinder C, and adapted for regulating the pressure, substantially as shown and described.
2. The combination of the trough B, distrib-
10 uting-cylinder A, heated cylinder C, driven by friction from cylinder A, the cloth cover T of said cylinder, the pressure-roller D, and cloth cover U of said cylinder, substantially as shown and described.
- 15 3. The combination of the cylinders A C D,

cloth covers T and U, heater F, the separator N, rollers K' and K'', and the carrier L, substantially as shown and described.

4. The combination of the metallic cylinder C, ends P, screws S, and cloth cover T, substantially as shown and described.

Signed at Toronto this 22d day of September, A. D. 1885.

ALLAN HOOVER DINGMAN.

Witnesses:

E. H. JACKES,

Of Toronto, Student at Law.

A. MOURE.

Of Toronto, Clerk.