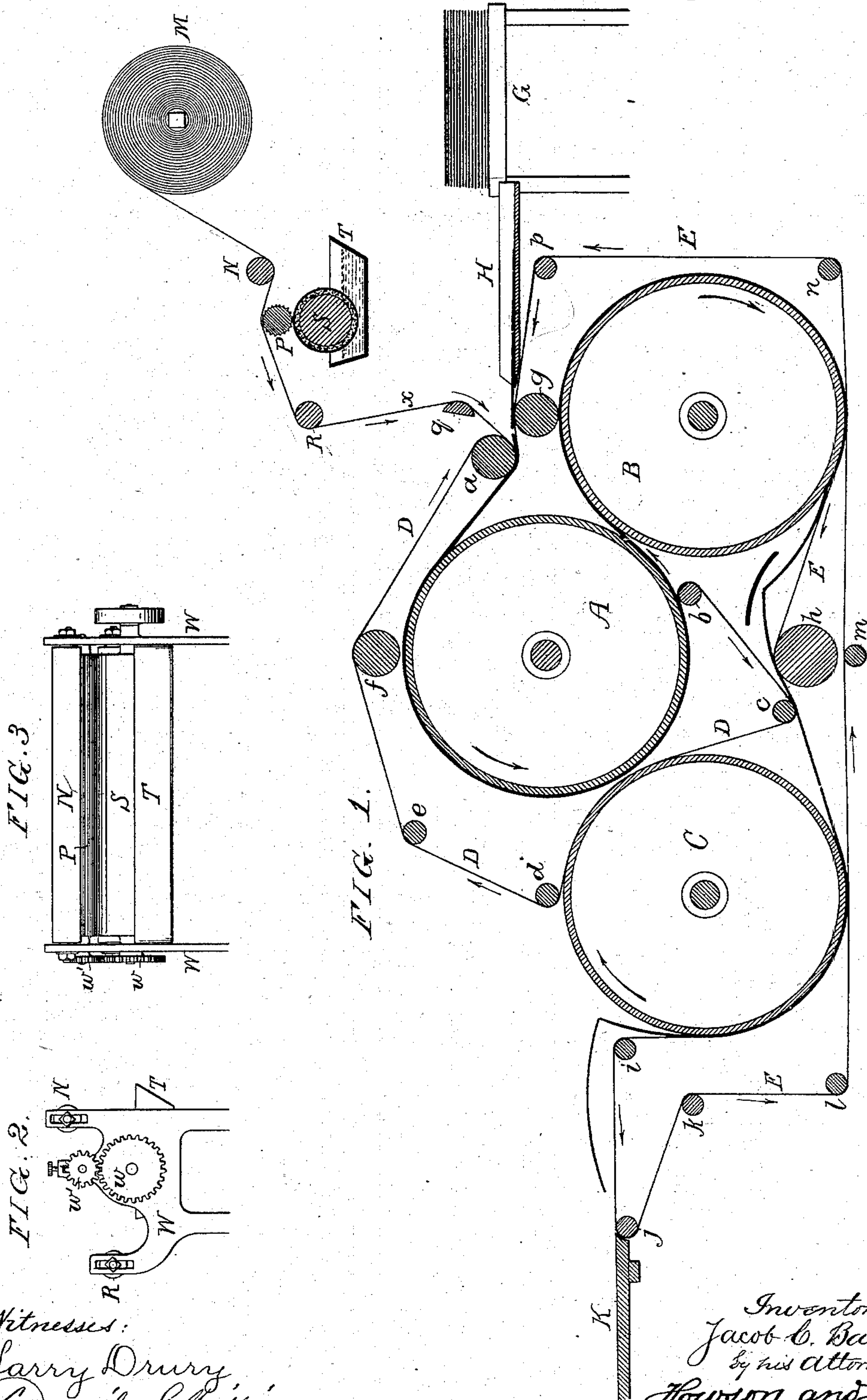


(No Model.)

J. C. BAUER.
PAPER LINING MACHINE.

No. 276,335.

Patented Apr. 24, 1883.



Witnesses:
Harry Drury,
David Williams

Inventor:
Jacob C. Bauer
by his attorneys
Howson and Jones

UNITED STATES PATENT OFFICE.

JACOB C. BAUER, OF PHILADELPHIA, PENNSYLVANIA.

PAPER-LINING MACHINE.

SPECIFICATION forming part of Letters Patent No. 276,335, dated April 24, 1883.

Application filed February 23, 1882. (No model.)

To all whom it may concern:

Be it known that I, JACOB C. BAUER, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Paper-Lining Machines, of which the following is a specification.

My invention relates to an improvement in machines for mounting straw-board or paste-board with paper by causing a continuous-pasted sheet of the latter to traverse with the board, and with endless aprons, in contact with heated cylinders.

My improvement consists of a device, described hereinafter, for pasting and imparting tension to the paper, with the view mainly of preventing the tearing of the same.

In the accompanying drawings, Figure 1 is a vertical section of a machine for backing straw-board and pasteboard with paper, the frame-work and driving appliances being omitted, as my improvement relates solely to the preliminary pasting of the paper, and not to the machine generally; Fig. 2, a side view of that part of the frame with which my invention is connected, and Fig. 3 an end view of Fig. 1.

Three hollow cylinders, A, B, and C, heated by steam, are rotated in the directions pointed out by their respective arrows, and operating in conjunction with these cylinders are two endless aprons, D and E, the former taking the course pointed out by its arrows around a roller, *a*, around the cylinder A, and around the guide-rollers *b*, *c*, *d*, *e*, and *f*, to the starting-point, the apron E passing over the roller *g*, around the cylinders A and B, over the roller *h*, under the cylinder C, and in the course directed by the guide-rollers *i*, *j*, *k*, *l*, *m*, *n*, and *p*, to the starting-point. A continuous sheet, *x*, of paper pasted on one side passes in contact with a guide-bar, *q*, in the direction of the arrow, and sheet after sheet of straw-board from a pile placed on the table G is laid on the platform H and introduced between the pasted face of the paper and the apron E, where they meet beneath the guide-roller *a*. The paper and boards confined by and between the two aprons pass partly around the heated cylinder A as far as the roller *b*, where the apron D leaves the paper and takes the course already pointed out, the other apron, with the boards and paper, passing around the cylinder B, over the roller *h*, and partly around the cylinder C, the boards,

with the paper pasted thereto and connected together by the paper, leaving the cylinder C near the guide-roller *i*, and being directed by the apron onto the platform K.

The above description will apply to machinery now in use for pasting paper to straw-board, and has been here introduced for the better explanation of my improvement, which I will now proceed to describe.

Heretofore it has been the practice in pasting one side of the paper to pass it between a lower roller revolving in a receptacle containing paste and an upper or pressure roller, to keep the paper against the paste-carrying roller; but the paper became so saturated with paste and so moistened that it was often torn apart under the tension necessarily imparted to it, and this has of course been most frequent when the paper to be mounted on the straw-boards was thin. In order to obviate this difficulty, I cause the paper *x* to pass from the roll M under a guide-roller, N, over and in contact with a ribbed or corrugated roller, P, and thence over a guide-roller, R, to the guide-bar *q*, and between the two aprons, the corrugated roller being caused to bear on a plain felt-covered roller, S, which revolves in paste contained in a trough, T. The paste, which is thicker than that usually employed, and therefore not so liable to saturate the paper and render it weak, is applied to the paper in narrow transverse strips, which are spread out and united by the roller R, over which the paper must pass, the circumference of the corrugated roller being caused to move at about the same speed as the paper.

It has been ascertained by operating a machine provided with this improvement that the paper is very rarely torn.

It will be seen on referring to Fig. 2 that the rollers R and N are adjustable in the opposite frames W W, the latter being slotted for the purpose. The object of this adjustability is to impart more or less tension to the paper, for the more the rollers N and R are depressed the greater will be the tension on the paper, and the greater will be the extent of paper in contact with the corrugated roller P; and it is important that the direction of the paper in respect to this roller should be properly adjusted, as different qualities of paper require different tensions and different quantities of

paste. The adjustment might be effected by the adjustable roller N alone, although I prefer to make both rollers adjustable.

It will also be seen on reference to Fig. 2
5 that the paste-carrying roller and corrugated roller are so geared together by wheels *w* and *w'* that there shall be no drag of one roller against the other, the circumferences of the two rollers moving at the same speed.

10 I claim as my invention—

1. In a machine for mounting straw-boards with paper, the combination of the endless aprons with the paste-carrying roller S and
15 corrugated roller P, and with guides for directing the paper onto the said corrugated roller, substantially as set forth.

2. The combination of the paste-carrying roller S and the corrugated roller P with the adjustable roller N, as set forth.

3. The combination of the paste-carrying roller S and the corrugated roller P with the adjustable rollers N and R and guide-bar *q*.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JACOB C. BAUER.

Witnesses:

HARRY DRURY,
HARRY SMITH.