

W. F. & C. P. EDWARDS.
Calendering-Machine.

No. 162,635.

Patented April 27, 1875.

Fig. 1.

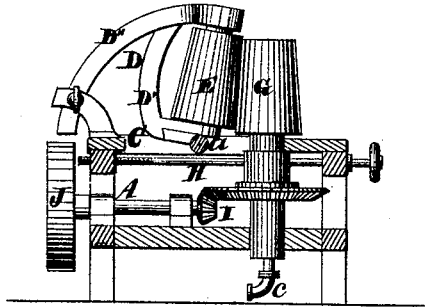
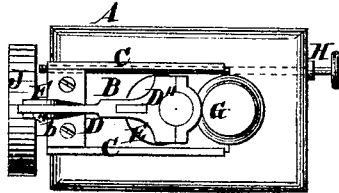


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM F. EDWARDS AND CHARLES P. EDWARDS, OF SUMMIT, N. J.

IMPROVEMENT IN CALENDERING-MACHINES.

Specification forming part of Letters Patent No. **162,635**, dated April 27, 1875; application filed October 7, 1874.

To all whom it may concern:

Be it known that we, WILLIAM F. EDWARDS and CHARLES P. EDWARDS, both of Summit, in the county of Union and State of New Jersey, have invented a certain new and Improved Shaping and Calendering Machine, of which the following is a specification:

This invention relates to a machine for shaping and calendering articles of paper or *papier-maché*, such as buckets, basins, &c.; and our invention consists in the use of a shaping and calendering roller, one of which is combined with a vibrating frame, whereby the rollers can be brought in or out of contact with each other at will, so that the article may be put on or taken off. In order to facilitate this operation, the shaping-roller is mounted on the free end of its shaft. By vibrating the roller-frame its roller is made to describe different angles, so as to adapt it to the angle or outline of the other or shaping-roller. The vibrating frame is connected with a horizontal sliding supporting-frame in such a manner that the vibrating frame may be set to adapt its roller to the diameter of the other or shaping-roller, and to accommodate articles of different thickness, as hereinafter more fully described.

The invention is illustrated in the accompanying drawing, in which—

Figure 1 is a sectional side view, and Fig. 2 is a plan or top view.

Similar letters indicate corresponding parts.

The letter A designates the frame-work of our machine, provided with a platform, in which is an opening, B. The edges of this opening form the guides for slides C, which constitute a support for the vibrating frame D. The vibrating frame D is constructed, in this example, of two arms, D' and D'', which extend, respectively, under and above the calendering-roller E, the arms carrying the journals of the roller. The lower arm or branch D' is connected to a shaft, *a*, which has its bearing in the support C, and on which the frame D vibrates. The arm D'' moves in a guide-brace, F, and is adjusted in position by a set-screw, *b*, or its equivalent device, with which the brace is provided.

By taking hold of the arm D'' the frame D can be vibrated or moved back and forward,

so as to adjust the calendering-roller E to correspond to its fellow roller G, on which the body of the article to be shaped is placed.

By bringing the rollers E G out of contact, the article can be put on or taken off the shaping-roller without obstruction, said shaping-roller being, furthermore, overhanging, or mounted on the end of its shaft, while, when the rollers are brought together and given a revolving motion, the article, which is put on the roller in a plastic or yielding state, acquires the shape of the roller G, which, in this example, is tapering, or that of a cone, the article at the same time becoming calendered, so that it presents an even surface.

The shaping-roller G may be made hollow, and with it combined a pipe, *c*, through which steam or hot air is let in, so as to heat the roller.

The calendering-roller E is adjusted so as to bear on the surface of its fellow roller G, by means of the guide-arm D'', which is held by the set-screw *b*, as before stated.

The support C of the vibrating frame is capable of sliding on the machine-platform, and it is held in position by a screw, H, working in a projecting piece of the support, as shown in Fig. 1. This adjusting-screw H is made to extend to the front end of the machine, so that it is within convenient reach of the attendant. By turning the screw H the calendering-roller G, together with the vibrating frame and support C, is moved toward or from the shaping-roller, and by moving the calendering-roller away from the latter it is made to accommodate articles of different thickness, while, at the same time, it is adapted to a shaping-roller of different diameter, and the operation of putting the articles on the roller and removing them is facilitated.

By tilting the calendering-roller, through the medium of the vibrating frame D, in the direction of the shaping-roller, it is made to describe a greater angle than that represented in the drawing, and vice versa, so that if the shaping-roller is changed to one having a greater or less angle, the calendering-roller can be adapted thereto, and by this means we are enabled to shape articles of different degrees of an angle, or even of a straight figure, with equal facility.

A revolving motion is imparted to the shaping-roller, and to the calendering-roller, by reason of its frictional contact, by means of a bevel-wheel, I, which engages a corresponding wheel on the spindle of the shaping-roller, the shaft of the wheel I having its bearing in the frame-work of the machine, and being provided with a driving-wheel, J, by means of which the whole is set in motion.

What we claim as new, and desire to secure by Letters Patent, is—

The combination, with the shaping-roller G and the calendering-roller E, mounted in a vibrating frame, D, for adjusting the calender-

ing-roller with respect to the shaping-roller, of a horizontally-sliding supporting-frame, connected with the vibrating frame, for regulating or adjusting the distance between the shaping and calendering rollers, substantially as and for the purpose herein described.

In testimony that we claim the foregoing we have hereunto set our hands and seals this 5th day of October, 1874.

WM. F. EDWARDS. [L. S.]

CHARLES P. EDWARDS. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.