

O. D. MURRAY.

Machines for Calendering Paper.

No. 152,245.

Patented June 23, 1874.

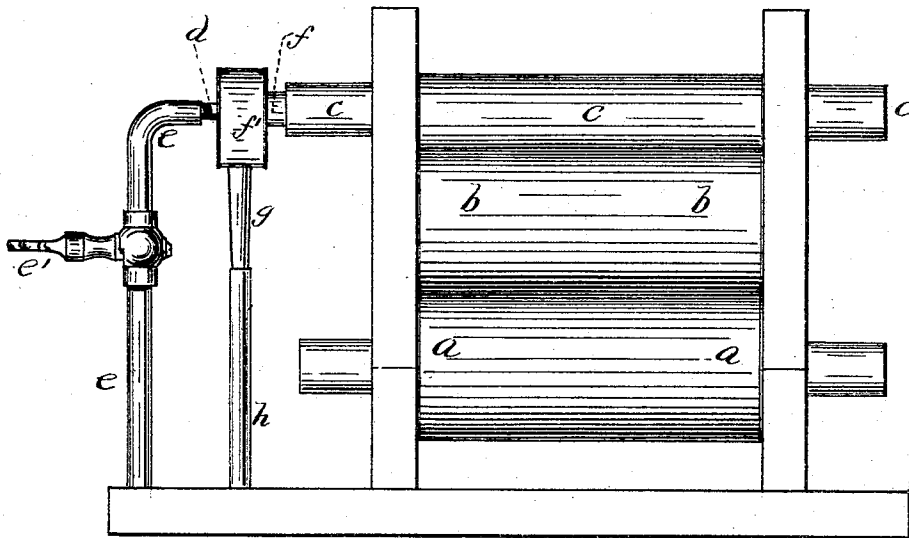


Fig. 1.

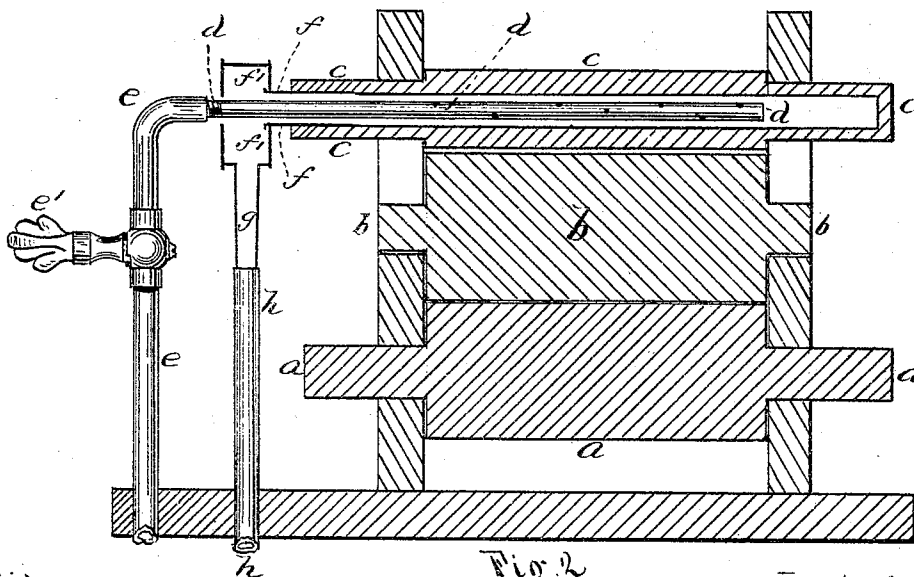


Fig. 2

Witnesses

Geo. H. Blish.
J. H. Ober

Inventor

O. D. Murray
By his Attys
Henry Williams & Co.

UNITED STATES PATENT OFFICE.

ORLANDO D. MURRAY, OF NASHUA, NEW HAMPSHIRE.

IMPROVEMENT IN MACHINES FOR CALENDERING PAPER.

Specification forming part of Letters Patent No. **152,245**, dated June 23, 1874; application filed May 20, 1874.

To all whom it may concern:

Be it known that I, ORLANDO D. MURRAY, of Nashua, in the county of Hillsborough and State of New Hampshire, have invented a new and valuable Improvement in Connection with Machines for Calendering Paper; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates particularly to an attachment for regulating the heat of the friction-roll. Great annoyance and delay are caused by the undue heating of the friction-roll. The hereinafter-described invention consists of an arrangement by which a perforated pipe is placed longitudinally within the friction-roll, and water being forced into the said pipe and through the perforations, impinges against the interior of the roll, and runs off through a waste-pipe. By regulating the flow of water into the perforated pipe the friction-roll is kept at the proper temperature.

In the accompanying drawings, Figure 1 is an elevation of a sufficient portion of a calendering-machine to illustrate my attachment. Fig. 2 is a longitudinal vertical section of the same.

Similar letters of reference indicate corresponding parts.

a is the lower iron roll. *b* is a roll, constructed of paper, cotton, or any similar material, running freely upon the roll *a*, and actuated by the same. The lower roll *a* also actuates the upper or friction-roll *c*, which is made of chilled iron, and is geared to the roll *a* in such a manner that its surface runs two

or three times faster than the surface of the roll *b*. Between the friction-roll *c* and the paper-roll *b* passes the paper to be glazed or calendered, suitable pressure, of course, being supplied. Thus far nothing is claimed as new, the arrangement of rolls *a b c* being substantially as usual. In order to regulate the temperature of friction-roll *c*, the said roll is chambered, as seen in Fig. 2, so as to allow of the entrance of the perforated pipe *d*, which passes in as far as desired, and is supplied with water from the pipe *e*, into which it screws. Any ordinary arrangement—that lettered *e'* being perhaps as simple as any—may be used to regulate the flow of water into the perforated pipe *d*. The water, entering the chambered roll *c* through the perforations in the pipe *d*, passes out through short tube *f* into a box, *f'*, and thence through tube *g* into the waste-pipe *h*. Thus it will be seen that the friction-roll *c* never need become unduly heated, and much time, and consequently money, is saved.

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

In a machine for calendering paper, the combination, with the hollow or chambered friction-roll *c*, of the perforated pipe *d*, placed longitudinally within the friction-roll, in such a manner that water may be forced through it to regulate the heat of said roll, substantially as described.

ORLANDO D. MURRAY.

Witnesses:

H. W. GILMAN,
GEO. H. HATCH.