# H. E. Rogers.

## Calendering Mach.

No. 95,606. Patented Oct. 5, 1869.

Fig: 1.

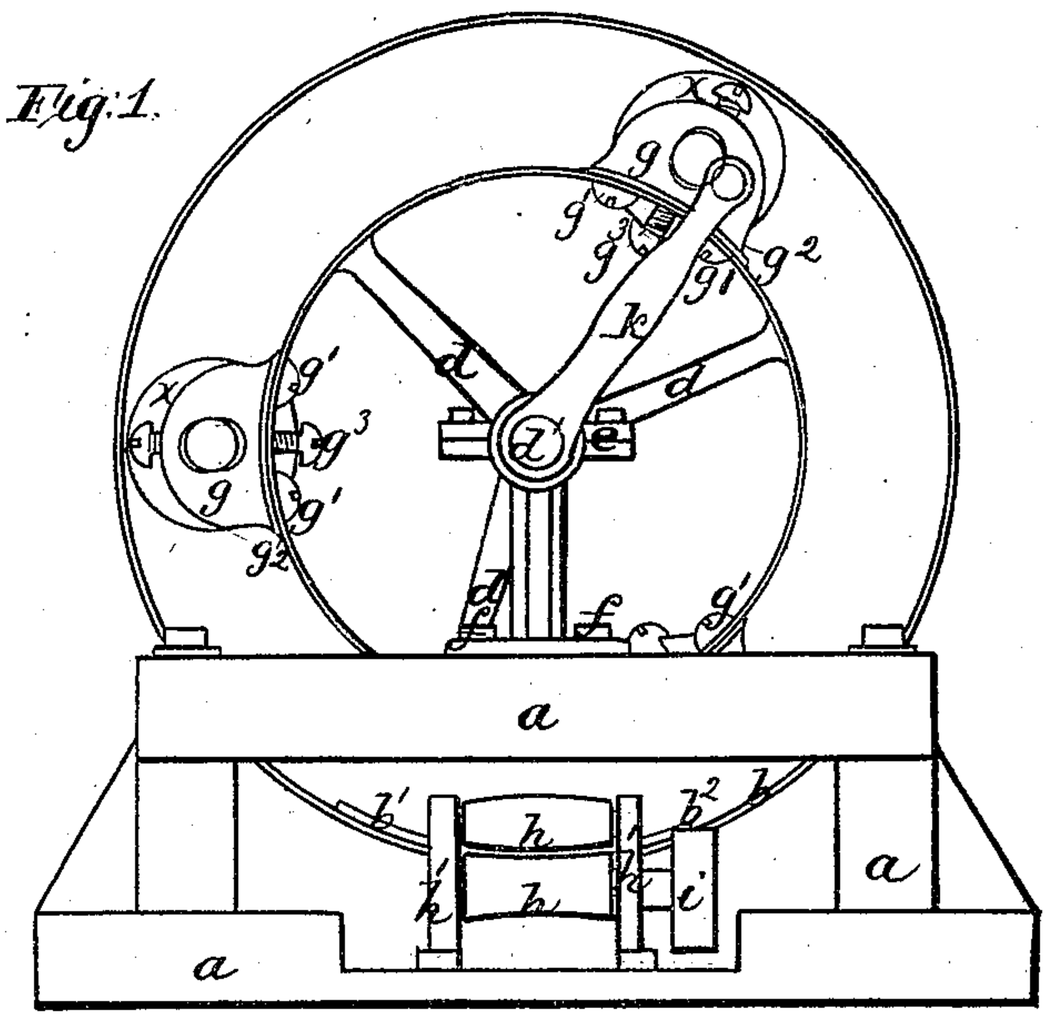
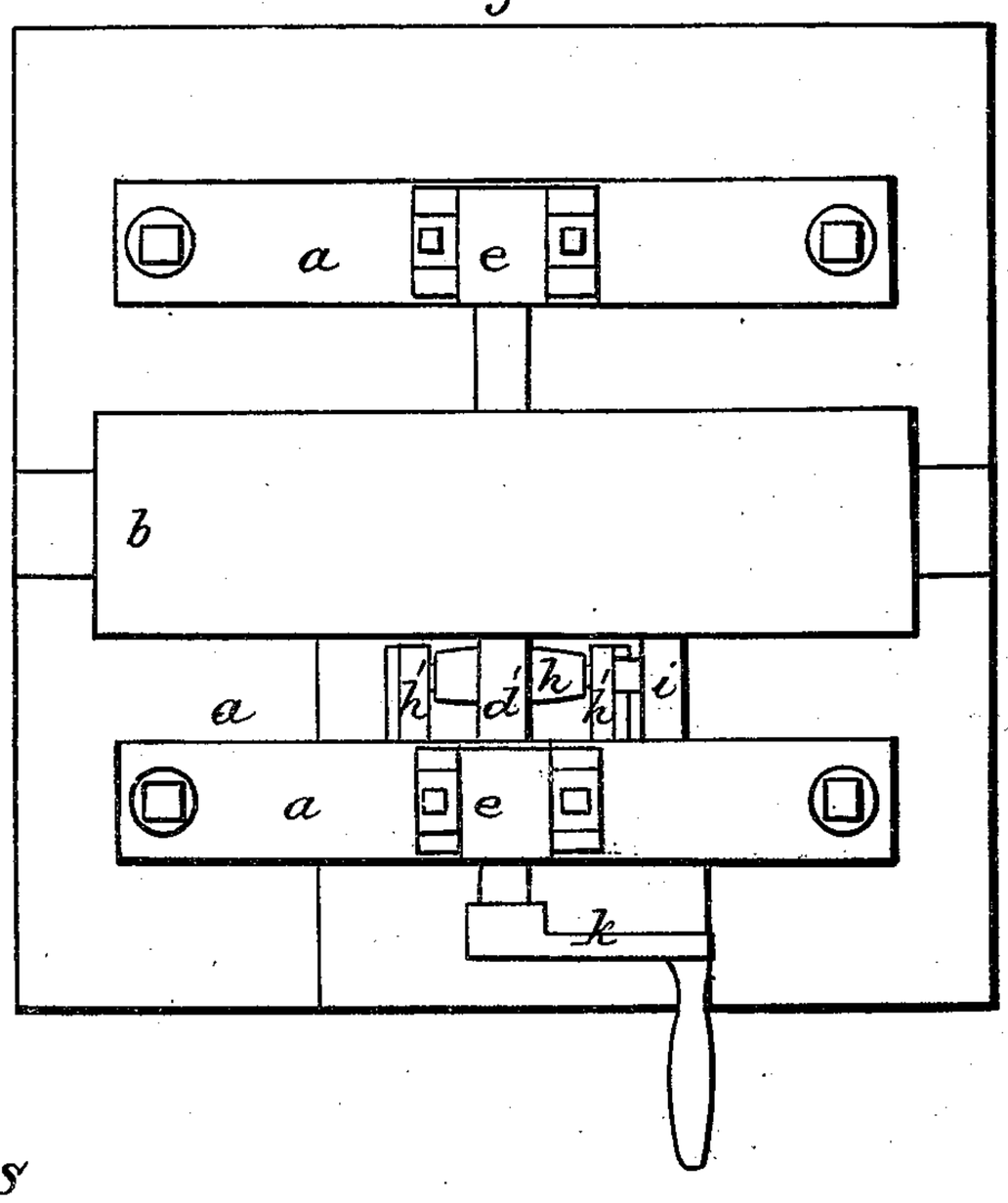



Fig: 2.




Witnesses
L. C. Wilder
Jenny W Bly's

Inventor;
H. E. Rogers

# United States Patent Office.

HENRY E. ROGERS, OF SOUTH MANCHESTER, CONNECTICUT.

*Letters Patent No.* 95,606, *dated October* 5, 1869.

## IMPROVED CALENDERING-MACHINE.

**The Schedule referred to in these Letters Patent and making part of the same.**

*To all whom it may concern:*

Be it known that I, HENRY E. ROGERS, of South Manchester, county of Hartford, and State of Connecticut, have invented certain new and useful Improvements in Paper-Calendering Machines; and to enable others skilled in the art to make and use the same, I will proceed to describe its construction and operation, referring to the drawings, in which the same letters indicate like parts in each of the figures.

The nature of this invention consists in arranging calender-rolls upon the outer ends of arms, or upon the surface of a cylinder formed on said arms, the whole being secured and rotating upon a shaft having its bearings in boxes. The calender-rolls, thus arranged, are caused to rotate over a bed, arranged in a cylindrical circle, and the material being fed into or between the bed and the rolls, revolving over its surface by means of a pair of concave and convex rollers, placed closely to the side of the working-surface of the bed. Said rollers serve both to feed and to give shape to the material, corresponding to the shape or curve of the bed as it is being introduced upon the bed, to the action of the calender-rolls.

In the accompanying drawings—

Figure 1 is a side elevation.

Figure 2 is a top view.

*a* is the frame-work of the machine, to which all the mechanism is secured.

*b* is a segmental or cylindrical formation, upon which is secured a bed-plate, *b'*.

The object of this plate *b'* is to form a bed for the paper, or other material to lay upon, while the calender-rolls successively work upon its surface, and move forward, (the paper,) alternately, after the action of the rollers thereon.

*d* are arms or cylinders, upon which the calender-rolls are secured.

These arms or cylinders are secured on the shaft *d'*, and have their bearings in boxes, *e*.

These boxes are secured, in an adjustable manner, to posts or frame-work *a*, by means of fastening-screws or bolts *f*. These boxes are also provided with slit-openings, through which the fastening-bolts *f* pass, both for the purpose of holding the boxes, and for adjusting or regulating the position and action of the calender-rolls upon the plate *b'*, and by which the said rollers may be made to act in an angular direction upon the material laying upon the bed-plate.

*g* are boxes, secured to the arms or cylinder by screws, $g^1$, and when desirable, an elastic or India-rubber pad, $g^2$, is placed between the box and cylinder to relieve concussion.

These boxes are also provided with elongated openings for the roller-bearings, and in which the bearings of the rollers are adjusted, by means of set-screws, $g^3$, or their equivalents.

*x* are calender-rolls, their bearings being arranged in the boxes *g*. The face of these rolls should be made slightly rounding, so as to allow of their being arranged to act upon the bed, or material thereon, in a slightly angular manner, in relation to the bed-plate.

*h* are feed-rolls, which have their bearings in the studs *h'*, and are operated by a pulley, *i*. These rolls are made, one concave and the other convex shape, more or less, so as to correspond with shape of, and in position with the bed-plate *b'*.

The motion is imparted to these rolls through the pulley, or other suitable device, whereby an alternate action or movement is produced, succeeding the action of the calender-roll mechanism in common use.

The power is applied to operate the machine through a pulley or crank, *k*.

Now, it will be seen, that by the use of this invention, a continuous rotary motion of the calender-rolls *x*, may be produced, in connection with an alternate action or movement of the feed-rolls *h*, (produced by any of the well-known mechanisms,) and thus produce the calendering effect upon the paper, or other material, more rapidly and perfectly, and thereby avoiding the shake or jar of the building usually produced by the reciprocating machines now in use.

I believe I have thus shown the nature, construction, and advantage of this invention, so as to enable others skilled in the art to make and use the same therefrom.

What I claim, therefore, and desire to secure by Letters Patent, is—

1. The rotary arms or cylinder *d*, secured upon the shaft *d'*, having the calender-rolls *x* arranged thereon, in combination with the cylinder-formation *b* and plate *b'*, substantially as set forth.

2. The feed-rollers *h h*, constructed as described, and for the purpose set forth.

3. An elastic or rubber pad, $g^2$, in combination with the rotary arms or cylinder *d*, substantially as and for the purpose set forth.

H. E. ROGERS. [L. S.]

Witnesses:

N. C. WILDER,

JEREMY W. BLISS.