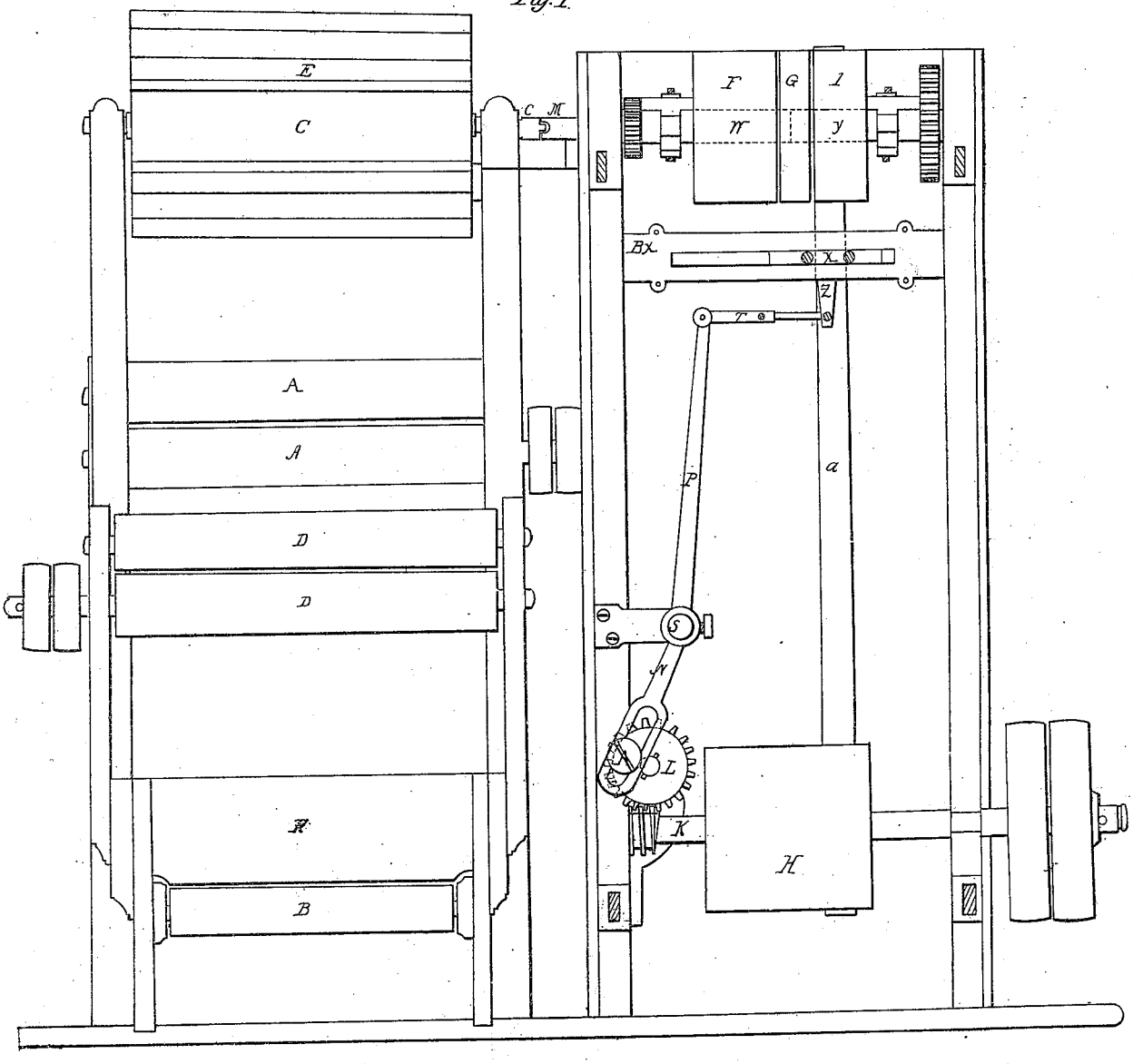
G. I. Prentiss. Sheet 1. 2 Sheets.

Calico Printing.

No. 4445. Patented Apr. 4. 1846.

Fig. 1.



G. I. Prentiss. Sheet 2. 2 Sheets.

Calico Printing.

No. 4445. Patented Apr 4. 1846.

Fig. 2.

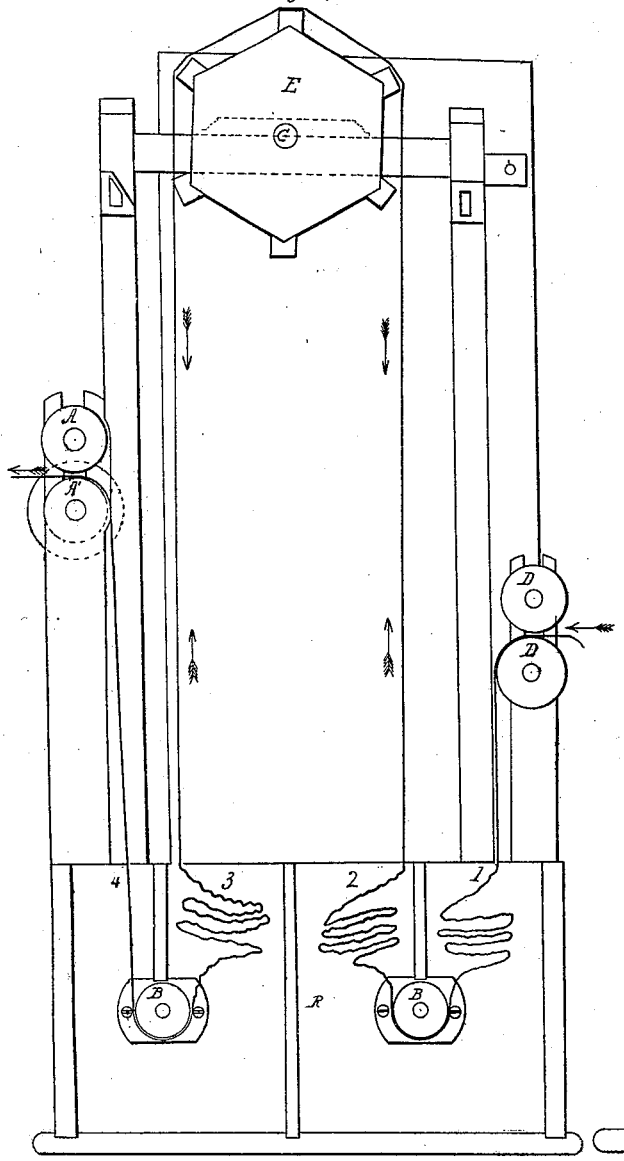
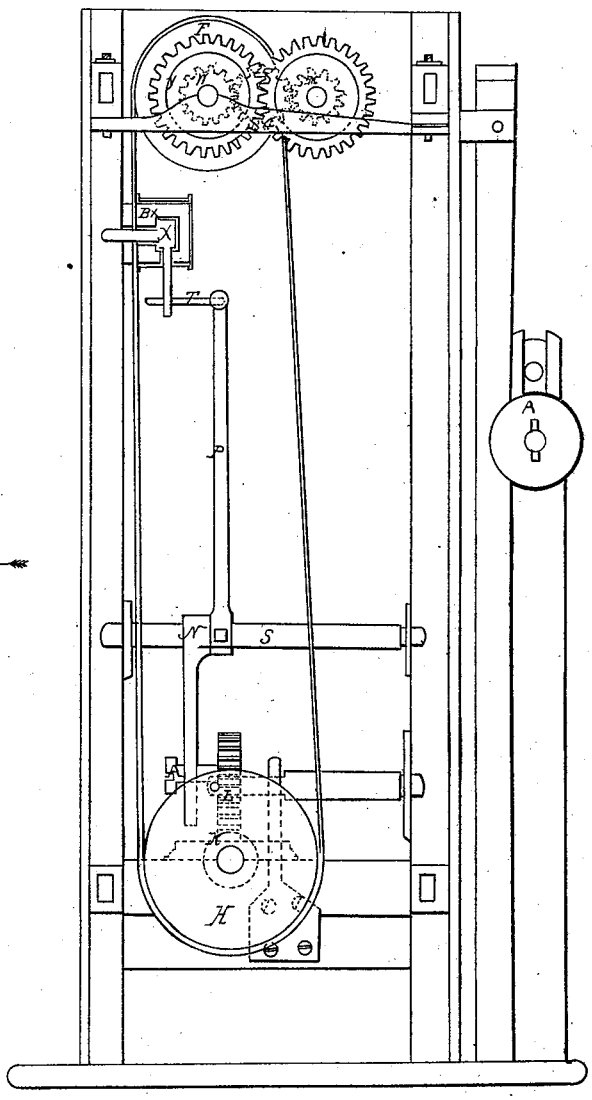



Fig. 3.



# UNITED STATES PATENT OFFICE.

GEORGE J. PRENTISS, OF TIVERTON, RHODE ISLAND.

## MACHINERY FOR RINSING CALICO, &c.

Specification of Letters Patent No. 4,445, dated April 4, 1846; Antedated October 4, 1845.

*To all whom it may concern:*

Be it known that I, GEORGE J. PRENTISS, of Tiverton, in the county of Newport, in the State of Rhode Island, have invented an improved machine for washing and rinsing cloth in the process of calico-printing and of bleaching and dyeing or in any other like act; and I do hereby declare that the following is a full and exact description thereof.

The nature of my said invention consists in the application to the washing and rinsing of cloth, of a motion which is produced by the machine of which a drawing is hereto annexed.

Figure 1 represents a front view of the machine and Figs. 2 and 3 vertical sections of the same.

On the shaft K, to which the power is applied is fixed a drum H, communicating by means of the belt *a* with three other drums, F G and I, of unequal widths, two of which are fixed on the shaft W and Y, respectively, and the other, the middle one, turns loosely on a projection of one or both of these shafts. The belt *a* traverses by means of the guide X, which is a bar of iron with two round iron pins inserted in it—this bar is in a square iron box which is bolted on to two of the upright posts which support the drums. The box is marked Box, the posts are marked Posts. In the underside of the box is an opening which permits the arm Z to project which is connected to the bar of iron—the opening is of sufficient length to permit the arm Z to traverse back and forward and move the iron bar in which the pins are inserted, in the front side of the box is an opening out of which the iron pins project and bear upon the sides of the band *a* and move it upon the drums F, G and I. Connected to the arm Z is another arm T, which is connected to the upright lever P, which is moved by the shaft S, to which it is connected. The shaft S receives its motion from the cogwheel L into which there is a stud A, which moves in an opening in the lever N. And consequently gives motion to the shaft S, the cogwheel L is turned by the worm wheel in the shaft K, into which it plays. And thus while the cogwheel L makes a revolution the shafts W and Y move alternately. On the end of the shaft W, is a cogwheel which plays into another of the same size, which latter plays into a third of the same size fastened to the shaft M as represented in Fig. 3, which is parallel to the shafts W and Y. On the end of the shaft Y is a cogwheel of double the size of that on the end of the shaft W, and which plays into another cogwheel of the same size with itself on the other end of the shaft M. Consequently, while the belt *a* is traversing the drum I, the shaft M turns in an opposite direction from that of the shaft Y, and while it is traversing the drum F, the shaft M turns in the same direction with that of the shaft Y, and while it is traversing the drum G, which is a carrier of the belt *a* from F, to I and I to F, by which the drums F and I vary in width and consequently the shaft M makes more revolutions one way than it does the other, the shaft M is attached to another shaft C on the same line with itself to which and to the drum E it communicates its alternate motion. The drum E is hexagonal and at its angle are projections as seen in Fig. 2, at the bottom of Fig. 2 is represented the water chest R, divided into four apartments 1, 2, 3, 4. The cloth represented by the red lines enters between the two rollers D, and D, passes into the first apartment under the roller B, into the second, then over the drum E down into the third, then under the roller B into the fourth and is divided through the rollers A and A. The process of washing and rinsing is performed in the different apartments of the water chest R, by means of the motion given to the water and cloth by the alternate motion and rapid speed of the drum E which on account of its revolving more times one way than the other carries the cloth forward to be delivered through the rollers A and A at the same time that it performs the operation of washing and rinsing. This alternate motion of the drum E may be varied indefinitely by varying the length of the arm T connected with the belt guide X.

Having thus fully explained the nature of my improvement, what I claim as new and desire Letters Patent for is—

The alternation given to the hexagonal drum, or rest E, by shifting the band *a* by the guide X, which in combination with the

above described machinery reverses the motion of the cloth in the water chest raising and lowering it many times with a rapid motion until it is sufficiently rinsed and then delivering it by the rollers A, A, in a continuous line as it was received through the rollers D, D, my claim resting upon the alternation of the cloth in and out of the water by which it is more expeditiously and cheaply rinsed.

Tiverton March 13 1846.

GEO. J. PRENTISS.

Witnesses:
M. H. RUGGLES,
ALFRED B. MOWRY.