(No Model.) 2 Sheets—Sheet 1.

F. J. CROWLEY.

MACHINE FOR DRYING CALICO.

No. 266,104. Patented Oct. 17, 1882.

Fig. 1.

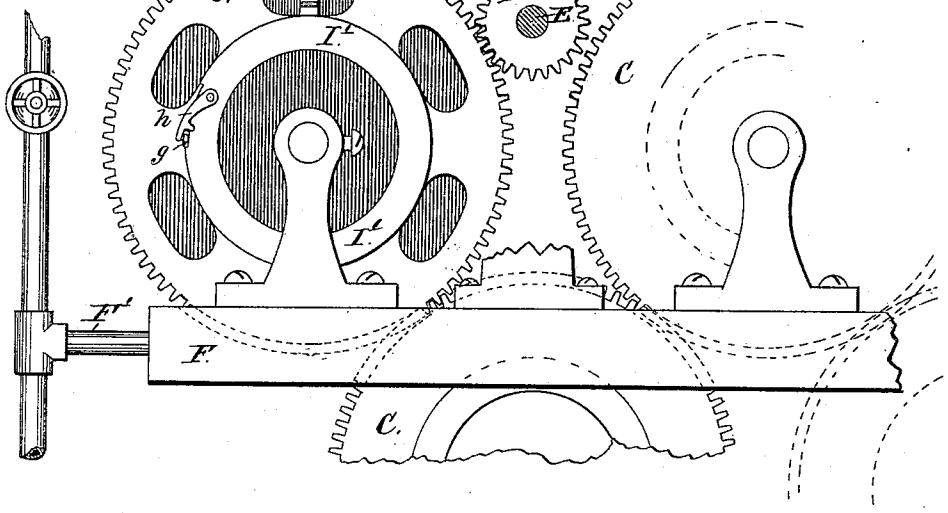
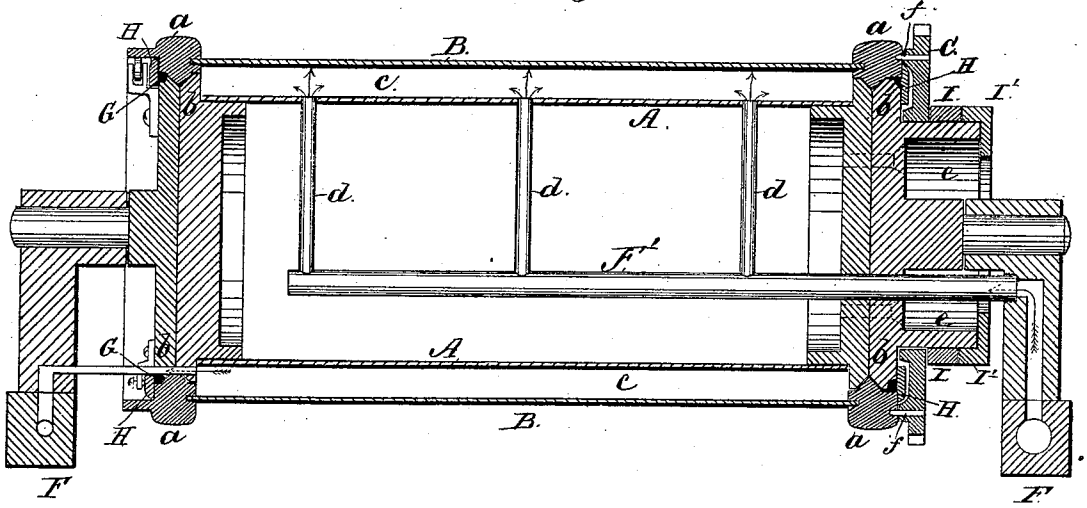


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

F. J. CROWLEY.

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Fig. 3.

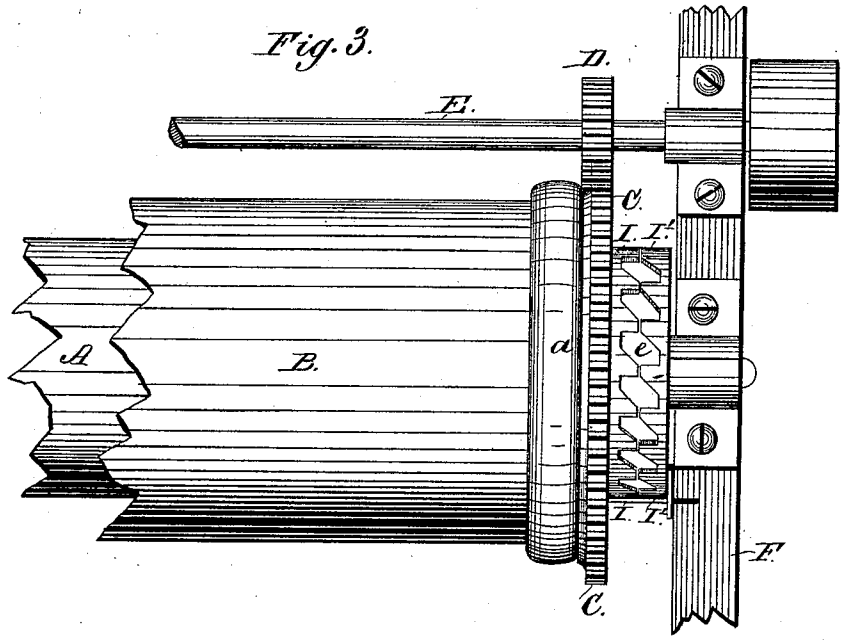


Fig. 4.

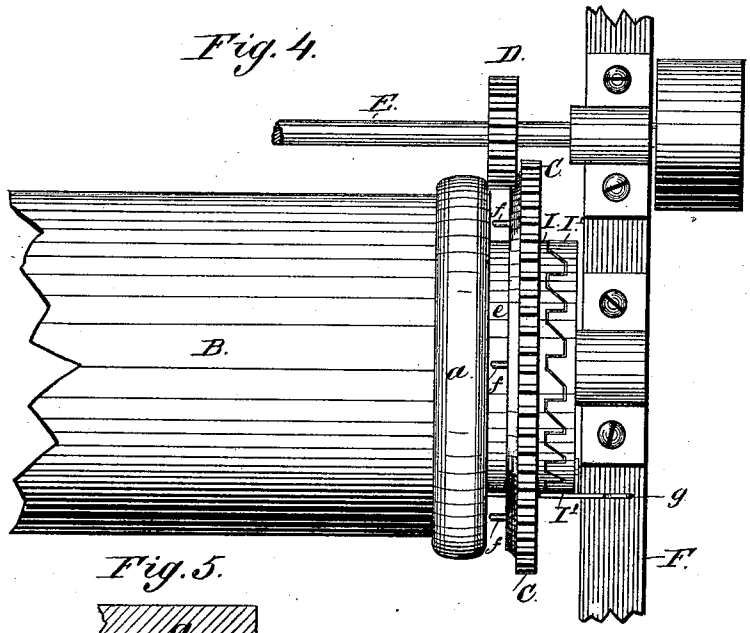
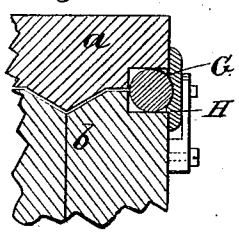


Fig. 5.



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UNITED STATES PATENT OFFICE.

FRANCIS J. CROWLEY, OF GLOUCESTER CITY, NEW JERSEY.

MACHINE FOR DRYING CALICO.

SPECIFICATION forming part of Letters Patent No. 266,104, dated October 17, 1882.

Application filed November 15, 1881. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS JAMES CROWLEY, of Gloucester City, in the county of Camden and State of New Jersey, have invented a new and Improved Machine for Drying Calico; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to a novel construction and combination of parts, as hereinafter described, for preventing escape of steam through the joints of the concentric drying-cylinders, and for facilitating the removal of the calico from the outer cylinder, when required, as hereinafter described.

I will now proceed to describe the construction and arrangement of parts whereby I attain these results, reference being had to accompanying drawings, in which—

Figure 1 is a side elevation, showing a complete view of one end of a drying-cylinder and portions of others that are geared with it, also a part of the frame-work of the apparatus. Fig. 2 is a longitudinal section of my improved cylinder. Figs. 3 and 4 are plan views of one end of such cylinder and connected parts, showing the two different positions of the gearing. Fig. 5 is a detail enlarged section of a portion of one of the cylinders, showing, however, a slightly-modified construction and arrangement.

I employ a series of hollow drying-cylinders, A B, preferably four in number, as shown in Fig. 1, and each is provided with a gear, C, through which the required rotation is imparted from the pinion D on counter-shaft E. The body of each cylinder is formed of two hollow concentric cylinders, the inner one, A, being stationary and the outer or inclosing one, B, being adapted to rotate around it. The solid heads of the inner stationary cylinder, A, are supported in a frame, F, and the revolving part B has its bearings on the peripheries of such heads or ends of said inner cylinder—that is to say, the outer cylinder, B, has annular rims *a*, on whose inner sides are formed circumferential ribs, that fit in grooves in the rims *b* of cylinder A. Steam is conducted through pipe F′ and discharged from radial branch pipes *d* into the annular space between the cylinders A B, and to pack the joint, and thereby prevent escape of steam, a cotton-roll, G, is applied in an annular cavity on the outer side, as shown in Figs. 2 and 5. This roll is held tightly in place by an annular metal plate, H, Fig. 5, that is secured by suitable clamping-plates. The right-hand head of the stationary cylinder A has an annular flange, *e*, cast solid with it, the same being of about half the diameter of the cylinder. On this flange are placed a loose gear-wheel, C, a movable crown-wheel, I, and stationary crown-wheel I′. The movable crown-wheel I is placed between the gear C and wheel I′. The teeth of the respective wheels I I′ are truncated and abut each other, by which the gear C is held in close contact with the rim of the revolving cylinder B, and is locked thereto by lateral pins *f*, so that both B and C normally revolve together. The movable crown-wheel I is locked to cylinder A by a pivoted catch or pawl, *h*, which engages with a laterally-projecting handle, *g*, that serves to move said wheel circumferentially on the flange *e*. It will be noted that the teeth of the respective crown-wheels are straight on one side and inclined on the other, so that they will either interlock or slide on each other, according to the direction in which the wheel I is moved circumferentially.

The operation is as follows: The inner cylinder, A, and crown-wheels I I′ do not revolve, but the gear C and outer cylinder revolve together when locked by pins *f*. By detaching the pawl *h* and shifting the wheel I circumferentially by means of handle *g* its teeth may enter the interdental spaces of the wheel I′, which permits lateral adjustment of the gear C, so that its pins *f* are withdrawn from the cylinder B and the latter left free to be rotated independently. These parts may be restored to the former position by pulling on the handle *g* in the reverse direction, whereby the inclined sides of the teeth of the crown-wheels will slide on each other and the movable wheel I be forced inward, which in turn crowds the gear C inward and into re-engagement with the cylinder B. The object of the release of the outer cylinder, B, from gear C, as described, is to allow the cloth to be conveniently unwound or drawn off from it—an operation which not unfrequently becomes necessary, owing to the cloth breaking or becoming lapped around the cylinder.

What I claim as new is—

1. The combination of the roll of elastic packing and annular plate pressing thereon with the fixed and revolving cylinders having a joint, as specified.

2. The combination, with the fixed and revolving cylinder, of the movable wheel I and fixed wheel I′, having teeth adapted to mesh or interlock, as specified, the gear provided with locking pins and mounted loose on the annular flange of the fixed cylinder, as shown and described, for the purpose specified.

FRANCIS JAMES CROWLEY.

Witnesses:
MICHL. CAVANAGH,
JOHN BEASTON.