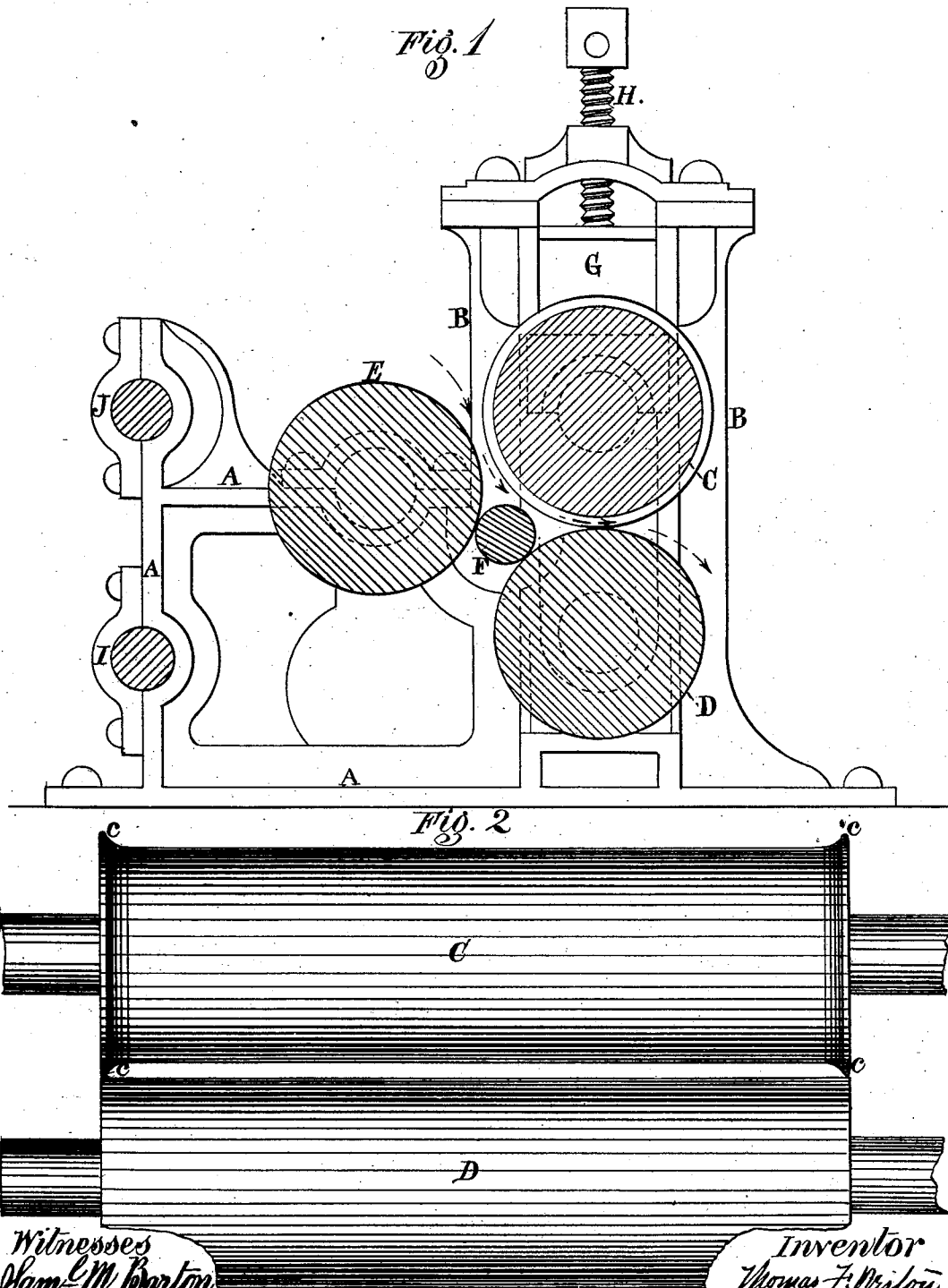


T. F. WESTON.

Machines for Pressing Tan for Fuel.

No. 155,211.

Patented Sept. 22, 1874.



Witnesses
Sam. M. Barton
Chas. Feltow Ridgway,

Inventor
Thomas F. Weston
by his atty,
Samuel D. Wright.

UNITED STATES PATENT OFFICE.

THOMAS F. WESTON, OF SALEM, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR PRESSING TAN FOR FUEL.

Specification forming part of Letters Patent No. **155,211**, dated September 22, 1871; application filed June 29, 1874.

To all whom it may concern:

Be it known that I, THOMAS F. WESTON, of Salem, in the county of Essex and State of Massachusetts, have invented certain Improvements in Machines for Pressing Tan, &c., of which the following is a specification:

Figure 1 of the accompanying drawing is a central vertical longitudinal section of a tan-pressing machine with my improvements applied. Fig. 2 is a front view of the forward rollers of the same.

The present invention relates to certain new and useful improvements in machines for expressing liquid from tan or other material or matter; and has for its principal object the providing of a simple and effective means to prevent the escape of the tan or other material between the rollers as it is fed along, and at the same time to expedite its passage and assist in its pressure. To effect these ends my invention consists of a supplementary smaller roller located in a machine supplied with suitable gearing, or other rotating mechanism operated by steam or other motive power, between and rotated in the same direction and at the same peripheral proportion of speed with the feed and delivery rollers of the machine, so as to receive the tan or other material from between the feed and pressure rollers, and carry it along in a sheet form against the pressure-roller, between which and the delivery-roller it is pressed and discharged from the machine comparatively free of liquid, and in a condition suitable for burning. These improvements consist, further, in forming the ends of the pressure-roller with a lip to prevent the passage of the liquid, as will be duly explained.

In the drawings, A represents the frame of a machine, having on each side a forward, upright, slotted, or open standard, B, provided with suitable boxes, or otherwise arranged to receive and allow the rotation of the axles or ends of an upper pressure-roller, C, and an under delivery-roller, D, provided with suitable gearing or other mechanism for rotating them in contrary directions with each other. Provided with suitable gearing, or otherwise arranged to rotate in the same direction with the delivery-roller D, is a feed-roller, E, whose

ends or axles turn in boxes connected with the sides of, or otherwise arranged to turn on, the machine. The roller E is located at a sufficient distance in the rear of and below the forward pressure-roller C to leave a sufficient space to receive the tan or other material, and at a sufficient distance from the upper rear portion of the delivery-roller to admit snugly between, so as to rotate in the same direction with it and the delivery-roller D, a supplementary smaller roller, F, between which roller F and the pressure-roller C is left a sufficient space for the passage of the tan or other material. The space between the feed and delivery rollers being filled by the supplementary roller F prevents the falling through of the tan or other material, which is assisted in its passage and pressed against the pressure-roller C by the rotation of the roller F, which is arranged to turn in the machine, and is provided with a gear-wheel meshing with the gearing operating the feed-roller E, or otherwise provided with suitable mechanism for rotating it in the same direction with the said roller E. The gearing or other operating mechanism may be arranged to be actuated by steam or other motive power. The pressure-roller C is arranged to have a vertical movement in the standards B, regulated by rubber or other suitable springs G, adjusted by screws H turning in the heads of the standards B; or the pressure-roller C may be otherwise arranged, as desired, to have a yielding bearing or movement, or to be adjusted to admit of its operation on different thickness of material or matter. Any or all of the rollers may be corrugated or plain on the periphery, as desired. I is a driving-shaft, and J a shaft carrying gear-wheels meshing with suitable gearing, operating the several rollers to carry the same in the direction required.

The gearing and driving-wheels are not shown in the drawings, as any arrangement of well-known mechanism may be adopted for rotating the several rollers, as desired.

The pressure-roller C is formed at each end with a lip, c, curving up from the periphery of the roller to the rim of the lip, as shown, to close the space between the rollers C and D at the ends, and compress the tan or other mate-

rial at the corners of the roller, so as to fill up the same and prevent the passage of liquid at these points, which passage is otherwise often apt to occur, owing to the tan not properly filling in at the ends of, as it feeds to, the roller.

The operation of my invention is as follows: Power being applied to revolve the rollers, the tan or other material is deposited at the top between the pressure-roller C and feed-roller E, and carried between them, forming a sheet, which is taken by the supplementary roller F, and carried along and against the pressure-roller C, which presses it upon the feed-roller E, between which rollers it is passed and delivered from the machine through a hopper, or into a receptacle, or as desired, comparatively freed of liquid, the supplementary roller F, turning snugly between the rollers E D, preventing the passage of the tan or other material between the said rollers, and assisting in its passage and pressure, and the lipped formation of the roller ends *c* preventing the back passage of the liquid, as will be readily seen by the above description and on examination of the drawings without further explanation.

The liquid expressed from the tan flows downward between the small roller F and rollers E D into a suitable receptacle, the narrow space between said rollers allowing the passage of the liquid, but not of the tan.

Having thus described my improvements, what I claim as my invention, and desire to have secured to me by Letters Patent, is—

1. In a tan-pressing machine, the combination of rollers E C D and the intermediate guiding-roller F, substantially as and for the purpose set forth.

2. In a tan-pressing-machine, the combination of roller D, of uniform diameter from end to end, and the flanged or lipped roller C, having its flanges or lips impinging upon the periphery of roller D, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS F. WESTON.

Witnesses:

CARROLL D. WRIGHT,
SAML. M. BARTON.