(No Model.)

2 Sheets—Sheet 1.

J. D. O'DANIEL.

COTTON PRESS.

No. 298,226. Patented May 6, 1884.

Fig. 1.

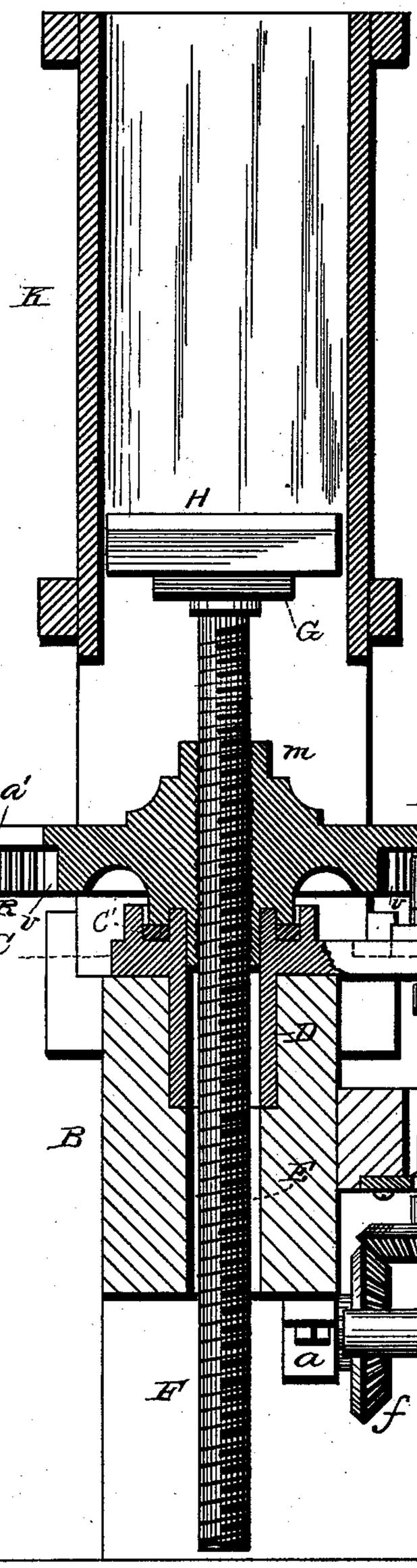
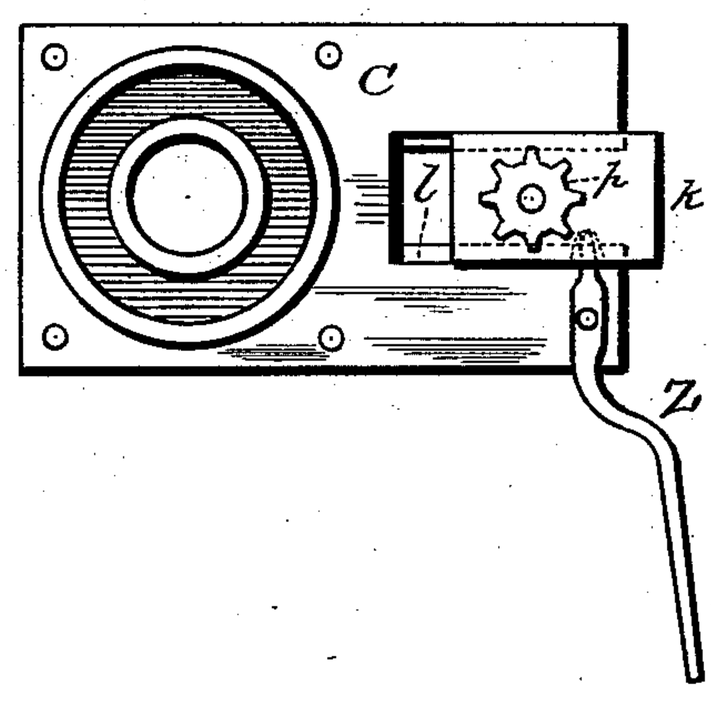


Fig. 3.



WITNESSES—

E. H. Bates.

John T. Morrow.

INVENTOR—

J. D. O'Daniel

by Anderson & Smith

his ATTORNEYS—

(No Model.) 2 Sheets—Sheet 2.

J. D. O'DANIEL.

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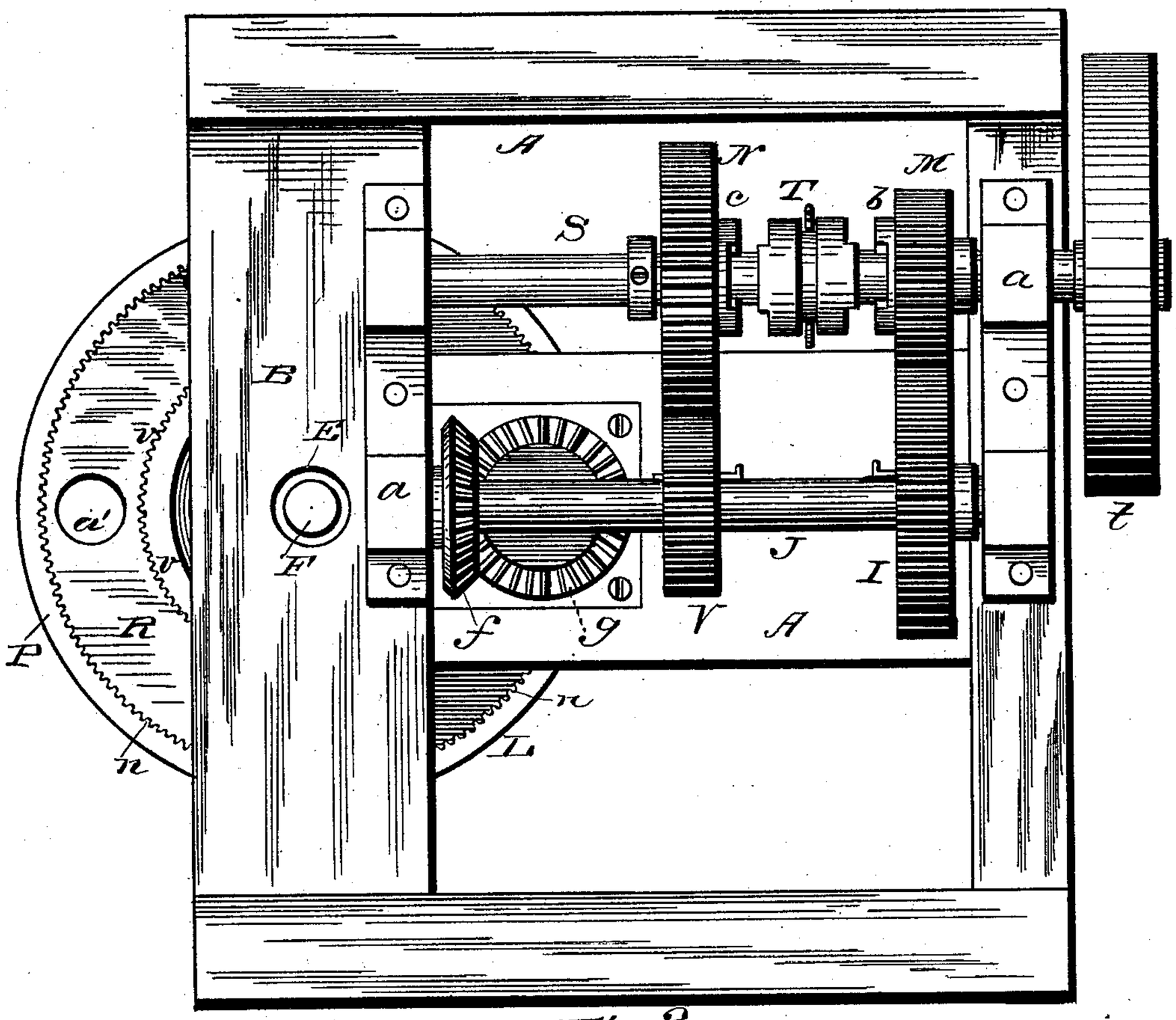

Fig. 2.

WITNESSES
E. H. Bates,
John T. Morrow.

INVENTOR
J. D. O'Daniel
by Acomp'd Smith.
his ATTORNEYS

UNITED STATES PATENT OFFICE.

JOSIAH DIAL O'DANIEL, OF FLATONIA, TEXAS.

COTTON-PRESS.

SPECIFICATION forming part of Letters Patent No. 298,226, dated May 6, 1884.

Application filed February 19, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH D. O'DANIEL, a citizen of the United States, residing at Flatonia, in the county of Fayette and State of Texas, have invented certain new and useful Improvements in Cotton-Presses; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a vertical sectional view of my device. Fig. 2 is a bottom or under side view of the same, and Fig. 3 is a detail view.

This invention has relation to steam-power cotton-presses; and it consists in the construction and novel arrangement of devices, as hereinafter set forth, and pointed out in the appended claim.

The object of this invention is to provide a powerful screw-press, of simple and durable construction, which can be run with advantage by steam or other power.

In the accompanying drawings, the letter A designates the frame-work, consisting of strong timbers firmly bolted together.

Upon an elevated portion, B, of the framing, which is supported by foundation-sills, is secured a bearing-plate, C, having a vertical cylindrical bearing, D, which is let into the framing, through which is formed, continuous therewith, a passage or way, E, extending vertically downward. Through this bearing and way works the elevating-screw F, to the upper end of which is keyed a stout plate, G, to which the follower H is secured. A steel washer, C′, is located in the bearing-plate C.

K represents the press-box, which is built in the upper portion of the framing, in position to allow the follower to work upward therein.

Upon the screw is applied a large crown-wheel, L, the hub *m* of which is threaded to engage the screw. This wheel is formed with two series of teeth, the outer series, *n*, being formed on the inside of the downwardly-extending marginal flange P, and the inner series, *v*, upon the outer face of a central shoulder or enlargement around the hub portion. The inner series of teeth and the outer series face each other on opposite sides of a circular interspace or channel in the bottom of the wheel, as shown at R.

S indicates the main driving-shaft, which is provided with a large band-pulley, *t*, said shaft being seated in suitable bearings, *a*, in the framing. Upon this shaft is loosely seated a cog-wheel, M, having a clutch-face, *b*, and at a short distance therefrom is connected to said shaft a cog-wheel, N, of larger diameter, also provided with a clutch-face, as at *c*. The cog-wheel N is designed to turn loosely on the shaft, but is prevented from moving longitudinally thereon by means of an annular groove in the shaft and a pin in the hub of the wheel engaging said groove, or by any other common device for the purpose. Between these cog-wheels is the shifting clutch-collar T, which is operated to engage the clutch-face of either wheel, according to the requirement of the work.

Parallel to the main shaft S is a counter-shaft, J, carrying the cog-wheels I and V, rigidly keyed thereto. The cog-wheel I is of larger diameter than the cog-wheel V, and is designed to engage the smaller cog-wheel, M, of the main shaft. The cog-wheel V engages the large loose cog-wheel N of the main shaft. The clutch-collar T is formed with an interior groove, *d*, to engage a strong spline, *e*, of the main shaft, and when said collar is shifted to engage the larger loose wheel N of the main shaft speed is secured, the counter-shaft being revolved more rapidly than when it is run by locking the smaller loose wheel M on the main shaft. In the latter case power is secured. Near the end of the counter-shaft it is provided with a bevel-wheel, *f*, which engages a bevel-wheel, *g*, at the lower end of a vertical shaft, *s*, which extends upward through a rocking bearing, *x*, in the framing, and through a slide, *k*, which works in a groove or channel-way, *l*, of the large bearing-plate C. This vertical shaft *s* carries at its upper end a strong vertical pinion, *p*, which may be shifted by moving the slide *k* into engagement with the outer series, *n*, of teeth formed on the inside of the flange of the crown-wheel, or into engagement with the inner series, *v*, formed on the shoulder near the hub. The slide is moved by means of a lever, Z. When the pinion is

in engagement with the outer series of teeth of the large wheel, L, the operation of the gearing causes it to turn, revolving the crown-wheel, and by the thread in the hub of the latter raising the main screw F and the follower in the press-box. By simply shifting the slide *k*, causing the pinion to engage the inner series of teeth, *v*, of the crown-wheel, the latter is caused to turn in the reverse direction, operating to effect the descent of the main screw and the follower attached thereto.

Apertures *a'* may be made in the body of the crown-wheel to permit the removal of the pinion when injured or broken.

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

In a cotton-press, the combination, with a main follower-screw, and a crown-wheel engaging the same and having two series of teeth, of a pinion, *p*, its shaft, operating slide and lever, and rocking bearing, the main shaft carrying loose cog-wheels of different diameter having clutch-faces, the shifting-clutch, and the counter-shaft, carrying rigid cog-wheels of different diameter, and a bevel-wheel engaging the bevel-wheel at the lower end of the pinion-shaft, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOSIAH DIAL O'DANIEL.

Witnesses:

C. E. LANE,

JOHN LATTIMER.