(Model.)

C. H. H. FRENCH.

HAY PRESS.

No. 371,932. Patented Oct. 25, 1887.

Fig. 1.

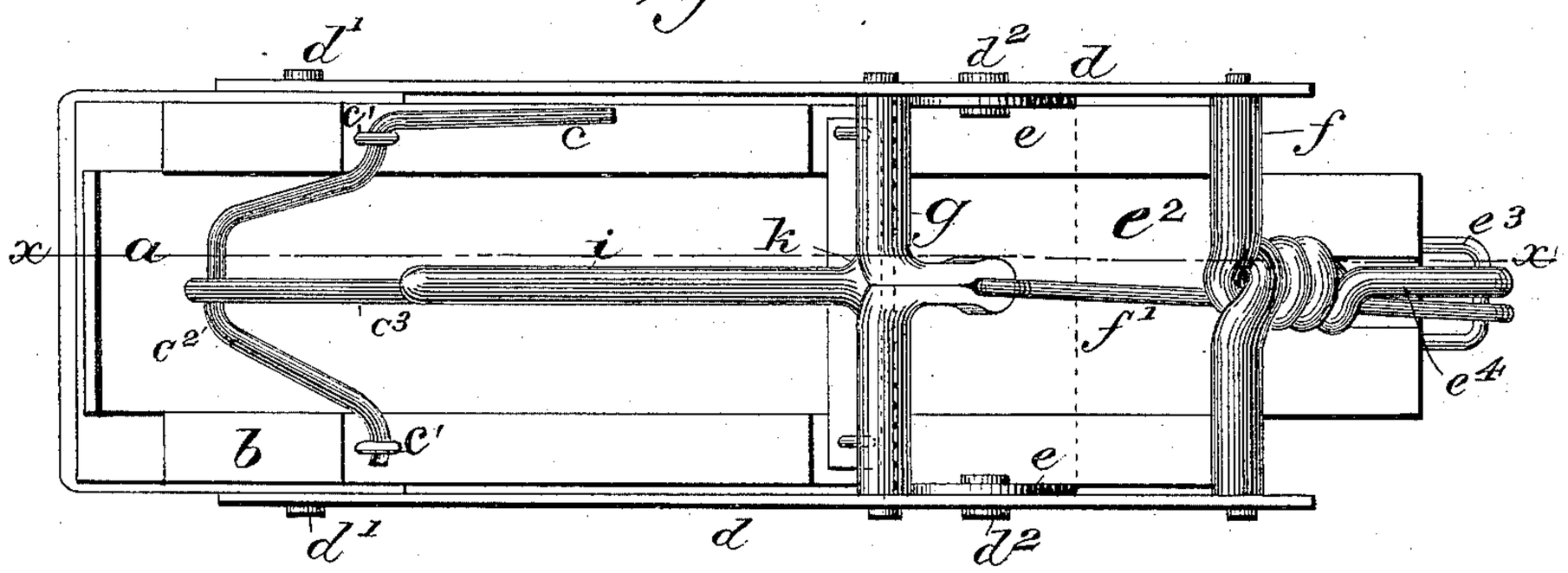
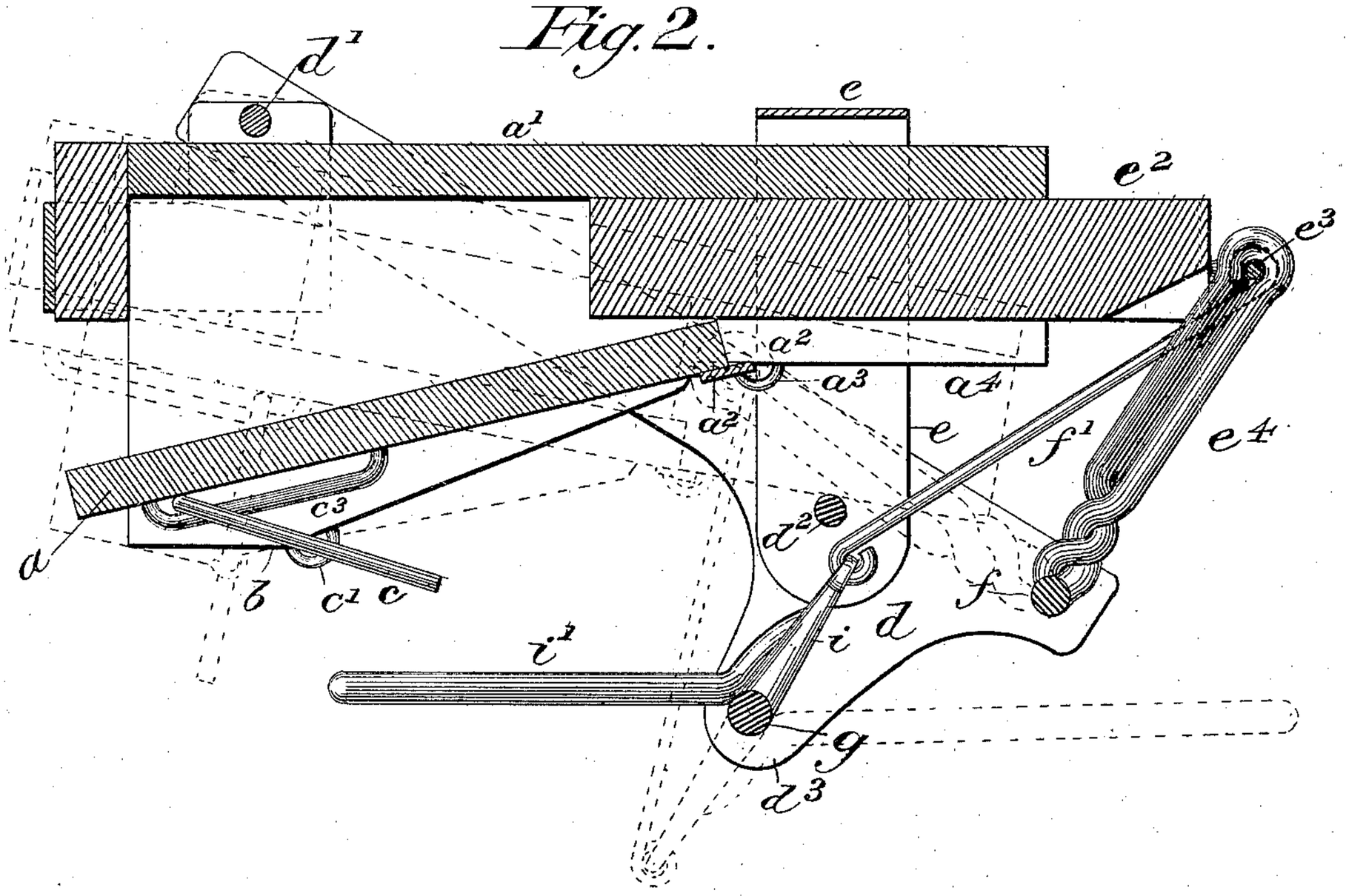


Fig. 2.



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CHARLES H. H. FRENCH, OF HOLLISTER, CALIFORNIA.

HAY-PRESS.

SPECIFICATION forming part of Letters Patent No. 371,932, dated October 25, 1887.

Application filed December 27, 1886. Serial No. 222,712. (Model.)

To all whom it may concern:

Be it known that I, CHARLES H. H. FRENCH, a citizen of the United States, residing at Hollister, in the county of San Benito and State of California, have invented certain new and useful Improvements in Hay-Presses, of which the following is a description.

My invention relates to hay-presses, and the purpose thereof is to increase the power of the press mechanism and to render the same as simple and easy of operation as possible. It is also my purpose to simplify and improve the construction of the press-box, and to promote the ease with which the hay is inserted and removed.

The invention consists in the several novel features of construction and new combinations of parts hereinafter fully set forth and definitely pointed out in the claims which follow this specification.

In the drawings accompanying this application, Figure 1 is a view of the press laid upon its side, and Fig. 2 is a horizontal section of Fig. 1 on the line X X.

The reference-letter *a* denotes the cover or lid of the press-box, which is hinged to the box proper, *a'*, by means of a plate, a^2, which engages with eyes or staples a^3 driven into the sides a^4. From the point at which this hinge is located the side pieces rise as they extend toward the front end of the press, until at the point *b* they are some distance above the top of the box. Upon these side pieces, a^4, is mounted a lever, *c*, turning in staples *c'*, a crank, c^2, forming part of said lever and engaging with a keeper or loop, c^3, on the cover *a*. By swinging the lever *c* the cover may be raised and lowered, as shown in Fig. 2.

The letter *d* denotes a pair of inclined plates resting at one end upon the floor or other support and supported at the other end by a vertical U-shaped frame, *e*, to which the plates *d* are attached by rivets d^2. The press-box *a'* is arranged within the frame *e* and between the plates *d*, its forward end being supported upon a pivot-shaft, *d'*, passing through the ends of the plates *d*.

Within the press-box is arranged the plunger e^2, having an eye, e^3, in its rear end, to which is connected an arm, e^4, swinging from a shaft, *f*, in the elevated ends of the plates *d*. Connected to the eye e^3 is a pitman, *f'*, the other end of which is attached to the short arm *i* of a bell-crank lever, *i'*, said lever having its fulcrum upon a shaft, *g*, journaled in extensions d^3 of the plates *d*. When the plunger e^2 is retracted, as shown in Fig. 2, the press-box is swung upon the pivot *d'* until its bottom approaches the central or connecting portion of the frame *e*. The cover may then be opened and the material to be pressed placed in the box *a'*. The cover being then closed the lever *i'* is swung toward the rear, raising the end of the press-box and driving the plunger forward. As the movement continues the arm e^4 comes into or nearly into a straight line with the plunger, while the short arm *i* of the bell-crank approaches a right angle to the line in which the power is applied through the plunger, as shown by dotted lines in Fig. 2. It will be seen that under this arrangement the plunger e^2 and the arm e^4 practically constitute an elbow-joint or toggle-lever, and that as the arm *i* of the bell-crank lever *i'* approaches its limit of movement its power rapidly increases, the toggle action of the plunger and arm e^4 having its greatest power at the same time.

The press normally stands upon the U-shaped frame-piece *e*, the lid *a* being upon top; but for purposes of illustration it is shown in the figures of the drawing as laid upon its side.

What I claim is—

1. In a hay-press, the combination, with a press-box pivotally mounted at or near one end and a frame supporting the same, of a plunger movable in said box, an arm journaled at one end in the supporting-frame and jointed at the other end to the plunger, and a lever mounted above the said parts and connected by an arm and pitman to the plunger whereby the latter may be raised and lowered, substantially as specified.

2. In a hay-press, the combination, with a pivotally-mounted press-box, and a plunger movable therein, of an arm mounted on a rigid support in rear of said box and plunger and pivoted to the latter, and a bell-crank lever journaled in said rigid support above the end of the plunger and having its short arm connected by a pitman with the plunger, substantially as specified.

3. The combination with the upright and inclined frames *e* and *d*, of a press-box pivotally mounted at one end on the latter frame and having a hinged cover or lid, *a*, a lever, *c*, journaled on the raised sides *b* of the box and having a crank, c^2, and a loop or keeper, c^3, with which the said crank engages, substantially as specified.

4. The combination, with the press-box *a'*, and the supporting-frames *d* and *e*, between which it is pivotally supported near one end, of the plunger e^2, the arm e^4, jointed to it, the pitman *f'*, connected to the said parts at the point where they are jointed, and the bell-crank lever *i'*, to the short arm of which the pitman is connected, substantially as specified.

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