

(No Model.)

C. B. ORTON.

BALING PRESS.

No. 280,325.

Patented June 26, 1883.

Fig. 1.

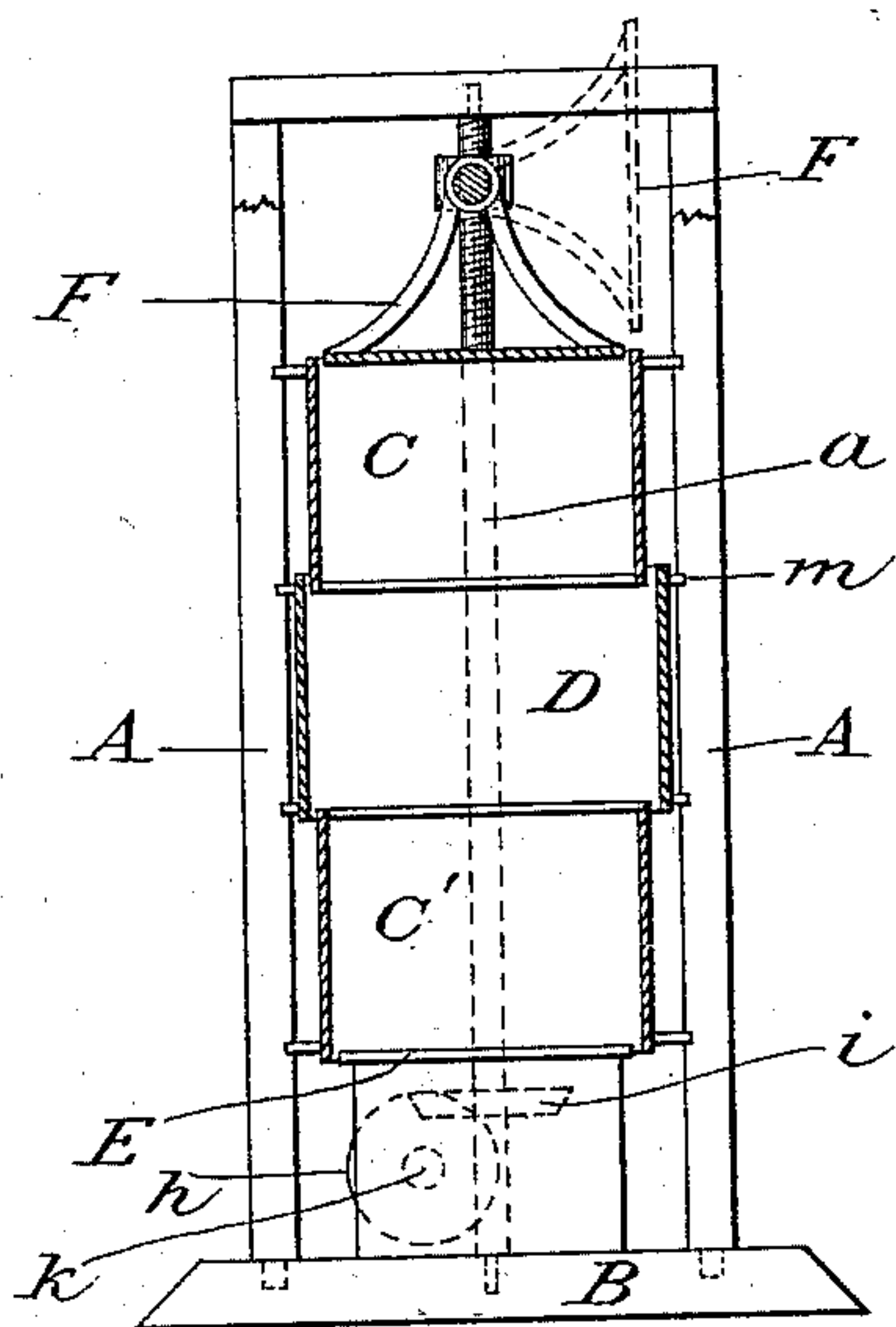


Fig. 2.

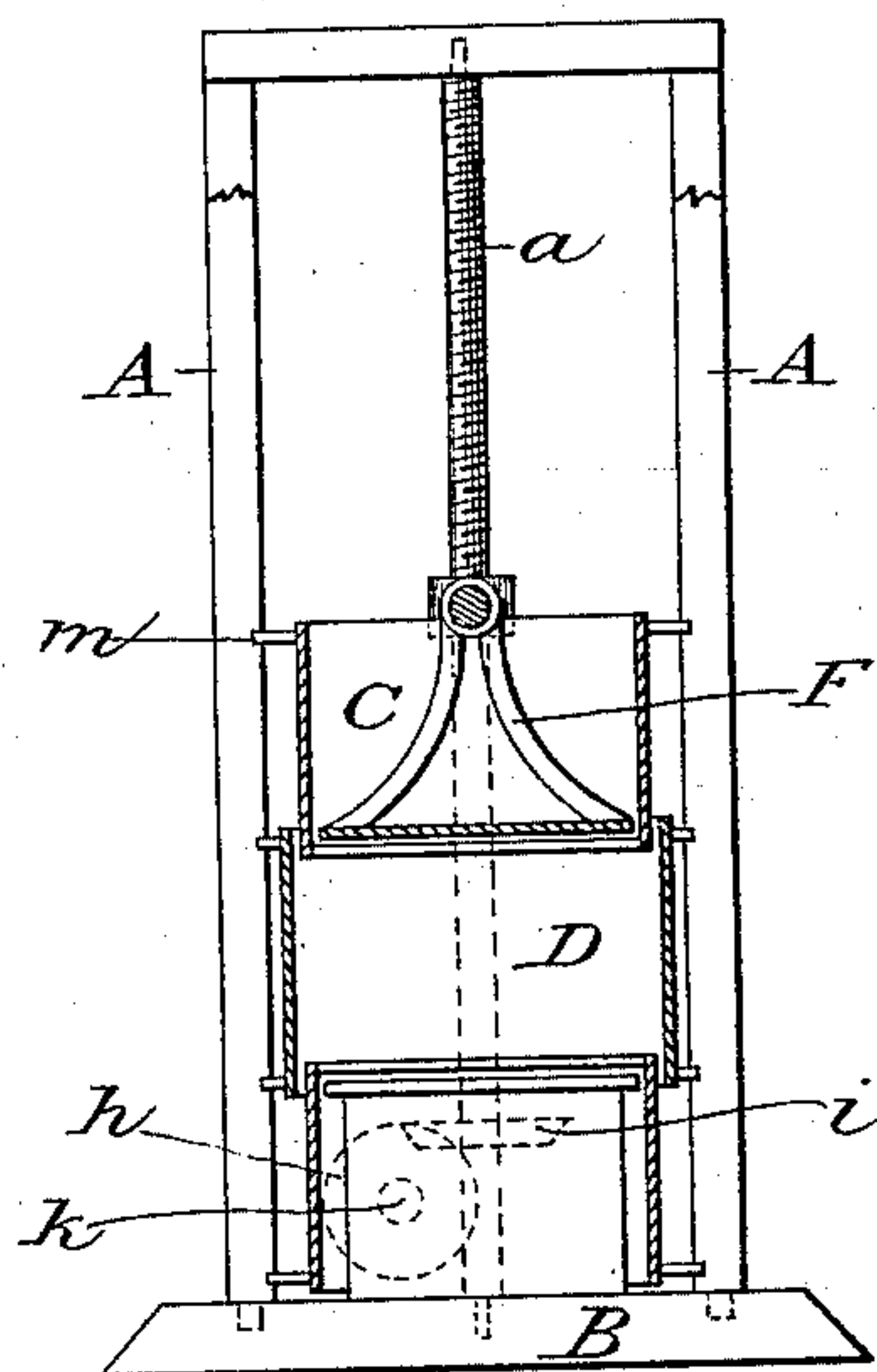


Fig. 3.

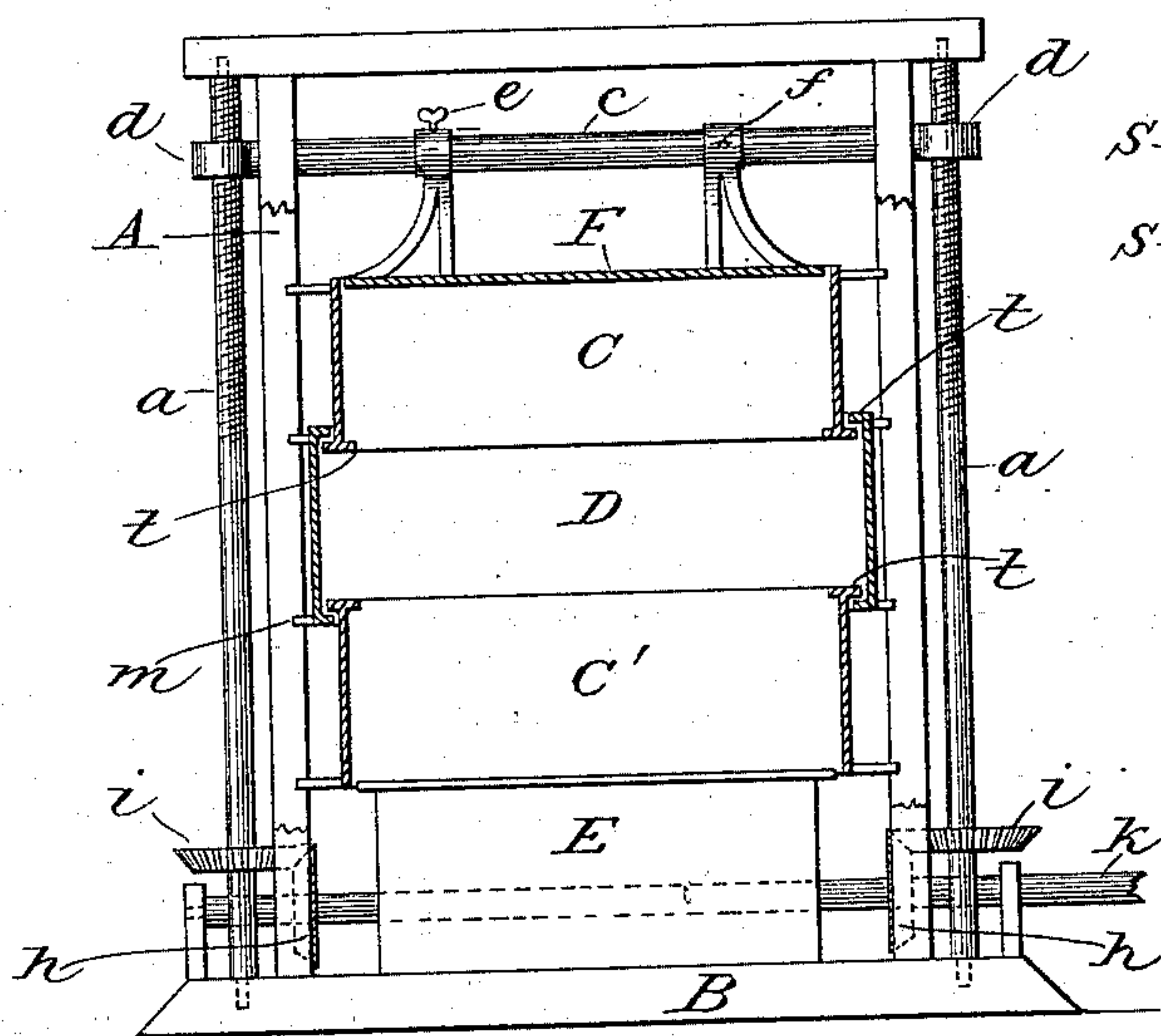


Fig. 4.

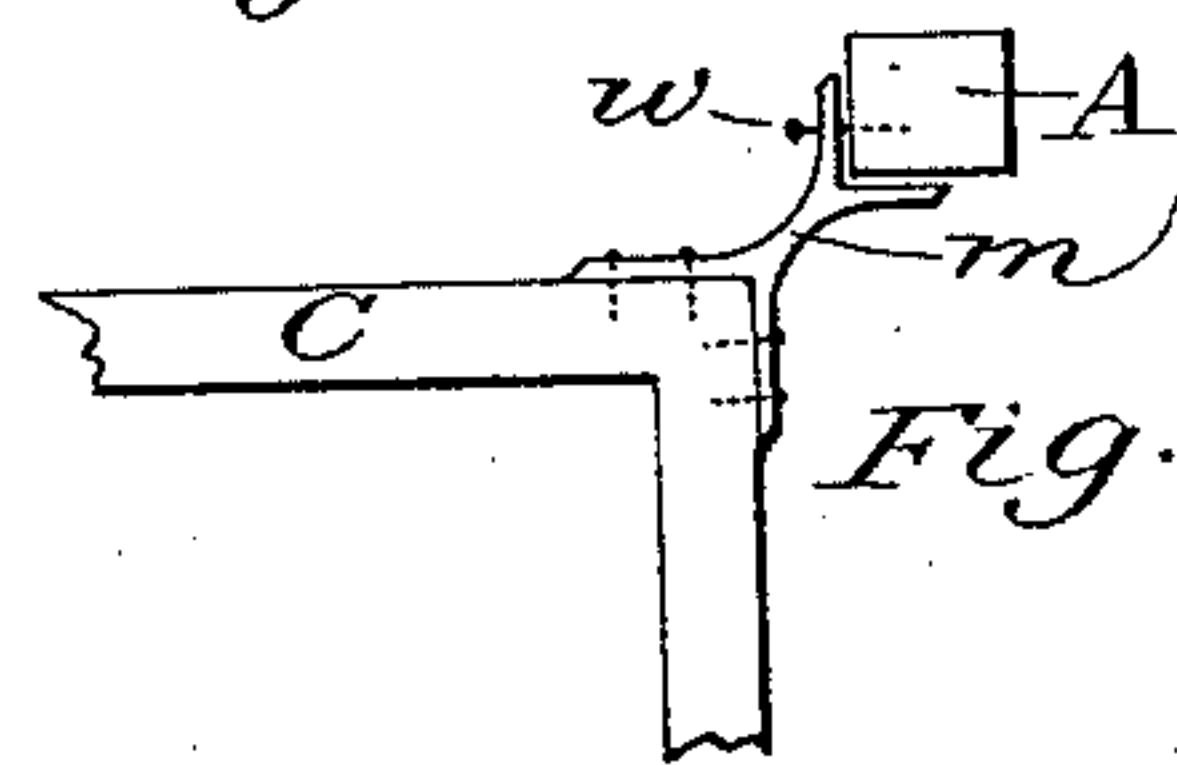
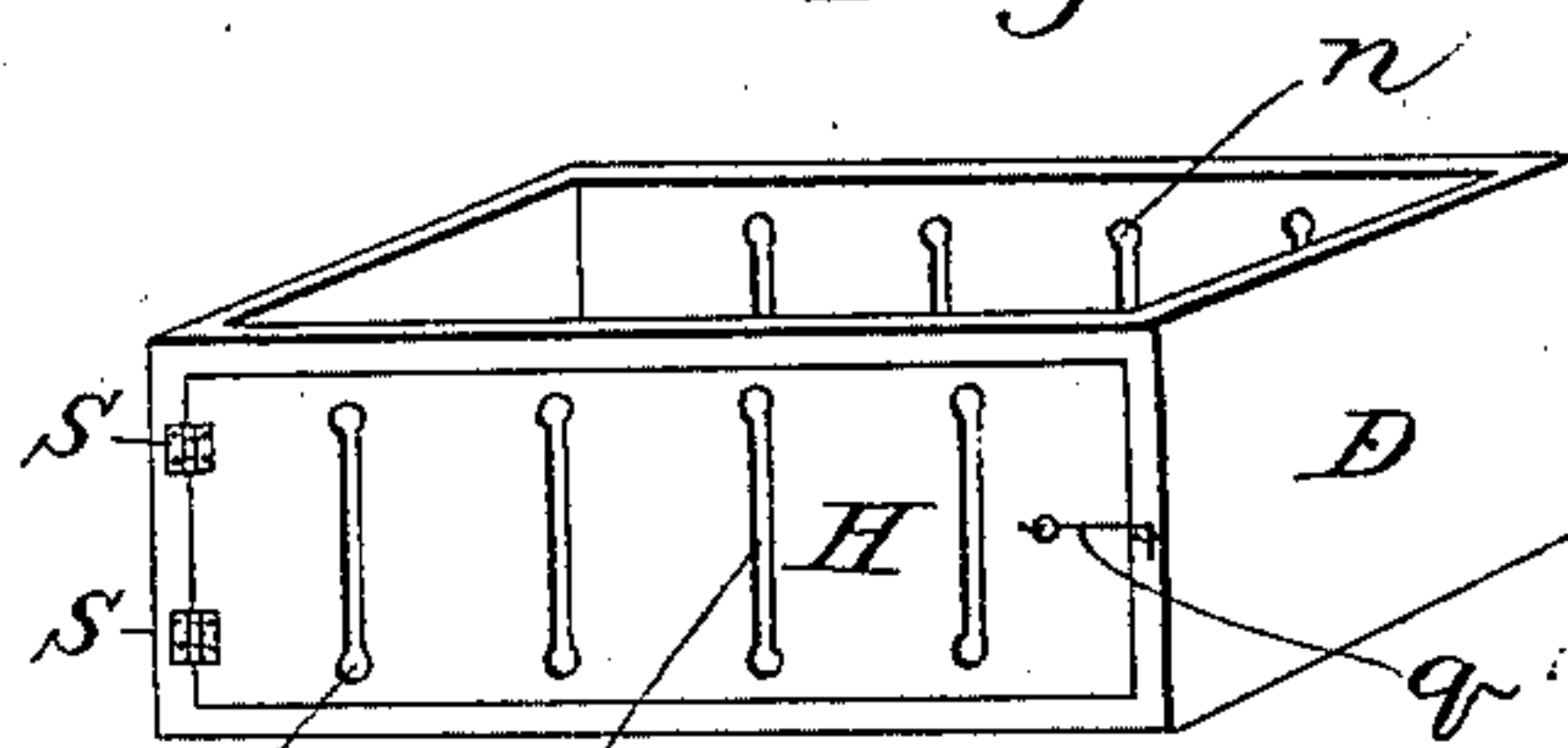
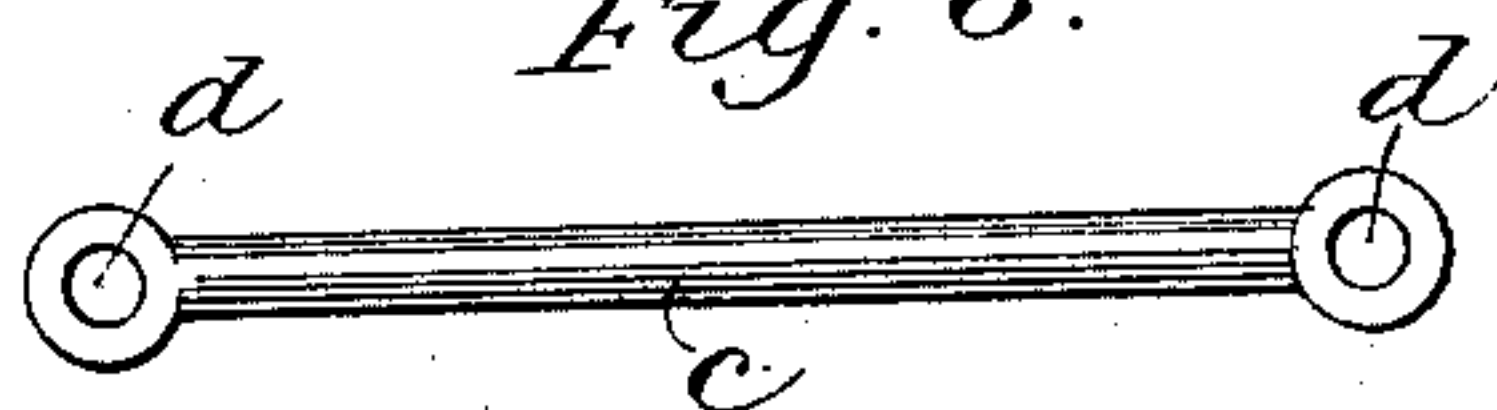


Fig. 5.

Fig. 6.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 280,325, dated June 26, 1883.

Application filed December 8, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, CHESTER B. ORTON, of the city of Lawrenceville, county of Tioga, and State of Pennsylvania, have invented certain new and useful Improvements in Hay-Presses, which improvements are fully set forth and described in the following specification, reference being had to the accompanying drawings.

My improvements relate to that class of presses by means of which hay, straw, or other commodities of a similar nature are compressed in order to facilitate the handling, shipping, and storing of the same. My immediate object is to produce a hay-press which shall be simple in its construction, of great power, strong in all its parts, easily and quickly operated, portable, if so desired, and at a moderate cost of construction.

In the annexed drawings, Figure 1 is an end view in section of my device, showing the press ready for use. Fig. 2 is also a sectional end view, showing the position of the several parts when the act of compressing the bale is completed. Fig. 3 is a side view of the same, and serves to show more fully and clearly the method of applying the necessary power, and also the device which closes the opening in the upper box, and at the same time forces the hay downward in the act of compressing. Fig. 4 is a perspective view of the bale-box of my device, showing the door through which the finished bale is removed. Fig. 5 illustrates my device for supporting the sliding boxes at the corners. Fig. 6 is a view of the cross-bar which connects the two screws, and on which hangs the cap which closes the opening in the upper sliding box.

The cases or boxes which contain the material to be pressed are constructed and operated on the general principle of a telescope—that is to say, they slide into each other. These cases are preferably three in number; but the number may be varied as circumstances or judgment may direct. These cases are supported at their corners by metal guides slid-

ing against four strong pillars of wood, said pillars being rigidly fastened to a solid base and forming the frame of my press. Assuming that there are three cases, the central one (in which the bale is formed) may, for convenience, be called the "bale-box" and the others "sliding boxes."

Near the top of my device is a cross-bar of round iron, supporting a swinging cap, which cap closes the opening in the upper sliding box and forces the boxes and hay downward in the act of compressing. The iron cross-bar referred to is provided with an eye at each end, both of said eyes being tapped out to engage with upright screw-shafts. These upright screw-shafts are moved by beveled gears on a horizontal shaft at the base of the press, and when set in motion the cross-bar travels downward, carrying with it the swinging cap, sliding boxes, and hay.

Having thus described my device in general terms, I will proceed to describe it in detail, so that any one not specially skilled in this branch of mechanics could readily construct and operate such a press.

In the accompanying drawings, B represents the base of the press, into which are mortised four corner-posts, A.

The boxes C, C', and D are constructed with neither top nor bottom. The central box, D, is the one in which the bale is formed, and is of such size that the sliding boxes C and C' may easily slide inside of it. On the top and bottom of the ends of D are slight flanges projecting inward. On the bottom edge of C and top edge of C' are flanges projecting both outward and inward, the outer flanges on C and C' engaging with the inward-projecting flanges of D, their office being to prevent the several cases from leaving each other when drawn out to their fullest extent. These several flanges may extend across the entire end of the cases, or may be simply small metallic lugs secured to the edges of the cases.

Near the bottom of my device, and fastened rigidly to the base B, is a table, E, of such size



and shape that the case C' may easily slide down over it; but it (E) must nearly fill the case C'. This table E, when the cases are forced downward in the act of compressing a

5 bale, engages with the inner flanges of C', thereby preventing the top edge of C' from passing below the surface of the table E.

At each end of my improved press are arranged upright screw-shafts *a*, having bearings at top and bottom in the frame and base, each of said screws having at a proper point near its lower end a beveled gear, *i*. These gears engage with and are actuated by other similar gears, *h*, on a horizontal shaft, *k*, secured

15 in proper bearings to the base B.

Horse, steam, or other power may be utilized, as most convenient, to operate my device.

Above the sliding case C, and near the top of the press, is a metallic bar, *c*, having at either end an eye, *d*, threaded as above noted, to receive the screw-shafts *a*. When the screws *a* are rotated the bar *c* must, of necessity, travel upward or downward, its speed and power being regulated by the pitch of the

25 screws and size of the gears *h i*.

Swinging on the bar *c* is my device, F, for closing the upper opening in the case C, and also for forcing the hay downward in the act of compressing. This device F is made preferably of cast metal, and consists of a frame supporting a platen or base of the general shape and size of the opening in C. The base of F, when the act of compressing is nearly completed, engages with the inner flanges of

35 the case C. (See Fig. 2.)

When it is desired to fill the press with hay preparatory to compressing a bale, the piece F is swung to one side, as shown in Fig. 1. It (F) may be secured either in this or its normal horizontal position by a set-screw, as

40 shown at *e*, Fig. 3, or by a pin passed through the hole *f*, also shown in Fig. 3.

To prevent the sliding cases from swaying or getting out of line, I have provided at the corners of each case V-shaped metallic bearings, (see *m*, Fig. 5,) which travel on the posts A, thus tending to keep the sliding cases always in line.

After the bale of hay has been compressed into the bale-box D, it becomes necessary to secure it with wire or other suitable binding, and after having bound it to remove it from the bale-box. By referring to Fig. 4 it will be seen that I have provided a door of the

55 length of a perfect bale and a little wider, through which the bale is removed. This door H may be hinged to the box, as shown at *s s*, Fig. 4, and secured by the bolt *q*, or it may be held in place by a bolt at either end, thereby allowing it to be entirely removed from the box, if so desired. In the door H and in the opposite side of the bale-box I have cut slits *o*, through which to introduce wire for binding. These slits run nearly to the top and

65 bottom of the door, and are enlarged at each

end, (see *n*, Fig. 4,) to allow a light iron rod to pass through, carrying with it one end of the binding-wire.

When the boxes C, C', and D are drawn out to their greatest extent and the piece F swung 70 ] aside to admit the hay, it is evident that the boxes without anything to support them would collapse by their own weight. To prevent such a result I insert strong pins *w* in the corner-posts A, under the V-shaped guides which support the upper sliding box. After the

75 press has been filled and the piece F returned to its place the pins *w* are removed.

To operate my device, raise the boxes, as shown in Fig. 1, insert the pins *w*, and swing 80 the piece F aside, securing it with the set-screw *e*. Then fill all the boxes with the material to be pressed, return F to its place, and remove the pins *w*. Now, having set the shaft *k* in motion, the cross-bar *c* begins to travel 85 downward, taking with it the piece F, the base of which forces the hay before it. When F has forced all the hay out of the box C and reaches the inner flanges of C, it then begins to force the boxes downward, and the box C' 90 begins to slide down over the table E, thus forcing all the hay up into the middle or bale box D. The bale is then wired, as before described, the door H is opened, and the perfect bale removed. The machinery is then re- 95 versed, and the boxes soon assume the positions shown in Fig. 1, when the press is again ready for business.

I claim—

1. In a hay-press, the sliding boxes C, C', 100 and D, having flanges or lugs *t*, as described, in combination with the rigidly-fixed table E, said table E being of such shape and size that the box C' can readily slide down over it, as and for the purpose specified. 105

2. In combination with the sliding boxes C, C', and D, having flanges or lugs *t*, the swinging plate F and cross-bar *c*, said cross-bar being provided at each end with a threaded eye to engage with upright screw-shafts, as de- 110 scribed, and for the purpose specified.

3. In combination with the cross-bar *c*, sliding boxes C, C', and D, and swinging plate F, the set-screw *e*, whereby the plate F may be secured when turned aside, as and for the ob- 115 ject specified.

4. The base B, the pillars A, the sliding boxes C, C', and D, and the V-shaped metallic guides *m*, whereby the sliding boxes are re- 120 tained in line, as described, and for the purpose specified.

5. The combination of the pillars A, the sliding boxes C, C', and D, the V-shaped guides *m*, and the pins *w*, by means of which the sliding boxes are prevented from collapsing, as 125 and for the purpose specified.

6. In a hay-press containing a series of sliding boxes provided with flanges or lugs *t* and V-shaped guides *m*, the combination, with its central or bale box, D, of the door H, whereby 130



the perfect bale may be removed, said door being provided with slits *o* and openings *n*, to facilitate the binding of the bale, as hereinbefore described, and for the object specified.

- 5 7. In a hay-press, the combination of the following parts: the base *B*, the pillars *A*, the horizontal shaft *k*, the upright screw-shafts *a*, the gears *h i*, the cross-bar *c*, the swinging

plate *F*, the fixed table *E*, and the series of sliding boxes *C*, *C'*, and *D*, said boxes being 10 supported at the corners by the guides *m*, as and for the purpose specified.

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Witnesses:

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