

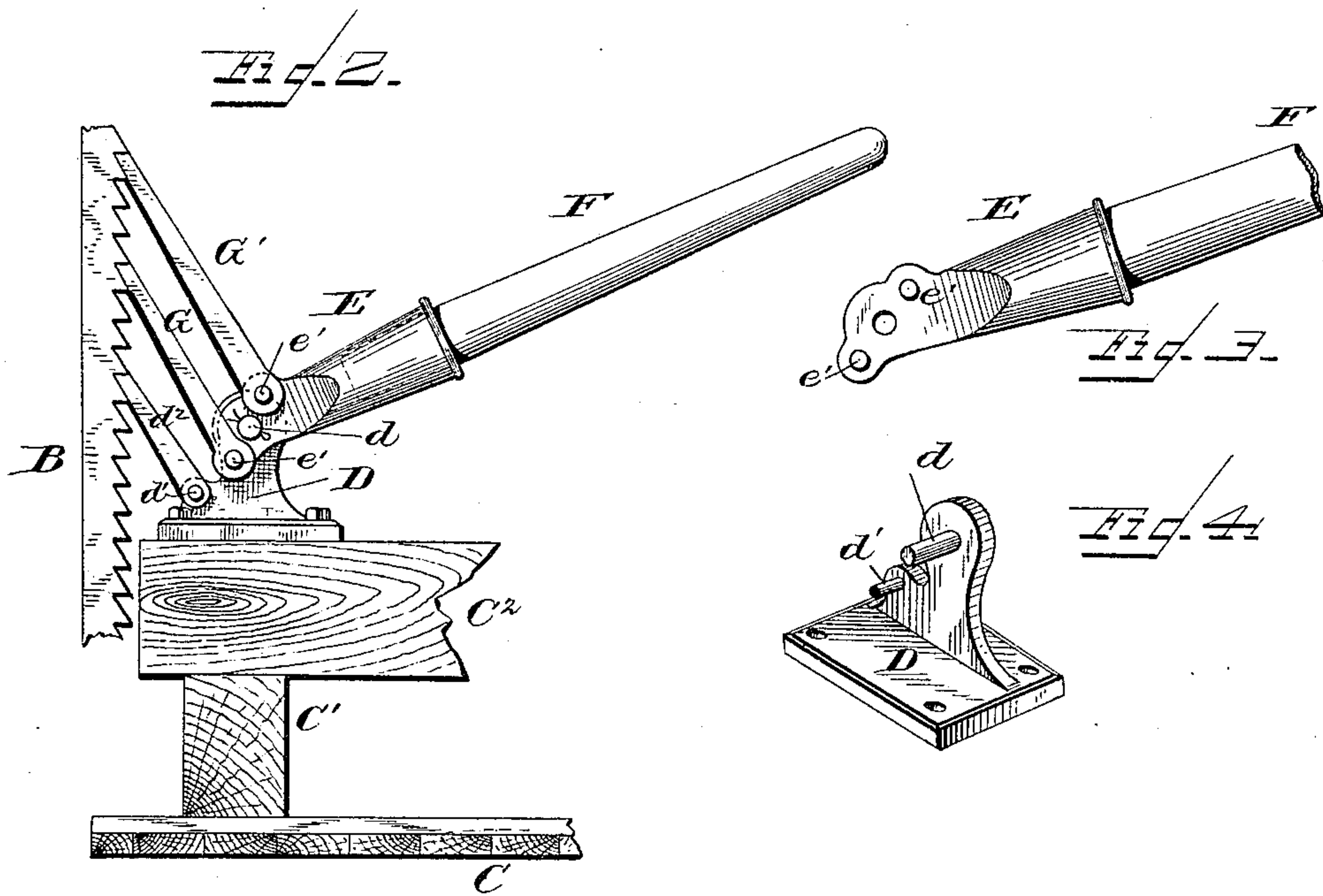
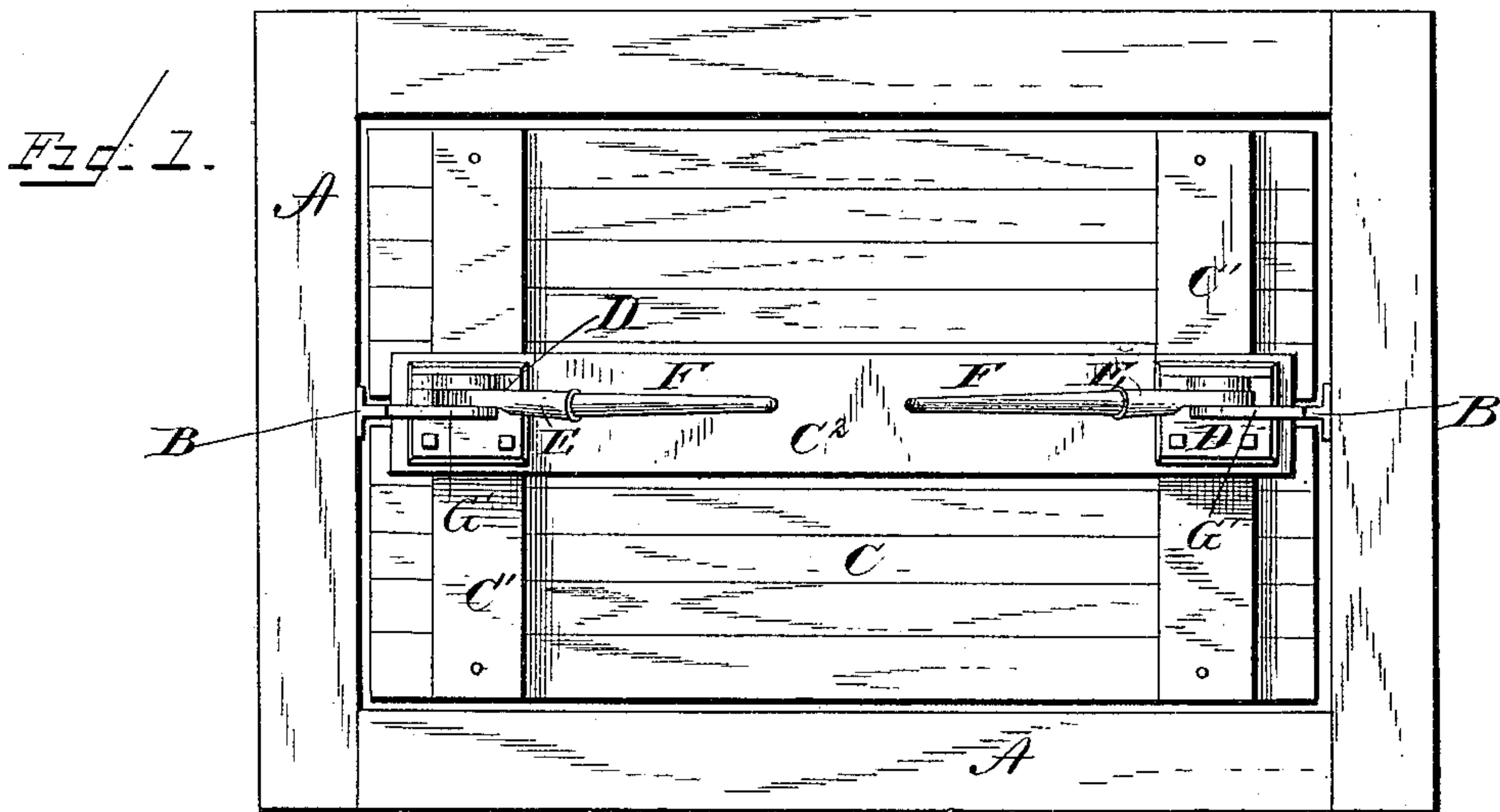
(No Model.)

E. W. ROSS.

SILLO PRESS.

No. 350,845.

Patented Oct. 12, 1886.



WITNESSES

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UNITED STATES PATENT OFFICE.

ELMORE W. ROSS, OF SPRINGFIELD, OHIO.

SILO-PRESS.

SPECIFICATION forming part of Letters Patent No. 350,845, dated October 12, 1886.

Application filed June 11, 1886. Serial No. 204,844. (No model.)

To all whom it may concern:

Be it known that I, ELMORE W. ROSS, of Springfield, county of Clark, and State of Ohio, have invented a new and useful Improvement in Silo or Ensilage Presses, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to an improvement in that class of presses known as "silo-presses," or presses for holding ensilage under compression for excluding the air therefrom, the object of which is to preserve the said ensilage and protect it from decay or fermentation until it is desired to feed the same to the stock.

My invention consists in providing the side walls of the press in which the platen moves with stationary vertical racks, and in the combination, with said racks and the platen, of retaining-pawls and a lever provided with pawls and detachably connected with the upper surface of the platen; also, in certain details of construction, hereinafter specifically pointed out and claimed.

In the accompanying drawings, Figure 1 represents a plan view of a silo-press with my improvements applied; Fig. 2, a side elevation, partly in section, showing the arrangement of the lever and the movable and stationary pawls with relation to the platen and vertical rack; Fig. 3, a detached view, in side elevation, of a part of the lever and lever-socket; and Fig. 4, a perspective view, of the standard, to which the lever is pivoted and stationary pawl is attached.

The object of applying pressure to the ensilage is to exclude the air therefrom, and when this is accomplished sweeter ensilage is produced. When ensilage is first put into the silo, whether corn or grasses are used, and before being thoroughly packed, it begins to heat, and remains in that shape, gradually cooling as the process of forcing out the air takes place. To accomplish this in the best manner, a suitable press-frame work with inclined side walls and a flooring may be built above the ground, or a rectangular hole or recess may be dug in the ground, of any suitable size, according to the amount of ensilage to be packed therein, and the walls of this opening may be lined

with boards, (indicated at A A, Fig. 1.) A flooring of boards is also laid in the bottom of the opening, thus preventing the ensilage from coming in contact with the earth. To the side walls, A A, are now firmly and securely attached two or more racks, B B, as shown in Figs. 1 and 2.

C represents the platen of the press, which may be of any preferred construction, in the present case being composed of two series of boards laid side by side, one series above and at right angles to the other. Upon the upper surface of the platen are stiff cross-bars C' and C'', for further stiffening the platen.

Upon the bar C'', at either end, is secured a standard, D, fastened by bolts or otherwise, and it is provided with short pins or stud-shafts $d d'$, one, d , for the reception of a lever-socket piece or pawl-block, E, and the other, d' , carrying a stationary pawl, d'' , for engaging the rack B.

F represents the lever of the press, adapted to fit easily into the lever-socket piece or pawl-block E, referred to, so that it can be readily attached and detached. Said pawl-block has a perforation, e , by which it is pivoted to standard D, and upon either side of this perforation is a pin or stud-shaft, $e' e'$, for the reception of the pawls G G', which engage the rack B, as shown in Fig. 2. The press having been filled with ensilage, the platen is placed upon the same and depressed until the pawls engage the racks. The lever F then being placed in its socket E, it is vibrated down and up. By this act when the lever is depressed it actuates pawl G in an upward direction; but as such pawl cannot rise, on account of its engagement with the stationary rack B, the platen will be depressed. Again, when said lever is lifted, it actuates pawl G', also in an upward direction, and said pawl acts in the same manner as pawl G to depress platen C. Thus it will be apparent that either the downward or upward vibration of the lever F will act to depress the platen, and when so depressed it is held down by the stationary pawl d'' , which is always in engagement with the rack. When the lever is depressed, the lower pawl will be made to engage the rack B and the upper pawl will drop more rapidly than the lower one rises, from the fact that as the platen is de-

pressed the center upon which the whole device acts is not the pivot upon which the lever operates, but the pivot of the lower pawl. A similar action takes place when the upper pawl engages the rack, so it will be seen that the pivot upon which the lever rests is not the center upon which the pawls act; but with every upward or downward movement the center upon which the lever acts is transferred from the pivot of one pawl to the pivot of the other.

By this construction I am enabled to obtain a greater travel upon the rack with a shorter movement of the lever than can be obtained in any other way. Any number of racks may be employed with a corresponding number of levers and their attendant pawls, &c., and they may be applied to other than ensilage-presses without departing from the invention herein set forth. After the platen has been depressed sufficiently the levers may be removed from their socket-pieces or pawl-blocks, and pawls G G' may be also removed, as pawls d' will hold the platen down without the assistance of the pawls G G'. Only one lever, with its pawls, &c., is necessary to depress the platen, as it may be transferred from one standard to another until all points of the platen are equally depressed.

Having now described my invention, I claim as new—

1. In a silo or ensilage press, the combination, with the platen, of a lever-socket piece or pawl-block pivoted to a standard secured thereto, and having a pawl on either side of the pivot of said socket-piece or pawl-block, a rack secured to the side wall of the press,

and a lever for operating said socket-piece or pawl-block, substantially as described.

2. In a silo or ensilage press, the vertical racks applied to the side walls of the press and provided with teeth on their inner adjacent faces, the platen provided with a lever pivoted thereto inside of the racks, and the pawls pivoted to said lever and adapted to engage said racks, in combination with a retaining-pawl pivoted to the upper face of the platen and adapted to engage the same rack with the pawls on the lever, substantially as described.

3. In a silo or ensilage press, the combination, with the platen, of a lever pivoted to a standard secured to the upper side of the platen, the pawls pivoted to said lever in such manner that one or the other will act to depress the platen when the lever is vibrated in either direction, and the retaining-pawl pivoted to the same standard to which said lever is pivoted, all of said pawls being arranged to operate upon the same rack, substantially as and for the purpose described.

4. In a silo or ensilage press, the combination, with a platen provided with a standard secured to the upper side thereof, and the retaining-pawl pivoted to said standard, of a lever, also pivoted to said standard and provided with the pawls for engaging the rack, substantially as described.

In testimony whereof I have hereunto set my hand this 5th day of June, A. D. 1886.

ELMORE W. ROSS.

Witnesses:

FRANK MULLIGAN,
L. WILBER CRANE.