G. ERTEL.

Cotton and Hay Press.

No. 199,360. Patented Jan. 22, 1878.

Fig 1.

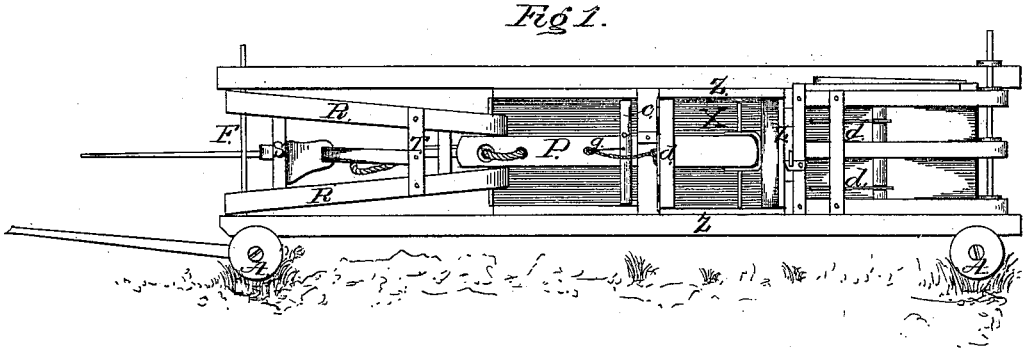


Fig 2.

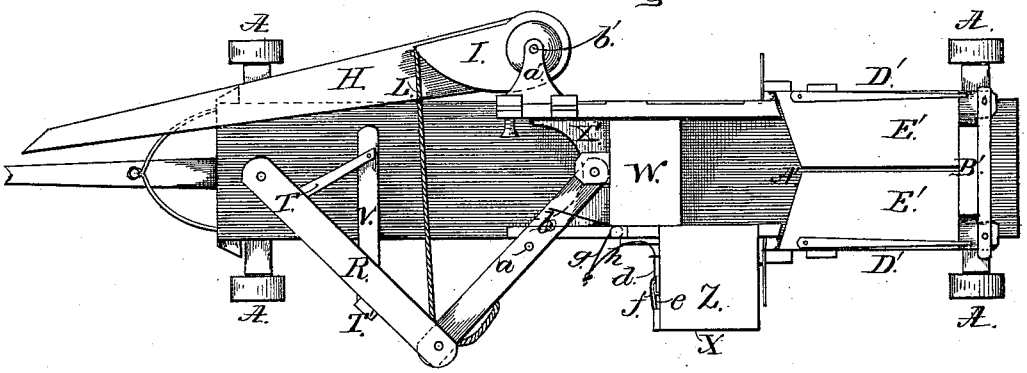


Fig 3.

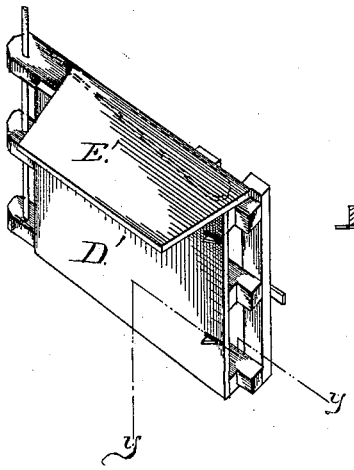
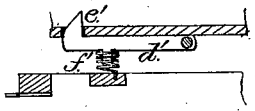


Fig 4.



Witnesses;
J. Walter Fowler,
Chas. P. Gill

Inventor;
George Ertel
By his attys.
Cox and Cox

UNITED STATES PATENT OFFICE.

GEORGE ERTEL, OF QUINCY, ILLINOIS.

IMPROVEMENT IN COTTON AND HAY PRESSES.

Specification forming part of Letters Patent No. **199,360**, dated January 22, 1878; application filed September 12, 1877.

To all whom it may concern:

Be it known that I, GEORGE ERTEL, of Quincy, in the county of Adams and State of Illinois, have invented a new and useful Improvement in Hay-Presses, of which the following is a specification, reference being had to the accompanying drawings.

The invention relates to an improvement in portable hay-presses; and consists in the devices hereinafter specifically described and claimed, the object being to provide a means for effectually pressing and baling hay.

Figure 1 is a side elevation of a device embodying the elements of the invention. Fig. 2 is a top view of the press with its cover removed. Fig. 3 is a detached perspective view of the door D′. Fig. 4 is a detached side elevation of the bar *d′* and its attachments.

In the accompanying drawings, A represents the wheels upon which the press is mounted, and by means of which it can be conveyed to any desired location.

In the front of the machine, between its upper and lower surfaces, is vertically secured the axis F, upon which the forked bars R are mounted, and are connected by the braces S T, having pivoted between their rear ends the front end of the draw-rod P, hereinafter mentioned. The bar V is secured to the brace T and projecting stud T′, and extends forward to one side of the axis F.

Upon the right side of the press, at a point opposite the front end of the draw-rod P and between the lips *a′*, is vertically secured the shaft *b′*, upon which is mounted the sweep H, having upon its upper rear surface the rigidly-secured cam I, which is grooved on its edge to receive the rope or chain L, one end of which is attached to the sweep H, in juxtaposition to the forward end of said groove, the other end of the rope extending inward and being secured to the forward end of the draw-rod P.

The draw-rod P extends rearward a proper distance, and has its rear end centrally pivoted to the front portion of the presser or follower W, which is provided at its upper and lower surfaces with the extensions X′, to insure a smooth, even movement, and on its rear end or platen with grooves, to assist in binding the hay.

At a suitable place upon the upper surface of the draw-rod P is furnished the pin or stud *a*, which comes in contact with the arm *b* of the axle *c* in the operation of the machine, as will be more fully described hereinafter.

Upon the side of the press, at a proper distance from its rear end, is provided an aperture, X, for the reception of hay, which is furnished with guards Z upon its upper, lower, and rear edges, and upon its front edge with the door *d*, which can be opened or closed. The rear guard is hinged, so that it can be partly closed when necessary.

The door *d* is furnished with a latch, which consists of the vertical sliding bar *e* and horizontal oscillating bars *f*, which are pivoted at their rear ends to the door, and beneath which is rigidly secured the bar *e*.

The axle *c* is vertically attached to the frame a proper distance in front of the door *d*, and is provided with radiating arm *g*, to the end of which is fastened one end of the cord or chain *h*; the other end, passing rearward beneath a staple or catch on the door, is secured to the bar *e* at a point below the horizontal plane of said staple, so that the tension of cord *h*, when drawn, will have a tendency to raise the bar *e* and bars *f*, and thereby withdraw the ends of the latter bars from their respective guards in the rear edge of the door-frame, at the same time opening the door. This latch and cord are operated by the pin *a* coming in contact with the arm *b*, secured to the axle *c*, which, as it is caused to turn, either tightens or retracts the tension of the cord, with the result above mentioned.

Immediately in rear of the door the press is supplied with a baling-chamber, A′, which is of ordinary form, and provided on its end piece B′ with grooves, which correspond in size and position to the grooves formed in the platen of the follower W, and may be employed to receive bands or hoops for baling hay.

The chamber A′ is provided on either side with a door, D′, which is of equal length and depth with the chamber, and is hinged at the rear end of same, the front portion being furnished with a catch to retain the door when closed.

The doors D′ form the sides of the baling-chamber, and have secured upon their upper edges the flanges E′, which project inwardly,

and meet at about the longitudinal center of the press. Thus, when closed, the flanges form the roof of chamber A′, in which hay is pressed; and, when opened, the space caused by their withdrawal affords a means of loosening the bale and permitting its escape from the press.

It is obvious that by having a door on each side of the chamber A′ the bale can be very readily ejected, as both doors can be opened and the hay be discharged through one by pressure applied at the other.

For the purpose of giving the doors an outward tension, and enabling them to be more readily opened, they may be provided on their front edges with the pivoted bars *d′*, the forward ends of same being supplied with studs *e′*, which project through the said doors, and are retained in this condition by the springs *f′*, placed opposite the studs on the outer edge of bars *d′*. Thus, in the operation of the machine, the studs *e′* catch in the hay and prevent its return with the follower.

The horse being secured to the sweep H, and caused to move toward the rear of the machine, carries the sweep in that direction, causing it to draw the chain or rope L, rod P, and forward end of forked bars R toward the shaft *b′*, which movement forces the presser or follower rearward against the material in the baling-chamber. A contrary movement of the horse carries the sweep H forward against the outer end of bar V, which is thereby forced outward on the opposite side of the press, and, as it is rigidly secured to the forked bars R, their rear ends have a similar movement, and draw the front end of draw-rod P with them, thereby carrying the follower or presser forward until its platen is opposite the front edge of the door *d*.

Suitable hoops or bands being now inserted in the grooves formed in the end piece B′ and follower W, and the door *d* opened and doors D′ closed, a charge of hay is delivered to the press, when the door *d* is closed and the movement of the tongue or sweep H reversed. This draws the rope or chain L, which conveys the end of the draw-rod P to its former position, and forces the follower rearward, pressing the hay against the end B′. The door *d* is now reopened, and the tongue again moved to the right of the machine. This draws the follower or sweep, as before, and admits the passage of another charge of hay, after which the former operation is repeated.

After a sufficient quantity of hay has been pressed to form the bale, the horse is stopped, with the follower bearing against the hay, and the doors D′ opened, when the ends of the bands or hoops may be secured. This completes the bale, which can be ejected in the manner hereinbefore set forth.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. As a means for baling hay, the sweep H, mounted upon shaft *b′*, and provided with cam I and rope or chain L, in combination with the draw-rod P, forked bars R, and bar V, which is secured by the brace T and stud T′, substantially as specified.

2. A horizontal hay-press, provided on its vertical side with the hinged door *d*, and in rear of this with the doors D′, furnished on their upper edges with flanges E′, in combination with the follower W, draw-rod P, forked bars R, bar V, rope or chain L, and sweep H, substantially as set forth.

In testimony that I claim the foregoing improvement in hay-presses, as above described, I have hereunto set my hand this 24th day of August, 1877.

GEORGE ERTEL.

Witnesses:
RICHARD JANSEN,
J. C. BROADY.