(No Model.) 2 Sheets—Sheet 1.

W. A. LAIDLAW.

DEVICE FOR PRESSING HAY.

No. 347,811. Patented Aug. 24, 1886.

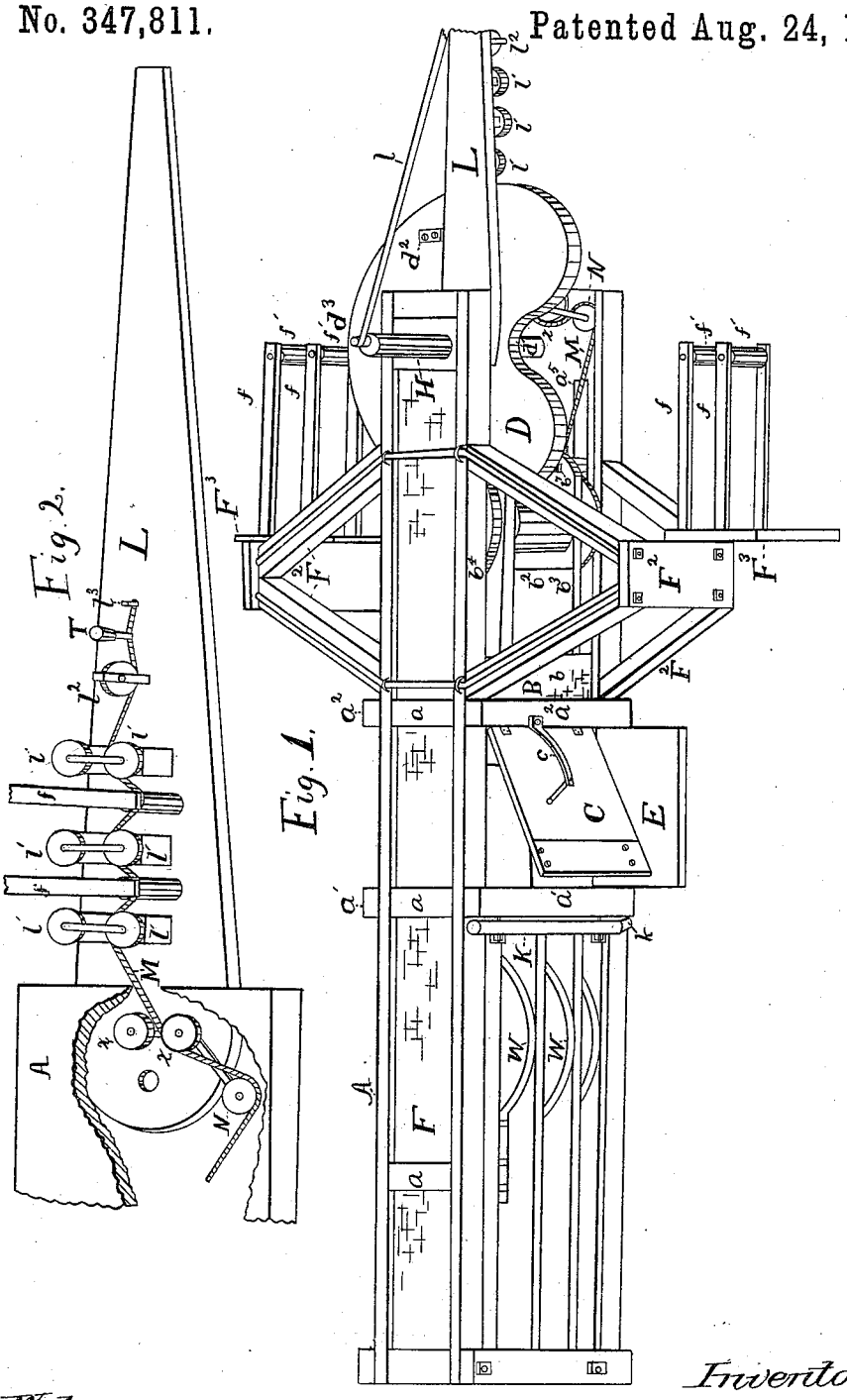

Fig. 1.

Fig. 2.

Witnesses:
Mrs. C. M. Clarke.
Alex. Scott

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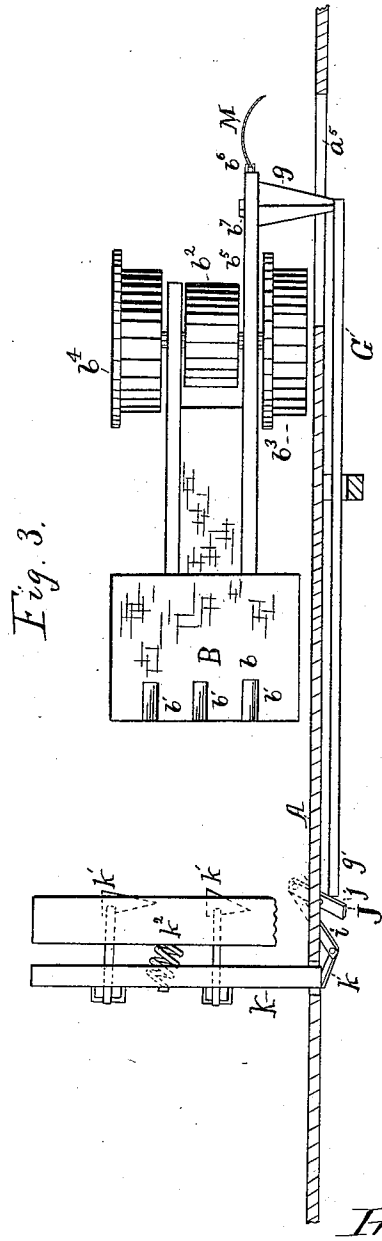

Fig. 3.

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UNITED STATES PATENT OFFICE.

WILLIAM ALVIN LAIDLAW, OF CHEROKEE, KANSAS.

DEVICE FOR PRESSING HAY.

SPECIFICATION forming part of Letters Patent No. 347,811, dated August 24, 1886.

Application filed March 20, 1886. Serial No. 195,890. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM ALVIN LAIDLAW, a citizen of the United States, residing at Cherokee, in the county of Crawford and State of Kansas, have invented certain new and useful Improvements in Devices for Pressing Hay; and I do hereby 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.

My invention relates to improvements in devices for pressing hay, the object of which is to provide a cheap, simple, durable, and convenient device to produce the power necessary to press hay. These objects I attain by means of the device illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a view in elevation of the device. Fig. 2 is a view in detail of the sweep and the pulleys for rope M to work upon. Fig. 3 is a detail view of the follower and lever connection for opening the door C.

Similar letters of reference indicate corresponding parts in the several figures.

A is a frame, made of any suitable material, preferably of wood, and rectangular in form and of any desired size. Said frame is made very strong, and has cross pieces *a* on its top and bottom sides and cross-pieces *a'* a^2 on the other sides. The top and bottom sides are preferably boxed up solid, and one of the other sides, from cross-piece a^2 to cross-piece *a'*, is also boxed. The other side is preferably provided with a door, in order that the hay will slide smoothly through it.

C is a door on the side of frame A, and is provided with suitable hinges, and is hinged to cross-piece a^2. Said door is also provided with a suitable spring, *c*, which is attached at one end to the door C, and at the other to the outer edge of cross-piece a^2, and serves to throw the door open when the catches *k'* are thrown back, as hereinafter more fully described. Frame A is also provided with a suitable press-box, F. A table, E, may be attached to cross-pieces *a'* a^2 below the door C, for the purpose of holding up the hay when feeding the machine.

B is a follower, made of any suitable material, and has a head, *b*. Said head is made so as to slide back and forth easily on the inside of frame A, and it is provided with notches *b'*, for the purpose of receiving the stays W in the sides of frame A, so that when the hay is pushed by these stays by means of the follower they will prevent the hay from coming back with the follower. These stays may be of any shape or number. Follower B is also provided with wheels b^2, b^3, and b^4. Wheels b^3 and b^4 are to prevent too much friction on the sides of frame A when the follower is being driven down to press the hay. These wheels are made to roll easily on the inside of frame A. These wheels are made to work independently of each other. Wheel b^2 is for the purpose of rolling upon the rim or circumference of heart-shaped cam D, to permit the cam to drive the follower easily.

The follower B has a projection, b^5, which is provided with a suitable eye, b^6, for attaching a rope, M, and a hole, b^7, for receiving a bolt for attaching arm *g*. Said arm *g* has attached to its lower end, by any suitable means, a rod, G. Said rod runs parallel with the follower and below it, and is drawn back and forth with the follower by means of arm *g'*, working in groove a^5, and is for the purpose of throwing catches *k'* back, so that door C may be thrown open when the follower has passed it.

Rod J is pivoted to frame A at or near its center, and is attached at its upper end to a rod, *i*. Said connecting-rod *i* is attached to arm *k* of rod K. Said rod K has attached to it catches *k'* and a spiral spring, k^2, for drawing the catches forward to hold the door shut; but when the end *g'* of rod G strikes against end *j* of rod J it draws the arm *k* around, and by so doing it turns rod K, and thus throws the catches *k'* back from the door C, and the door is thrown open by means of spring *c*.

A heart-shaped cam, D, is attached to the front end of frame A by means of a shaft, H, and has suitable bearings upon it. Said cam is for the purpose of driving the follower as it is turned around from right to left, or vice versa, from the point *d'*, which point is nearer the center or shaft than any other point in the circumference. Shoulders or blocks d^2 are placed on the top side of cam D, and near its edge, and are placed directly opposite each other, and are for the sweep L to strike against for turning cam D around when desired.

L is a long sweep, made of any suitable material, and is attached at one end to shaft H, and has suitable bearings upon it and is loose at the other end. Said sweep is for the purpose of moving the cam D around.

l is a rod or support, and is attached at one end to a point near the center of a sweep, L, and at the other to the upper end of shaft H.

Anti-friction rollers l' are attached to the under side of sweep L for the rope M to pass between, and an anti-friction roller, l^2, for the rope to pass over. Said sweep is also provided with an eye, l^3. Rope M is attached at one end to the eye b^6 of the follower, and passes around a pulley, N. Said pulley is for holding the rope off of shaft H. The rope then passes between anti-friction rollers $x\,x$. Said pulleys are attached by any suitable means to the frame A, and are for the purpose of holding the rope in the center of the frame after the rope M has passed the anti-friction rollers $x\,x$. It then passes between rollers l' and over rollers l^2, and is secured at the end to an eye, l^3.

Between pulleys l^2 and eye l^3 a weight, T, is suspended on rope M by any suitable means, and is to hold the rope straight.

F^2 is a suitable frame built out from frame A, and on each side of it, and is attached to it. Said frame F^2 has attached to it a block, F^3. Said block F^3 has suitable arms, $f\,f$, extending out toward the sweep L. Said arms are provided with pulleys or rollers $f'\,f'$. Said arms extend out any desired distance from block F^3, and are for the purpose of striking the rope M between the rollers l' when the sweep is turned around so that it is at right angles with frame A, and the roller b^2 has passed the point d^3, the farthest point in the circumference from the shaft H of the cam D. The follower has then pressed down against the hay as far as it will. It is then drawn back by means of the rope M drawing on it as the rollers $f'\,f'$ strike against the rope and press it back between the rollers l', then drawing on the rope, and by so doing the roller b^2 presses against the rim or circumference of cam D after it has passed the point d^3, then throwing cam D on around so that the block d^2 will strike against the sweep, and it is ready to be filled for pressing down again.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A follower for a hay-press, composed of a head, b, said head having notches b', rollers b^2, b^3, and b^4, an eye, b^6, arm g, with a frame, A, cam D, sweep L, rope M, weight T, shaft H, bar G, retainer W, and press-box F, all combined substantially as and for the purpose set forth.

2. In a hay-press, a sweep, L, having a support, l, anti-friction rollers l' and l^2, and eye l^3, in combination with rope M, weight T, pulleys N, and anti-friction rollers $x\,x$, frame F^2, block F^3, having rollers $f'\,f'$, with cam D, follower B, frame A, and press-box F, all substantially as and for the purpose set forth.

3. The combination of a frame, A, having a door, C, having a spring, c, and follower B, with a bar, G, having arms g, lever J, connecting-rod i, a rod, K, said rod having catches k', arm k, and spring k^2, substantially as and for the purpose set forth.

4. A heart-shaped cam having shoulders d^2 d^2, and shaft H, in combination with a sweep, L, follower B, frame A, and rope M, substantially as and for the purpose set forth.

5. The combination of a heart-shaped cam, D, sweep L, follower B, rope M, rod G, lever J, connecting-rod i and arm k, rod K, frame A, having a door, C, and spring c, substantially as shown and described.

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

WILLIAM ALVIN LAIDLAW.

Witnesses:

S. C. HASELTINE,

JOSEPH WILLS.