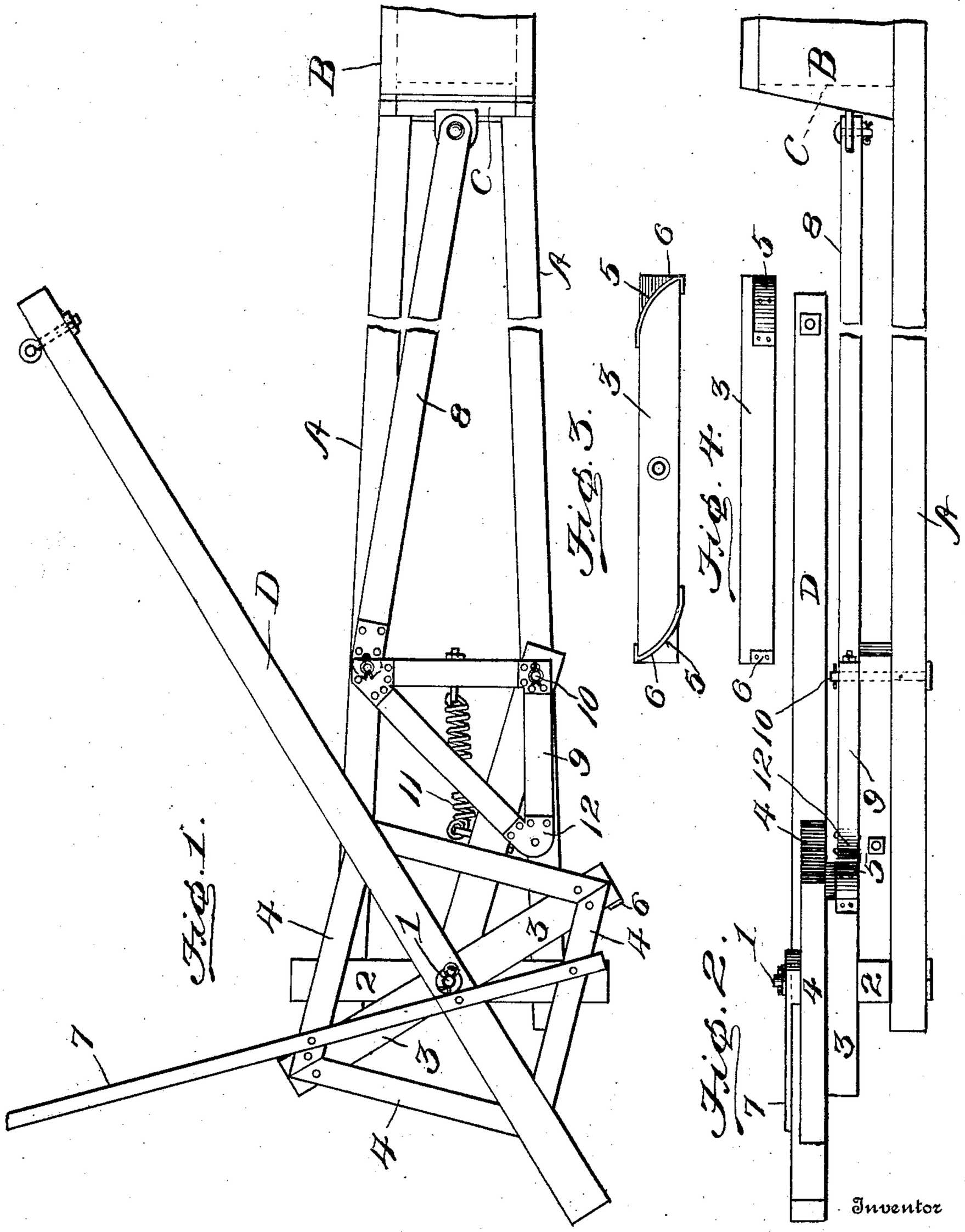
M. D. GUTHRIE.

HAY PRESS.

APPLICATION FILED MAR. 30, 1907.

910,667. Patented Jan. 26, 1909.



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HAY-PRESS.

No. 910,667. Specification of Letters Patent. Patented Jan. 26, 1909.

Application filed March 30, 1907. Serial No. 365,557.

To all whom it may concern:

Be it known that I, MARION D. GUTHRIE, a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, have invented new and useful Improvements in Hay-Presses, of which the following is a specification.

This invention relates to a hay or other press of that type in which two compression strokes are imparted to the plunger by one continuous rotation of the sweep.

The invention has for one of its objects to improve and simplify the construction and operation of machines of this character so as to be comparatively easy and inexpensive to manufacture, composed of few parts and efficient and reliable in use.

A further object of the invention is the provision of a hay press of comparatively large capacity and adapted to operate with little friction and with a light draft, which includes a rotatable beam or element connected with the sweep and provided with cams at its extremities for imparting motion to the plunger through an oscillating frame or triangle arranged in the path of the cams.

With these objects in view and others, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawing, which illustrates one of the embodiments of the invention, Figure 1 is a plan view of the hay press with intermediate portions broken away. Fig. 2 is a side elevation thereof. Fig. 3 is a bottom plan view of the cam-carrying member or cross-piece. Fig. 4 is a side view thereof.

Similar reference characters are employed to designate corresponding parts throughout the several views.

Referring to the drawing, A designates the bed or base frame of the press which is of any approved construction and is provided at one end with a compressing chamber B of any approved form in which reciprocates a plunger C. At the end of the frame or bed A opposite from the compressing chamber is pivoted a sweep D, the pivot 1 thereof passing through the sweep and cross-beam 2 of the frame. Disposed between the sweep and cross piece 2 is a horizontal member 3 rigidly secured to the sweep by means of diagonal braces 4 that hold the member rigidly at right angles to the sweep. The member 3, which is preferably a beam of wood, has its ends cut away to form oppositely disposed cams 5 that are faced by metal fittings 6 that take the wear. These cams are formed by undercutting the ends of the member 3, as shown and they are adapted to alternately operate on the mechanism connected with the plunger to impart two strokes to the latter by one rotation of the sweep. The usual lead pole 7 is employed that is bolted or otherwise secured to the sweep and the braces 4.

The plunger C is hingedly connected with a rod 8 which, in turn, is hingedly connected with a triangular frame or element 9. This element is mounted for oscillation on a vertical pivot 10 mounted on the bed A adjacent the rear end thereof and constitutes a bell crank lever. The element 9 is in the form of a right angle triangle and the plunger rod 8 is connected with one of its acute angles, while the other acute angle or corner is disposed in the path of the cams 5 so as to receive movement by the cams wiping on the same, the pivot 10 being located at the right angular corner of the element 9. The element 9 is adapted to be oscillated in one direction so as to move the plunger on its compression stroke and after the cam 5 disengages from the element, the latter, together with the plunger, may be returned in any suitable manner, as for instance, by an extension spring 11. The portion of the element 9 that is engaged by the cams is provided with a metal cap 12 so as to receive the wear.

By undercutting the ends of the member 3, horizontal terminal flanges are formed which are adapted to extend over the rear extremity of the arm of the bell crank lever 9 and hold the latter down against the base frame or bed when the lever is tilted by the cam so as to thereby prevent too great a strain on the pivot 10. In other words, the element 9 is maintained in a horizontal plane during its movement not only by the pivot 10 but by the terminal flanges on the member 3 engaging over the rear end of the said element.

In practice, the compressing chamber is supplied with hay or other material to be compressed and the sweep D is rotated in any suitable manner, as for instance, by horse power, and one rotation of the sweep

causes the element 9 to be oscillated to reciprocate the plunger twice, thus enabling a double charge of hay to be compressed. The construction of the press is simple, durable and comparatively inexpensive and the parts are so proportioned as to obtain an increased leverage, so that a powerful compression of the materials is obtainable.

I have described the principle of operation of the invention, together with the apparatus which I now consider to be the best embodiment thereof, but I desire to have it understood that the apparatus shown is merely illustrative and that such changes may be made when desired as are within the scope of the claim.

Having thus described the invention, what I claim is:—

In a press, the combination of a supporting frame, a compressing chamber at the forward end thereof, a plunger movable in the chamber, a rod pivotally connected with the plunger, a sweep pivoted on the frame, a member rigidly connected with the sweep and formed at its ends into cams, and horizontal terminal flanges projecting beyond the cams, an oscillatory element pivotally mounted on the frame between the chamber and sweep and having a portion arranged in the path of the cams and over which the said flanges move, a hinge connecting the plunger rod with the element, and means connected with the element for returning the same and the parts attached thereto to normal position.

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

MARION D. GUTHRIE.

Witnesses:

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