

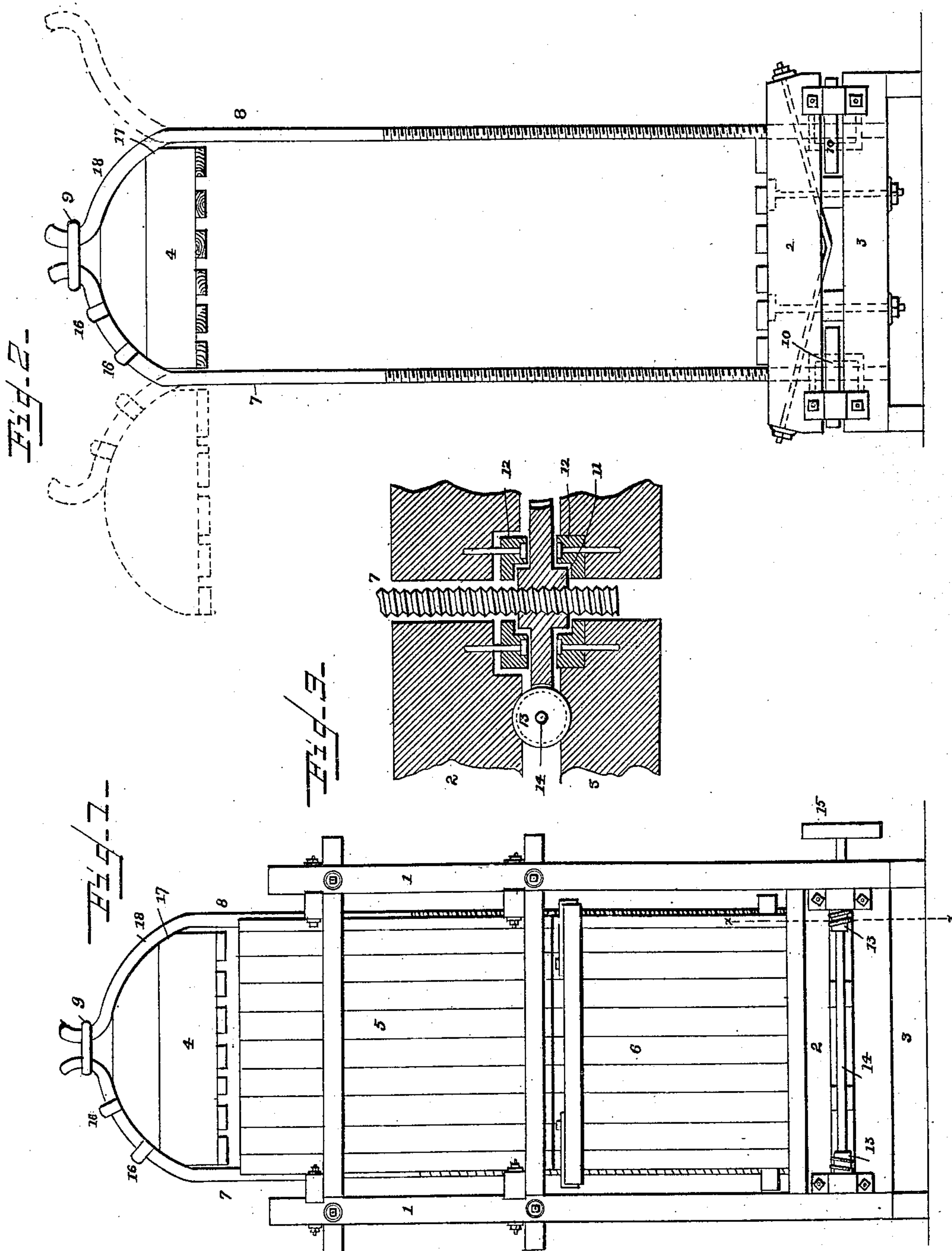
(No Model.)

M. T. BROWN.

BALING PRESS.

No. 356,445.

Patented Jan. 25, 1887.



Witnesses

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UNITED STATES PATENT OFFICE.

MAURICE T. BROWN, OF TYLER, TEXAS.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 356,445, dated January 25, 1887.

Application filed April 13, 1886. Serial No. 198,691. (No model.)

To all whom it may concern:

Be it known that I, MAURICE T. BROWN, of Tyler, in the county of Smith and State of Texas, have invented certain new and useful Improvements in Baling-Presses; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates, generally, to baling-presses, and more particularly to the mechanism employed for exerting the proper compressive force upon the material to be baled—such as cotton, hay, &c. Its object is to furnish a mechanism which shall exert a powerful compressive force upon the material with the expenditure of a comparatively small power.

To this end it consists in the features more particularly hereinafter described and claimed.

In carrying my invention into effect, the ordinary framing, shell, or case for containing the material and stationary lower platen or bed are used, the upper platen being the movable one to effect the compression. This upper platen is brought down upon the material for its compression by the lowering of screw-threaded rods to which it is attached, such lowering being effected by the rotation of rotating nuts in fixed bearings taking on such screw-threaded rods. These nuts are made circular and finished upon their periphery as worm-gears, with which mesh screw-gearings upon a shaft to which the motive power is applied. The rotation of the nut worm-gears therefore turns the screw-threaded rods to which is attached the platen, causing the movement of the latter with great force and comparatively little expenditure of power. The lower portion of the press is provided with a door opening outwardly and downwardly for the removal of the completed bales. This may be better understood by reference to the drawings, wherein—

Figure 1 is an end view of a press embodying my invention; Fig. 2, the same view with the exterior casing removed; and Fig. 3 is a section of a detail taken on the line *xx*, Fig. 1.

In these drawings, the reference-numeral 1 indicates the framing made in the ordinary manner and of suitably heavy material, within which is arranged the casing 5 for the reception of the material to be baled. This casing is provided upon one end or side with a door, 6, opening downwardly and outwardly for the removal of the completed bale.

2 is the bed or stationary platen of the press, all being mounted and supported on suitable sills, 3.

4 represents the moving and compressing platen attached by ordinary staples, 16, or other suitable fastenings to either one of two screw-threaded uprights, 7 8, in this instance to 7. As hereinafter explained, 7 8 are capable of rotation in fixed rotating worm-gear nuts 10, so that they may be swung apart, as shown in dotted lines in Fig. 2, carrying the platen 4 with them, so that the top of the press may be left open for the introduction therein of the material to be acted on. When the casing is filled, these uprights are swung inwardly and secured together by a link, 9, passing over upright projections thereof, as shown in full lines in Figs. 1 and 2. At the base of each of these uprights, and preferably between the bottom of the lower platen, 2, and the sill or bed-plates 3, worm-gears 10 are secured. These worm-gears are formed with a hub, 11, internally screw-threaded to mesh with the threads in the uprights 7 8. In these plates 2 3 are suitably secured recessed plates 12, whose recesses receive and form a bearing for the hubs 11. As these worm-gears are threaded to mesh with the threads on 7 8, they act as nuts thereto and become in effect fixed rotating worm-gear nuts, whose rotation (they being fixed) will cause the upward or downward motion, as the case may be, of the uprights 7 8, upon which they take. With each such worm-gear nut meshes a screw-gear, 13, mounted on a shaft, 14, provided at one of its outer ends with a pulley, 15, or its equivalent, a crank or eccentric, for communicating power thereto.

As herein shown, a single pair of uprights are used, located at the center of either the sides or the ends. It is evident that several pairs may be used, if desired, the several pulleys 15, or cranks or eccentrics for the operation thereof, being connected together or to the common source of power, so as to act

equally and simultaneously. In such case, as in the illustration given, the bends 18 of the uprights would take upon the corners, beveled, preferably, as at 17, of the cross-beams of the platen 4 and exert their force equally thereon.

The operation of this arrangement is self-evident. The casing of the press being filled with a sufficient amount of material, the platen 4 and uprights 7 8 are swung inward and locked together by the link 9. Power being then applied to the pulley 15 in the proper direction, the screws 13 cause the rotation of the rotating worm-gear nuts 10, which, being incapable of up or down motion from their fixed position between 2 and 3, cause the uprights 7 8, upon which they take, to be moved downward, they carrying the platen 4 with them with exceedingly great compressive effect, and, owing to the compound screw-gearings 13 10 and threads on 7 8, with a comparatively small expenditure of power.

It is of course to be understood that room should be left or place made beneath the base of the press for the uprights 7 8 to enter when they and the platen are brought downward in the process of baling.

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

30 1. The combination of movable uprights, a movable platen secured to one thereof, a movable link for uniting said uprights, and means, substantially as described, for raising and lowering such uprights, as set forth.

2. The combination of movable uprights, a 35 movable platen secured to one thereof, and means, consisting of pulley 15, screws 13, worm-gear nuts 10, provided with hub 11, having a bearing in recessed plates 12, and located between plates 2 and 3, arranged and operating 40 for raising and lowering the said uprights, substantially as set forth.

3. The combination of movable uprights, a platen secured to one thereof and operated thereby, the uprights being adapted to swing 45 outwardly with the platen to open the press for the reception of material, substantially as set forth.

4. The combination of movable uprights, a platen operated thereby and secured to one 50 thereof, and a movable link for uniting the uprights to maintain the press in a closed condition, substantially as set forth.

5. The combination, in a baling-press, of movable uprights, a movable platen secured 55 to one thereof and operated thereby, the uprights being adapted to swing outwardly with the platen, and means, substantially as described, for raising and lowering such uprights, as and for the purposes set forth. 60

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

MAURICE T. BROWN.

Witnesses:

JAMES W. ALLEN,
A. A. BINYON.