A. W. KNUTSON.

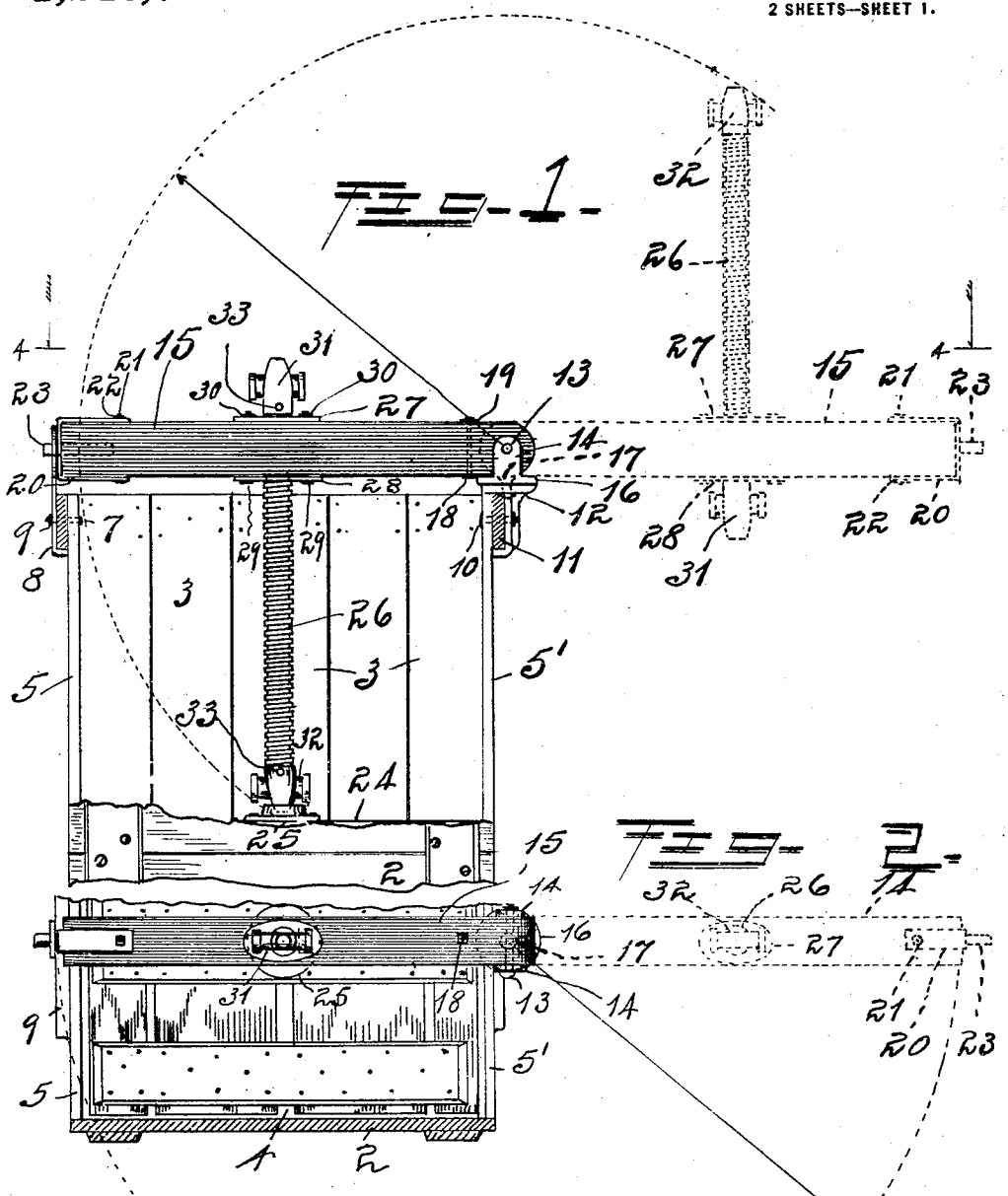
BALING PRESS.

APPLICATION FILED JUNE 14, 1917.

1,246,759.

Patented Nov. 13, 1917.

2 SHEETS—SHEET 1.



WITNESS:

INVENTOR

BY

ATTORNEY

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2 SHEETS—SHEET 2.

Fig. 3.

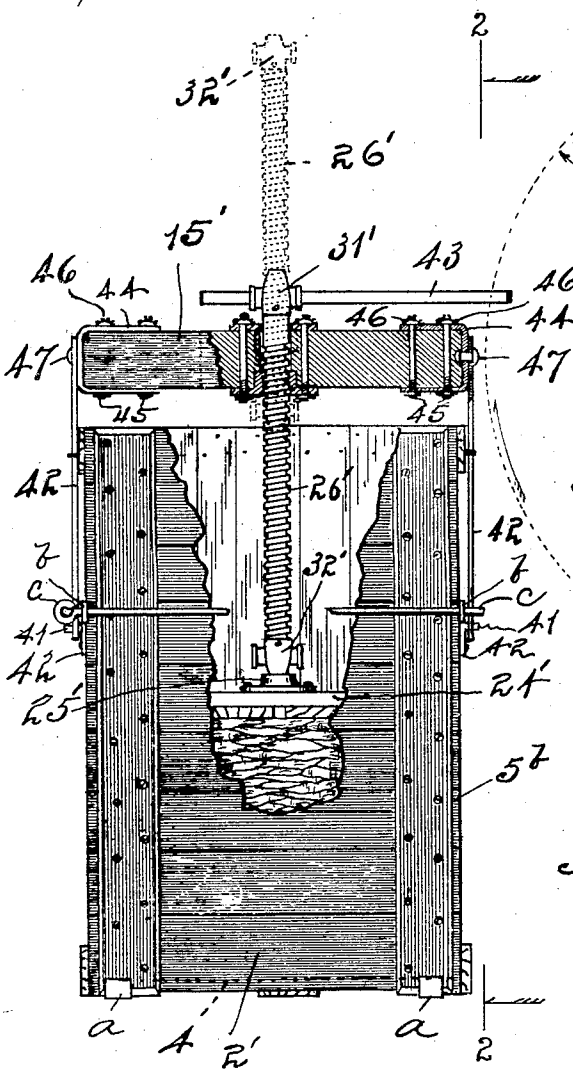
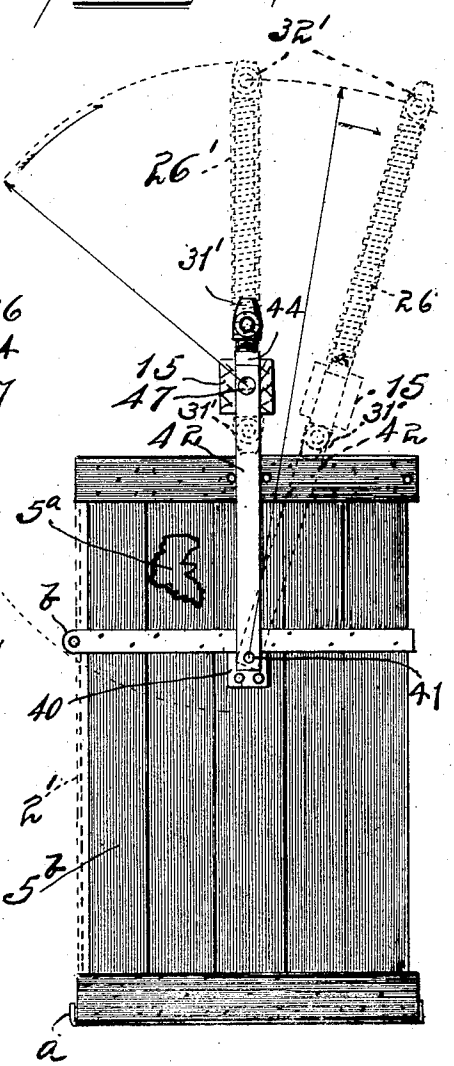


Fig. 4.



WITNESS.

J. L. Frink.

INVENTOR.

Alfred W. Knutson.

BY

H. McRichards.

ATTORNEY

UNITED STATES PATENT OFFICE.

ALFRED W. KNUTSON, OF GALESBURG, ILLINOIS, ASSIGNOR TO ROWE MANUFACTURING CO., OF GALESBURG, ILLINOIS, A CORPORATION OF ILLINOIS.

BALING-PRESS.

1,246,759. Specification of Letters Patent. Patented Nov. 13, 1917.

Application filed June 14, 1917. Serial No. 174,783.

To all whom it may concern:

Be it known that I, ALFRED W. KNUTSON, a citizen of the United States, and a resident of Galesburg, in the county of Knox and State of Illinois, have invented a new and useful Baling-Press, of which the following is a specification.

The invention relates more particularly to that general class of presses which are employed for baling paper, rags, etc. In this type of presses the bale is made by feeding into the compression chamber a "charge" of material, generally as much as can be packed in the chamber by the operator, aided by a tamper. The compression means, which in most modern presses was in some manner moved out of the way, is then returned to its normal position and operated to very firmly compress the charge. This operation is carried on several times in order to make a complete bale.

It will be evident from the above that much time is lost in removing the operating parts from, and then returning them to their normal positions. The screw or worm, usually employed because of its great efficiency, must be unthreaded or raised to its highest position in order to insert each charge, and it must then be threaded down upon this charge, and especially when the charges are the lower ones is the process a tedious, tiring and wasteful one.

The principal object of my invention is to provide a baling press composed of elements whereby a bale may be formed with great rapidity.

The general object of the invention is to improve the construction and increase the utility and efficiency of devices of this nature.

In the accompanying drawings:

Figure 1 is a front elevation, partly in section, of the upper portion of a baling press embodying a preferred form of my improvements;

Fig. 2, a fragmental top plan of the device shown in Fig. 1;

Fig. 3, a front elevation, partly in section and partly broken away, of a somewhat modified form; and

Fig. 4, a side elevation of the modification illustrated in Fig. 3.

Coming now to a detailed description of the device shown in Figs. 1 and 2 and indicating the elements and, where necessary, the parts thereof each by a distinguishing reference numeral, 2 indicates the door or removable front, 3 the back, 4 the bottom, and 5, 5′ the sides of the press-box or compression-chamber. The particular construction of these is immaterial.

Fixed to the side 5 is a plate 6, and projected through both these is a bolt 7 acting as a fulcrum for a hook 8. 9 indicates the securing nut.

Secured by bolts 10 to a plate 11 fixed to the side 5′ is a bracket 12. Hinged by a bolt 13 engaging eyes in oppositely arranged ears 14 in a bracket 16 is one end of a cross-beam (or screw-carrying beam) 15. 17 designates a swivel by which the brackets 12 and 16 are connected. 18 denotes a bolt passing through the beam 15 adjacent and at right angles to the bolt 13, and is purposed to prevent any tendency of the beam to split by reason of the weakening incident to boring the hole for the bolt 13. 19 is the nut thereon.

The free end of the beam is embraced by a clamp-bracket 20 which is secured thereto by a bolt 21 and nut 22. 23 indicates a latch-pin preferably integral with the bracket 20.

24 indicates a platen to which is secured a socket-plate 25.

26 denotes the compression-screw, which engages threads in the beam 15 in any preferred manner. 27, 28 denote reinforce plates secured to the beam and to each other by bolts 29 and nuts 30. At one of its ends the screw carries a T, 31, and at its other end it carries a T, 32, each suitably secured, as by a cross-pin 33, to the adjacent end of the screw.

To operate the press, let it be assumed that the elements are in the relative positions shown by dotted lines in Figs. 1 and 2; that one or more charges of material have been placed and compressed in the box; and that a charge of tamped but not finally compressed material has been placed on top of the upper, compressed charge. The beam will then be swung in a horizontal plane, by means of the swivel 17, to the solid line position shown in said figures, and the hook or latch 8 engaged with the pin 23. A bar or stick, 43, shown in Fig. 3, suitable to perform in the capacity of an operating lever, is then to be engaged with that T which is for the time being uppermost, and

the screw operated thereby in the usual manner. The point of the lower T will rotate freely in the socket of the plate 25 and the platen 24 will be forced downward in the usual manner of such devices.

When this charge has been thus compressed let it be assumed that the platen and screw are at the height shown in Fig. 1. The hook 8 will be freed from the latch-pin 23 and the beam 15 and thereby the screw 26 swung in the vertical arc shown by dotted lines in Fig. 1. The platen may then be removed and another charge of material inserted through the fully opened mouth (upper end) of the press-box, whereupon it is to be tamped and the platen re-positioned. It is to be particularly noted that the swinging movement of the screw, just above described, has reversed the positions of its ends and that the T 31 which was previously uppermost, is now lowermost. This reversal of the screw, or turning it end for end, obviates the otherwise necessity of unthreading it to the dotted line position shown in Fig. 1, thus effecting a great saving of time as well as having the screw always in position for a succeeding operation. The beam and screw may now be swung in the horizontal arc illustrated in Fig. 2 and the locking and compressing operations hereinabove described, repeated until a complete bale has been made, whereupon it may be wired in any preferred manner.

In the modification shown in Figs. 3 and 4, 2′ denotes the front, shown in Fig. 3, as secured in place by hooks *a*, eyes *b*, and a rod *c* and shown in Fig. 4 as removed; 4, the bottom; and 5^a, 5^b the sides. 24′ denotes the platen; 25′ the socket-plate thereon; 26′ the screw; 31′ and 32′ the T's; and 15′ the beam.

On each side of the box is secured a plate 40 from which projects a pintle 41. Hinged on each pintle is a beam-carrying plate 42. Embracing each end of the beam is a stirrup 44. 45, 45 designate bolts and 46, 46 nuts whereby the stirrups are secured to the ends of the beam. The cross-piece of each stirrup is provided with an aperture which registers with one in the upper end of the adjacent plate 42. In each pair of these apertures is seated a hinge-pin 47 the ends of which are headed-up as clearly shown in Fig. 3.

When it is desired to reverse the screw 26′ the beam 15′ is swung horizontally a one-half revolution on the pins 47. This operation is shown clearly by the two sets of dotted lines in Fig. 4.

It will be obvious that it is practically impossible to herein particularly describe all the various operations of either of the forms of the invention while the bale is being formed, for this must of necessity depend upon the judgment of the operator, and must be based upon the position (height) of the last-compressed charge.

It is to be understood, of course, that the devices may be operated either by reversing the screw and beam as each successive charge of material is placed in the box, or by operating them in the usual manner, without reversing or turning them end for end.

I claim as new and desire to secure by Letters Patent the following, to-wit:

1. In a baling-press, a press-box, a platen therein, a compression-beam, and a screw operatively engaged with said beam and adapted to be turned end-for-end to selectively bring either of its ends into operative engagement with the platen.

2. In a baling-press, a press-box, a platen therein, a compression-beam, a screw operatively connected therewith, said beam and screw being reversible whereby either end of the latter may be brought into engagement with the platen.

3. In a baling-press, a press-box, a platen therein, a compression-beam connected with the press-box to swing in both vertical and horizontal arcs, and a screw operatively connected with the beam and adapted to bear upon the platen.

4. In a baling-press, a press-box including a removable front, a platen in the press-box, a compression-beam connected with the box to swing both vertically and horizontally, and a screw operatively connected with the beam and adapted to bear upon the platen.

5. In a baling-press, a press-box, a platen therein, a compression-beam connected with the press-box to swing both vertically and horizontally, a screw operatively engaged with the beam and adapted to bear on the platen, and means for retaining the beam in operative position.

In testimony whereof I hereto affix my signature at Galesburg, Knox county, Illinois, this 9th day of June, 1917.

ALFRED W. KNUTSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."