J. J. CHITTENDEN.

BALING PRESS.

APPLICATION FILED MAY 14, 1914.

1,201,148.

Patented Oct. 10, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

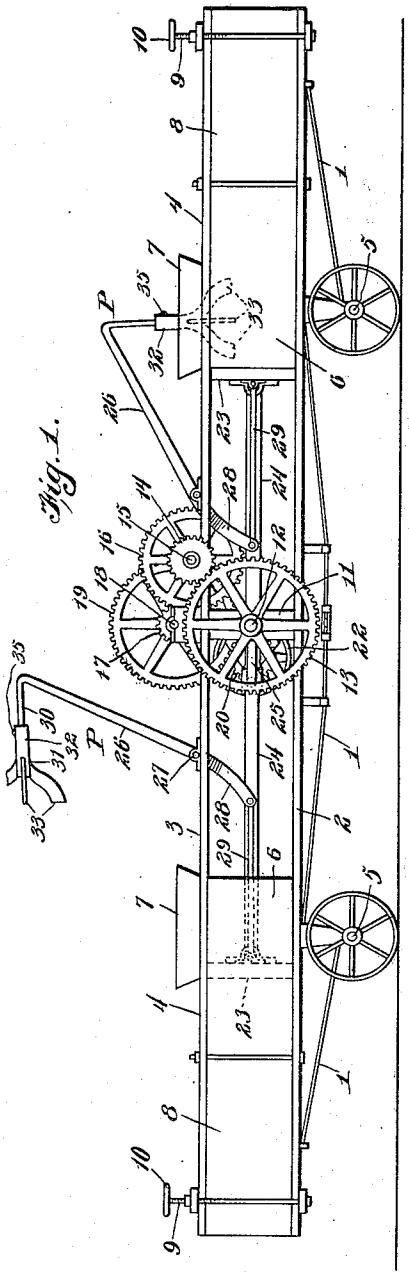
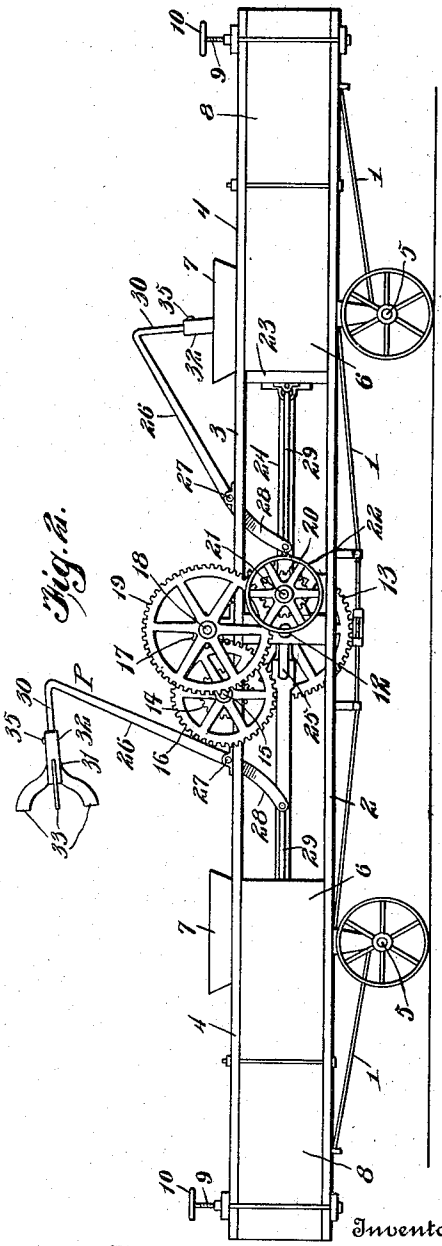


Fig. 1a.



Witnesses

Louis R. Heinrichs

A. W. Boggen

Inventor

J. J. Chittenden

By Victor J. Evans

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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2 SHEETS—SHEET 2.

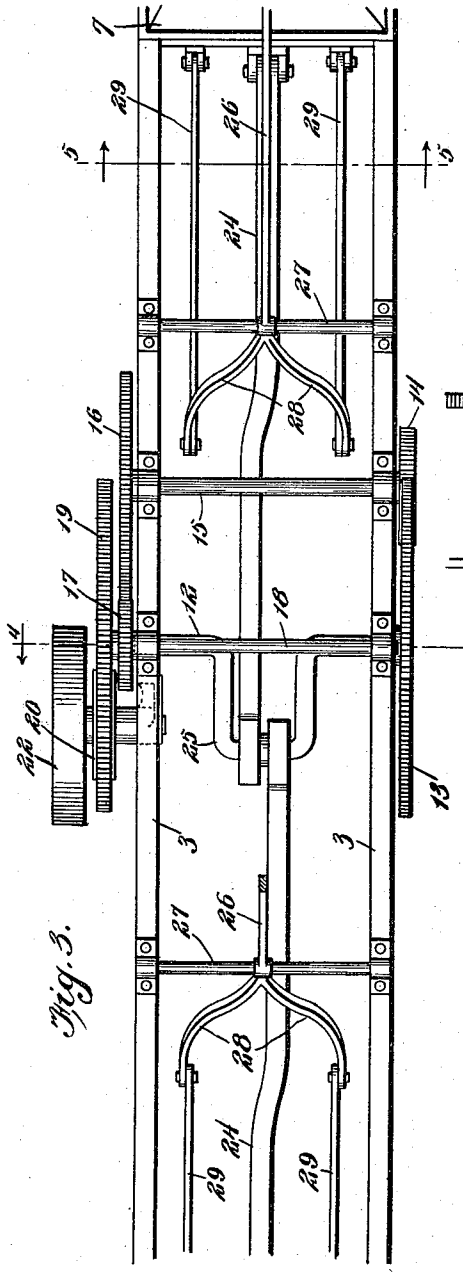


Fig. 3.

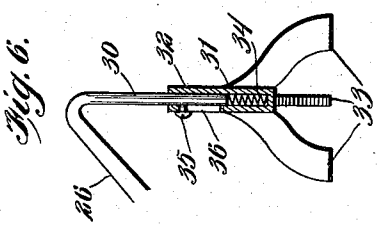


Fig. 6.

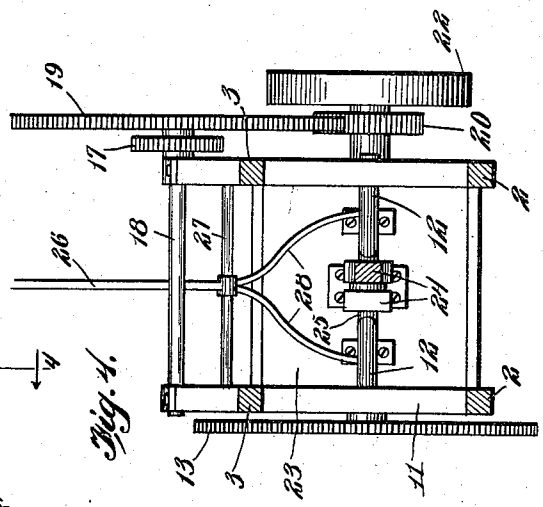


Fig. 4.

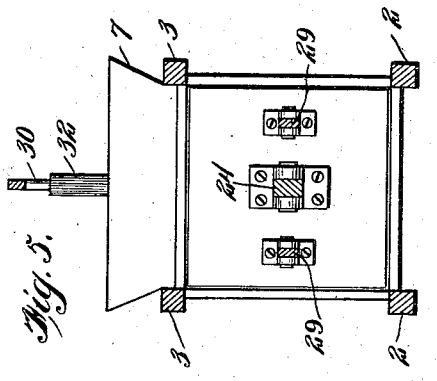


Fig. 5.

Witnesses

Louis R. Heinrichs

W. Bagley

Inventor

J. J. Chittenden

By Victor J. Evans

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JAMES J. CHITTENDEN, OF FOUNTAIN, COLORADO, ASSIGNOR TO JOSEPH P. AIRY, OF DURANGO, COLORADO.

BALING-PRESS.

1,201,148. Specification of Letters Patent. Patented Oct. 10, 1916.

Application filed May 14, 1914. Serial No. 838,579.

To all whom it may concern:

Be it known that I, JAMES J. CHITTENDEN, a citizen of the United States, residing at Fountain, in the county of El Paso and State of Colorado, have invented new and useful Improvements in Baling-Presses, of which the following is a specification.

This invention relates to baling presses, and it has particular reference to that type of press which is equipped with a feeder operating in conjunction with the plunger for the purpose of projecting the charge of hay into the press box so as to be partly compressed and formed into a tight wad to be subsequently forced by the plunger into the compression chamber of the press.

The present invention has for its principal object to simplify and improve the operating mechanism of a double or duplex press including the feeders or packers associated therewith.

A further object of the invention is to improve the construction of the feeders or packers and to make the same to a certain degree resiliently yielding so as to avoid injury to the parts of the press when the latter is being rapidly operated.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the claims may be resorted to when desired.

In the drawings, Figure 1 is a side elevation of a press constructed in accordance with the invention. Fig. 2 is a side elevation, showing the opposite side of the press and showing the plungers in a different position. Fig. 3 is a top plan view, enlarged, of the central portion including the operating mechanism of the press. Fig. 4 is a transverse sectional view taken on the line 4—4 of Fig. 3. Fig. 5 is a transverse sectional view taken on the line 5—5 in Fig. 3. Fig. 6 is a detail view in sectional elevation of one of the packers detached.

Corresponding parts in the several figures are denoted by like characters of reference.

The frame structure of the improved machine, which may be reinforced by braces, as shown at 1, includes longitudinal sills 2 and top bars 3 supporting two press boxes 4 which are disposed in longitudinal alinement, the entire mechanism being supported for transportation on wheel carrying axles 5. The press boxes which are of conventional type include the feed chambers 6 having hoppers 7 and the compression chambers 8, the top and bottom walls of which may be moved in the direction of each other at the exit ends of the press boxes by means of tightening screws 9 having hand wheels 10.

The framework includes uprights 11 located midway between the press boxes and affording bearings for a crank shaft 12 carrying a spur wheel 13 meshing with a pinion 14 at one end of a counter shaft 15 which carries at its opposite end a spur wheel 16 meshing with a pinion 17 on a shaft 18, the latter carrying also a spur wheel 19 meshing with a pinion 20 on a main shaft 21 which carries also a band wheel 22, whereby it is adapted to receive motion from any suitable source. The main shaft may obviously be driven in any other well known and convenient manner if so desired.

Arranged for reciprocation in each press box is a plunger or follower 23 having a stem 24 which is pivotally connected at one end with the plunger and at the other end with the crank 25 of the shaft 12. It follows that when said crank shaft is rotated, the plungers 23 will move in opposite directions in the two press boxes, one plunger being projected while the other plunger is being retracted.

The feeders or packers designated by P each include an arm or lever 26 fulcrumed at 27 and bifurcated to form downwardly extending arms 28, the ends of which are connected by link rods 29 with one of the plungers 23. The arm or lever 26 has at its upper or outer extremity a downwardly extending bracket 30 which is adapted to be projected within the feed chamber of a press box and which carries the packer shoe 31. The latter includes a socket member 32 which slidably engages the bracket 30 and which is provided at its lower end with wings or blades 33, said blades being of curved shape and diverging outwardly from

the socket member on which they are mounted substantially at right angles to each other, said blades being adapted to engage the charge of hay or other material for the purpose of forcing the same into the feed chamber and compacting the charge in advance of the plunger. Owing to the use of divergent blades, the mass of material constituting the charge will be compacted not merely by downward pressure, but also by pressure exerted in an inward direction, into a wad which may be effectively operated upon by the plunger. The socket member 32 contains a spring 34 adapted to be compressed by the bracket member 30 which is adapted to telescope or slide within the socket member 32 with which it may be connected by means of a fastening member 35 extending through a slot 36 in the socket member. Other methods may, however, be adopted for the purpose of connecting the packer shoe with the bracket member 30 in such a manner as to be yieldably connected therewith.

From the foregoing description taken in connection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood by those skilled in the art to which it appertains. When a plunger recedes or is retracted from a press box, the packer associated with such plunger is at the same time advanced so as to force into and compress within the feed chamber a charge of material which has been previously placed in the receiving hopper. When the plunger advances, the packer is retracted, and the charge of material which has been formed into a compact wad will be forced into the compression chamber of the box to form a part of the bale that is in process of being made. The spring mounted shoe of the packer is capable of yielding in case of an excessively large charge of material being placed in the hopper, thereby avoiding excessive strain upon the parts of the structure without interfering with the efficiency of the operation. The gearing which is used for operating the crank shaft actuating the plungers is of such nature as to equalize the strain, and to enable the plungers to be operated at sufficient speed with slight expenditure of power.

The principles of this invention may obviously be applied to a single press if desired by simply omitting one of the press boxes and the operating parts associated therewith.

Having thus described the invention, what is claimed as new, is:—

1. A baling press feeder comprising an operating arm having a projection at an angle thereto, a tubular head on the projection, said head having an elongated slot, a pin rigid with the projection and passing through said slot, a spring interposed between the end of the projection and a closed end of the tubular head, and radial blades mounted on said head, said blades being curved outwardly and longitudinally with respect to the projection.

2. In a baling press having a press box, a feeder coöperating with said press box, said feeder consisting of a tubular head having radially disposed outwardly curved blades and provided with a slot, an operating arm having an end within the tubular head, a pin on said arm projecting through the slot, and a coiled spring interposed between the end of the arm and the head.

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

JAMES J. CHITTENDEN.

Witnesses:

JOSEPH O. AIRY,

FREDRICK R. BONNELL.

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