

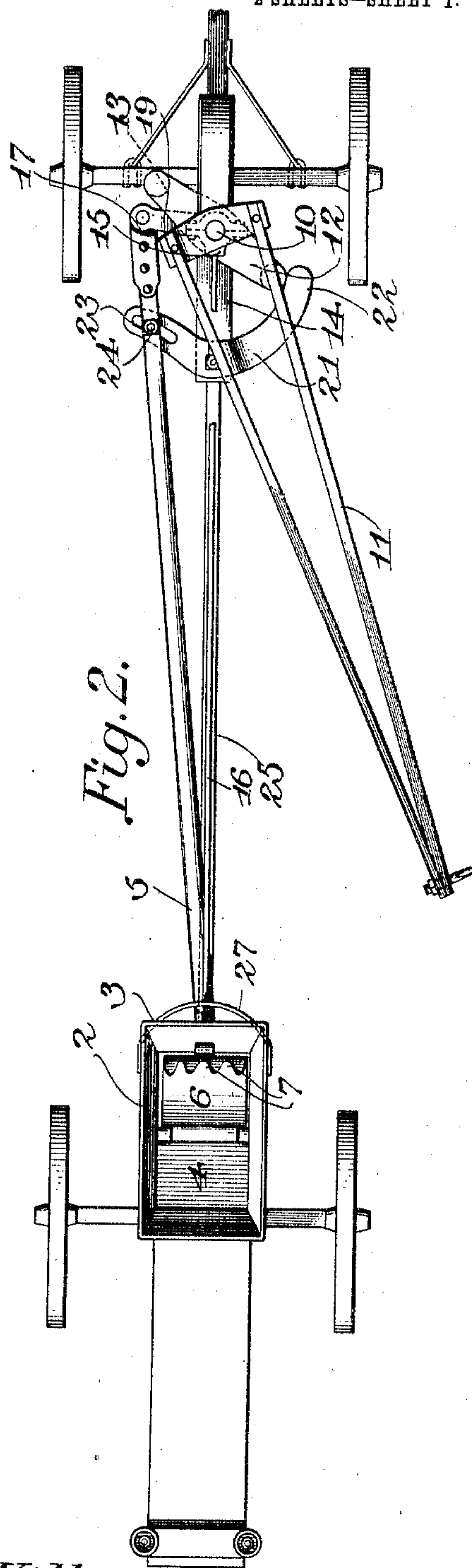
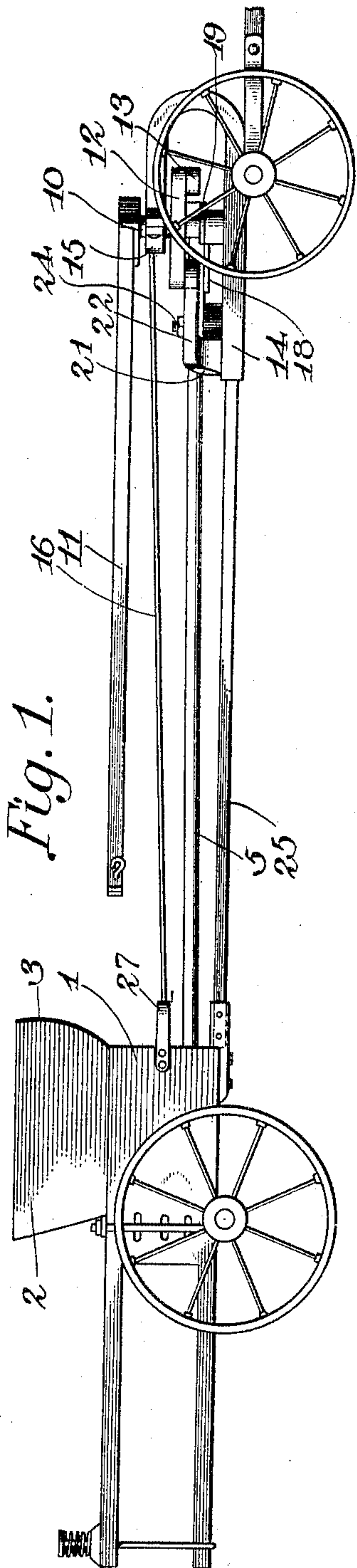
No. 780,358.

PATENTED JAN. 17, 1905.

T. A. KILLMAN.
BALING PRESS.

APPLICATION FILED FEB. 3, 1904.

2 SHEETS—SHEET 1.



Witnesses

E. J. Stewart
Geo. E. Parker

Thomas A. Killman,

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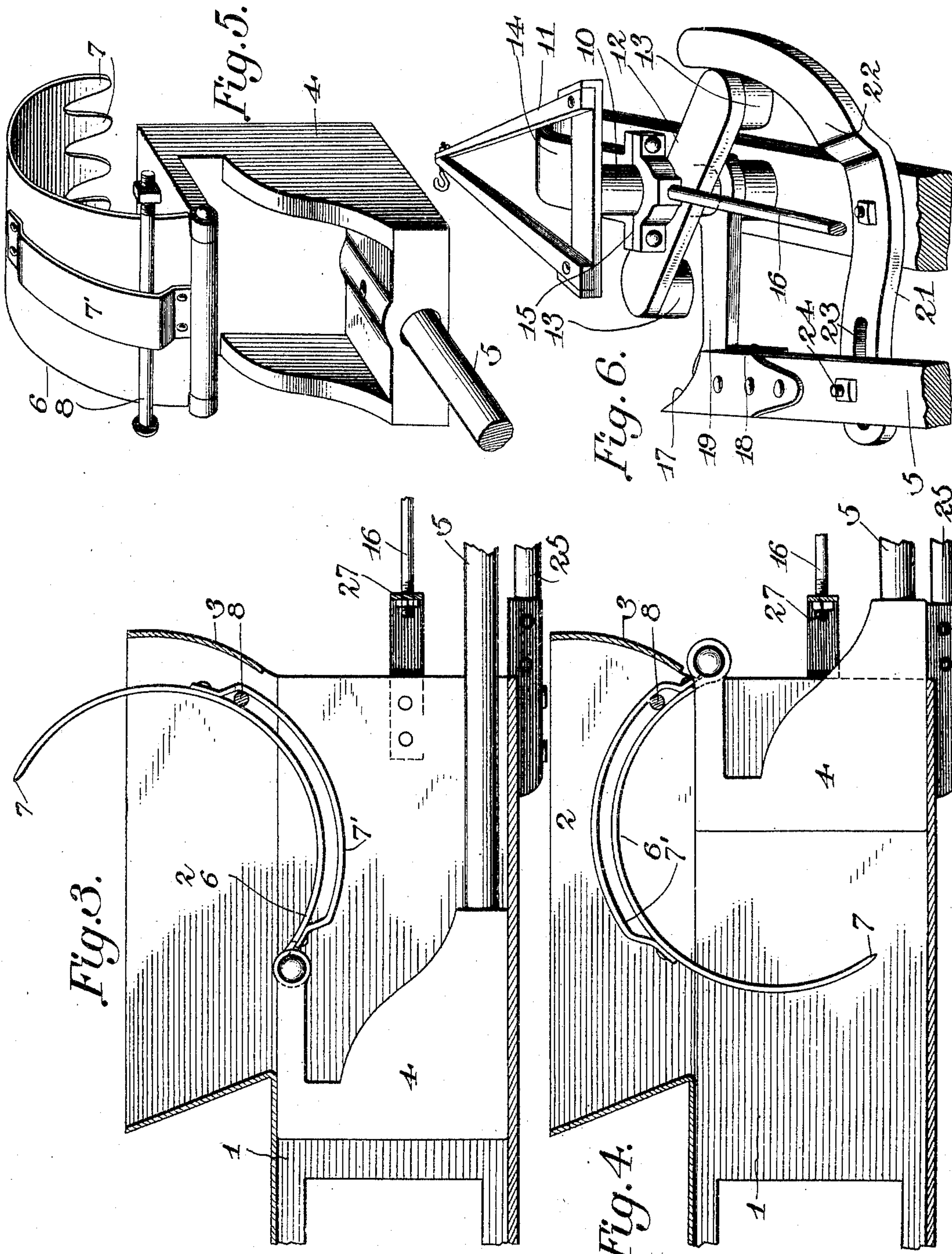
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UNITED STATES PATENT OFFICE.

THOMAS A. KILLMAN, OF LIBERTY, TENNESSEE.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 780,358, dated January 17, 1905.

Application filed February 3, 1904. Serial No. 191,874.

To all whom it may concern:

Be it known that I, THOMAS A. KILLMAN, a citizen of the United States, residing at Liberty, in the county of Dekalb and State of Tennessee, have invented a new and useful Baling-Press, of which the following is a specification.

This invention relates to certain improvements in baling-presses.

The principal object of the invention is to provide a means for automatically forcing the material to be baled down into the baling-chamber in front of the compression-plunger.

A further object of the invention is to provide a baling-press in which an automatic feeding member is carried by the plunger.

A still further object of the invention is to provide a baling-press having a feeding device that is moved to operative position by the movement of the plunger.

A still further object of the invention is to provide a baling-press in which provision is made for effecting a positive return movement of the plunger after each compression-stroke.

With these and other objects in view the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a side elevation of a baling-press constructed in accordance with the invention. Fig. 2 is a plan view of the same. Fig. 3 is a longitudinal sectional elevation of the feeding end of the baling-chamber, showing the plunger at the completion of the compression-stroke. Fig. 4 is a similar view with the plunger at the end of its outstroke. Fig. 5 is a detail perspective view of the plunger and feeder.

Fig. 6 is a similar view of the power-head. Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

In the drawings there are shown a press-

box 1, of any suitable shape and size, and at the feed end of the box is a hopper 2, one of the end walls of which is preferably arranged on a curved line, as indicated at 3. In the press-box is arranged a plunger 4, to which motion is transmitted through a plunger-rod 5. To the upper rear end of the plunger is pivoted a feeder 6, which may be in the form of a substantially semicircular plate provided with terminal prongs 7, or the prongs may be continuous from the pivot to the points. To the upper rear face of the feeder 6 is secured a curved bracket 7', through which extends a pin or antifriction-roller 8, that is carried by the side walls of the hopper 2, suitable securing devices being employed to hold the pin or roller in place. When the plunger is at the limit of its instroke, the feeder is in the elevated position shown in Fig. 3, the bracket lying close to the curved wall 3 at the end of the hopper and in such position as not to interfere with the introduction of material to the hopper. As the plunger moves outward the pin or roller 8 will act as a cam to force the feeder down over the material inserted in the box and force such material downward, so that the greater portion of the material will be forced in the press-box at a point in advance of the plunger and in readiness to be compressed and forced against the bale in process of formation at the next instroke of the plunger, and during such instroke the pin or roller 8 will serve to again elevate the feeder, so that the latter cannot interfere with the compression movement. Successive charges may be thus introduced in the hopper and fed down for contact with the plunger without danger to the operator and without incurring any strain on the tools used for feeding the material to the press. It is of course obvious that the construction of the feeder may be altered and the operation changed in various ways without departing from the invention.

In devices of this class as ordinarily constructed the plunger-rod and plunger are returned to initial position with the plunger at the limit of its outstroke by means of a spring; but in the present case I provide means for effecting the positive and gradual movement

of the plunger in order to permit proper operation of the feeder and lessening the danger of derangement due to the shock resulting from the sudden action of a spring.

5 The power-head includes a vertically-disposed shaft 10, that is connected at its upper end to a sweep 11, and to said shaft is also secured a two-arm lever 12, having depending pins or rollers 13 arranged at its opposite
10 ends. The shaft is provided with a lower bearing formed in a substantially U-shaped bar 14, and said bar is curved to form a substantially yoke-shaped support and also affords an upper bearing 15 for the shaft, the
15 upper bearing and the frame being braced by a suitable tension-bar 16, as shown.

At the outer end of the plunger-rod 5 is bolted a suitable wear plate or block 17, presenting a curved socket into which the rollers
20 13 may enter during the operation of the power-head on the rod, and from this curved plate or from the end of the plunger extends a lug 18, to which is pivotally connected the outer end of an arm 19, that is loosely fulcrumed on the shaft 10 and has oscillatory
25 movement as it follows the movement of the end of the plunger-rod. To the frame 14 is pivoted a bar 21, having a curved end portion 22 to be engaged by the rollers 13, and at the
30 opposite end of said bar 21 is an elongated slot 23 for the reception of a pin or bolt 24, carried by the plunger-rod. In the operation of this portion of the mechanism the rotative movement of the sweep by animal or other
35 power will bring one of the rollers 13 against the wear-plate 17, and the plunger will be moved to effect compression of the material in the press-box. By the time the shaft and the
40 two ends of the plunger-rod are in alinement the instroke of the plunger will have been completed, and the roller 13 will then pass beyond the wear-plate. During the compression movement the pin 24, working in the slot 23, will move the curved end 22 of the lever
45 in the direction of the shaft, and shortly after the roller 13 leaves the end of the plunger-rod it will engage the inner face of this curved portion of the lever, and by the action of the wall of the slot on the pawl 24 the plunger-
50 rod will be restored to its initial position in readiness to receive the impact of the next roller, and at all times the end of the plunger-rod will be held at proper distance from the shaft by means of the arm 19.

55 The main frame 14 of the power-head is connected to the front end of the press-box by means of a suitable rod or bar 25 and a tension-rod 16, which is connected at its rear end to a cross-bar 27, the opposite ends of which
60 are bolted to the sides of the press-box, so that the whole forms a simple and well-braced structure which may be mounted on wheels and carried to and from the field of operation without strain of the parts.

Having thus described the invention, what I claim is— 65

1. In a baling-press, a hopper, a plunger, and a feeding device carried by the plunger and serving to force the material to be compressed down to a position in advance of the
70 plunger, the free end of the feeding device being movable to a position within the compression-chamber proper.

2. In a baling-press, a hopper, a plunger, a feeding device pivotally connected at one
75 end to the plunger, and serving to force the material to be compressed down to a position in advance of the plunger, the free end of said feeding device being movable during the feeding operation to a position within the
80 compression-chamber proper, and means carried by the hopper for controlling the pivotal movement of said feeding device.

3. In a baling-press, a curved feeder, a stationary pin or roller engaging the same, and
85 a plunger to which said feeder is pivotally connected, said feeder serving to force the material to be compressed downward into the baling-chamber in advance of the plunger during the outstroke of the latter. 90

4. In a baling-press, a press-box, a plunger, a curved feeder carrying a curved bracket, a pin or roller carried by the press-box and engaging between the bracket and feeder, and means for pivotally connecting the feeder to
95 the plunger, said feeder serving to force the material to be compressed downward into the baling-chamber in advance of the plunger during the outstroke of the latter.

5. In a baling-press, a hopper, a plunger, 100 a curved feeding-plate pivotally connected to the plunger and provided with teeth at its free end, a bracket secured to the upper face of the feeder, and a stationary pin or roller carried by the walls of the hopper and extending between the feeder and the bracket. 105

6. In a baling-press, a frame, a plunger, a press-box, a power-head shaft, an obliquely-disposed plunger-rod, an arm pivotally connecting the end of the plunger to the shaft, a
110 revoluble operating-lever secured to the shaft and adapted to engage the end of the plunger-rod and force the same inward toward the press-box, a cam-lever pivoted to the arm and having at one end a slot, and a pin or
115 bolt carried by the plunger-rod and extending through said slot, the opposite end of said cam-lever being disposed in the path of movement of said operating-lever, substantially as specified. 120

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

THOMAS A. KILLMAN.

Witnesses:

L. M. MULLINS,
T. M. BRIGHT.