

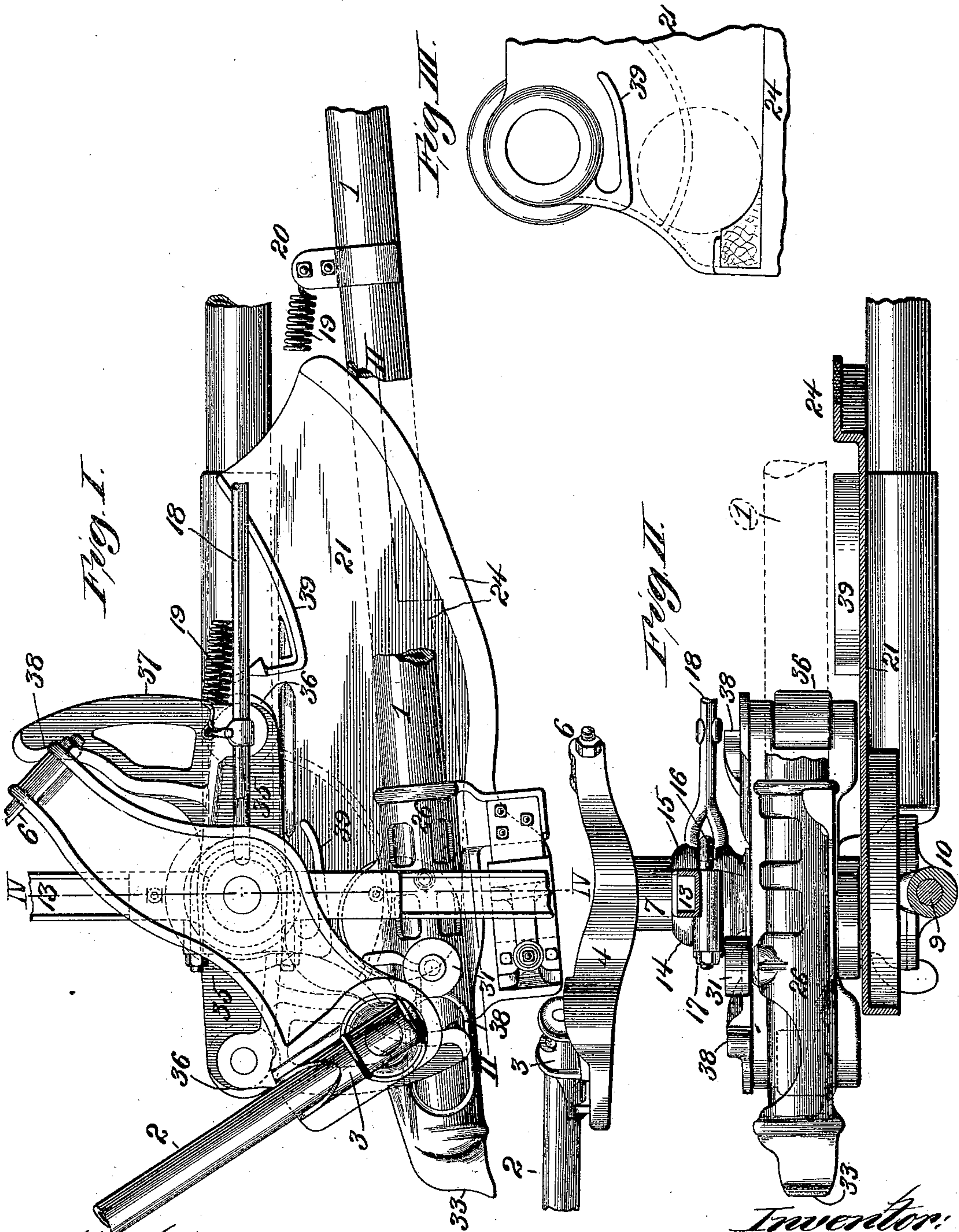
(No Model.)

2 Sheets—Sheet 1.

C. E. WHITMAN.
BALING PRESS.

No. 547,051.

Patented Oct. 1, 1895.



Attest:
Stanley Stoner
H. Finley

Inventor:
Chas. E. Whitman:
By Wright & Bates Attys

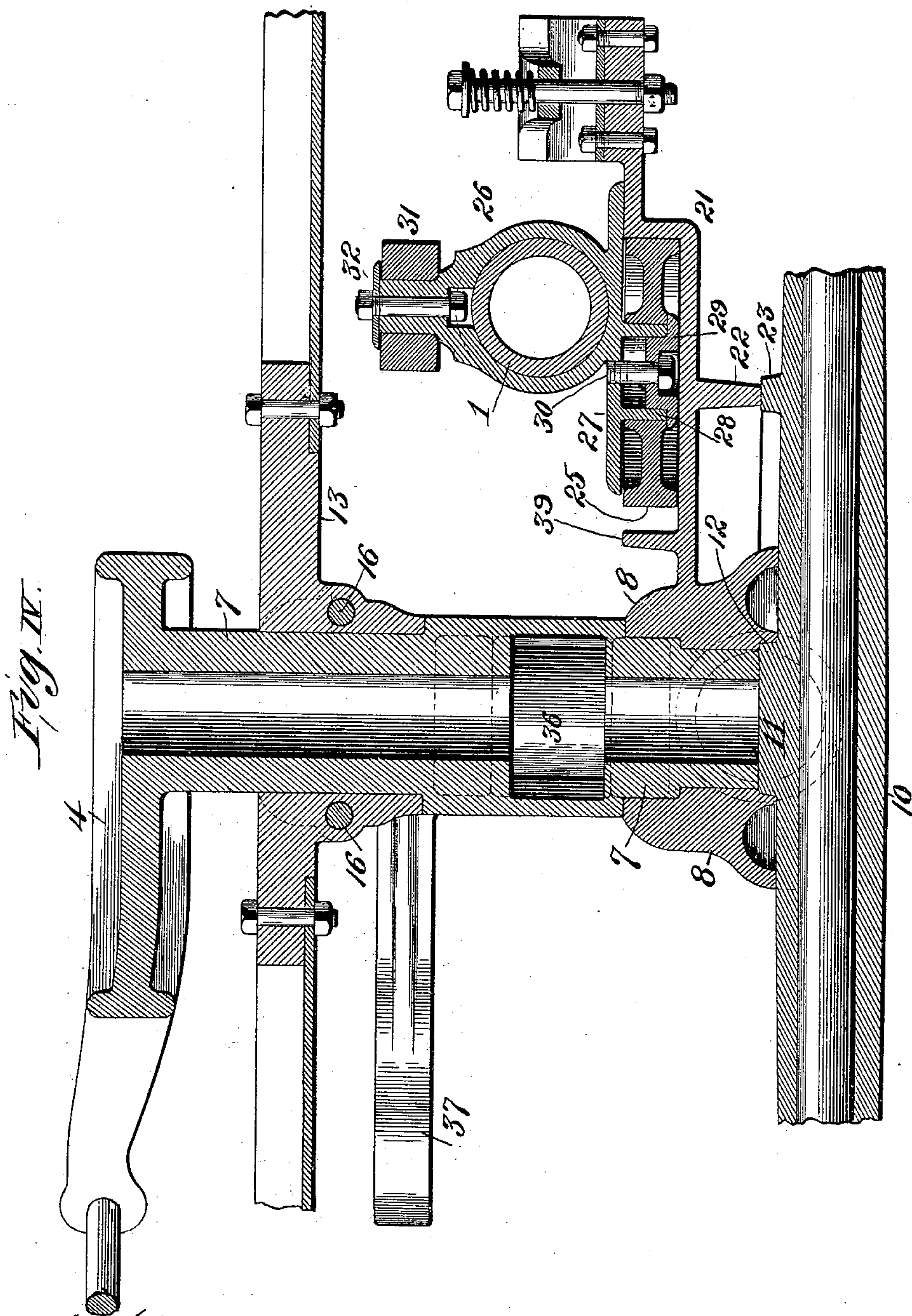
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UNITED STATES PATENT OFFICE.

CHARLES E. WHITMAN, OF ST. LOUIS, MISSOURI.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 547,051, dated October 1, 1895.

Application filed March 4, 1895. Serial No. 540,440. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. WHITMAN, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Baling-Presses, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to certain improvements in the power mechanism for transmitting movement to the follower or traverser of a press for baling hay, straw, excelsior, or other material; and my invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a detail top view illustrative of my invention. Fig. II is a view, part in elevation and part in vertical section, taken on line II II, Fig. I. Fig. III is a detail top view. Fig. IV is an enlarged sectional view taken on line IV IV, Fig. I.

Inasmuch as my invention relates entirely to the power mechanism of the press I have shown in the drawings nothing but the power mechanism and its immediate parts.

1 represents part of the pitman of the press, the forward end of which is designed to be connected to the plunger or traverser, as usual.

2 represents part of the sweep, made fast at 3 to a head 4.

6 represents a brace-rod connecting the far end of the head 4 from the sweep 2 to the sweep at some distance from the head. The head 4 has a hollow hub 7 resting in a casting 8.

9 represents one of the wheel-axles of the press, this axle passing through a sleeve 10, upon which the casting 8 rests, the sleeve having a projection 11 fitting in a recess 12 of the casting. (See Fig. IV.) The lower end of the hub 7 rests against the projection 11.

13 represents the frame that supports the head 4 by surrounding the hub 7 of the head, the ends of the frame beyond the points shown in the drawings being bent down and connected with the sleeve 10. As shown in Fig. II, this frame, where it surrounds the hub 7, is composed of two parts 14 and 15, connected together by a strap 16, fitting in a groove in the part 15 and passing through the part 14, the ends of the strap being provided with nuts 17.

18 represents a brace-rod held at the power end of the press by the strap 16, and the other end of which is made fast to the body of the press in any suitable manner.

19 is a spring, connected at one end to the rod 18 and at the other end to the pitman 1, as shown at 20, Fig. II. The function of this spring is to assist the expansion of the compressed material in returning the traverser and pitman to their rear positions. On the casting 8 is a cam-plate 21, that has a depending flange 22, resting upon a rib 23, formed on the sleeve 10. On the upper face of this plate is an outer rib 24, against which bears a friction-roller 25, secured to the pitman 1 by means of a tube 26, slipped over the end of the pitman and forming part thereof, as shown in Fig. IV. This tube 26 has a flange 27 on its under side, with a depending journal 28, that receives the friction-roller 25, the roller being held in position by a washer 29 and a bolt 30. (See Fig. IV.) On the upper side near the outer end of the pitman 1 is a friction-roller 31. I have shown this roller connected to the pitman by means of a bolt and washer 32, the bolt passing through the tube 26, as shown in Fig. IV. The extreme outer end of the pitman is formed with a bearing-point 33, as shown in Fig. I, this bearing-point being on a lower horizontal plane than the roller 31, as shown in Fig. II.

The hub 7 carries a cross-arm 35, that is preferably cast integral with the hub, and this arm is preferably made hollow, as shown in Fig. IV. At each end of the arm is a friction-roller 36, and projecting at right angles from the arm and each end of the arm is an extension 37, having slightly convex ends 38. As the arm 35 is revolved through means of the sweep 2, the ends 38 of the extensions 37 of the arm come alternately against the friction-roller 31, (it being understood that the traverser and pitman rebound after being forced forward by one end of the arm and its extension before the next end of the arm and its extension comes into working position,) and the pitman is forced forward, the right-angle extensions of the arms having a direct forward push on the plunger, instead of exerting a lateral strain, as had heretofore existed in this general class of power mechanisms for baling-presses. Just before each ex-

tension 37 leaves the roller 31 the friction-roller 36 of this end of the arm comes against the end 33 of the pitman, and as the plunger is well forward at this time the bearing of the end of the arm against the end of the pitman exerts very little lateral pressure on the latter, but the pressure is almost altogether in the direction of the line of movement of the pitman. When the roller 36 leaves the end of the pitman, the latter rebounds and is in its rear position before the extension of the other end of the arm comes around to engage the pitman. Any tendency of the pitman to move outwardly or inwardly beyond a certain limit from or toward the center of the arm 35 is prevented by the roller 25 bearing against the cam-flange 24 and inner cam-flanges 39 on the plate 21.

It will be observed that the ends 38 of the extensions 37 of the arm are at a higher elevation than the rollers 36, and these extensions pass over the end of the pitman that extends outward beyond the roller 31, as shown in Fig. 1, so that by no possibility can the extensions 37 come in contact with the bearing end 33 of the pitman, and thus danger of breakage due to an engagement of these two parts is effectually prevented.

I claim as my invention—

1. In a baling press, the combination of a pitman, a cross head, a sweep secured to the cross head, a hub united to the cross head, a power arm united to the hub and having bearings at its ends, a right angle extension at the end of the arm, and which has a bearing point at its outer end; said pitman being provided with a bearing point to receive the end of the right angle extension, and with a bearing point to receive the bearing at the end of said arm; substantially as set forth.

2. In a baling press, the combination of a pitman having a bearing point located a short distance from its outer end, and having

also a bearing point at its outer end, a cross head, a sweep connected to the cross head, a hub united to the cross head, a power arm united to the hub, friction rollers located in the ends of the arm, right angle extensions formed upon the ends of the arm and having bearings at their outer ends; said last mentioned bearings and the friction rollers at the ends of the arm being adapted respectively to engage the bearing points on the pitman, substantially as set forth.

3. In a baling press, the combination of a pitman having two bearing points, a power arm having at each end a bearing point, and a right angle extension with a bearing point at its end, and means for moving the arm, substantially as set forth.

4. In a baling press, the combination of a pitman having bearing points 31 and 33, a cross head to which the sweep is secured and which is provided with a hub, a power arm united to said hub and having friction rollers 36 at its ends, and extensions 37 projecting at right angles from the ends of said arm and having bearing points 38; said bearing point 31 of the pitman and said bearing points 38 of the extensions being on a different horizontal plane from the bearing point 33 of the pitman and the friction rollers 36 of the cross arm; substantially as and for the purpose set forth.

5. In a baling press, the combination of a pitman, means for imparting a forward movement to the pitman, a tube fitting over the outer end of the pitman and provided with bearing points 31 and 33, a cam plate located beneath the pitman, and a roller 25 working in connection with the cam-plate, substantially as set forth.

CHAS. E. WHITMAN.

In presence of—

STANLEY STONER,
W. FINLEY.