No. 724,063. PATENTED MAR. 31, 1903.

L. TRABUE & C. E. PURCELL.

BALING PRESS.

APPLICATION FILED AUG. 23, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. I.

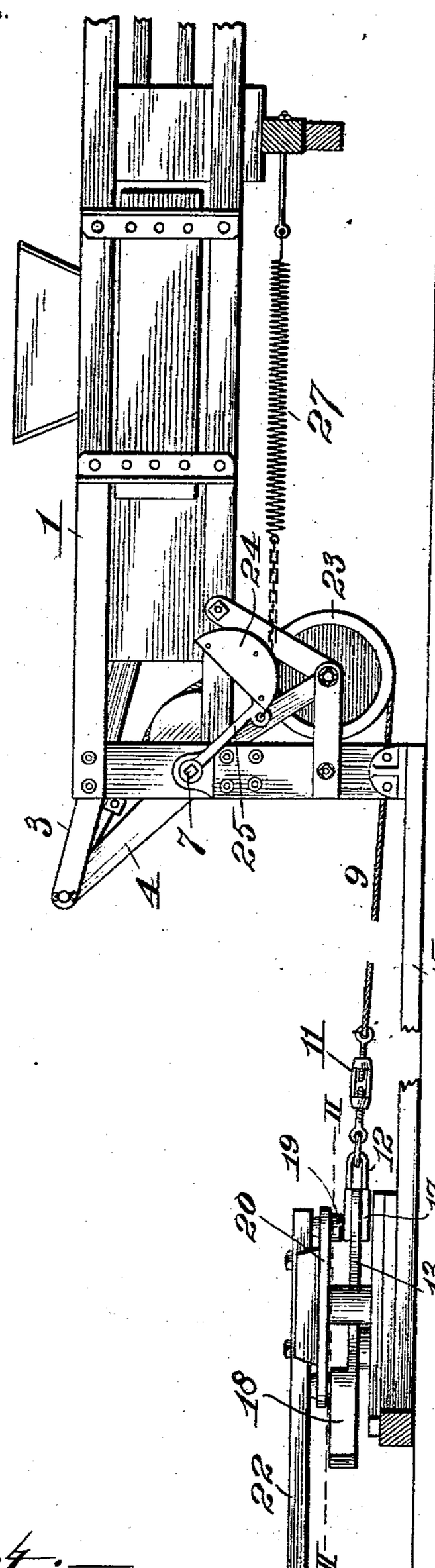
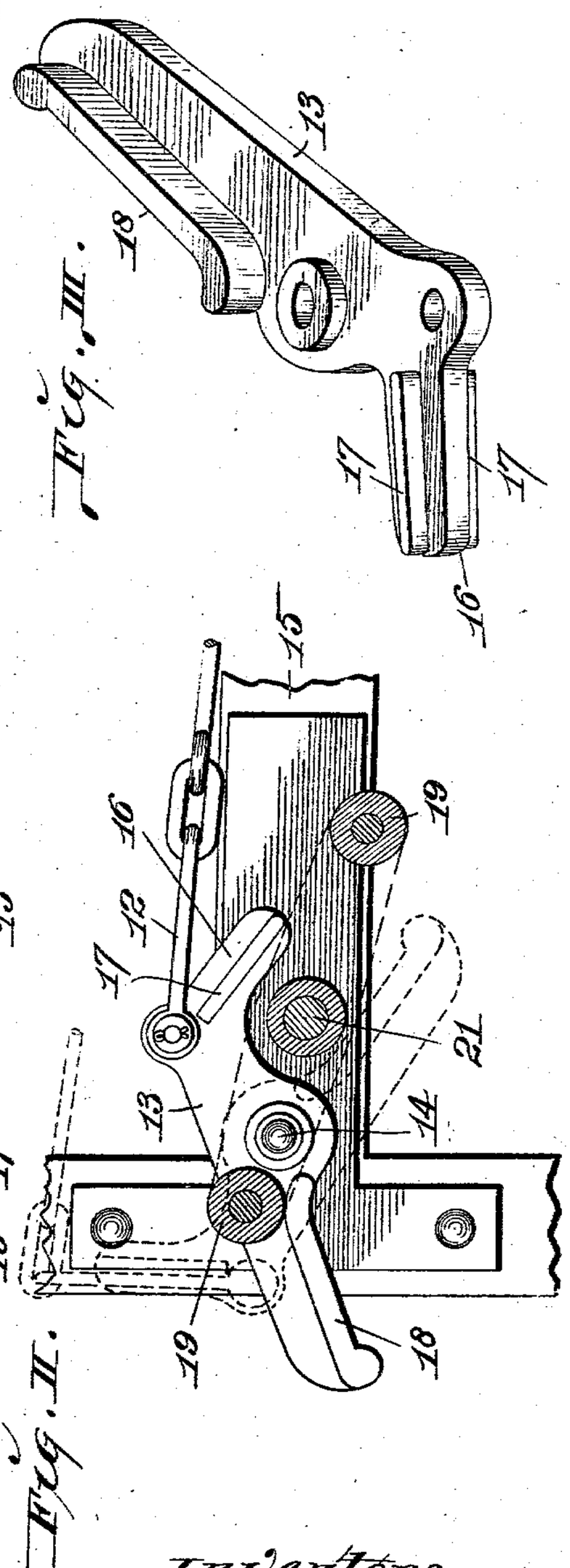


Fig. II.



Attest:—
M. L. Smith,
E. L. Knight

Inventors,—
Luther Trabue and
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By Wright Bro & Catty's.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. IV.

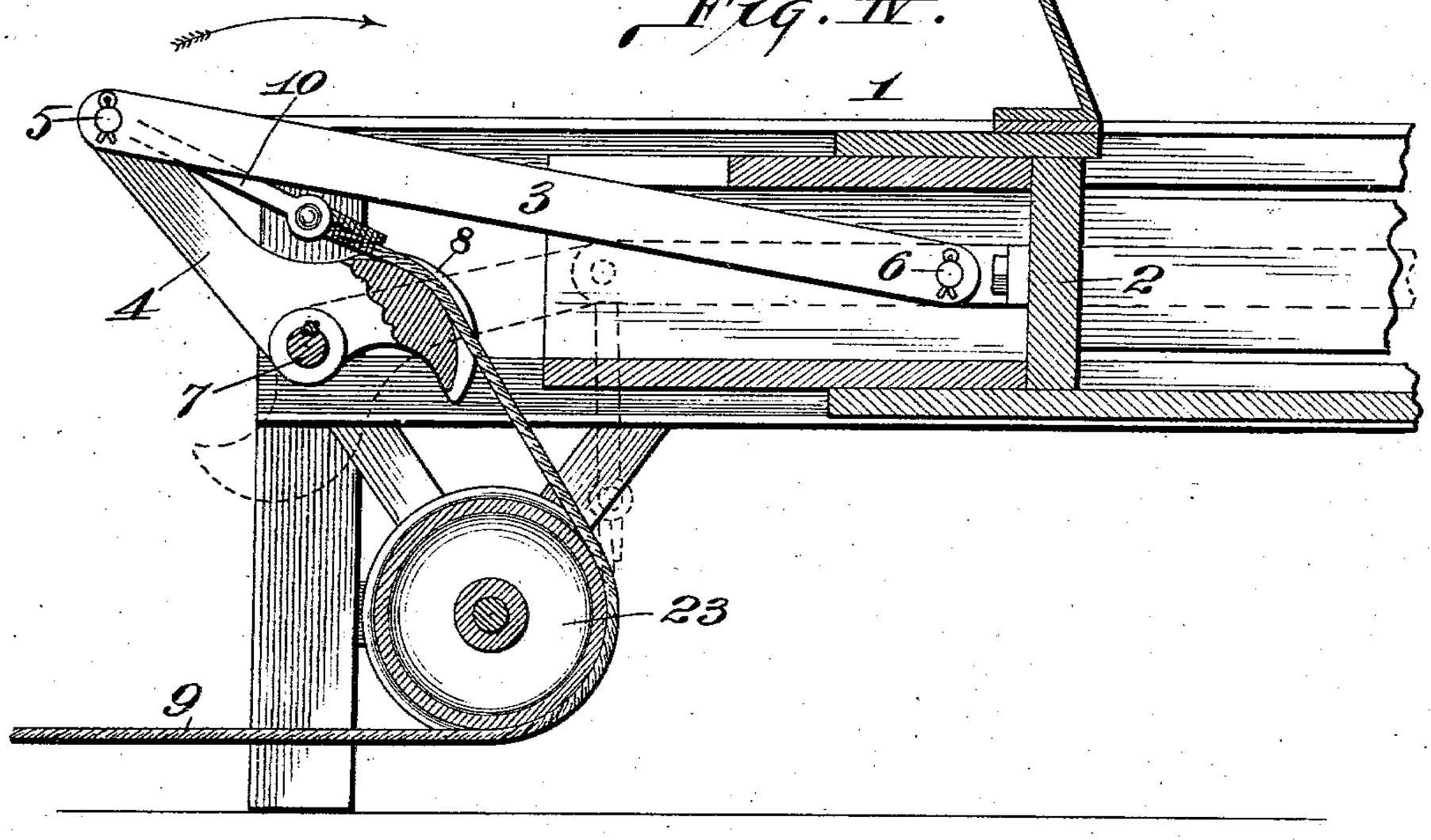


Fig. V.

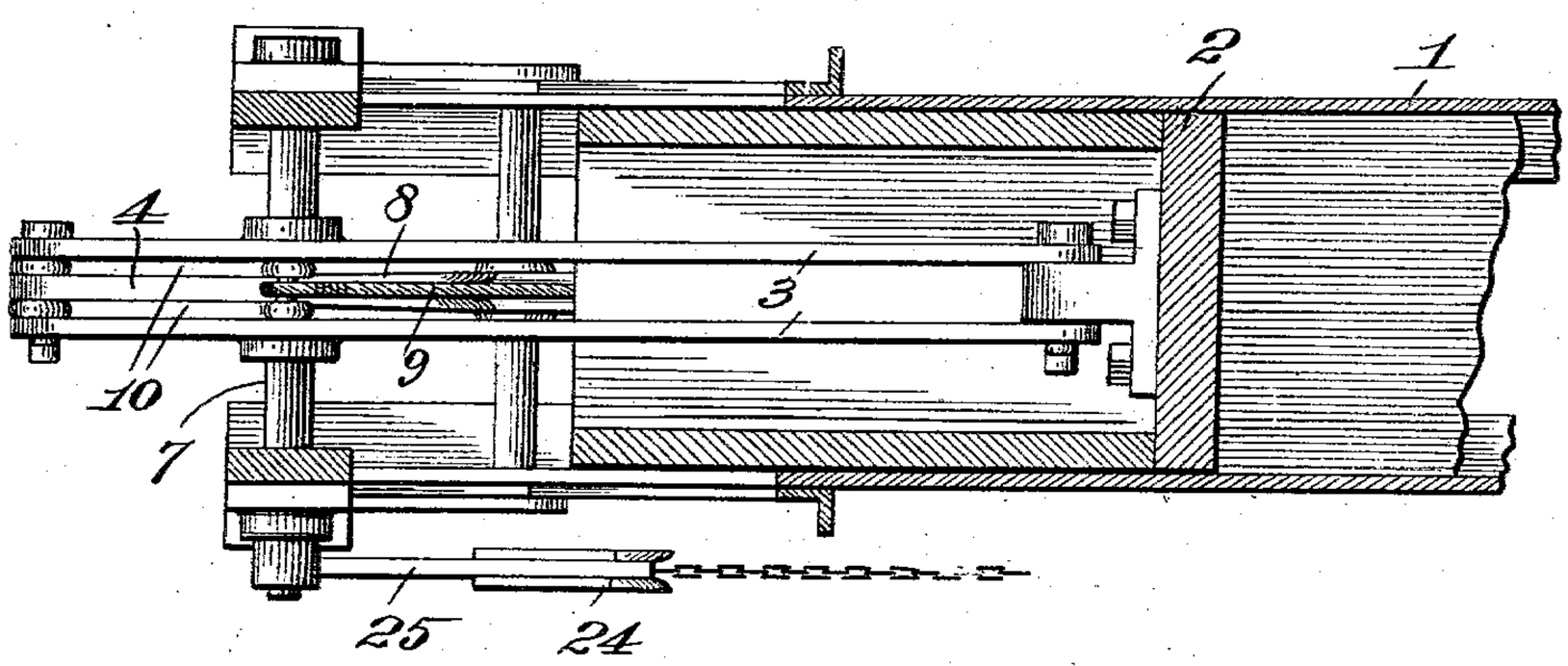
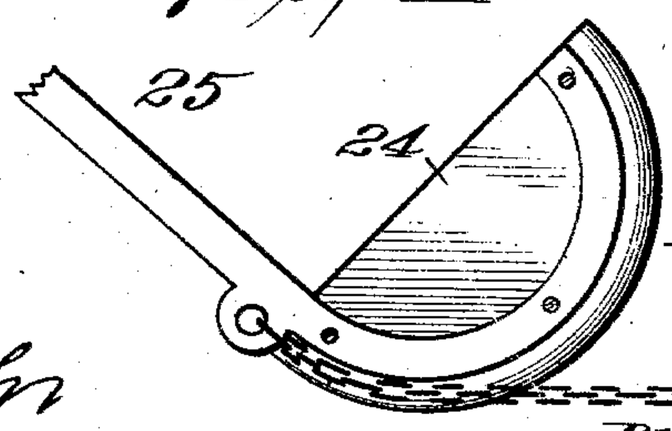


Fig. VI.



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UNITED STATES PATENT OFFICE.

LUTHER TRABUE, OF GIRARD, ILLINOIS, AND CHARLES E. PURCELL, OF BELLEVUE, OHIO, ASSIGNORS TO THE OHIO HAY PRESS COMPANY, OF BELLEVUE, OHIO, A CORPORATION.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 724,063, dated March 31, 1903.

Application filed August 23, 1902. Serial No. 120,793. (No model.)

To all whom it may concern:

Be it known that we, LUTHER TRABUE, residing at Girard, in the county of Macoupin and State of Illinois, and CHARLES E. PURCELL, residing at Bellevue, in the county of Huron and State of Ohio, citizens of the United States, have invented certain new and useful Improvements 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.

Our invention relates to a press for baling hay, straw, excelsior, and the like; and our invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a side view of our improved press, part in section, part of the connection between the power end of the press and the body or baling-chamber being broken away. Fig. II is an enlarged longitudinal section taken on line II II, Fig. I. Fig. III is a perspective view of the cam-lever. Fig. IV is a detail vertical section of the body or baling-chamber portion of the press. Fig. V is a detail horizontal section of the same. Fig. VI is a detail view showing the cam of the plunger-retracting mechanism.

Referring to the drawings, 1 represents the body of the press, which may be of any desired construction.

2 represents the plunger or traverser, and 3 4 represent the toggle formed in two parts, hinged together at 5, the inner end of the part 3 of the toggle being connected to the traverser at 6 and the part 4 of the toggle being pivoted to the frame of the press by a shaft 7. On the inner end of the part 4 of the toggle there is formed a cam 8, upon which bears a cable 9, that is attached to the toggle at its joint by means of a link 10. The other end of the cable 9 is connected to a turnbuckle 11, as shown in Fig. I, and the buckle is connected by means of a link 12 to one end of a cam-lever 13, this lever being pivoted at 14 to the outer end of a reach 15, that connects the power end of the press with the body portion of the press. The end of the lever 13 to which the link 12 is pivoted is provided with an inwardly-extending projection 16, having an upper and a lower rib 17, as seen in Fig. III. The other end of this lever is provided with a cam 18, adapted to receive the impact of friction-rollers 19, located on the under side of the outer ends of a cross-head 20. The cross-head is pivoted to the reach 15 at 21, and to it is secured the sweep 22.

In the operation of the press one of the rollers 19 comes against the cam 18 of the lever as the sweep is turned and moves the lever from the position shown in full lines, Fig. II, to the position shown in dotted lines, Fig. II. As it thus moves the lever the cable 9 is drawn around a fixed pulley 23, which moves the pitman from the position shown in full lines, Fig. IV, to the position shown in dotted lines, Fig. IV, thus causing the forward movement of the traverser. During the first part of this movement the cable bears upon the cam 8 of the toggle and causes the forward movement of the traverser by the pressure of the cable against the cam, so that the tendency of the cable to pull against or in line with the pivot 7 of the outer member of the toggle is overcome. As the plunger advances the cam 8 leaves the cable and the latter then has a direct pull on the toggle at its joint. During the first part of the advance movement of the plunger the link 12 has a direct pull on the cable and during the latter part of the movement the link is transformed into a lever by coming against the ribs 17, so that the pull-point of connection between the cable and the cam-lever is at the commencement of the stroke at the point where the link is pivoted to the cam-lever, whereas at the final or last movement of the plunger the pulling-point between the cable and the cam-lever is at the outer end of the link 12, which is further removed from the pivot of the cam-lever.

As a means for retracting the traverser when one of the rollers 19 leaves the outer end of the cam 18 we employ a cam 24, secured by an arm 25 to the non-circular end of the pivot-shaft 7, that connects the outer section 4 of the toggle to the frame of the press. As the plunger advances the cam 24 is moved toward the power end of the press,

and as it does so it distends a coil-spring 27, that is connected at one end to the cam and at the other end to the frame of the press. When the cross-head leaves the cam 18 of the lever 18 the parts are free to be returned to their normal position, and this is effected by the contraction of the spring 27.

We claim as our invention—

1. In a baling-press, the combination of a baling-chamber, a traverser, a toggle pivoted at one end to the traverser, and at the other end to the body of the press, a cam on the end of the toggle that is pivoted to the body of the press, a cable connected to the toggle at its joint, bearing against, but not connected with, the cam during the first part of the forward movement of the traverser, and means for exerting pressure on the cable to advance the traverser, substantially as set forth.

2. In a baling-press, the combination of a traverser, a toggle, a cable connected at one end to the toggle, a cam-lever, a sweep and cross-head for imparting movement to said cam-lever, a link secured to the other end of the cable and to the cam-lever, and ribs against which said link bears as the traverser advances so that during the first part of the movement of the cam-lever there is a direct pull on the cable and during the latter part of the movement the link is transformed into a lever by coming into contact with the ribs.

3. In a baling-press, the combination of a traverser, a toggle, a cable connected at one end to said toggle, a lever, a link connected to the other end of the cable and to the lever, a projection on said lever, ribs on the projection against which said link bears as the traverser advances, so that during the first part of the movement of the cam-lever there is a direct pull on the cable and during the latter part of the movement the link is transformed into a lever by coming into contact with the ribs, a sweep and cross-head; a cam on said lever, and friction-rollers carried by said cross-head, and adapted to engage the cam, substantially as set forth.

4. In a baling-press, the combination of a traverser, a toggle, a cam connected to the toggle, a cable connected to said toggle at its joint, bearing against, but not connected with, the cam during the first part of the movement of said traverser, a pulley around which said cable passes, a lever to which the other end of said cable is connected, a sweep and cross-head; a cam on the lever, and friction-rollers carried by said cross-head and adapted to engage the cam, substantially as set forth.

5. In a baling-press, the combination of a traverser, means for imparting forward movement to the traverser, and means for retracting the traverser, consisting of a cam adapted to be moved by the means that advances the traverser, and a coil-spring connecting said cam to a fixed part of the press, substantially as set forth.

6. In a baling-press, the combination of a traverser, a jointed toggle, connected at one end to the traverser and at the other end to the body of the press by means of a shaft, means for effecting the forward movement of the traverser, and means for retracting the traverser, consisting of a cam provided with an arm connected to said shaft, and a spring connected at one end to said cam and at the other end to a fixed part of the press, substantially as set forth.

LUTHER TRABUE.
CHARLES E. PURCELL.

In presence of—
HARRY B. RUHL,
RALPH W. AIGLER.