

(No Model.)

2 Sheets—Sheet 1.

W. S. LIVENGOOD.
BALING PRESS.

No. 479,287.

Patented July 19, 1892.

Fig. I.

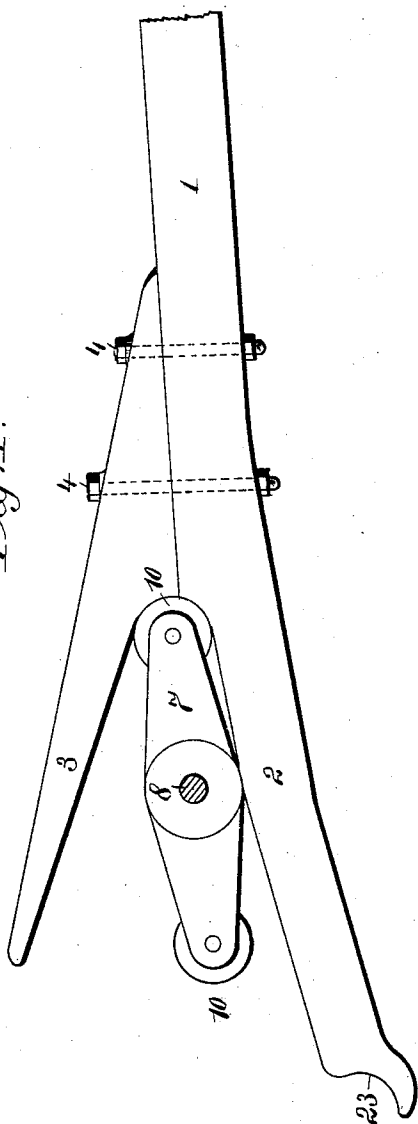
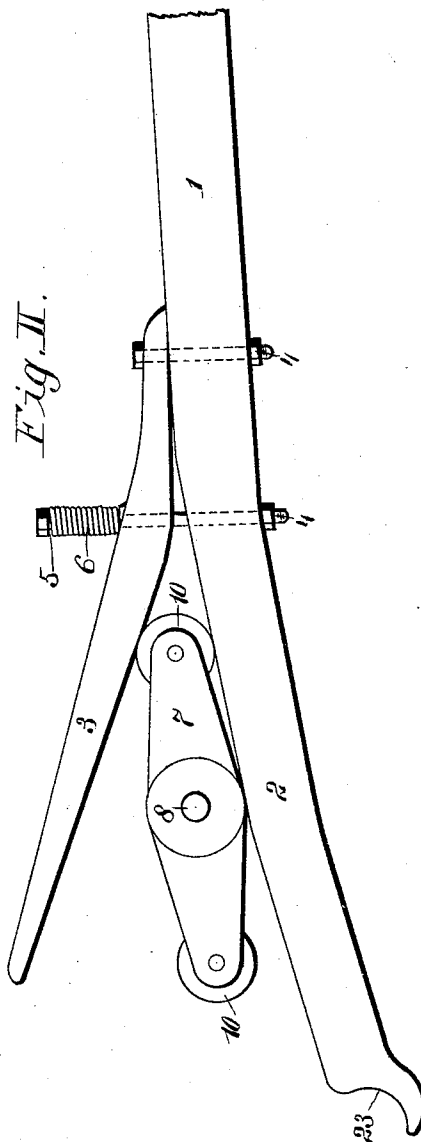


Fig. II.



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By Knigh Bros. Attys.

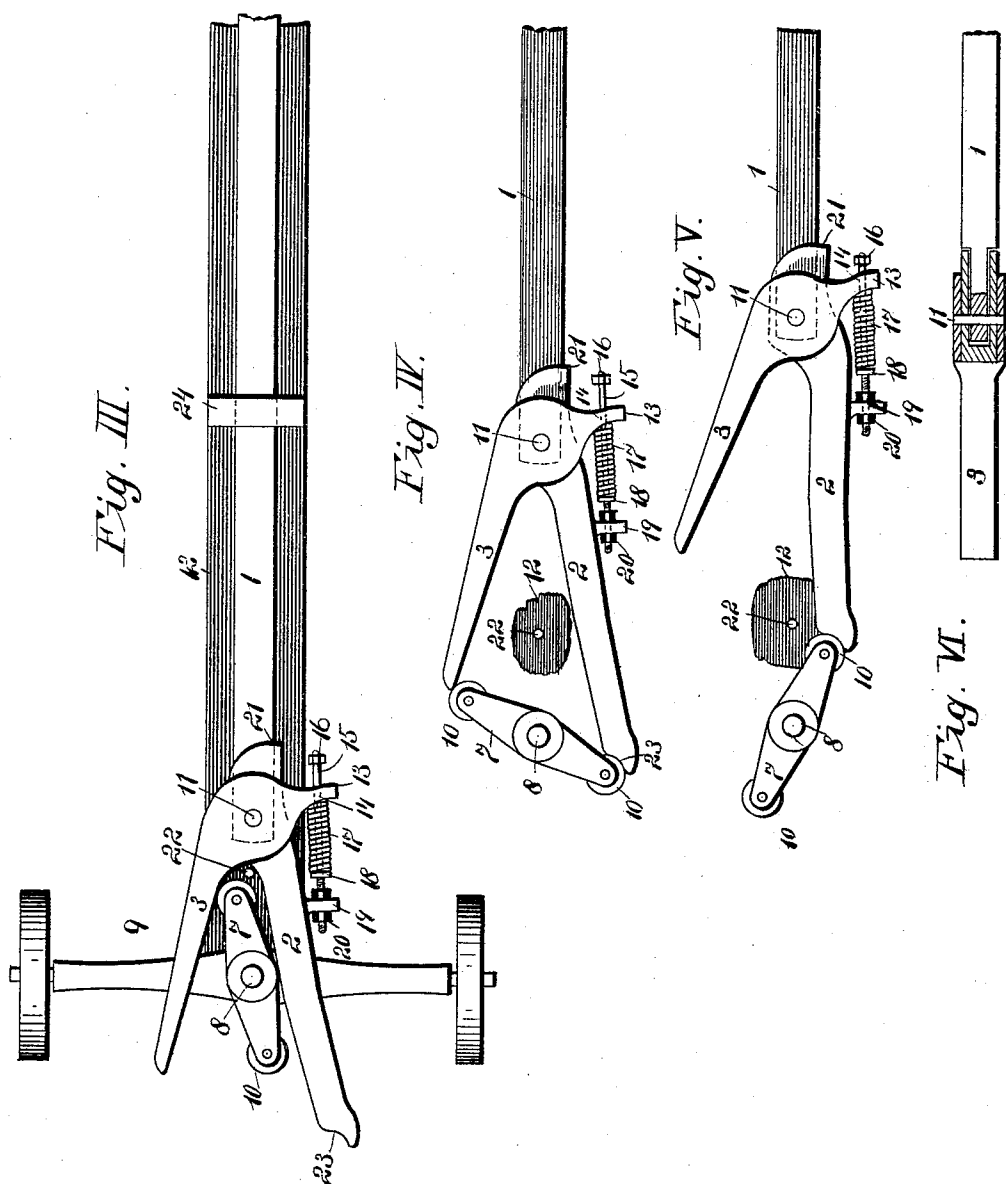
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BALING PRESS.

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Witnesses:
J. G. Fischer
Walter E. Allen.

Inventor:
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UNITED STATES PATENT OFFICE.

WINFIELD S. LIVENGOD, OF KANSAS CITY, MISSOURI, ASSIGNOR TO
EPHRAIM C. SOOY, OF SAME PLACE.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 479,287, dated July 19, 1892.

Application filed September 14, 1891. Serial No. 405,639. (No model.)

To all whom it may concern:

Be it known that I, WINFIELD S. LIVENGOD, of Kansas City, in the State of Missouri, 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, which form a part of this specification.

My invention relates to certain new and useful improvements in the operation of baling-presses; and my invention consists in certain features of novelty hereinafter described, and pointed out in the claims.

Figure I is a plan view of my improved pitman for operating baling-presses. Fig. II is a plan view showing one arm of the forked end of the pitman secured to the pitman-head in a slightly-different manner from that shown in Fig. I. Fig. III is a plan view showing another form of connection for connecting the forked end of the pitman with the pitman proper, showing the same forward nearly to its extreme limit in its relations with the trip-lever. Fig. IV is a plan view showing the manner in which the trip-lever forces the pitman backward. Fig. V is a plan view showing the position of the pitman and trip-lever when the pitman has been forced backward to its extreme limit. Fig. VI is a longitudinal section showing the manner in which the forked end of the pitman is secured to the pitman proper.

Referring to the drawings, 1 represents the body of the pitman and 2 3 the forked arms of the same. The arm 3 may be secured to the body of the pitman and connected with the arm 2 in a number of ways or it may be made an integral part of the same. In Fig. I, I have shown the arm 3 connected with the arm 2 and pitman 1 by means of bolts 4. In Fig. II, I have shown the arm 3 connected by means of the bolts 4, the forward one of said bolts being somewhat elongated, as shown at 5, and having a coiled spring 6 thereon, said spring 6 permitting of a certain amount of elasticity in the arm 3, which facilitates the operation of the press.

7 represents a trip-lever pivoted at its center to a vertical shaft 8, having suitable support by the front axle 9 or by the frame of

the press. The trip-lever 7 is provided at each of its ends with anti-friction rollers 10, which come in contact with the faces of the forked arms 2 3 in the operation of the press.

In Figs. III to VI, inclusive, I have shown a modification of the forked end of the pitman, in which the arms 2 3 are pivoted to the forward end of the pitman 1, as shown at 11. By thus pivoting the forward end of the pitman 1 I am enabled to operate the same in a straight line with the reach 12, instead of having a lateral movement of the pitman, which would be the case where the forked arms are secured rigidly to said pitman.

The arm 3 is provided with a rear extension 13, having an opening 14 therein, through which passes a bolt 15, having a nut 16 on its outer end to prevent the extension 13 from passing out of connection with said bolt. Forward of the extension 13 on the bolt 15 I place a coiled spring 17, limited in its forward movement by a collar 18 on said bolt. The forward end of the bolt 15 is adjustably secured to a lug 19 on the arm 2 by means of set-nuts 20, thereby increasing or diminishing the tension of the spring 17 at will, said bolt thus limiting the forward movement and said spring limiting the backward movement of the arm 3. The arm 2 is limited in its backward movement by an extension 21, which comes in contact with the pitman proper, said arm 2 being limited in its forward movement by means of a pin 22, secured to the reach 12. In operation when the pitman 1, together with its forked arms 2 and 3, is in the position shown in Figs. I to III, it is in the correct position to commence pressing a charge of material in the baling-chamber. (Not shown.) Then as the trip-lever 7 is rotated by a sweep or other means from the position shown in said figures to the position shown in Fig. IV, with one of the anti-friction rollers 10 pressing against the face of the arm 3, said roller will cause the pitman to travel backward from the position shown in Figs. I to III to the position shown in Fig. IV, at which time the opposite one of the rollers 10 will engage the curved portion 23 on the forward end of the arm 2, and as said trip-lever is further rotated to the position shown in Fig. V, the pitman 1 will be forced backward to its extreme

limit and the charge in the baling-chamber will be completely pressed, and on a still further movement of the trip-lever 7 the roller 10 will pass out of engagement with the end of the arm 2, permitting the pitman to spring forward into the position shown in Fig. III, preparatory to compressing a new charge in the baling-chamber. As said pitman and forked arms travel forward, the arm 3 will come in contact with the forward roller 10, and thus act as a brake to ease the rebound of the pitman. The face of the arm 3 is constructed on a greater angle than that of the arm 2, so as that when the trip-lever is rotated the roller which bears against the arm 3 will cause the pitman to travel backward, even if the opposing roller should be bearing against the face of the arm 2. I thus obtain a backward movement of the pitman, but by a forward movement of the trip-lever at a time when very little force is required to operate the pitman. Then, as more force is required, the opposite roller 10 comes in contact with the forward end of the arm 2 and forces the same backward, as before described.

24 represents a guide on the reach 12, which limits the lateral movement of the pitman 1.

I claim as my invention—

1. A pitman for operating baling-presses, having its forward end forked, and means, in connection with the arms of said forked end, for operating said pitman, substantially as described, and for the purpose set forth.

2. In a baling-press, the combination of the pitman forked at one end, the trip-lever working in said forked end and adapted to engage the sides of the arms of said forked end, and means for moving said trip-lever upon its fulcrum, substantially as and for the purpose set forth.

3. In a baling-press, the combination of a pitman having its forward end forked, a trip-lever for engaging the arms of said forked end, one of said arms having its face constructed on an angle of greater degree than the angle of the other arm, substantially as described, and for the purpose set forth.

4. In a baling-press, the combination of a pitman having its forward end forked, one arm of said fork having its face constructed on an angle of greater degree than the other arm and having said arms formed of unequal lengths, substantially as described, and for the purpose set forth.

5. The combination, with a baling-press, of a pitman provided with suitable bearings and having a forked head whose arms are of un-

equal lengths and have their faces constructed at angles of different degrees and the longer one of which arms has a curved end, and the trip-lever adapted to work in said forked end and engage the respective faces of the arms and to engage said curved end of the longer arm, substantially as and for the purpose set forth.

6. In a baling-press, the combination of a pitman having its forward end forked and a trip-lever for engaging the same, one arm being removably connected with the pitman and the other arm.

7. In a baling-press, a pitman having its forward end forked, one arm of said fork being an integral part of the pitman and the other being secured thereto by bolts having a spring for permitting lateral movement of the latter arm.

8. In a baling-press, the combination of a pitman having forked arms 2 3 pivoted thereto, a trip-lever for engaging said forked arms, one of said arms having its face formed on an angle of greater degree than the other arm, substantially as described, and for the purpose set forth.

9. In a baling-press, the combination of a pitman having forked arms 2 3 pivoted thereto, a trip-lever for operating the same, and spring connection between the different arms of the fork for giving elasticity to the same, substantially as described, and for the purpose set forth.

10. In a baling-press, the combination of a pitman, forked arms pivoted thereto, a shoulder 21 for limiting the backward movement of the arm 2, a pin 22 for limiting the forward movement of said arm, substantially as described, and for the purpose set forth.

11. In a baling-press, the combination of a pitman, forked arms 2 3, pivoted thereto, an extension 13 on the arm 3, a bolt 15 for connecting the same with the arm 2, and a spring on said bolt, substantially as described, and for the purpose set forth.

12. In a baling-press, the combination of a pitman, forked arms pivoted thereto, an extension 13 on the arm 3, a lug 19 on the arm 2, a bolt 15 for connecting said extension with said lug, a spring 17 on said bolt, a collar 18 on said bolt, and set-nuts 20 for adjusting said bolt, substantially as described, and for the purpose set forth.

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Witnesses:

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