

(No Model.)

3 Sheets—Sheet 1.

H. L. WHITMAN.
BALING PRESS.

No. 472,838.

Patented Apr. 12, 1892.

Fig. I,

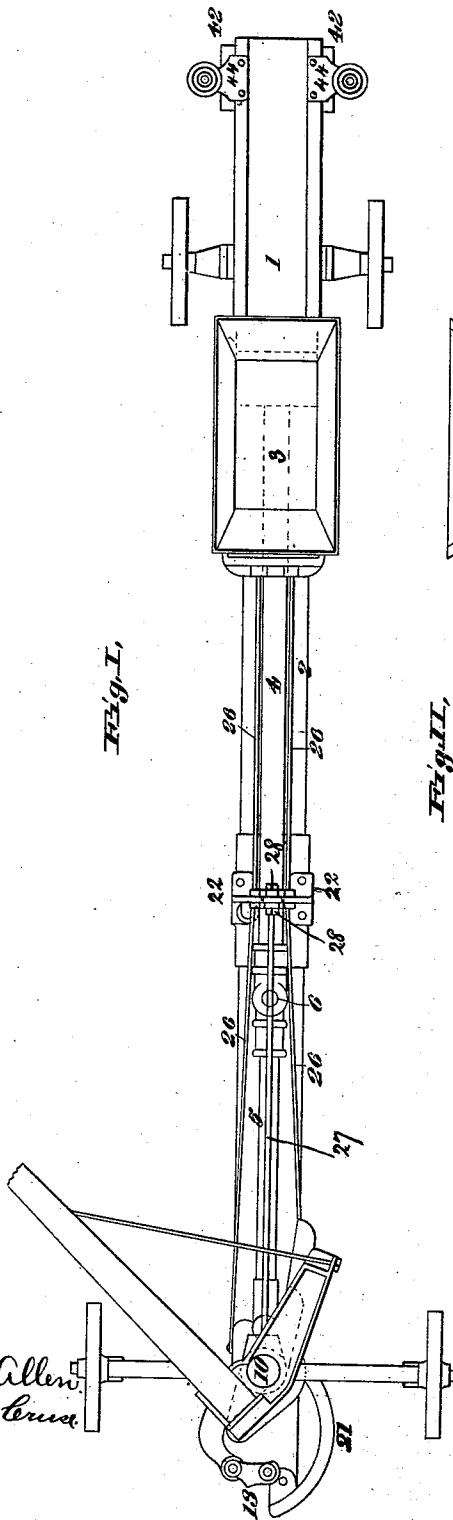
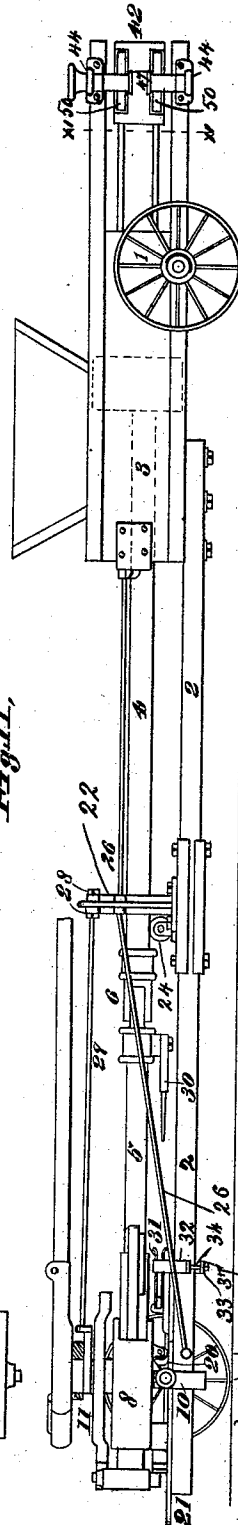


Fig. II,



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Fig. III.

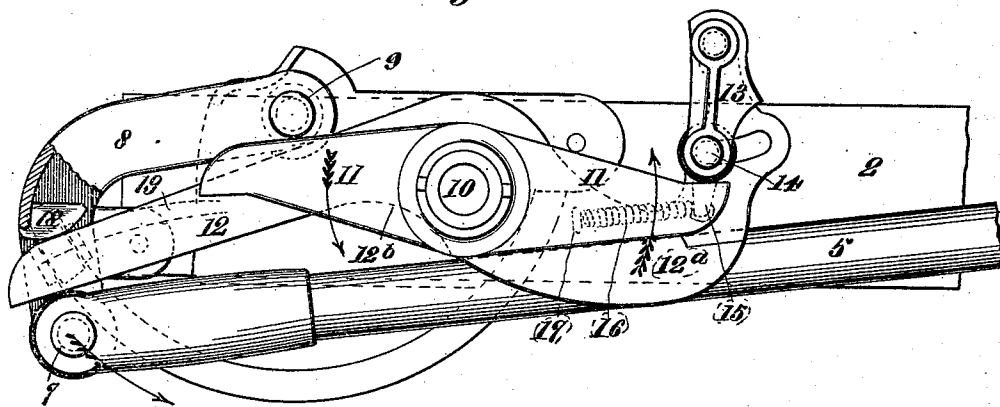


Fig. IV.

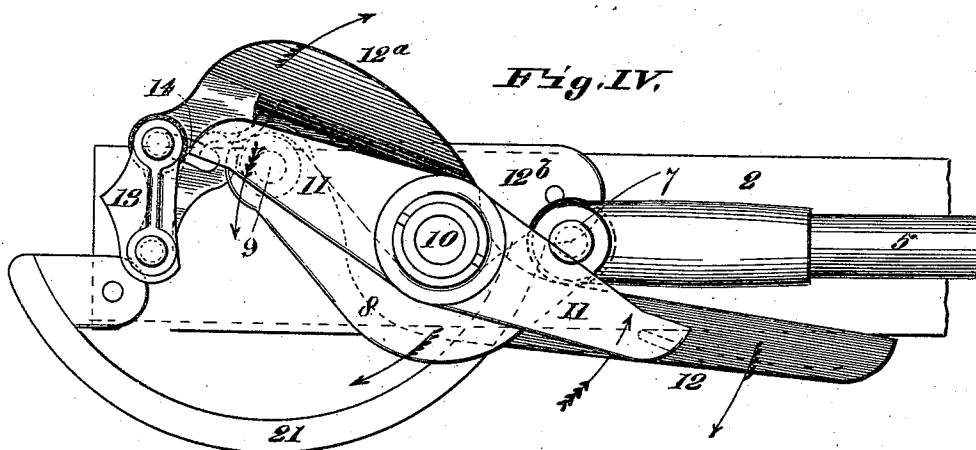
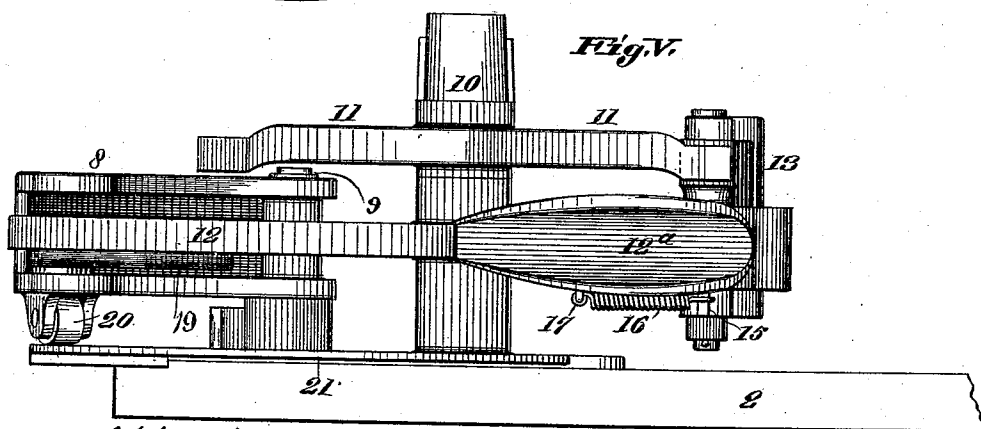


Fig. V.



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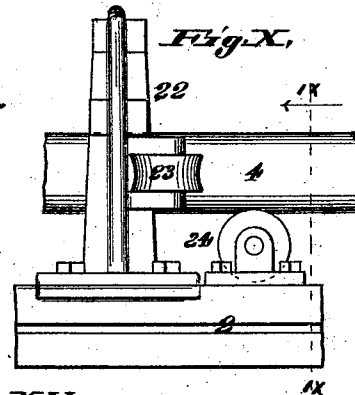
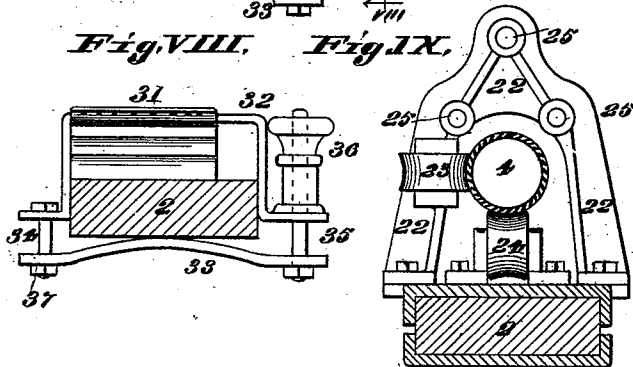
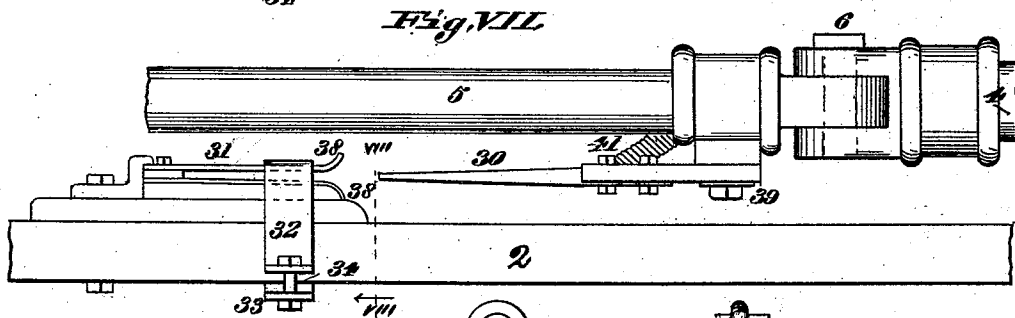
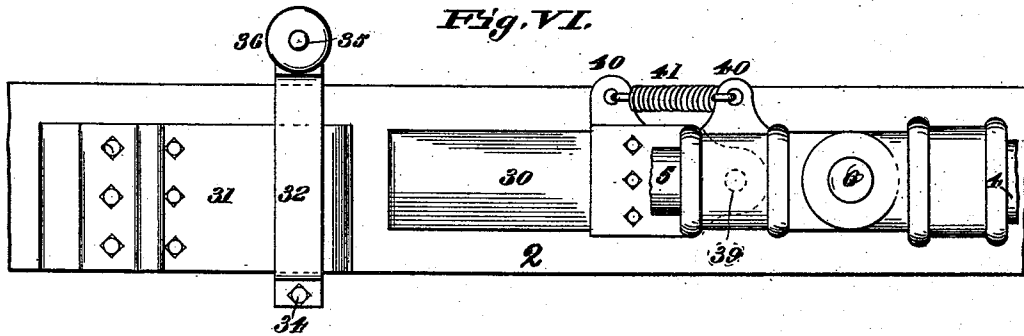
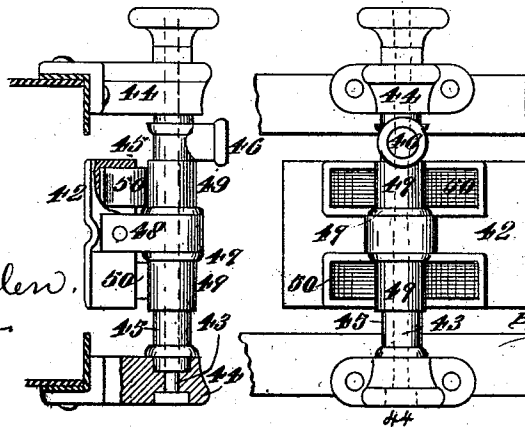


Fig. XI. *Fig. XII.*



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UNITED STATES PATENT OFFICE.

HENRY L. WHITMAN, OF ST. LOUIS, MISSOURI.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 472,838, dated April 12, 1892.

Application filed July 25, 1891. Serial No. 400,743. (No model.)

To all whom it may concern:

Be it known that I, HENRY L. 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 baling-presses; and it consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a top or plan view of my improved press. Fig. II is a side elevation. Fig. III is an enlarged top view of the power end of the press. Fig. IV is a similar view showing the parts in a different position. Fig. V is an elevation of the same parts. Fig. VI is a top view of the part of the press located centrally between the baling end and power end of the press. Fig. VII is an elevation of the same. Fig. VIII is a vertical section taken on line VIII VIII, Fig. VII. Fig. IX is a vertical section taken on line IX IX, Fig. X. Fig. X is a detail elevation showing the support of the pitman of the press. Fig. XI is an enlarged detail section taken on line XI XI, Fig. II; and Fig. XII is a side elevation of the part shown in Fig. XI.

Referring to the drawings, 1 represents the baling-chamber of the press, connected to the power end of the press by means of a sill or bridge-tree 2.

3 represents the plunger, moved through means of a pitman consisting of an inner section 4 and an outer section 5, pivoted together at 6. The outer end of the outer section is pivoted at 7 to the outer end of the link 8, pivoted at its inner end at 9 to the outer end of the sill or bridge-tree 2. A link similar in its operation to the link 8 is shown in my patent, No. 446,311, of February 10, 1891.

10 represents the central shaft, to which the power may be applied as in my patent referred to.

11 represents the cross-head, and 12 the outer arm, and 12^a the inner arm, the cross-head and arms of this specification being the

same in their arrangement and use as in the patent referred to, in which they are marked, respectively, 23, 25, and 25^a, except in the present instance the arm 12 has a straight bearing portion leading to a curved bearing portion 12^b near its inner end, which rolls around the end of the pitman as the plunger reaches the limit of its forward movement, thus effecting a great power as the final pressure is being made.

13 represents a block pivoted to the outer end of the arm 12^a and having at its inner end a slot-and-pin connection 14 with the arm, this block having its counterpart in my patent mentioned, wherein it is indicated by the numeral 27. In that patent the free end of the block is forced to its inner position by means of a short spring 32, acting on the block between its pivot and the slot-and-pin connection of the block with the arm. To provide a more durable and effective spring arrangement, I now form an extension 15 on the inner end of the pivoted block, which projects beyond the slot-and-pin connection and to which one end of a spring 16 is connected, the other end of the spring being connected at 17 to the arm 12^a. (See Figs. III and V.) With this arrangement the spring exerts a greater power on the block, as well as having greater elasticity and freedom of movement. In the patent referred to there was a loose contact between the outer end of the arm 25 (which corresponds to the arm 12 of this specification) and its point of contact between the end of the pitman and the link, which at times was objectionable, as it is desirable to have the arm always bear against the end of the pitman. To avoid this difficulty, I now form a lug or shoulder 18 on the link 8, which bears against the back of the arm 12 or against the flange 19, formed upon the under side of the arm. There is sufficient room between this lug or shoulder and the pitman 7 for the arm 12 to fit and work, as shown clearly in Fig. III, and it will be readily seen that this shoulder or lug will always keep the front face of the arm 12 in contact with the end of the pitman, whatever the position of the parts may be.

20 represents a friction-roller located on the under side of the link 8 and which travels upon a track 21, secured to the sill or bridge-tree 2. These features have their counterparts in my patent referred to.

Secured to the sill or bridge-tree about midway between the baling-chamber and the power end of the press is a bridge frame or casting 22, (see Figs. I, II, IX, and X,) to which bridge-frame is journaled a horizontal friction-roller 23, against which the side of the section 4 of the pitman bears, the roller being placed on the side of the pitman in which the latter has a tendency to move as it is forced in and out in the operation of the press.

Secured to the sill or bridge-tree near the bridge frame or casting 22 is a vertical friction-roller 24, upon which the section 4 of the pitman rides. The pitman is thus supported by bearing against the friction-rollers 23 and 24, which practically offer no resistance to the movement of the plunger.

The bridge frame or casting has perforations 25, through the lower two of which pass truss-rods 26, that connect the inner end of the baling-chamber to the outer end of the sill or bridge-tree 2, as shown clearly in Fig. II.

27 represents a rod passing through the upper perforation 25 and held therein by nuts 28 and which extends to the upper end of the shaft 10. These rods serve to tie the press together and keep the sill or bridge-tree from sagging.

30 represents a wedge secured, preferably, to the inner end of the section 5 of the pitman, and which as the plunger reaches the limit of its backward movement enters between jaws 31, secured to the sill or bridge-tree 2. These parts are best illustrated in Figs. VII and VIII. The upper jaw can be adjusted to regulate the friction upon the wedge by means of a strap 32 and a spring 33, connected by bolts 34 and 35, the bolt 35 having a thumb-nut 36. The strap passes over the jaws, as shown clearly in Figs. VII and VIII, and the spring fits beneath the sill or bridge-tree, and by tightening on the thumb-nut 36 and, if necessary, upon the nut 37 of the bolt 34 the top jaw may be pulled down toward the lower jaw, for the purpose stated. The jaws have outturned ends 38 to insure the entrance of the wedge between them. To keep the wedge parallel with the front section 4 of the pitman and with the jaws 31 and prevent it from moving in the arc of a circle with the section 5 of the pitman, I pivot it to the section 5 of the pitman, as shown at 39, and connect it by means of lugs 40 and a spring 41 to the pitman, the action of the spring being to hold the wedge parallel to the jaws while the section 5 of the pitman swings out of this parallel line. If preferred, the wedge 30 may be secured to the section 4 of the pitman, and it would then not have to be pivoted and the spring 41 could be dispensed

with, because this section of the pitman moves on a parallel line with the jaws.

42 represents plates located at the sides of the delivery end of the baling-chamber and which correspond to the plate 60 and have the function of the plate 60 of my patent mentioned.

43 represents rods secured to the sides of the press by lugs or projections 44. 45 are sleeves surrounding the rods between the projections 44 and which have sockets 46 to receive a lever for turning them, as in the patent. The plates are connected to central hubs 47 on the sleeves by means of straps 48.

49 represents cams on the sleeves and which bear against horizontal flat springs 50, secured to the plates.

The present arrangement differs from that shown in my patent in that a twin point of bearing between each sleeve and its plate is provided, so that the plates are held with their inner faces at a right angle to the top and bottom plates of the baling-chamber and are not liable to become twisted or to get out of shape.

I claim as my invention—

1. In a baling-press, in combination with a power-shaft, the inner and outer arms secured to the power-shaft, a pitman moved by the arms, a cross-head, a block 13, pivoted to the outer arm, having a pin-and-slot connection therewith, and an extension 15, projecting beyond the pin-and-slot connection, and a spring 16, secured at one end to said extension and at the other to the outer one of said arms, substantially as and for the purpose set forth.

2. In a baling-press, the combination of a power-shaft, a pitman, a cross-head on the shaft, and the inner and outer arms adapted to be moved by the cross-head and the inner one of them having the straight bearing portion and the curved bearing portion 12^b, substantially as and for the purpose set forth.

3. In a baling-press, the combination of a power-shaft, a cross-head, arms adapted to be moved by the cross-head, a pivoted link, and a pitman, said link having a shoulder 18, between which and the end of the pitman one of said arms fits, substantially as and for the purpose set forth.

4. In a baling-press, the combination of a plunger, a pitman, a wedge secured to the pitman, and jaws between which said wedge enters as the plunger reaches the limit of its backward movement, substantially as and for the purpose set forth.

5. In a baling-press, the combination of a plunger, a pitman, a wedge secured to the pitman, and adjustable jaws between which the wedge enters as the plunger reaches the limit of its backward movement, substantially as and for the purpose set forth.

6. In a baling-press, the combination of a plunger, a pitman, a wedge secured to the pitman, jaws adapted to receive the wedge

as the plunger reaches the limit of its backward movement, and a strap 32 and spring 33 and bolts 34 35, substantially as and for the purpose set forth.

5 7. In a baling-press, the combination of a plunger, a pitman, a wedge pivoted to the pitman, a spring 41, and jaws between which

the wedge enters as the plunger reaches the limit of its backward movement, substantially as and for the purpose set forth.

HENRY L. WHITMAN.

In presence of—

E. S. KNIGHT,

BENJN. A. KNIGHT.