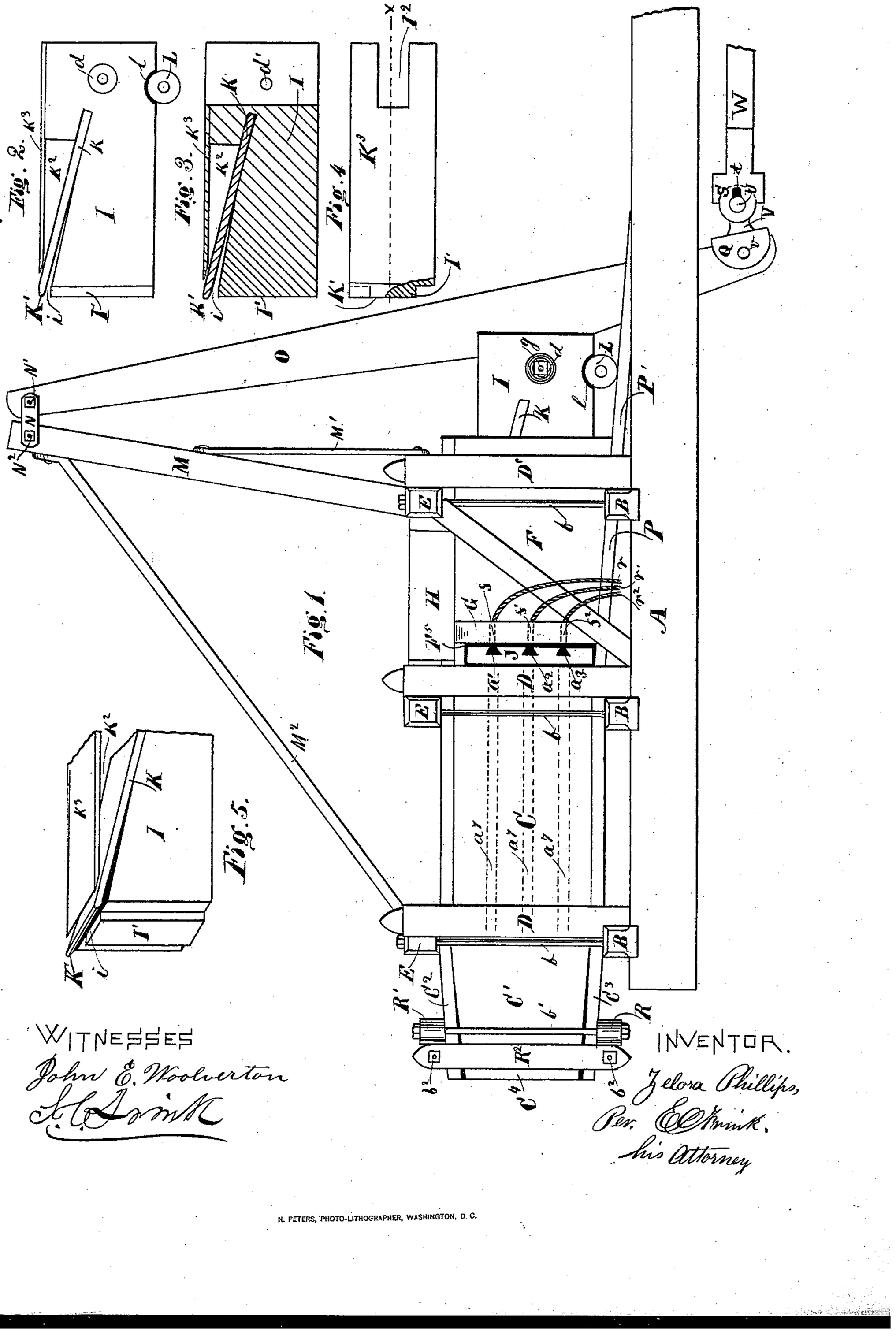
2 Sheets—Sheet 1.

Z. PHILLIPS.

Baling-Presses.

No. 208,119. Patented Sept. 17, 1878.



WITNESSES

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INVENTOR.

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his Attorney

2 Sheets—Sheet 2.

Z. PHILLIPS.

Baling-Presses.

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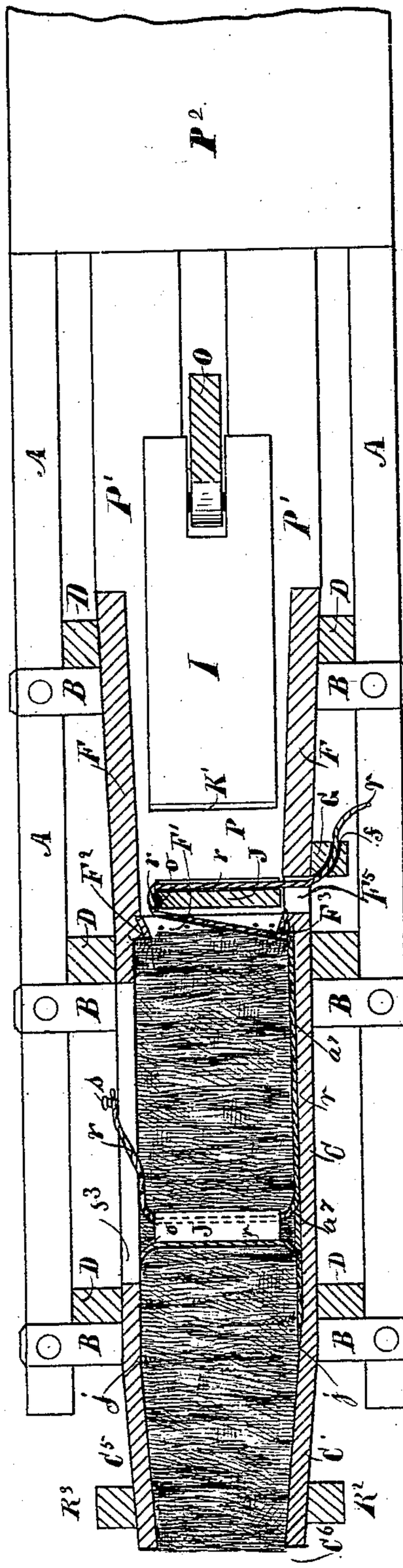

Fig. 6.

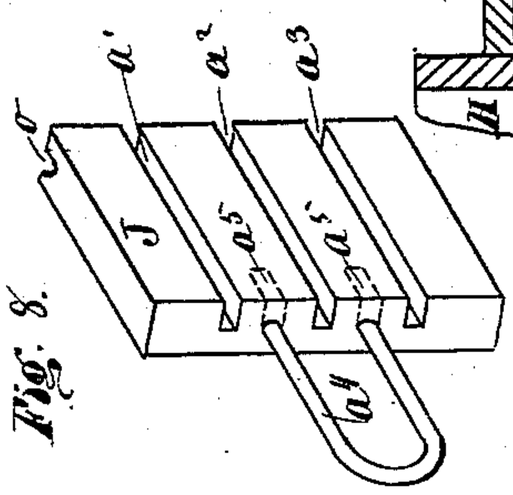

Fig. 8.

Fig. 10.

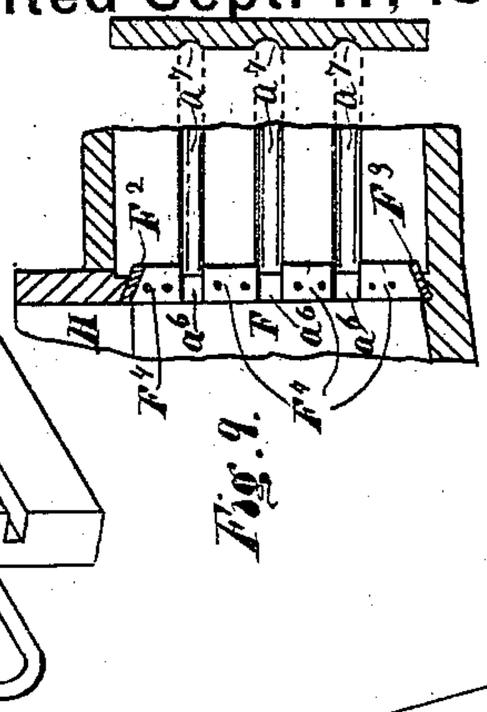

Fig. 9.

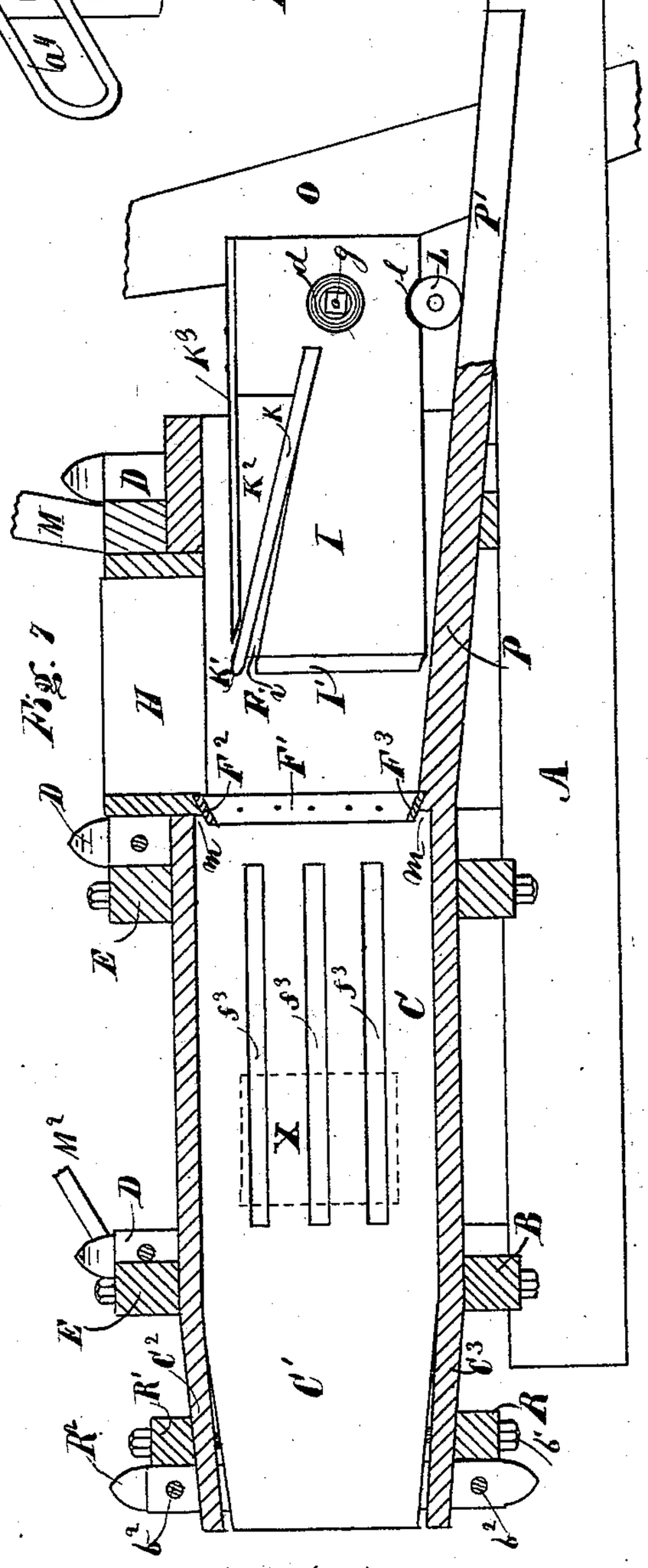

Fig. 7.

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UNITED STATES PATENT OFFICE.

ZELORA PHILLIPS, OF LITTLE ROCK, ARKANSAS.

IMPROVEMENT IN BALING-PRESSES.

Specification forming part of Letters Patent No. **208,119**, dated September 17, 1878; application filed February 15, 1878.

To all whom it may concern:

Be it known that I, ZELORA PHILLIPS, of Little Rock, in the county of Pulaski and State of Arkansas, have invented certain new and useful Improvements in Baling-Presses, which are fully set forth and described in the following specification, and illustrated in the accompanying drawings.

My invention relates to that class of baling-presses in which the material that is to be compressed into bales is admitted into the press in successive charges and alternately pressed and advanced into a bale-chamber until the requisite quantity of material has been packed and baled, and then discharged by means of additional charges of material.

The object of my invention is to provide a system of newly constructed and arranged devices having new modes of operation for pressing alternate charges of material horizontally, and which at the same time produce a lateral and vertical inward squeezing of the material toward the center of the charge, decreasing its lateral and vertical size, and also producing an additional longitudinal pressure in the vertical center of the charge from the commencement of the stroke of the traverser on the loose material to the end of said stroke, at which point the material acquires its greatest compression in the press-box. When the material is forced out of the press-box into the larger bale-expanding chamber it is also allowed a vertical and lateral expansion on all four sides, all of which are results distinguishable from any heretofore accomplished; and, further, to facilitate the introduction of the tie-bands in the press-box by means of a follower-block, whereby said ties are carried across the press-box, and then conveyed into the bale-expanding chamber between the completed and next forming bale, said forming bale being made by alternate advancements caused by the alternate charges of material until said tie-bands, moving in grooves in the inside of the bale-expanding chamber, have reached an opening or slots in the side of the bale-expanding chamber, from whence they are drawn out by a hook and cut, and then the finished bale is tied. The severed advanced ends of the ties at the front of the forming bale are secured until the next follower-block shall bring its portion of the ties to again allow the finished bale to be tied, and so on with the following bales. These are also new results. And, further, to accomplish, by means of a delivery-opening reduced in size at all four sides, the complete subduing of the already-baled and partially-subdued material by further compressing it in a lateral and vertical direction, thereby reducing the size of the bale and the longitudinal expanding strain on the ties, thus preventing the bales from breaking the ties afterward. These are also new results never heretofore produced.

My invention consists, mainly, in the new construction, arrangement, and application of devices; also, in the new combination of old elements, all of which, singly or combined, are deemed essential in my newly-organized baling-press, whereby the new and useful results, as above named, are produced.

I am well aware of the devices shown in P. K. Dederick's numerous patents, and in various other similar devices, among which may be included my Patent No. 196,219, granted October 16, 1877, some of which may have a general outward resemblance to my present invention; but in the essential features of construction, well illustrated by the new results produced, my present invention is radically different from that in all respects.

In the accompanying drawings, of which there are two sheets, like letters of reference in the different figures indicate like parts.

Figure 1 represents a longitudinal side elevation of a baling-press embodying my improvements detached from a part of the power mechanism. Figs. 2, 3, 4, and 5, Sheet 1, represent respectively a side elevation, a longitudinal vertical section, a top view, and a perspective view, of my improved traverser. Fig. 6, Sheet 2, is a horizontal longitudinal section of the baling-press, showing the construction and arrangement of several particular parts, together with one completed bale and one that lacks one or more charges of material to make it complete. Fig. 7 is a vertical longitudinal section of the baling-press, showing several other particular parts. Fig. 8 is a perspective view of the follower-block and tie-band carrier. Fig. 9 is a partial section of the oppoite side of the end of the press-box from

that shown in Fig. 7—*i. e.*, the interior side of that shown in Fig. 1. Fig. 10 represents the hook used for drawing out the bale-ties.

A A represent the sills of the press, to which are attached the press-box F, the bale-expanding chamber C, and the compress subduing-chamber C′. The press-box F is provided with a feed-aperture, H, above, and an opening, F^5, in one side, near the bale-expanding chamber C. The sides F F (Sheet 2, Fig. 6) of the press-box are formed tapering—*i. e.*, an increase in size laterally from the front inner end to the rear end thereof—and the bottom P, Fig. 7, also has an incline from the front to the rear end of the press-box, and a further inclined extension, P^1, to the sills A and horse-platform P^2. The front or inner open end of the press-box, F, is provided with an inclined rabbeted groove all around its inner edge, in which, on the top, bottom, and side opposite the opening F^5, are inserted and securely fastened the inclined unyielding plates F^1, F^2, and F^3, and on the side that contains the opening F^5, the unyielding inclined metallic plate is divided into several sections, F^4 F^4, with grooves a^6 between them, as shown in Fig. 9, Sheet 2. All of said inclined unyielding plates F^1, F^2, F^3, and F^4 combined materially reduce the size of the end of the press-box.

The bale-expanding chamber C is larger vertically and laterally than the press-box F. The sides, top, and bottom are parallel, and all made solid except on one side, which is provided with an opening, X, (represented by dotted lines,) or slots f^3 f^3 f^3, near the compress subduing-chamber C′. The other or solid side of the bale-expanding chamber is provided with shallow longitudinal grooves a^7 a^7 a^7 on the inside, which extend from the grooves a^6 in the contracted exit of the press-box F to the beginning of the compress subduing-chamber C′. These grooves a^7 are designed to admit easy passage of the tie-bands r r^1 r^2, and to prevent the pressed material from interfering with drawing the tie-bands out when required for the purpose of tying the bales. These grooves are shown in Fig. 9, Sheet 2, and in Fig. 1, Sheet 1, by dotted lines. At the end of the bale-expanding chamber C is the compress subduing-chamber C′, having its sides, top, and bottom contracted by clamps R R^1 R^2 R^3, secured by the binding-rods b^1 b^2, as shown in Fig. 1, Sheet 1.

The traverser I, Figs. 2, 3, 4, and 5, Sheet 1, is composed of one or more pieces of wood, so as to form a strong solid head, and has a vibrating tucker-board, K, inserted at about the angle shown, and secured at the rear end of the traverser. The end K^1 of the tucker-board projects beyond the front end of the traverser, leaving a small space, *i*, between it and the top of the rib I^1 and traverser; and over all is secured a spring-board, K^3, leaving a space, K^2, between the spring-board and tucker-board, in the manner shown. The spring-board K^3 comes to an edge and just touches the projecting end K^1 of the tucker-board K when both boards are in their natural position.

The rib I^1 may be of the form shown, or conical or cylindrical; but I prefer it as shown, extending vertically across the face or front end of the traverser.

The rear end of the traverser is provided with a slot, I^2, in which the lever O is pivoted at *g*, the head and nut of said pivot-bolt being inserted in recesses *d*, so as not to project beyond the sides of the traverser. At the bottom of the traverser are formed recesses *l*, in which the trucks L operate and support the rear end of the traverser.

The follower-block J is constructed smooth on one side, and is provided with tie-carrying grooves a^1 a^2 a^3 on the other side, and is further provided with a vertical groove, *o*, formed in one edge between the smooth side and grooves a^1 a^2 a^3. It is also provided, at the opposite edge from that of the groove *o*, with holes or slots a^5 a^5, for the purpose of allowing the handle a^4 to be inserted in order to manipulate the block and insert it in the opening F^5 of the press-box.

The lever O is connected by a link, N, to the post M, said post being strengthened by the braces M^1 M^2. The universal joint at the lower end of the lever O is of peculiar construction, to wit: The socket-casting Q has a projecting knuckle-joint, Y, the front end of which is rounded off to form a ball, which fits in a corresponding socket formed in the piece S. Each of the knuckles on the piece S is provided with elongated horizontal slots *t*, through which the bolt U is inserted and secured in the knuckle Y of the piece Q. By this construction of parts the bolt U merely holds the two sections together, and the ball and socket receive all of the pressure, and the lever O is permitted to have a reciprocating and a gradual vertical motion together with the pitman W, and at the same time the crank, (not shown,) which revolves in a horizontal plane, produces an oscillating motion to the end of the pitman, which is attached to the lever; all of which motions the said ball-and-socket joint, the bolt, and slot provide for.

Having thus described the new construction and arrangement of the several essential parts of my newly-organized baling-press, I will now proceed to set forth its mode of operation and point out the new and useful results that are accomplished.

The bale-ties r r^1 r^2 are taken direct from their respective coils, and the ends of said ties are inserted in their respective guides f f^1 f^2 of the guide-plate G, and then are carried into the press-box F through the side opening F^5, and then diagonally across the bale-expanding chamber C and secured to their respective fastenings *s*, (shown in Fig. 6, Sheet 2,) after which power is applied to the press, and the traver I is operated by its connecting mechanism—*i. e.*, the lever O and pitman W, with the crank mechanism, (this last not shown)—so as to receive a forward motion with a grad-

ual vertical elevation as the trucks L move up the inclined plane P^1 and press-box bottom P. This movement of the traverser up the inclined plane causes a gradual elevation of the lever O and pitman W, which is reversed with the return stroke of the traverser. Thus the trucks L form a support for the traverser, the lever, and the pitman, and materially reduce the friction of the traverser on the bottom of the press-box, that otherwise would be detrimental, owing to the great combined weight of the traverser, the lever, and the pitman.

The material that is to be pressed into bales is inserted into the aperture H at the top of the press-box F in the usual manner, the loose material assuming a corresponding form to that of the press-box—that is, narrow at the front end of the box, with a lateral and vertical increase in size backward to the traverser-head. The forward motion of the traverser (without going into the full details) forces the loose material forward into the larger or bale-expanding chamber C, where it is prevented from returning to the press-box F by its vertical and lateral expansion. At the same time the charge enters the bale-expanding chamber C it comes in contact with the tie-bands $r\ r^1\ r^2$, and forces them into their respective grooves $a^6\ a^6\ a^6$, that are formed between the sections F^4 of the unyielding metallic plates, and as each successive charge of material advances the previous charges into the bale-expanding chamber C the ties $r\ r^1\ r^2$ are carried forward in the longitudinal grooves $a^7\ a^7\ a^7$, and are drawn across the front end of the first charge. A few charges of material thus introduced into the bale-expanding chamber C serve to form a temporary bale and to adjust the tie-bands for future continuous work in said longitudinal grooves a^7, as shown in Fig. 6, Sheet 2. The follower-block J is then inserted by means of the handle a^4 into the side opening F^5. The vertical grooved side *o* comes in contact with the tie-bands $r\ r^1\ r^2$, that now extend across the opening F^5, and as the block is forced into the press-box it carries the said tie-bands around the follower in the form of loops, with the ties in the grooves $a^1\ a^2\ a^3$, as shown in Fig. 6, Sheet 2, and in Fig. 1, Sheet 1. The handle a^4 is then removed, and each successive charge of material gradually advances the follower and the loops of the ties into the bale-expanding chamber C until the follower arrives at the slots f^3, where the loops of said tie-bands are drawn outward by the hook, which readily catches hold of the loops by being inserted in the vertical groove *o* of the follower, behind the loops. The loops are then cut, the proper length of material being allowed to tie the bale in front of the follower-block, and the ends of the ties that are in the grooves $a\ a^1\ a^2$ of the follower are then drawn out and temporarily secured to their respective fastenings *s*, ready for the next forming bale, with no loss of material and very little friction in the grooves a^7 of the bale-expanding chamber C.

By the above-described operation a partially-formed and incompletely-pressed first bale is obtained, and the tie-bands are properly introduced into the grooves a^7 of the bale-expanding chamber, and an end pressure, although at the time not sufficient, is afforded for the next forming bale. This insufficient end pressure (without here having reference to other features) is materially increased by the four positive resistant tapering walls of the compress subduing-chamber C′, which opposes the passage of the bale and squeezes all sides thereof, thereby producing a lateral and vertical compression of the bale, which perfectly breaks, subdues, and condenses the material, thereby reducing the size of the bale, and greatly reduces its elasticity, materially lessening the lateral and longitudinal expanding strain on the tie-bands and preventing the expanding force from bursting the bands after the bale has been ejected from the press. This resistance in the imprisoned bale is of sufficient quantity to allow enough material in the next forming bale to be compressed within a given length to form a bale of the required weight. The above are essential features, producing valuable results never heretofore produced.

I will now describe the manner in which the bales are pressed in alternate sections or charges, which are allowed a lateral and vertical expansion, and are condensed so as to perfectly subdue the elasticity of the material after an end pressure has once been established, as before described.

The loose material, when forced into the press-box F, assumes the shape of the interior of the press-box, as before stated. The end I^1 of the traverser being some distance back in the press-box, and its front lower side resting on the inclined bottom P, as shown Fig. 7, Sheet 2, the forward motion of the traverser carries it up the inclined bottom of the press-box, thereby crowding the charge of material diagonally upward. The rib I^1 also draws the material that is on each side toward the center vertically, and the inclined vertical sides of the press-box F, Fig. 6, Sheet 2, tend to squeeze the material also laterally as the traverser advances; but the rib I^1 tends to prevent the said lateral squeezing and wedging of the material between the traverser and sides of the press-box.

The projecting end K^1 of the vibrating tucker, aided by the spring-board K^3 above it, also tends to hold the material down, and a portion of the material is squeezed into the space *i* and held there with an increasing imprisoned upward-expanding force as the traverser approaches the end of its stroke.

When the charge has been pressed by the traverser sufficiently to overcome the resistance, the charge is forced through the contracted unyielding subduing-exit formed of the unyielding metallic inclined plates $F^1\ F^2\ F^3\ F^4$ at the end of the press-box, and farther advanced until the charge is wholly within the bale-expanding chamber C. Then, by a

farther advance movement of the traverser into the bale-expanding chamber, the whole body of the material that is in said chambers, including the last charge, is forced forward, producing an advance of the finished bale out of the compress subduing-chamber C^1 equal or nearly equal to the advance of the traverser into the bale-expanding chamber C. The longitudinal expanding force of the imprisoned bale, operating in the material that is in the bale-expanding chamber, causes said material to follow the traverser in its back stroke or rebound until it reaches the contracted exit of the press-box, where the traverser leaves it for the purpose of repeating the operation when another charge has been introduced into the press-box.

It will be observed that, while the charge of material is being thrust into the large bale-expanding chamber, the first subduing devices are encountered—*i. e.*, the unyielding inclined metallic plates F^1 F^2 F^3 F^4—which partially break and subdue the material laterally and vertically, and by their inclined rigid unyielding nature they also tend to squeeze the material on all four sides, so that the charge, when forced beyond the contracted end of the press-box, is allowed a considerable vertical and lateral expansion, that will fill the bale-expanding chamber in said directions.

The lateral and vertical expansion of the last charge introduced into the bale-expanding chamber is materially increased when the traverser moves back, and withdraws the rib I^1 from the vertical center of the charge by allowing the charge a longitudinal expansion, forcing the vertically-indented end outward, thus allowing the material at each side of it to form against the sides of the bale-expanding chamber and plates F. The end K^1 of the vibrating tucker K, aided by the spring-board K^3, also performs its material work just as the charge of material has been thrust beyond the reduced metallic exit of the press-box by being forced upward by the compressed elastic material that is in the groove *i* below it, thus tucking the overlapping material upward beyond the top inclined unyielding plate F^2 in a positive manner. The projecting edges of the plate F^2, as the material is tucked above and beyond it, serve to fold the overlapping material as the traverser recedes, and the charge expands back against the partially-subduing plates, thus forming a smooth upper edge to all charges of material. The same result is also produced on all the other sides by the reaction of the charge against the other subduing-plates F^1 F^3 F^4.

It will be observed from the foregoing that the new and useful results, as hereinbefore specified, could not well be accomplished without the aid of the traverser provided with trucks, a rib, and a vibrating tucker-board, operated as described, in a press-box constructed with tapering sides and inclined bottom, and provided with an opening in one side to admit a follower, and further provided with the contracted unyielding exit to the bale-expanding chamber formed with solid unyielding inclined metallic plates, together with a follower-block and the bale-ties, carried in grooves, and the bale-expanding chamber, provided with an opening or slots at one side and the other side provided with grooves on the inside from the press-box to the compress subduing-chamber C′, and a chamber, C, constructed with four positive resistant walls, all substantially as shown and described.

What I claim is—

1. In a baling-press, the press-box F, having its exit contracted or reduced in size by rigid unyielding inclined plates F^1, F^2, F^3, and F^4, projecting inward from the inner walls of said press-box, whereby the material that is forced through said reduced exit shall be crushed vertically and laterally and its elasticity subdued, in the manner and for the purpose substantially as shown and described.

2. In a baling-press, the unyielding inclined metallic plates F^1 F^2 F^3 and the sectional plates F^4, attached to the exit of a press-box, whereby said exit is reduced to a fixed size smaller than the press-box and baling-chamber, in the manner and for the purpose substantially as shown and described.

3. In a baling-press, the metallic sectional plates F^4, attached to the inner side of the press-box between the side opening F^5 and end of said press-box, and projecting inward with an unyielding and rigid incline, and provided with grooves a^6 between them, whereby the tie-bands r r^1 r^2 are permitted to enter the bale-chamber without contact with said sectional plates, in the manner and for the purpose substantially as shown and described.

4. In a baling-press, the exit F^1 F^2 F^3 F^4, reduced in size from the press-box F to bale-chamber C, when reduced by means of the inclined rigid plates F^1 F^2 F^3 F^4, with grooves a^6 between the sectional plates F^4, whereby the material is crushed laterally and vertically in its passage through, and at the same time the bale-ties r r^1 r^2 are conducted into the bale-chamber free from contact with the plates F^4, in the manner and for the purpose substantially as shown and described.

5. In a baling-press, the press-box F, with an exit to the bale-chamber, reduced in size, and provided with the side opening F^5, adapted to admit the follower-block J, and bale-ties r r^1 r^2, in the manner and for the purpose substantially as shown and described.

6. In a baling-press, the tie-guide plate G, adapted to receive and guide the ties r r^1 r^2 into the side opening F^5 of a press-box, in the manner and for the purpose substantially as shown and described.

7. In a baling-press, the press-box F, provided with the guide-plate G, when said guide-plate is constructed to receive and guide the ties r r^1 r^2 so that the follower-block J in entering the side opening F^5 of the press-box

shall carry said ties across the press-box, in the manner and for the purpose substantially as shown and described.

8. In a baling-press, the press-box F, provided with the side opening F^5 and grooves a^6 on one side of the contracted exit, and the guide-plate G to support and guide the bale-ties $r\ r^1\ r^2$ into said opening, combined with the follower-block J, whereby the ties are guided and carried across the press-box and allowed to pass said contracted exit uninterrupted, in the manner and for the purpose substantially as shown and described.

9. In a baling-press, the follower-block J, in combination with the bale-ties $r\ r^1\ r^2$, whereby the said ties are carried into the press-box through the opening F^5 in the form of loops, in the manner and for the purpose substantially as shown and described.

10. In a baling-press, the traverser I, provided with a rib, I^1, on it front end, whereby the material that is being compressed is drawn laterally toward the vertical center as the traverser compresses it and allowed a lateral expansion when the traverser recedes therefrom, in the manner and for the purpose substantially as shown and described.

11. In a baling-press, the traverser I, provided with an inclined vibrating tucker, K K^1, and a vertical rib, I^1, in front, whereby the material is tucked upward as it passes the contracted exit of the press-box with the advanced movement of the traverser, in the manner and for the purpose substantially as shown and described.

12. In a baling-press, the traverser I, having the supporting-trucks L at its rear end, when said trucks are adapted to level the traverser on the inclined bottom P P^1, whereby the front end of said traverser is permitted to travel up said inclined bottom with its face perpendicular, and while compressing the charge longitudinally produces an upward crowding of material, in the manner and for the purpose substantially as shown and described.

13. In a baling-press, the traverser I, having its lower sides, near the rear end, provided with recesses *l* to receive the leveling-trucks L, when said traverser is adapted to operate on the inclined bottom P P^1, in the manner and for the purpose substantially as shown and described.

14. In a baling-press, the traverser I, having the rib I^1 at its front end, the vibrating tucker-board K K^1, and the spring-board K^3 above, in the manner and for the purpose substantially as shown and described.

15. In a baling-press, the press-box F, furnished with an inclined bottom, P, in combination with the traverser I, mounted on leveling-trucks L, in the manner and for the purpose substantially as shown and described.

16. In a baling-press, the press-box F, formed wider at its rear end than at its front end, and provided with an exit that is rigid and reduced in size below the size of the mouth of the press-box, whereby the charge of material that is being pressed by the traverser is crowded inward laterally before it is crushed laterally and vertically, and its elasticity subdued in passing through the reduced exit into the bale-chamber, in the manner and for the purpose substantially as shown and described.

17. In a baling-press, the press-box F, formed with a lateral and vertical increase in size rearward, and provided with an exit to the bale-expanding chamber C, that is reduced in size, in combination with the traverser J, whereby the charge of material is squeezed laterally and vertically inward as the material is being compressed longitudinally, and then crushed laterally and vertically inward as it is forced through said contracted exit, in the manner and for the purpose substantially as shown and described.

18. In a baling-press, the press-box F, furnished with the feed-opening H above and the side opening F^5 to receive the follower-block J, in combination with the follower-block J and traverser I, in the manner and for the purpose substantially as shown and described.

19. In a baling-press, the press-box F, provided with inward-projecting metallic plates $F^1\ F^2\ F^3\ F^4$, whereby the exit of the press-box F is reduced to a size of fixed dimensions, combined with the enlarged bale-expanding chamber C, whereby the charges of material that have been crushed vertically and laterally in passing said contracted exit are permitted to expand in the bale-chamber and prevented from following the traverser as it recedes, in the manner and for the purpose substantially as shown and described.

20. In a baling-press, the bale-expanding chamber C, constructed with one side, top, and bottom closed tightly, and the other side provided with slots f^3, and the tight side provided with tie-carrying grooves a^7, in the manner and for the purpose substantially as shown and described.

21. In a baling-press, the subduing compress-chamber C′, having its walls tapered on all four sides, combined with an enlarged bale-expanding chamber, C, and a press-box, F, with an exit, $F^1\ F^2\ F^3\ F^4$, reduced in size to fixed dimensions, whereby the material that has been crushed vertically and laterally and compressed longitudinally and baled after passing the said reduced exit is further crushed, subdued, and the bale reduced in size as it is forced out between the four tapering walls of the subduing-chamber C′, in the manner and for the purpose substantially as shown and described.

22. In a baling-press, the combination of the subduing compress-chamber C′, having its four walls tapered, and the bale-expanding chamber C, whereby the size of the bale is reduced by recrushing its four sides, in the manner and for the purpose substantially as shown and described.

23. In a baling-press, the press-box F, furnished with an opening, F^5, and a guide-plate, G, to support the ties, in combination with the follower-block J and ties r r^1 r^2, in the manner and for the purpose substantially as shown and described.

24. In the baling-press, the follower J, adapted to carry the bale-ties in the bale-expanding chamber between the finished and unfinished bales, in the manner and for the purpose substantially as shown and described.

25. The traverser having the space i between the top of the rib I^1 and the bottom of the protruding end K^1 of the vibrating tucker K, in the manner and for the purposes substantially as shown and described.

26. In a baling-press, the combination of the clamps R R^1 R^2 R^3, the binding-bolts b^1 b^2, and the tapering positive resistant walls, consisting of the top, bottom, and sides of the subduing compress-chamber C′, in the manner and for the purpose substantially as shown and described.

27. In a baling-press, the follower-block J, having bale-tie receptacles or grooves a^1 a^2 a^3 on one side and holes or slots a^5 in one edge, in the manner and for the purposes substantially as shown and described.

28. In combination with the follower-block J, the handle a^4, in the manner and for the purposes substantially as shown and described.

29. The follower-block J, having a vertical groove, o, in one edge, in the manner and for the purposes substantially as shown and described.

30. In combination with the grooves a^6 formed in the unyielding metallic sectional plates F^4, the longitudinal grooves a^7 formed in the inner side of the bale-expanding chamber, in the manner and for the purpose substantially as shown and described.

31. In combination with the lever O and pitman W, the universal joint, composed of the knuckle parts Q and S and the bolt U, said bolt operating in an elongated slot, t, in the manner and for the purpose substantially as shown and described.

32. The universal joint Q S, constructed with a ball-and-socket pressure-joint between the knuckles of the pitman part S and the end of the knuckle Y of the lever part Q, and further constructed with an elongated slot, t, in the knuckle part S, and provided with a bolt, U, in combination with a baling-press and power mechanism, in the manner and for the purpose substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ZELORA PHILLIPS.

Witnesses:
E. O. FRINK,
JOHN E. WOOLVERTON.