No. 724,843. PATENTED APR. 7, 1903.

L. S. GEHMAN.

BALING PRESS.

APPLICATION FILED JUNE 24, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

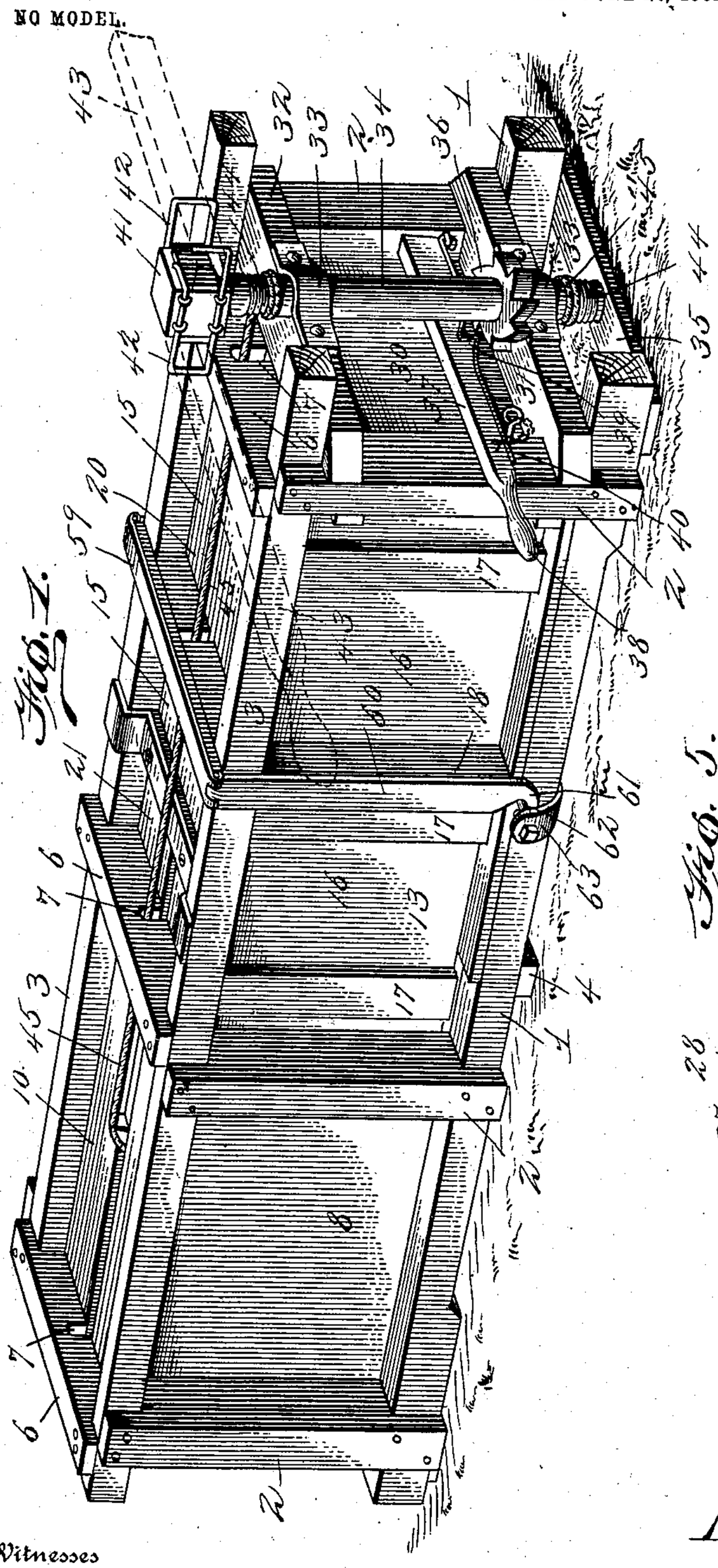
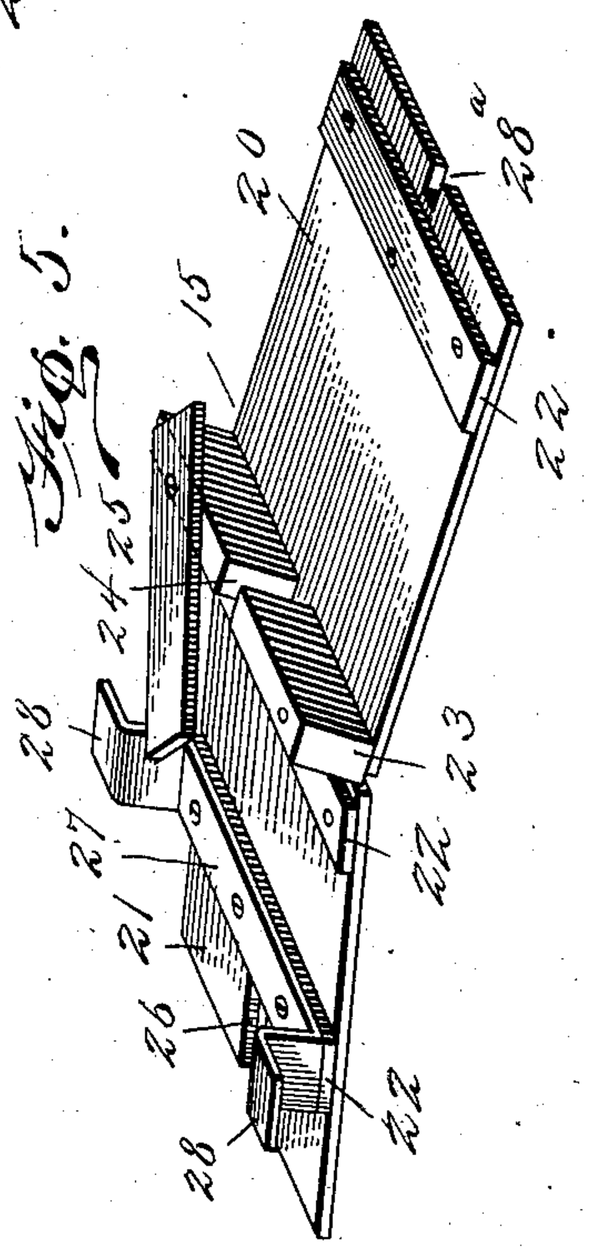


Fig. 5.



Witnesses

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NO MODEL. 2 SHEETS—SHEET 2.

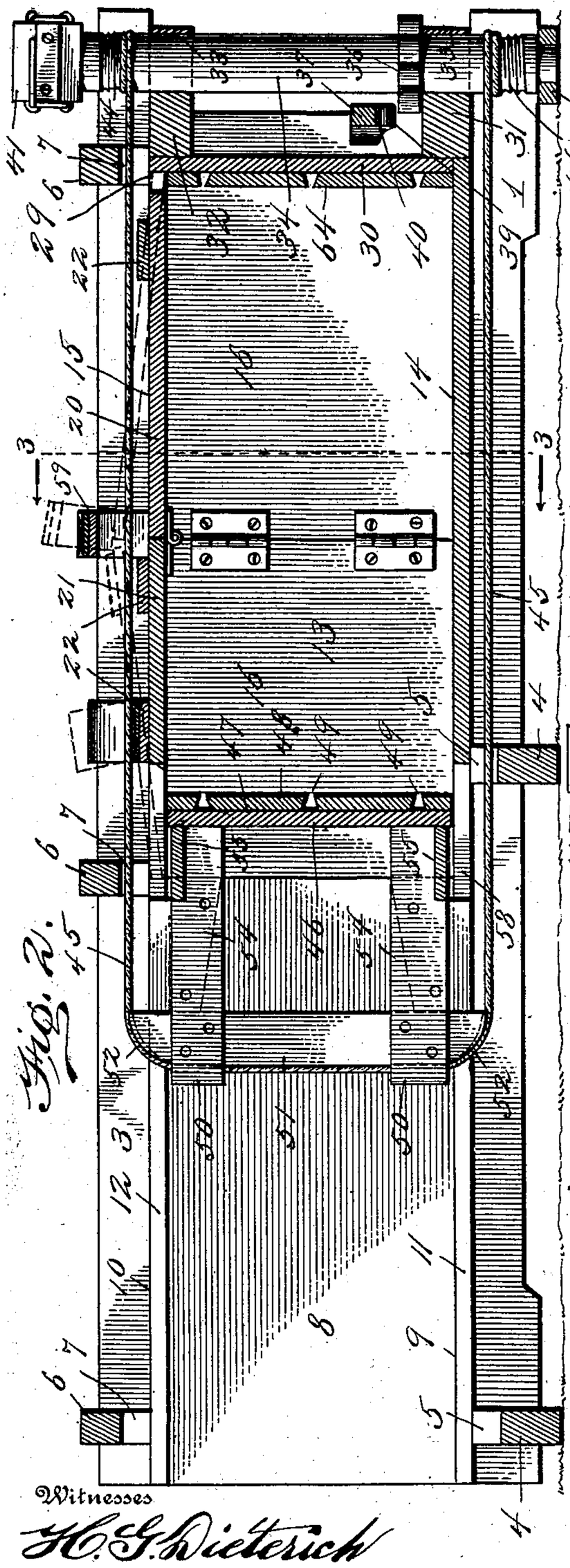

Fig. 2.

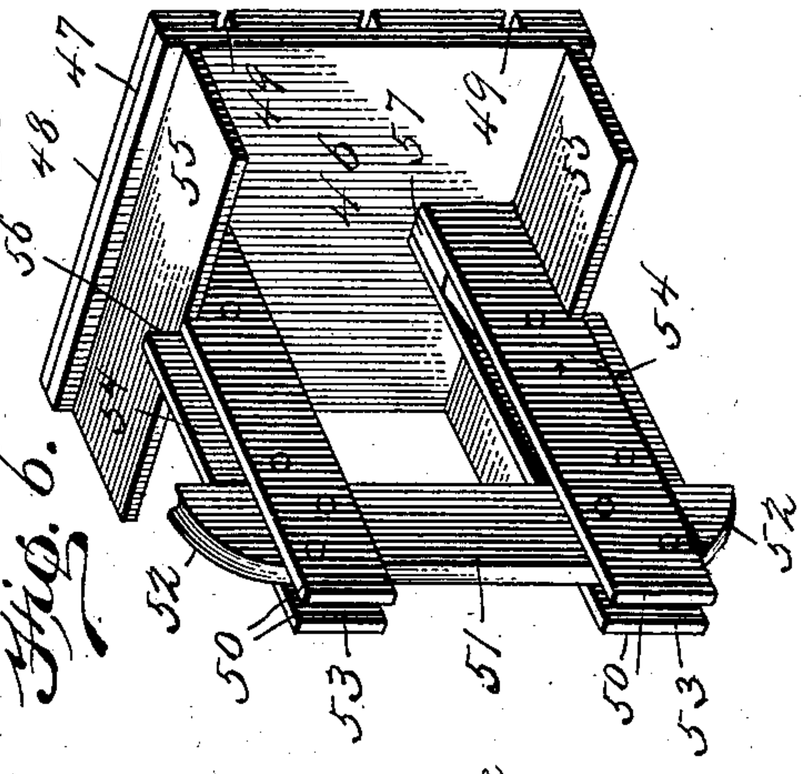

Fig. 6.

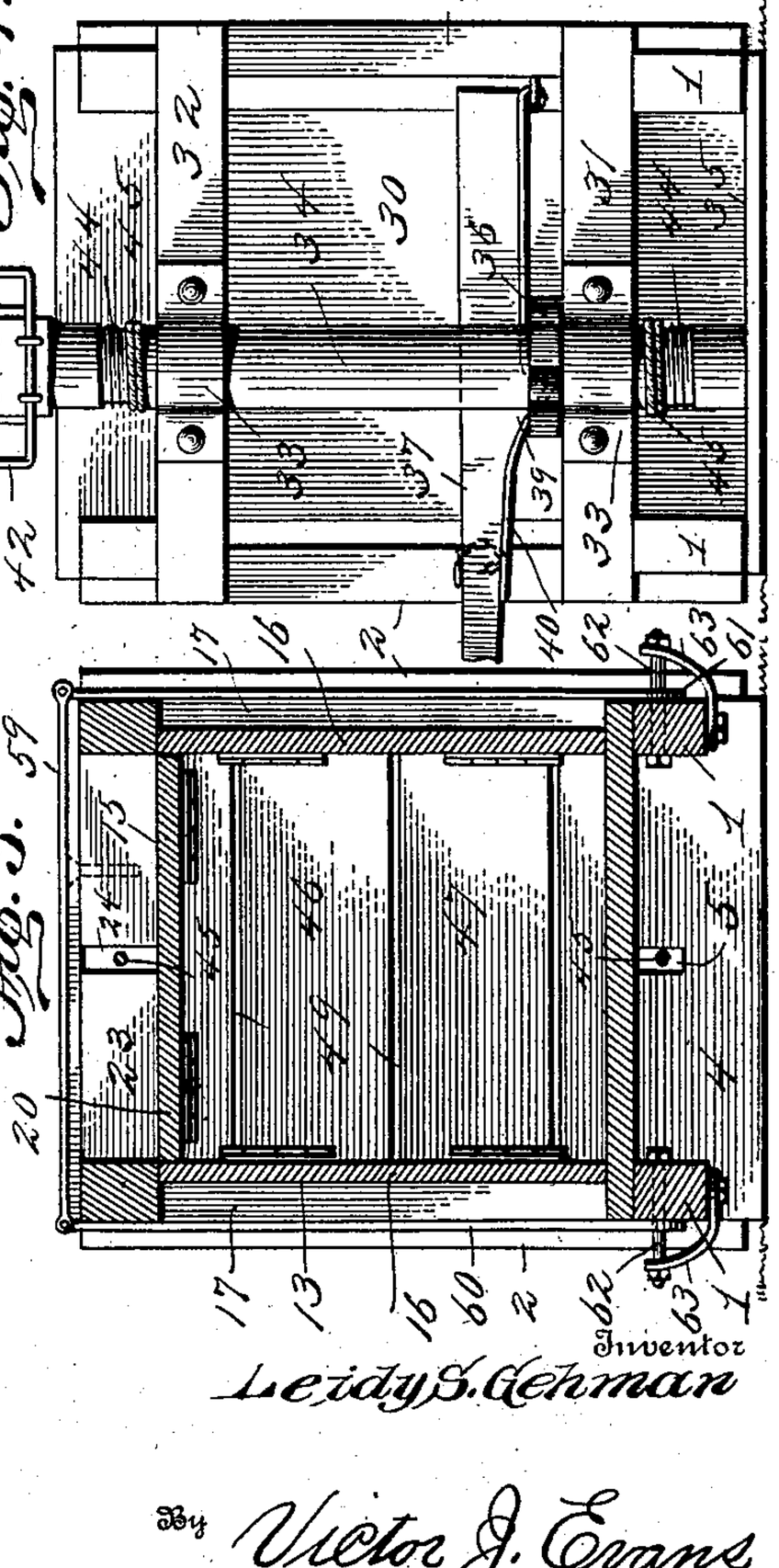

Fig. 4.

Fig. 3.

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UNITED STATES PATENT OFFICE.

LEIDY S. GEHMAN, OF ABBEVILLE, GEORGIA.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 724,843, dated April 7, 1903.

Application filed June 24, 1902. Serial No. 112,999. (No model.)

To all whom it may concern:

Be it known that I, LEIDY S. GEHMAN, a citizen of the United States, residing at Abbeville, in the county of Wilcox and State of Georgia, have invented new and useful Improvements in Baling-Presses, of which the following is a specification.

This invention relates to a hand-power press for baling hay, cotton, and the like; and the object of the same is to provide a simple and effective organization of elements of a strong and durable nature operating to render the baling operation convenient and expeditious and of an inexpensive nature.

The invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of a baling-press embodying the features of the invention. Fig. 2 is a longitudinal vertical section thereof. Fig. 3 is a transverse vertical section on the line 3 3, Fig. 2. Fig. 4 is a front end elevation thereof. Fig. 5 is a detail perspective view of a removable top closure. Fig. 6 is a detail perspective view of the follower.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 1 designates longitudinally-disposed base-sills, to which the lower ends of uprights 2, disposed at regular intervals, are firmly bolted and connect at their upper ends with longitudinally-disposed top beams 3. The beams 3 are parallel with each other and with the sills 1 below, and the latter are also arranged in parallel relation. Extending transversely across the under portion of the press and secured to the sills 1 are cross-beams 4, having upper central slots 5, and connecting the top beams 3 are also upper cross-beams 6, having slots 7 at the center of the lower portions thereof. The rear end of the press is open, and from the intermediate top cross-beam 6 rearwardly the press is inclosed by immovable sides 8, bottom 9, and top 10, the bottom 9 and top 10 having longitudinally-extending slots 11 and 12 cut therethrough in alinement with the openings or slots 5 and 7, respectively, formed in the lower cross-beam 4 and upper cross-beam 6. The rear terminally-inclosed portion of the press provides a receiving-chamber in which the hay or cotton to be baled is primarily disposed. In advance of the immovable sides, top, and bottom set forth and between the intermediate and front uprights 2 and the intermediate and front top cross-beam 6 are removable sides 13, a fixed bottom 14, and a removable top section 15. Each of the sides 13 is composed of two sections 16 of equal dimensions hinged at their inner contiguous edges and strengthened by vertical battens 17, applied to the exterior thereof, and over the joint of each side formed by the hinged connection of the section 16 a covering-strip 18 is secured. The opposite terminals of the sides are held against the intermediate uprights 2, the said sides having a combined length slightly greater than the distance between the inner opposing faces of the said uprights to permit the opposite terminals of the sides to bear against the inner edges of said uprights.

In removing and applying the sides 13 they are bowed outwardly at the center to draw the opposite ends thereof out of engagement with the inner edges of the uprights 2, against which they are adapted to bear, and then pulled fully out from the press or pushed completely inward.

The top section 15 comprises two members 20 and 21, hinged at their inner opposing edges and having strengthening-battens 22 secured on the upper surfaces thereof at regular intervals. Secured on the inner end of the member 20 is an upstanding guide-strip 23, having a transverse slot 24 cut through the center thereof, and pivotally connected to the said guide-strip near one end is a covering and supporting strip 25, which terminally projects beyond the end of the guide-strips 23 to bear on the upper edges of the top beams 3. The slot 24 through the guide-strip 23 is in alinement with the slot or opening 7 in the top cross-strip 6, and said slot is opened and closed by turning the covering and supporting strip off the upper edge of the guide-strip or over the latter. The rear member 21 of the top section 15 is also formed with a longitudinal slot 26 at the rear end thereof, for a purpose which will be presently set forth, and firmly secured to the rear bat-

ten 22 on the member 21 is a metallic hanger-strap 27, having upstanding angularly-bent ends 28 to rest on the upper edges of the top beams 3 to prevent the said rear member 21 from falling below a certain level when in operative position in the press. The front end of the member 20 has a central longitudinally-extending slot 28ª to coincide with the opening or slot 7 in the front top cross-strip 6, and when this top section is inserted in the upper portion of the press the said front end of the member 20 enters a groove or seat 29, formed under the front top cross-strip and between the lower edge of the latter and the front head 30 of the press, the said head being stationary.

The sills 1 are extended forwardly beyond the front end of the press, and thereon is disposed a horizontal bearing-strip 31, which is secured to both the front extremities of the sills and the adjacent portions of the front uprights, the opposite ends of the said bearing-strip being recessed or mortised to fit over the front uprights 2. Likewise the front extremities of the top beams 3 are projected forwardly beyond the front end or head 30 of the press, and thereunder an upper bearing-strip 32 is secured and similar in construction to the strip 31. At the centers of the front edges of the bearing-strips 31 and 32 strap or other suitable boxes 33 are applied and embrace an upright windlass 34, having its lower end movably mounted in a stepped strip 35, terminally secured against the under edges of the forwardly-projecting extremities of the sills 1. On the windlass 34, close to the lower bearing-strip 31, a ratchet-wheel 36 is mounted, and above the plane of said ratchet-wheel a stop-bar 37 is located and has its one end pivotally connected to the inner exposed edge portion of one upright 2 and its other end projected beyond the opposite upright 2 and formed into a handle or grip 38. At an intermediate point the lower edge of the stop-bar 37 is provided with a depending stop-tooth 39, located in operative alinement with the plane of rotation of the teeth of the ratchet-wheel 36 and adapted to engage the latter to lock the windlass 34 against movement. It is proposed to form the stop-bar 37 mainly of wood and to secure a metallic wear-strap 40 against the under edge thereof and to hold the stop-bar elevated and the tooth 39 thereof out of engagement with the ratchet-wheel. A pin is secured adjacent to the handle or grip 38 by means of a flexible strand or chain, the said pin being insertible in a suitable opening in the adjacent upright 2 to hold the stop-bar elevated, as set forth. The upper end of the windlass 34 is supplied with a head 41, having loops 42 projecting from opposite sides thereof to removably receive hand-bars 43 (shown in dotted lines in Fig. 1) for imparting a rotary motion to the windlass. The opposite extremities of the windlass above and below the strap-boxes 33 are formed with a series of corrugations 44 to receive the coils of a rope or cable 45, adapted to be wound on and unwound from the windlass.

The rope or cable 45 passes through the openings or slots 7 in the cross-strip 6 and the slot 24 in the guide-strip 23 and also through the openings or slots 5 in the lower cross-strips 4, and, as before indicated, the front terminals thereof are adapted to wind on and unwind from the corrugations 44. The rope or cable operates a follower 46, slidingly mounted in the press and comprising a front head 47, having a face-plate 48, with transversely-extending grooves 49 formed therein for convenience in inserting and applying the bale-wires or other fastening devices for a completed bale. Extending rearwardly from the center of the head 47 are upper and lower longitudinally-disposed pairs of strips 50, spaced apart from each other and providing arms, and secured between the rear extremities of the strips is a vertically-disposed pressure-bar 51, having upper and lower forwardly-curved grooved ends 52, the adjacent ends of the strips 50 projecting rearwardly beyond the said pressure-bar to provide guide slots or ways 53. The ends 52 of the pressure-bar project above and below the arms, and also held by the latter are guide-flanges 54, also projecting above and below the upper and lower arms. The follower and the arms formed by the strips 50 are further strengthened by upper and lower horizontally-disposed reinforce-strips 55, having their front edges secured to the head 47 and at the center disposed in gains 56, cut in the upper and lower edges of the pairs of strips 50, and as a further means of bracing the arms the flanges 54 are continued from strips 57, interposed between the strips 50, and also secured to the reinforce-strip 55. The follower, as set forth, is continually held in central position within the press by the projection of the upper and lower ends of the pressure-bar 51 and of the flanges 54 through the slots 11 and 12, the said flanges being also adapted to move into the slot 26 in the rear member 21 of the top section 15, the front projecting ends of the flanges 54 coming into contact with the front terminal wall of the slot 26 and also with a similar wall of a slot 58, constructed in the front portion 14 of the bottom of the press, and thereby limit the forward movement of the follower. The slots 26 and 58 aline with the slots 12 and 11, and the openings or slots 5 and 7, respectively, in the lower and upper cross-strips 4 and 6 are of vertical extent to clear the flanges 54 and the projecting ends of the pressure-bar 51. The rope or cable 45 is doubled and bears upon the pressure-bar 51 and passes through the slots or ways 53 between the rear projecting ends of the strips 50, the grooves in the upper and lower curved ends of the pressure-bar preventing the rope or cable from slipping out of place, and the openings or slots 7 and the slot 24 in the guide 23 of the top section 15, as well as the openings or slots 5 in the lower cross-strips 4, serve to

hold the opposite or upper and lower strands of the doubled rope or cable in the central plane of the press and also assist in maintaining a positive engagement of the rope or cable with the pressure-bar 51.

During the baling operation it is necessary to prevent the top section 15 from being forced upwardly by the concentration of pressure thereunder, and for this purpose a holding-bar 59 is disposed on top of the covering and supporting bar 25 and has locking-bars 60 hinged to opposite ends thereof, the said locking-bars being formed with lower hooked ends 61 to removably engage outstanding bolts 62, having upwardly-projecting guard-straps 63 connecting therewith to prevent the locking-bars 60 from slipping out of place on the bolts, the latter passing through the upper extremities of the guard-straps. When the press is prepared for baling operation, the locking-bars 60 have their lower hooked terminals in engagement with the bolt 62; but when it is desired to remove the top section 15 the said locking-bars are drawn forwardly to release the lower hooked terminals thereof from the bolt 62 and are removed with the holding-bar 59 from engagement with the covering and supporting bar 25. The latter is then opened to clear the guide-slot 24 and permit the rope or cable 45 to be drawn outwardly therefrom, a reverse operation being effected when the section 15 is applied in operative position, as shown. The head 30 of the press, to coöperate with the grooved face-plate 48 of the follower, also has a grooved plate 64 on the inner side thereof, which may be made up of a series of strips with beveled ends, and the same construction may be adopted in connection with the follower.

In preparing the baling-press for use the follower is drawn back to its full extent by unwinding the extremities of the rope or cable 45 from the windlass 34 and removed from the rear open end of the press, the top section 15 being secured in place. The hay, cotton, or other material to be baled is then put in the rear open end of the press between the stationary sides 8, top 10, and bottom 9. After a sufficient quantity of the material to be baled has been placed within the rear portion of the press and preliminarily packed to a limited degree the follower is replaced in the rear open end of the press against the material to be baled. The windlass 34 is then gradually rotated to draw the follower forward, and when the latter has reached the limit of its forward movement the stop-bar 37 is released to permit the tooth thereof to drop into engagement with the adjacent tooth of the ratchet-wheel 36 to hold the windlass 34 against movement and prevent unwinding of the rope or cable. The sides 13 are then removed, and the baling-wires or other fastening devices are applied to the compressed bale, and the latter then shoved out from either one side or the other of the machine. If desired, the press may be mounted on wheels for convenience in transportation, and by its use bales may be expeditiously formed.

While the preferred form of the improved device has been shown and described, it will be understood that changes in the proportions, dimensions, form, and minor details of construction may be resorted to without departing from the spirit of the invention.

Having thus described the invention, what is claimed as new is—

1. A baling-press having a rear closed portion with an open end, forward removable hinged sides, a forward removable top section made up of two sections hinged at their inner opposing edges so as to form a joint at an intermediate point therein, means for holding the top section in normal position, a follower, and means for operating the follower.

2. A baling-press having a follower therein, means for operating the follower, and a forward top section comprising hinged members, one being terminally held in the forward upper portion of the press and the other having a hanger-strap with upwardly-projecting angular ends to engage opposite portions of the press.

3. A baling-press having longitudinal slots in the top and bottom of the rear portion thereof, upper and lower cross-strips having openings through their central portions adjacent to the top and bottom of the press, a windlass at the forward end of the press, a follower having projecting members movable in the said slots and a part of the openings in the cross-strips, and a rope terminally engaging upper and lower portions of the windlass and projecting through the openings in the cross-strips and around the rear portion of the follower.

4. A baling-press having a windlass disposed at one end, a follower provided with a rear pressure-bar having rounded grooved terminals, and a rope or cable terminally engaging opposite portions of the windlass and passing around and directly bearing against the rear edge of the pressure-bar and fitting in the grooved ends of the latter.

5. A baling-press comprising a body, a follower longitudinally movable therein and having upper and lower rearwardly-projecting arms each composed of two strips spaced apart from each other, a vertically-disposed pressure-bar held between the said strips in advance of the rear ends of the latter to provide guideways between the said rear ends, a rope or cable passed over the said pressure-bar and through the guideways formed between the rear ends of the strips, and means at the front end of the press for exerting a pulling tension on the rope or cable.

6. A baling-press having longitudinally-extending slots in the upper and lower portions thereof, a follower movable in the press and provided with a rear vertically-disposed pressure-bar having its ends projecting through the said slots and also with flanges in advance

of the latter to engage the slots, a rope or cable loosely passed over the rear edge of pressure-bar and directed toward the front end of the press, and means for exerting a pulling tension on the said rope or cable.

7. A baling-press comprising a body, a follower mounted therein, a rope or cable passed over a portion of the said follower, means for exerting a pulling tension on the said rope or cable, a forward removable top section having two members hinged at their inner opposing ends, a centrally-slotted guide-strip on the forward member of the top section, a covering and supporting strip pivotally mounted on the guide-strip to open and close the slot and also to rest on the opposite sides of the top frame of the press, a holding-bar to bear on and extending over the covering and supporting strip and having locking-bars movably attached to opposite ends thereof and formed with hooked terminals, and means at the opposite sides of the lower portion of the press for removable engagement with the hooked terminals of the locking-bar.

In testimony whereof I affix my signature in presence of two witnesses.

LEIDY S. GEHMAN.

Witnesses:
E. A. MOODY,
F. B. CALLECET.