I. N. BECKER.

BLOCK OR FOLLOWER FOR BALING PRESSES.

APPLICATION FILED NOV. 19, 1918.

1,352,345.

Patented Sept. 7, 1920.

2 SHEETS—SHEET 1.

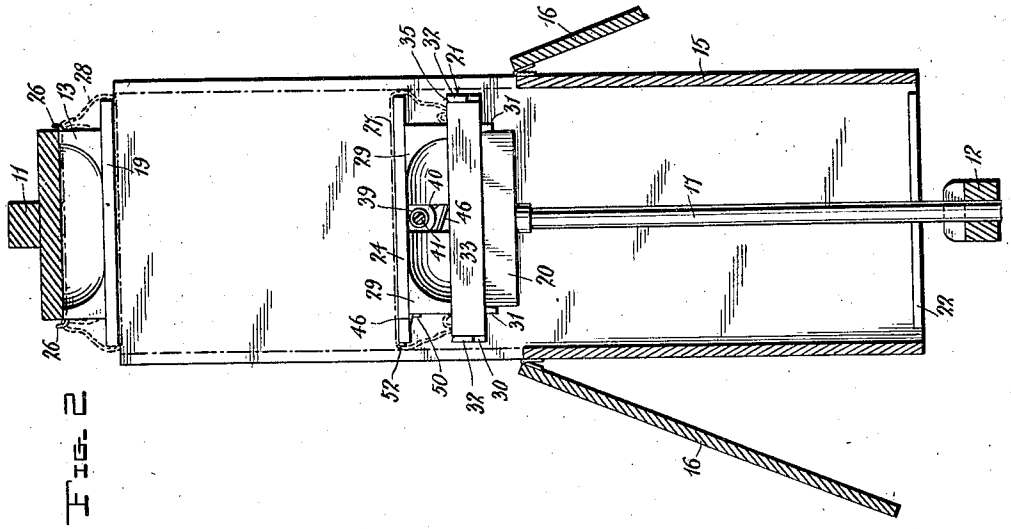


FIG. 2

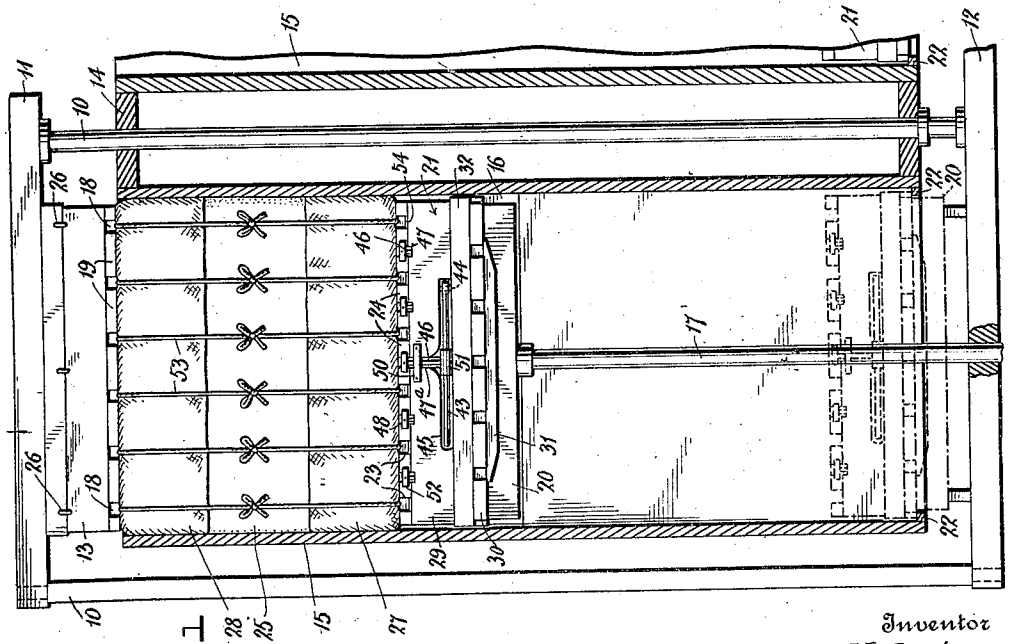


FIG. 1

Witnesses

Inventor

Irvine N. Becker,

By

Attorney

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2 SHEETS—SHEET 2.

FIG. 3

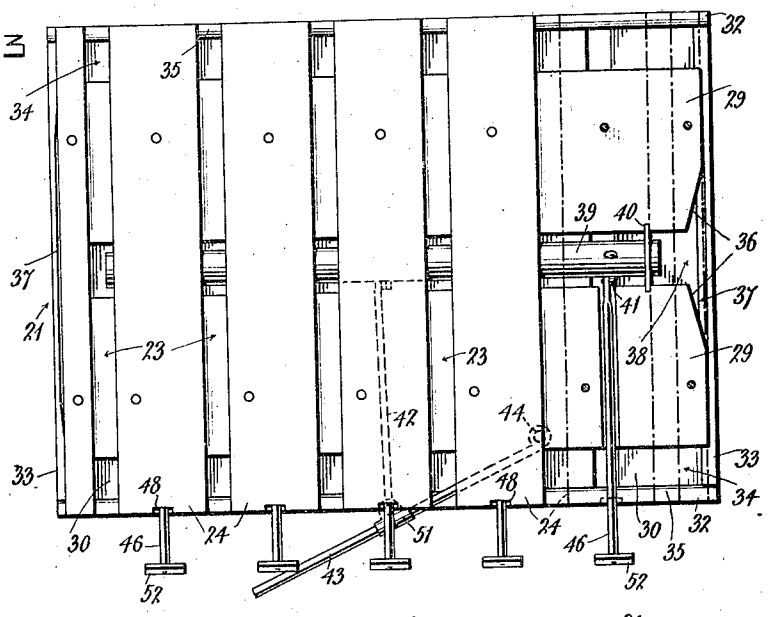


FIG. 4

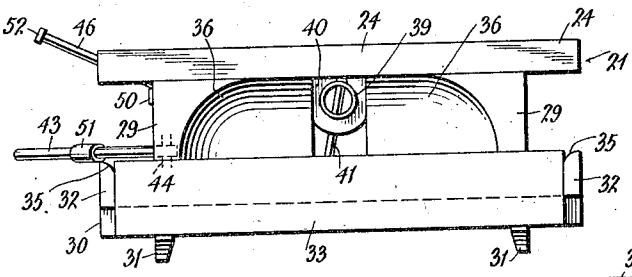


FIG. 5

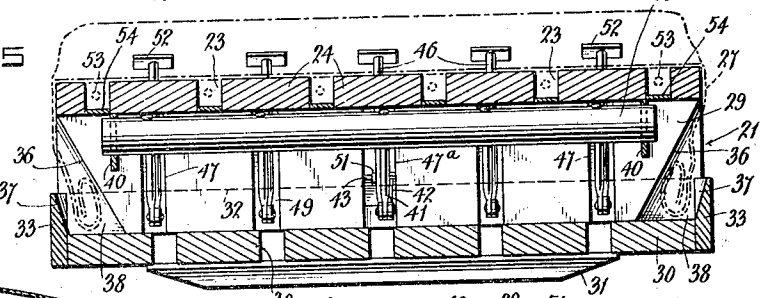
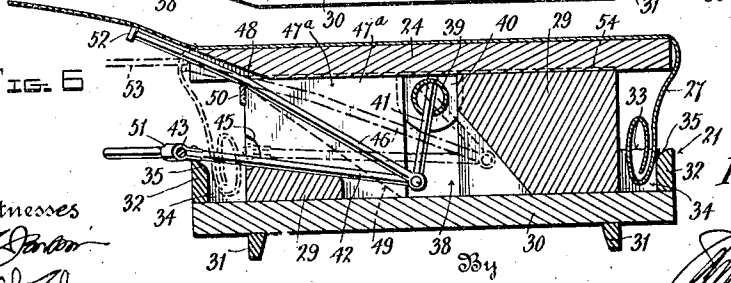


FIG. 6



Witnesses

Inventor

Irvine N. Becker,

By

Attorney

UNITED STATES PATENT OFFICE.

IRVINE N. BECKER, OF KAUFMAN, TEXAS.

BLOCK OR FOLLOWER FOR BALING-PRESSES.

1,352,345. Specification of Letters Patent. Patented Sept. 7, 1920.

Application filed November 19, 1918. Serial No. 263,178.

To all whom it may concern:

Be it known that I, IRVINE N. BECKER, a citizen of the United States, residing at Kaufman, in the county of Kaufman and State of Texas, have invented new and useful Improvements in Blocks or Followers for Baling-Presses, of which the following is a specification.

This invention relates to blocks or followers for baling presses, more particularly, although not exclusively, presses for baling cotton, and has for its general object the provision of an improved press block or follower of such construction as to facilitate the handling of the bagging in which the bale is wrapped and the manipulation of the ties by which said bagging is secured in place and the bale held in compressed condition.

The foregoing and other more particular objects of the invention, together with means whereby the same may be carried into effect, will best be understood from the following description of one embodiment and adaptation thereof illustrated in the accompanying drawings. It will be understood, however, that the particular construction and use described and shown have been chosen for illustrative purposes merely, and that the invention, as defined by the claims hereunto appended, may be otherwise practised without departing from the spirit and scope thereof.

In said drawings:

Figures 1 and 2 are vertical sections, taken substantially at right angles to one another, of a cotton baling press embodying the invention.

Fig. 3 is an enlarged plan view of the block or follower with one of the slats removed to show the interior construction more clearly.

Fig. 4 is an end elevation of said block or follower.

Figs. 5 and 6 are substantially central longitudinal and transverse vertical sections thereof, respectively.

Referring to Figs. 1 and 2, there is therein shown a double box cotton baling press of well known form and comprising a stationary press frame, a rotary carrier provided with two press boxes, and mechanism for compressing the lint cotton supplied to said boxes.

As herein shown, the stationary frame comprises uprights 10 connecting top and bottom frame members 11 and 12, respectively, the former supporting at its under side the upper, stationary press block 13 provided on its under side with transverse, tie-receiving grooves 18, herein shown as formed by spaced slats 19.

The carrier 14 is rotatably mounted on one of the uprights 10 and is provided with two press boxes 15, open at their upper and lower ends, and having the upper portions of their front and rear walls formed as hinged sections 16 normally held closed by latches or other suitable means, not shown.

The compressing mechanism comprises a plunger 17 guided for vertical movement in the lower frame member 12 and having a head 20 movable within one of the boxes 15 in alinement with the upper press block 13, said plunger being actuated by any well known means common in presses of this general type. Within each of the boxes 15 is a lower press block or follower, herein indicated as a whole in Figs. 1 and 2 by the numeral 21, said blocks being supported in their lowermost positions in said boxes by cleats 22 within the latter adjacent their open lower ends, and being movable upwardly from said positions toward the block 13, to compress the cotton in the boxes, by the head 20 of the plunger 17. The blocks 21 are provided on their upper sides with transverse tie receiving grooves 23 formed by spaced slats 24, said grooves corresponding in number and position to the grooves 18 in the upper block 13.

The parts thus far referred to are, generally speaking, well known in the art and require no further description in detail herein. With the exception of the press blocks 21, whose novel features are hereinafter more fully described, they form no portion of the present invention and may be of any usual and approved construction and arrangement. It will be understood that, in the operation of the press shown, the carrier 14 may be turned to carry either of the boxes 15 from the filling position shown at the right in Fig. 1, wherein the block or follower 21 forms the bottom of the box, and wherein said box may be filled through its open top with cotton from the gin, into the compressing position shown at the left in said figure, wherein the plunger head 20, by upward movement from the dotted line to the full line position, carries with it the block or follower 21 to compress the cot-

ton in the box between itself and the block 13 to form a bale 25, which is subsequently removed from the press box by opening the hinged sections 16, as shown in Fig. 2.

It will also be understood that, prior to the compressing operation, the blocks 13 and 21 are each provided with a sheet or half pattern of bagging, the two sheets collectively constituting a whole pattern or complete wrapper which is secured about the bale by means of suitable ties before said bale is removed from the press.

Before the press box is filled, the lower bagging sheet 27 is laid upon the lower press block 21, while, during the compression operation, the upper sheet 28 is supported at its edges from the upper press block, as by means of pins or hooks 26 on said block. After the bale is fully compressed, the edges of the upper sheet 28 are released, and suitable ties 53 are passed rearwardly through the grooves 18 in the upper press block 13, and thence forwardly through the grooves 23 in the lower press block 21, the ends of said ties being secured together by suitable means at the forward side of the bale.

With the object of facilitating the forward passage of the ties through the grooves 23 from the rear of the block 21, by so positioning the forward edge of the lower sheet 27 as not to interfere with this operation, and with the further object of conveniently supporting and retaining all of the free edges of said lower sheet during the movement of the block 21 by the plunger, the present invention contemplates the provision of an improved lower press block the preferred construction of which will now be described.

Referring to Figs. 3 to 6, the block 21 shown therein is of composite construction and comprises a body portion composed of a suitable number (herein two) of longitudinally extending body members 29 to the upper faces of which are secured the slats 24 and to the lower faces of which are secured similar slats 30 adapted to rest upon the cleats 22, said slats 30 having secured thereto longitudinal strips 31 adapted to receive between them the plunger head 20 (see Figs. 1 and 2). Secured respectively to the ends of the slats 30 and to the ends of the body members 29 are upright, longitudinally and transversely extending strips 32 and 33. The strips 32 are spaced from the body members 29 to provide pockets 34 to receive the side edge portions of the bagging sheet 27, said pockets being rendered more conveniently accessible by rounding or beveling the upper edges of the strips 32 at their inner sides, as shown at 35. The ends of the body members 29 are recessed, as shown at 36, while the upper edges of the strips 33 are also cut away at their inner sides, as shown at 37, to form pockets 38 which receive the end edge portions of the sheet 27. It will thus been seen that the side and end marginal portions of the bagging sheet may be rolled or folded, as indicated in Figs. 5 and 6, and disposed in the pockets 34 and 38 entirely within the periphery of the lower press block, so as not to interfere with the operation of the latter by engagement with the plunger head 20 and the wall of the press block, and so as to obviate the usual troublesome handling and positioning of this sheet with respect to the plunger head before and during the compressing operation.

The body members 29, or two of them, if more than two are employed, are laterally spaced to receive between them a longitudinal rock shaft 39 journaled at its ends in plates 40 secured to said body members and bridging the space between them. The shaft 39 has a longitudinal series of radial arms 41 to the outer end of one of which is pivoted one end of a link 42 (Fig. 6). The opposite end of the link 42 is pivoted to a sleeve or collar 51 secured intermediate the ends of a lever 43 (see also Fig. 1). One end of the lever 43 is pivoted at 44 to one of the body members 29, said lever being received, when in its normal or inoperative position, in a groove 45 formed in the face of said member. The arms 41 are preferably equal in number to the slats 24, and correspondingly spaced, and to the end of each is pivoted a rod 46 extending toward the front of the press block, the several rods being guided for longitudinal movement in angular slots 47 (Fig. 5) in the front body member 29 and in alined angular slots 48 in the bottom and front ends of the respective slats 24. At their outer ends the rods 46 are provided with flat heads 52.

The slots 47, with one exception, are formed with upwardly and forwardly inclined bottoms, as shown at 49 in Fig. 6, terminating at the upper forward edge of the forward body member 29, whereby the rods 46 are supported at said edge. Preferably one of said slots, herein the central slot 47^a (see Figs. 1 and 6) receives also the link 42, and to this end is continued downwardly into the front face of the body member 29, the corresponding rod 46 being supported at the upper edge of said member by a plate 50 bridging said slot adjacent said edge. It will be obvious that, if desired, a separate slot might be provided for the rod 42, and that a separate arm 41 might also be employed to connect said rod with the shaft 39, although the construction shown is preferred as being simpler and more compact.

Normally, and as shown in Figs. 1 and 2, the lever 43 occupies a position within the groove 45, and the rods 46 are retracted with their heads 52 in close engagement with the

forward ends of the slats 24. When the compressing operation is completed, and it is desired to pass the bale ties 53 forwardly through the grooves 23 beneath the bagging sheet 27 resting on the slats 24, the lever 43 is swung outwardly into the position shown in Figs. 3, 4, and 6, rotating the shaft 39 through the link 42 and corresponding arm 41, and causing the arms 41 to project the rods 46 upwardly and outwardly into the positions shown in said figures. The resultant forward movement of the heads 52 causes said heads to lift and support the forward edge of the bagging sheet 27 in spaced relation to the ends of the grooves 23, and in such a position as to permit the ties to be passed forwardly through said grooves without engagement of the forward ends of said ties, or of the needles to which they are attached, with the forward portion of the bagging sheet, which edge is, of course, not conveniently accessible to an operator standing at the rear of the press in order to pass said ties forwardly through said grooves. Said operator can, however, without inconvenience lift the rear edge of the bagging sheet by hand to permit the ties to pass, although the mechanism herein shown might, obviously, be duplicated at the rear of the block if desired.

In order to provide smooth surfaces at the bottoms of the grooves 23 over which the ties 53 may pass, and to prevent the ends of said ties from being caught upon the shaft 39 or in the space provided for said shaft between the body members 29, strips 54 of sheet metal may be provided, as shown in Fig. 5 (being omitted from Fig. 3 in order to facilitate the illustration), said strips being superimposed upon the body members 29 between the slats 24 and overlying the space between said body members.

What I claim as new and desire to secure by Letters Patent is:

1. A block or follower for baling presses comprising a body portion, transversely extending strips secured to the ends of said body portion, said ends being recessed to form with said strips end pockets to receive the end edge portions of a wrapping sheet disposed on said block, transverse slats secured to the face of said body portion, and longitudinally extending strips secured to said slats and spaced from said body portion to form side pockets to receive the side edge portions of said sheet.

2. A block or follower for baling presses, said block having pockets to receive within its periphery the edge portions of a wrapping sheet disposed thereon having means for lifting an edge portion of the wrapping sheet disposed thereon.

3. A block or follower for baling presses, said block having pockets to receive within its periphery the edge portions of a wrapping sheet disposed thereon and having adjacent one of its upper edges lifting means for the edge portion of the wrapping sheet disposed thereon.

4. A block or follower for baling presses having a series of tie receiving grooves, and a series of wrapping sheet supporters disposed adjacent an edge of said block between said grooves.

5. In a block or follower for baling presses, a plurality of longitudinally movable rods having heads disposed adjacent one edge of said block, and means for simultaneously moving said rods upwardly and outwardly.

6. A block or follower for baling presses having a series of tie receiving grooves, a series of rods disposed at an inclination to said block and guided for longitudinal movement therein, said rods having heads disposed between said grooves, and means for operating said rods.

7. The combination with a block or follower for baling presses, of a rock shaft journaled therein, a lever for operating said rock shaft, and means operated by said rock shaft for lifting an edge portion of a wrapping sheet disposed on said block.

8. The combination with a block or follower for baling presses, of a rock shaft journaled therein, a lever for operating said rock shaft, and a plurality of longitudinally movable rods operated by said rock shaft and having heads disposed adjacent one edge of said block.

9. The combination with a block or follower for baling presses having a series of tie receiving grooves, of a rock shaft journaled in said block and having a longitudinal series of radial arms, a lever pivoted to the exterior of said block, a link connecting said lever with one of said arms, and a series of rods connected with said arms, respectively, and having heads disposed between said grooves adjacent an edge of said block, said rods being disposed at an inclination to said block and being guided for longitudinal movement therein.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

IRVINE N. BECKER.

Witnesses:
C. B. TUMEY,
M. O. SPIKES.