D. E. DICKINSON.

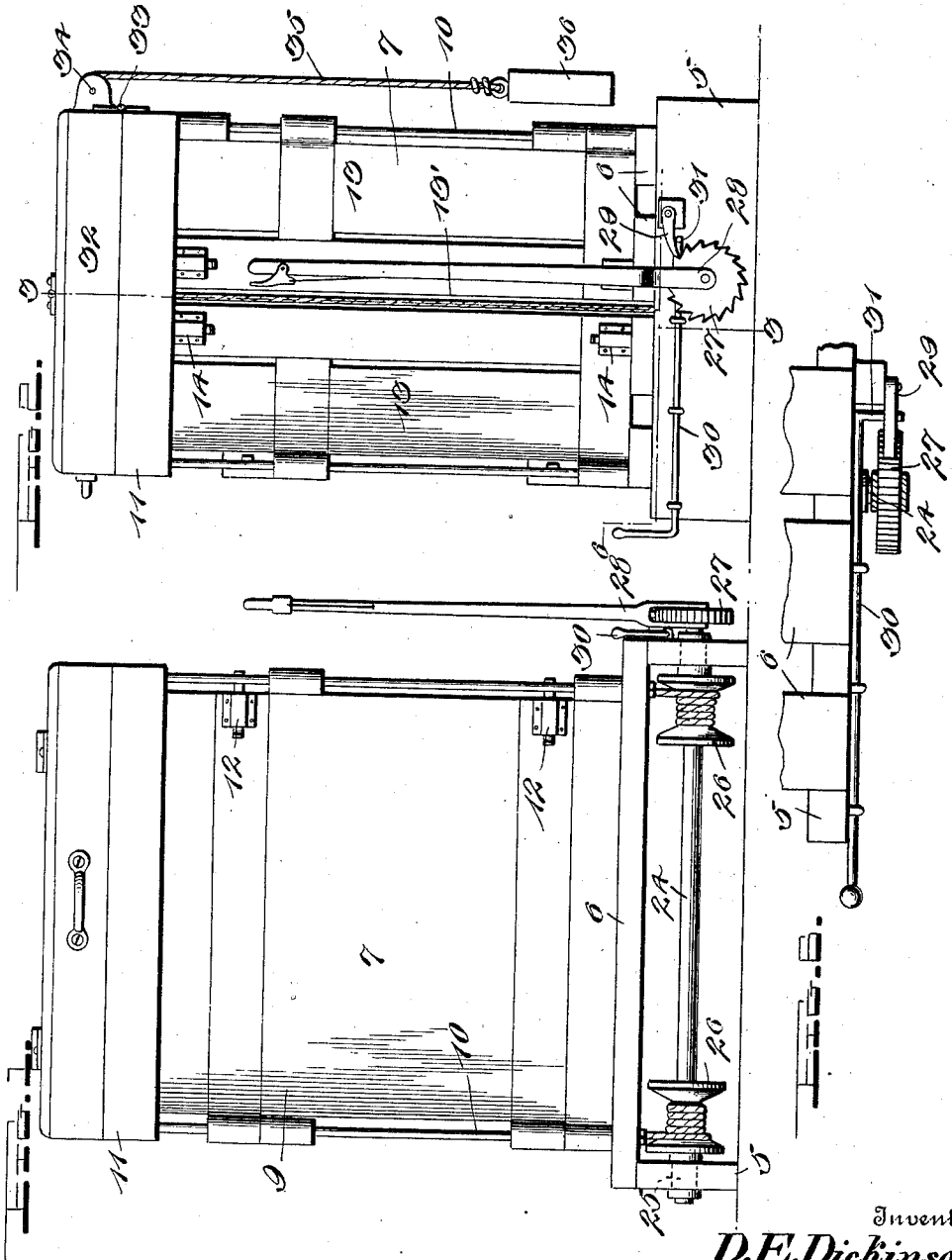
BALING PRESS.

APPLICATION FILED JAN. 30, 1912.

1,040,169.

Patented Oct. 1, 1912.

2 SHEETS—SHEET 1.



Witnesses

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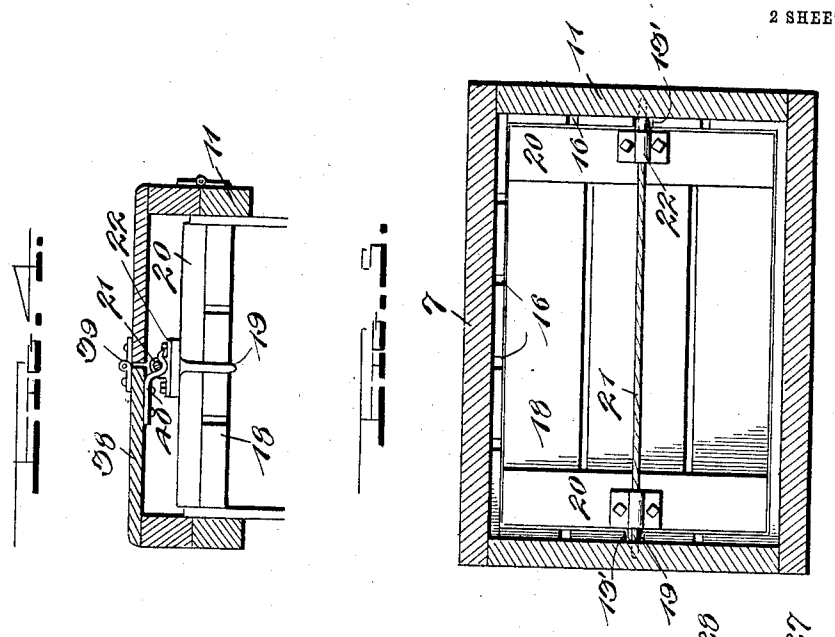

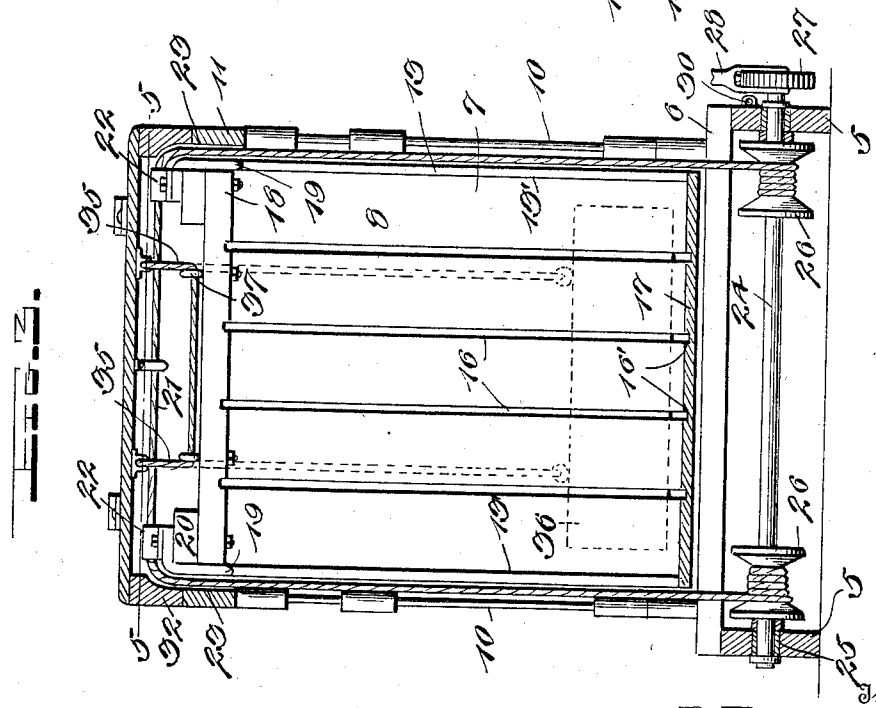

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UNITED STATES PATENT OFFICE.

DAVID E. DICKINSON, OF BLISSFIELD, MICHIGAN.

BALING-PRESS.

1,040,169. Specification of Letters Patent. Patented Oct. 1, 1912.

Application filed January 30, 1912. Serial No. 674,318.

To all whom it may concern:

Be it known that I, DAVID E. DICKINSON, a citizen of the United States, residing at Blissfield, in the county of Lenawee and State of Michigan, have invented certain new and useful Improvements in Baling-Presses, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in baling presses and has for its object to provide a device of this character consisting of comparatively few elements so arranged and constructed that a maximum of pressure upon the material to be baled may be obtained by a minimum of manual labor.

A further object of the invention resides in the provision of a baling chamber provided with a hinged top, a presser head vertically movable within said chamber, manually operable means for moving said head to compress the material, and means carried by the top of the baling chamber to hold the presser head upon the under side thereof for movement out of the chamber with said hinged top when the material is to be fed to said chamber.

A still further and more specific object of the invention is to provide a baling chamber including hingedly mounted front and side walls, a hinged top, a presser head arranged in the chamber, gravity means connected to the presser head to normally position the same in the upper portion of the chamber, spaced drums and means for rotating the same, a flexible connection between the presser head and said drums, and a hook member arranged upon the under side of said hinged top to engage said flexible connection whereby the presser head is moved out of the baling chamber when the top is moved to its open position.

With the above and other objects in view, the invention consists of the novel features of construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of a baling press embodying my improvements; Fig. 2 is a side elevation thereof; Fig. 3 is a section taken on the line 3—3 of Fig. 2; Fig. 4 is a detail transverse section of the upper end of the press; Fig. 5 is a horizontal section taken on the line 5—5 of Fig. 3; and Fig. 6 is a detail section taken on the line 6—6 of Fig. 2.

Referring in detail to the drawing 5 designates the parallel transverse sill bars upon which a plurality of longitudinal bars 6 are arranged and rigidly secured. Upon these latter bars the baling chamber generally designated as 7 is mounted. This baling chamber consists of a stationary rear wall 8 and a movable front wall 9, said latter wall being hingedly mounted upon one of the vertical rods 10. Said rods are arranged in pairs at opposite sides of the press and at the front and rear ends thereof and connect the longitudinal bars 6 and the rectangular upper end wall 11 of the baling chamber, said rods serving to support and brace said wall. The front movable wall or door 9 is provided at its free edge with latch plates 12 to engage one of the rods 10 and hold said door in its closed position. The side walls of the baling chamber consist of the pairs of doors 13 which are also hingedly mounted upon the rods 10 for outward swinging movement. These doors, at their upper and lower ends and adjacent their free edges carry the latch bolts 14 which are adapted to be received in suitable sockets to retain the doors in their closed positions.

The doors 13 and the rear wall 8 are provided with vertical slots 16 through which the tie wires with which the bale is bound are adapted to be passed. The bottom 17 of the baling chamber is also provided with longitudinal grooves or channels 16′ for the reception of said wires.

Within the baling chamber a presser head or follower 18 is mounted for vertical movement. It will be observed that the free edges of the side doors 13 when the same are closed are spaced apart as indicated at 13′ and in these spaces the guide lugs 19 carried by the presser head 18 are vertically movable. This presser head consists of a plurality of longitudinal bars connected at their ends by means of the transverse bars 20 and the guide lugs 19 are secured to the central portions of these transverse connecting bars. A rope or cable 21 has its intermediate portion extended across the top of said presser head or follower and is securely fixed thereon by means of the plates 22 which are rigidly bolted or otherwise fastened to the bars 20. The upper end wall 11 of the baling chamber is provided in its

inner edge with grooves or recesses indicated at 23 to accommodate the rope or cable 21. The vertically disposed portions of this rope are disposed exteriorly of the side walls or doors 13 and extend below the longitudinal bars 6 upon which the baling chamber is mounted. In the transverse sill bars 5 of the supporting base, a longitudinal shaft 24 is journaled at its ends in suitable bearings 25 arranged in said bars. Upon this shaft between the sill bars the spaced drums 26 are keyed or otherwise rigidly secured and to these drums the respective ends of the rope or cable 21 are connected. One end of this shaft 24 extends beyond one of the sill bars 5 and has mounted thereon a ratchet 27. A lever 28 is mounted at its lower end upon said shaft and upon the sill bar 5 a gravity pawl 29 is mounted to engage the teeth of the ratchet 27 and hold the shaft against retrograde movement. A trip rod 30 is rotatably mounted upon the sill bar 5 and has one end angularly disposed as indicated at 31 and extended beneath the free end of the gravity pawl 29.

Upon the rear wall of the baling chamber a top 32 is hingedly mounted as indicated at 33 and is adapted to be seated upon the upper end wall 11 of the baling chamber to close the same. Upon the rear edge of this top or cover the spaced pulleys or sheaves 34 are mounted and over these pulleys the weight cord 35 passes. The ends of this weight cord are secured to a weight 36 and the intermediate portion of said cord extends beneath the top 32 and is secured to the presser head or follower by means of the staples 37. In the top 32 a small door 38 is hinged as at 39 and the under side of this door has a hook 40 secured thereto. This hook is adapted to engage under the intermediate portion of the rope or cable 21 to hold the presser head upon the under side of the top for the purpose which will be presently explained.

The weight 36 is heavier than the presser head 18 and normally acts to retain the presser head in the upper portion of the baling chamber and beneath the movable top 32.

In the use of the device, the operator first lifts the small door 38 in the hinged top of the baling chamber and then lowers the same so that the hook 40 will engage under the rope or cable 21. The top 32 is now lifted by means of a suitable handle secured to the front edge thereof, it being understood of course that there is a sufficient quantity of the rope 21 wound upon the drums 26 to admit of this opening movement of the top. The baling chamber is now fed with the hay or other material to be baled and the top 32 lowered into position and securely fastened by means of a suitable latch. The lever 28 is now actuated to rotate the shaft 24 and overcome the gravity action of the weight 36 whereby the presser head or follower 18 is drawn downwardly within the baling chamber. It is understood of course that the door 38 has first been opened to release said presser head. After the material in the baling chamber has been compactly pressed, the operating lever 28 may be released and the side and front doors of the chamber swung to their open positions. The gravity pawl 29 securely holds the drum shaft against reverse rotation and retains the material under pressure. The tie wires are then passed around the bales and securely fastened. The operator now rotates the trip rod 30 to force the pawl 29 upwardly, whereupon the weight 36 descends and returns the presser head or follower 18 to its normal position in the upper end of the baling chamber. The baling operation is then repeated in the aforementioned manner.

From the foregoing it is believed that the construction and manner of operation of my improved baling press will be fully understood. The entire machine may be inexpensively manufactured and provides means whereby a large quantity of material may be quickly baled with a minimum expenditure of manual labor. It will be understood that the press may be made of various sizes and that if desired the drum shaft may be operated by means of a motor or in any other well known manner.

While I have shown and described the preferred construction and arrangement of the various parts, it will be obvious that the invention is susceptible of considerable modification without departing from the essential feature or sacrificing any of the advantages thereof.

Having thus described the invention what is claimed is:—

1. The combination of a baling chamber including a hinged top, a presser head arranged in said chamber, gravity means connected to the presser head to normally position the same in the upper end of the chamber, means to force said presser head downwardly in the baling chamber, and means carried by the top of the baling chamber to connect the presser head thereto whereby said head is moved out of the chamber when the top is moved to its open position.

2. The combination of a baling chamber having a hinged top, a presser head in said chamber, gravity means suspended from the top of the baling chamber and connected to said presser head to normally position the in the upper portion of the chamber, manually operable means connected to the presser head to force the same downwardly in said chamber upon the material to be baled, and means secured to the under side of said top to connect said presser head to the top whereby the head is moved out of the baling

chamber when the top is moved to its open position.

3. The combination of a baling chamber including a hinged top, a presser head in said chamber, gravity means connected to the presser head to normally maintain the same in the upper portion of the chamber, a shaft, a flexible connection between the shaft and the presser head, means for rotating said shaft to move the presser head downwardly in the chamber and compress the material therein, and means carried by said top to engage said flexible connection at its point of attachment to the presser head whereby the presser head is moved out of the baling chamber when the top is lifted to its open position.

4. The combination of a baling chamber including a hinged top, a presser head arranged in said chamber, gravity means mounted upon said top and connected to the presser head to normally position said head in the upper portion of the chamber, manually operable means and a connection between the same and the presser head to move the presser head downwardly upon the material to be baled, a movable door arranged in said top, and means carried by said door to engage the connection between the operating means and the presser head whereby said presser head is moved out of the baling chamber when the top is lifted to its open position.

5. The combination of a baling chamber including a hinged top, a presser head in said chamber, gravity means mounted upon the top and connected to said presser head to normally position said head in the upper portion of the chamber, a drum shaft, drums thereon, a flexible connection between said drums and the presser head, means for manually rotating the shaft to force the presser head downwardly upon the material to be baled, a hinged door mounted in said top, and a hook fixed to the under side of the door to engage said flexible connection between the drum shaft and the presser head whereby said head is moved out of the baling chamber when the top is lifted to its open position.

6. The combination of a baling chamber having a hinged door, a presser head arranged in said chamber, operating means for the presser head, and means carried by the door to connect the presser head thereto whereby the head is moved out of the chamber when the door is moved to its open position.

7. The combination of a baling chamber including a hinged door consisting of two sections hingedly connected together, a presser head arranged in said chamber, operating means for the head, and means secured to one of the door sections to connect the presser head thereto whereby the head is moved out of the baling chamber when the door is moved to its open position.

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

DAVID E. DICKINSON.

Witnesses:
W. C. FURMAN,
L. H. ROTHFUSS.