No. 707,917. Patented Aug. 26, 1902.

T. A. GOODWYN & P. E. STOVALL.

BALING PRESS.

(Application filed Jan. 29, 1902.)

(No Model.) 3 Sheets—Sheet 1.

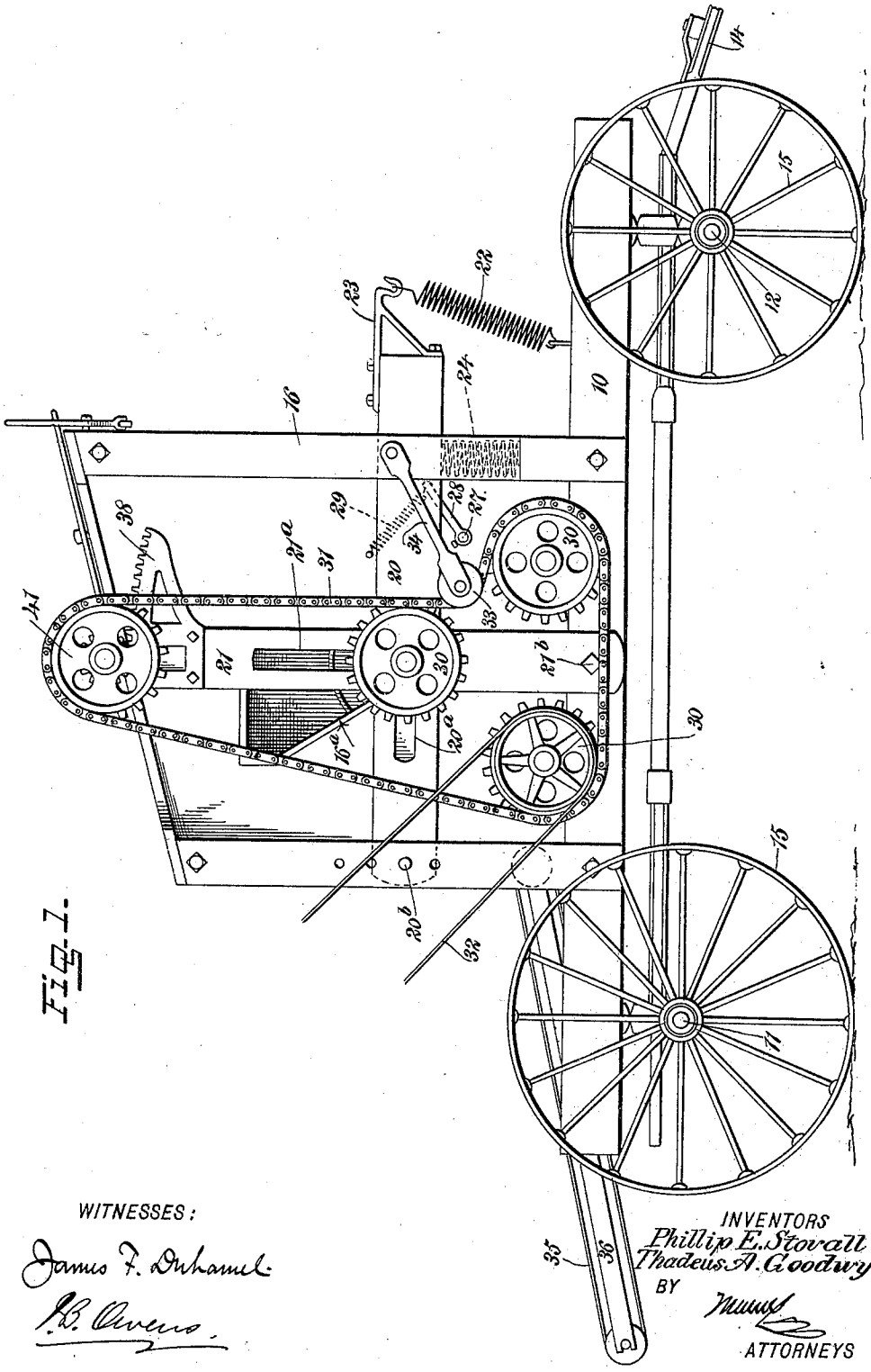


Fig. 1.

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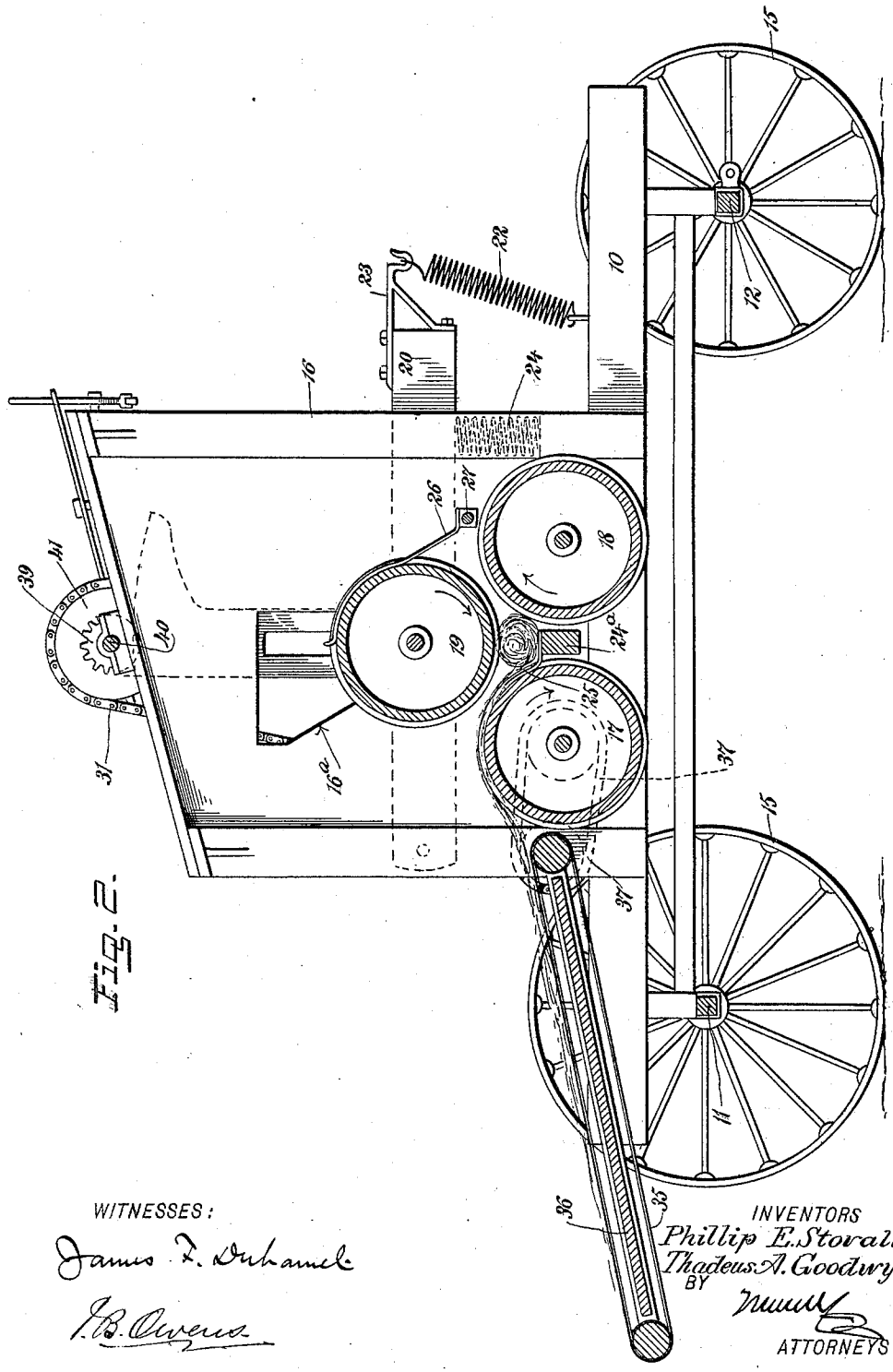


Fig. 2.

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Fig. 4.

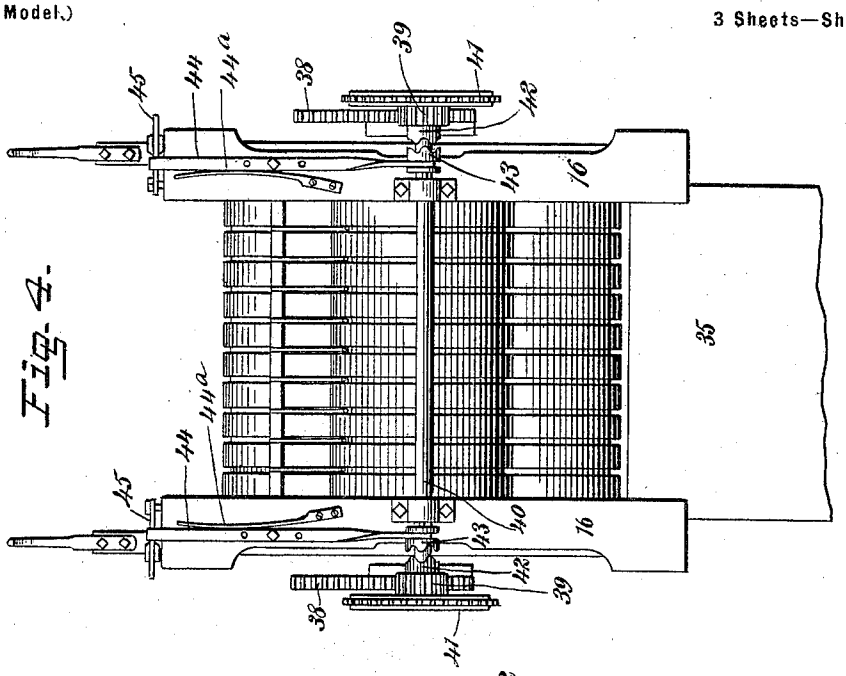
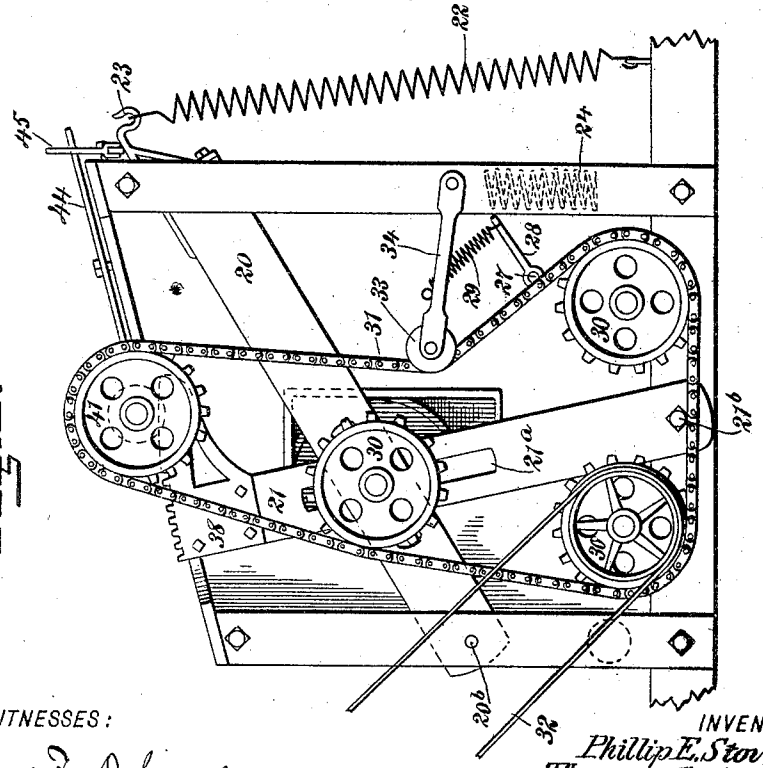


Fig. 3.



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UNITED STATES PATENT OFFICE.

THADEUS A. GOODWYN, OF MADILL, INDIAN TERRITORY, AND PHILLIP E. STOVALL, OF WAXAHACHIE, TEXAS.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 707,917, dated August 26, 1902.

Application filed January 29, 1902. Serial No. 91,702. (No model.)

To all whom it may concern:

Be it known that we, THADEUS A. GOODWYN, residing at Madill, Chickasaw Nation, Indian Territory, and PHILLIP E. STOVALL, residing at Waxahachie, in the county of Ellis and State of Texas, citizens of the United States, have invented a new and Improved Baling-Press, of which the following is a full, clear, and exact description.

This invention relates to a press designed particularly for baling hay, but used, of course, in connection with other materials. It comprises three rollers working the material between them to form a round bale, these rollers being arranged in connection with certain peculiar mechanism for discharging the bale and for otherwise controlling the action of the various parts.

This specification is a specific description of one form of the invention, while the claims are definitions of the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the invention. Fig. 2 is a longitudinal section thereof. Fig. 3 is an elevational view showing the parts in discharging position, and Fig. 4 is a plan view.

The press is mounted on a base 10, which itself is sustained on axles 11 and 12, the latter axle being the front axle and having draft mechanism 14 attached.

15 indicates the wheels on which the axles are mounted, so that by hitching the team to the draft mechanism 14 the apparatus may be drawn from place to place.

The framing of the press comprises two side walls 16, built up of any suitable structure and held rigidly with respect to each other by the base 10, or by any other means desired.

17, 18, and 19 indicate the three baling-rolls. The rolls 17 and 18 are mounted in stationary bearings supported by the side walls 16 of the frame, and the roll 19 has its journals extended through openings 16^a in the side walls 16 and mounted in the slots 20^a and 21^a of the swinging beams or levers 20 and 21. These beams 20 and 21 are each two in number, located one at each side of the frame and forming crossing pairs. (See Figs. 1 and 3.) The beams 20 are fulcrumed at the points 20^b, and the beams 21 are fulcrumed at the points 21^b.

22 indicates retractile springs, which are connected to the carriage 10 and to extension-hooks 23 on the ends of the beams 20, these springs 22 serving to hold the beams 20 down. The beams are, however, free to swing upward to the position shown in Fig. 3 against the action of the springs 22.

24 indicates buffer-springs, which are mounted in the front portions of the framing of the side walls 16 and which operate to reduce the shock of the beams 20 as they return to the starting position under the action of the springs 22, as will be hereinafter fully explained.

As the material baled is rolled in between the rollers 17, 18, and 19 and these rollers act continuously thereon in direction of the arrows shown in Fig. 2 the bale will increase in size and the roller 19 will rise, its journals traveling in the slots 21^a in the beams 21. These beams being held perpendicularly by mechanism which will be hereinafter described, the beams 20 will swing upward against the springs 22. These springs will exercise the necessary tension on the bale, causing it to be rolled tightly into form. Reference to Fig. 2 will show a beam 24^a, which runs transversely across the framing of the press between the rollers 17 and 18 and which carries a number of fingers 25, these fingers lying in the grooves in the periphery of the roller 17. All of the rollers are peripherally grooved, as best shown in Fig. 4, to enable them to more effectively engage the material baled, and the fingers 25 tend to prevent the material from adhering to the roller 17.

26 indicates fingers similar in function to the fingers 25, these fingers 26 bearing in the grooves of the roller 19. The fingers 26 are carried in a rock-shaft 27, extending across the frame parts 16, and this shaft 27 (see Fig. 1) is provided at its outer ends with arms 28, engaged by springs 29, which keep the fingers 26, engaged with the roller 19, at the proper tension. The journals of the rollers

17, 18, and 19 are provided with sprocket-wheels 30, driven in the proper direction and at the proper speed by a sprocket-chain 31.

32 indicates the driving-belt for transmitting power to the machine, which belt may be connected with any suitable element thereof—for example, with the axis of the roll 17. (See Fig. 1.)

33 indicates a tightener-sheave, which engages the sprocket-chain 31 to change its direction, causing it to make proper connection with the sprocket-wheel 30 of the roller 19, or, in other words, to hold a part of the chain parallel with the direction in which said roller moves laterally of its axis. This sheave 33 is held by an arm 34, pivoted to the frame-section 16. Preferably the gearing shown in Fig. 1 is duplicated at the other side of the machine, (see Fig. 4,) although this is obviously not essential to the principle of our invention.

35 indicates a feed-apron, which is mounted on a suitable frame 36 and which feeds the material baled into the machine, as shown in Fig. 2. This feed-apron is connected by a sprocket-chain 37 with the roller 17 or with any other mobile part of the apparatus.

The beams 21 are provided at their upper ends with toothed sectors 38, and these sectors are in mesh, respectively, with pinions 39, loosely mounted on a shaft 40, extending across the top of the machine. (See Fig. 4.) Fastened to the ends of the shaft 40 are sprocket-wheels 41, over which the chains 31 pass, so as to drive the sprocket-wheels and the shaft 40. Connected with the loose pinions 39 are clutch members 42, and these clutch members work with clutch members 43, splined on the shaft 40. When the parts 42 and 43 are engaged, the pinions 39 will be driven with the shaft 40. The clutch members 43 are connected with levers 44, mounted, respectively, on the tops of the side portions 16 of the frame, through the medium of which levers the clutch members are thrown into active position.

44ª indicates springs which hold the levers 44 yieldingly in the position shown in Fig. 4.

45 indicates bell-crank levers connected with the levers 44 and adapted to be struck by the extension-hooks 23 of the beams 20 when said beams are raised to the position shown in Fig. 3. As the operation of the machine goes on and the size of the bale increases, the beams 20 will be steadily raised with the roller 19, and finally the bell-crank levers 45 will be struck by the extension-hooks and the levers 44 thrown to engage the clutch members 43 with the clutch members 42. This will cause the gears 39 to turn, and these gears will throw the beams 21 to the left, (see Fig. 1,) moving them from the perpendicular position shown in said view to the backward inclined position shown in Fig. 3. This action of the beams 21 will throw backward the roll 19 and cause said roll to push or to "kick," so to speak, the bale off of the rolls 17 and 18 and cause the bale to be ejected from the front end of the machine. The fingers 26 are by the action of the bale thrown against the spring 29 to the right in Fig. 2, and the bale rolls out over the fingers. As soon as the bale passes from under the roll 19 this roll and the beams 20 will be deprived of their support, and they will respond to the action of the springs 22 and return quickly to the position shown in Fig. 1, the springs 24 serving to stop this return movement. The point at which the beams 20 are fulcrumed on the frame may be regulated so as to regulate the size of the bale, and other adjustments may obviously be resorted to for this and other purposes. The bale formed by the machine will be very compact, and the operation may be performed with less expenditure of power and labor than in presses of the reciprocal form. The apparatus may be so light in construction that it may be readily mounted on the carriage, as shown, and thus conveyed from point to point with ease.

Various changes in the form and details of our invention may be resorted to at will without departing from the spirit and scope of our invention. Hence we consider ourselves entitled to all forms of the invention as may lie within the intent of our claims.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A baling-press, having three baling-rolls, two of which are mounted in stationary bearings and the third of which is movable toward and from the center of the bale to accommodate the increasing size thereof, a swinging beam engaged with the axis of the third roll to press the same inward toward the bale, means for actuating the beam, and gearing for uninterruptedly driving the rolls.

2. A baling-press, comprising a roll working against the bale, two longitudinally-slotted levers receiving the journals of the roll in the slot thereof, whereby to allow the roll transverse movement longitudinally of the levers, for the purpose specified, and means pressing against the lever to hold the roll in operative position.

3. A baling-press, comprising a roll adapted to press against a bale, crossing levers having sliding connection with the axis of the roll, means pressing on one lever to hold the roll in operative position, and means for throwing the other lever sidewise to release the bale.

4. A baling-press, comprising a roll adapted to press against a bale, crossing levers having sliding connection with the axis of the roll, means pressing on one lever to hold the roll in operative position, and means for throwing the other lever sidewise to release the bale, said means comprising a toothed sector on the lever, a pinion meshed therewith, and means for throwing the pinion into and out of action.

5. A baling-press, comprising a roll adapted to press against a bale, crossing levers having

sliding connection with the axis of the roll, means pressing on one lever to hold the roll in operative position, means for throwing the other lever sidewise to release the bale, said means comprising a toothed sector on the lever, a pinion meshed therewith, and means for throwing the pinion into and out of action, said means for throwing the pinion into and out of action being in the path of movement of the first-named lever, to be actuated thereby.

6. A baling-press, comprising a roller bearing on the bale, crossing levers each having sliding connection with the axis of the roller, means bearing on one lever to press the roller into operative position, means for throwing the other lever sidewise for the purpose specified, and operating devices for said other lever, the operating devices being arranged in the path of the first-named lever to be actuated thereby.

7. A baling-press, having a roll adapted to bear on a bale, crossing levers each having sliding connection with the roll, means bearing on one lever to hold the roll against the bale, and means for removably holding the other lever in fixed position.

8. A baling-press, comprising three rolls, two of which are mounted in relatively stationary bearings, crossing levers having sliding connection with the third roll, means bearing on one lever to hold said roll against the bale, and means for removably holding the second lever in fixed position.

9. A baling-press, comprising a roll adapted to bear against a bale, two members movable in crossing lines, said members having connection with the axis of the roll, means for pressing one member to hold the roll in operative position, and means for throwing the other member sidewise to release the bale.

In testimony whereof I, the above-named THADEUS A. GOODWYN, have signed my name to this specification, in the presence of two subscribing witnesses, at Madill, Chickasaw Nation, Indian Territory.

THADEUS A. GOODWYN.

Witnesses:
GEO. E. RIDER,
J. W. FALKNER.

In testimony whereof I, the above-named PHILLIP E. STOVALL, have signed my name to this specification, in the presence of two subscribing witnesses, at Waxahachie, Ellis county, Texas.

PHILLIP E. STOVALL.

Witnesses:
E. M. THRASH,
A. A. FERN.