

J. LOWRIE, DEC'D.

A. LOWRIE, EXECUTRIX.

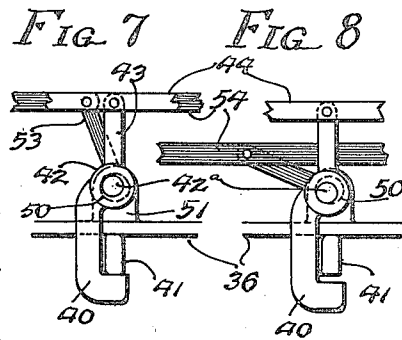
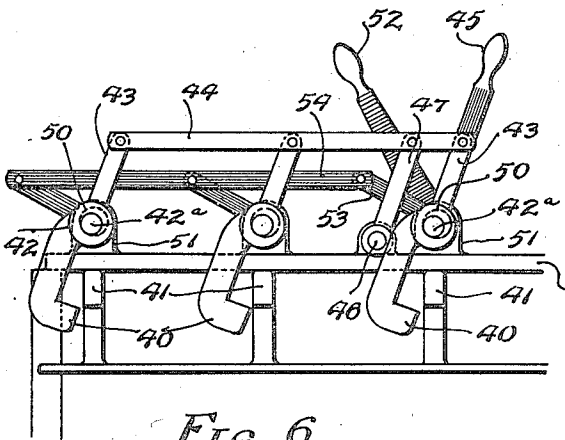
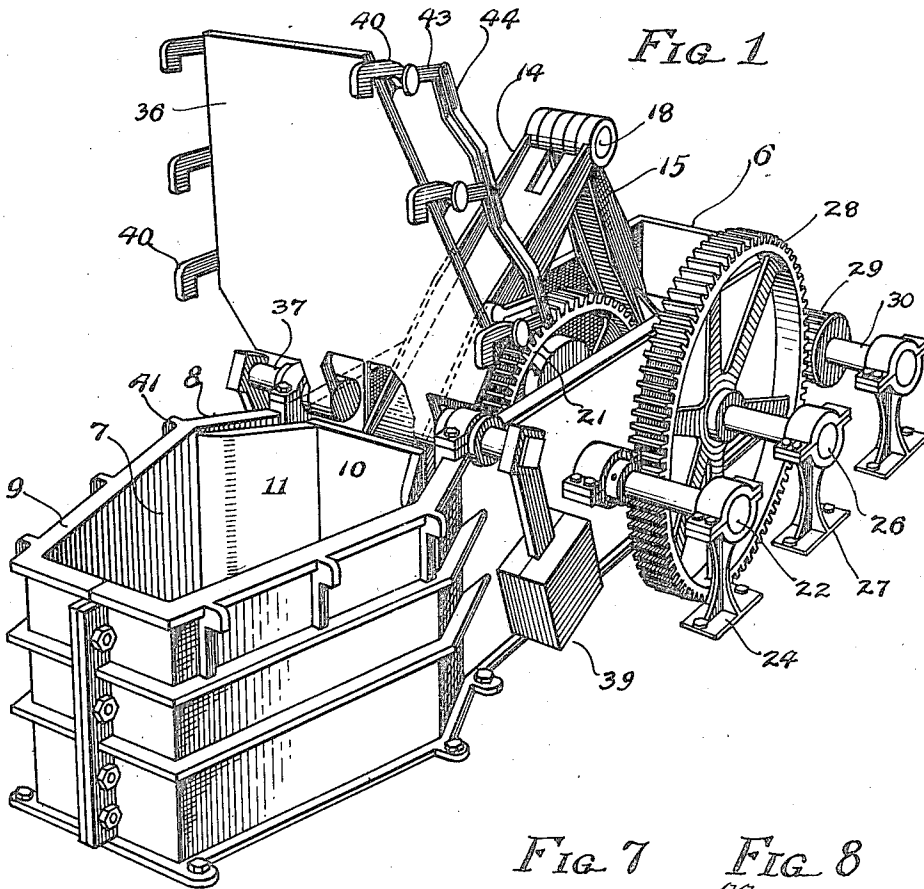
BALING PRESS.

APPLICATION FILED APR. 29, 1916.

1,229,628.

Patented June 12, 1917.

3 SHEETS—SHEET 1.



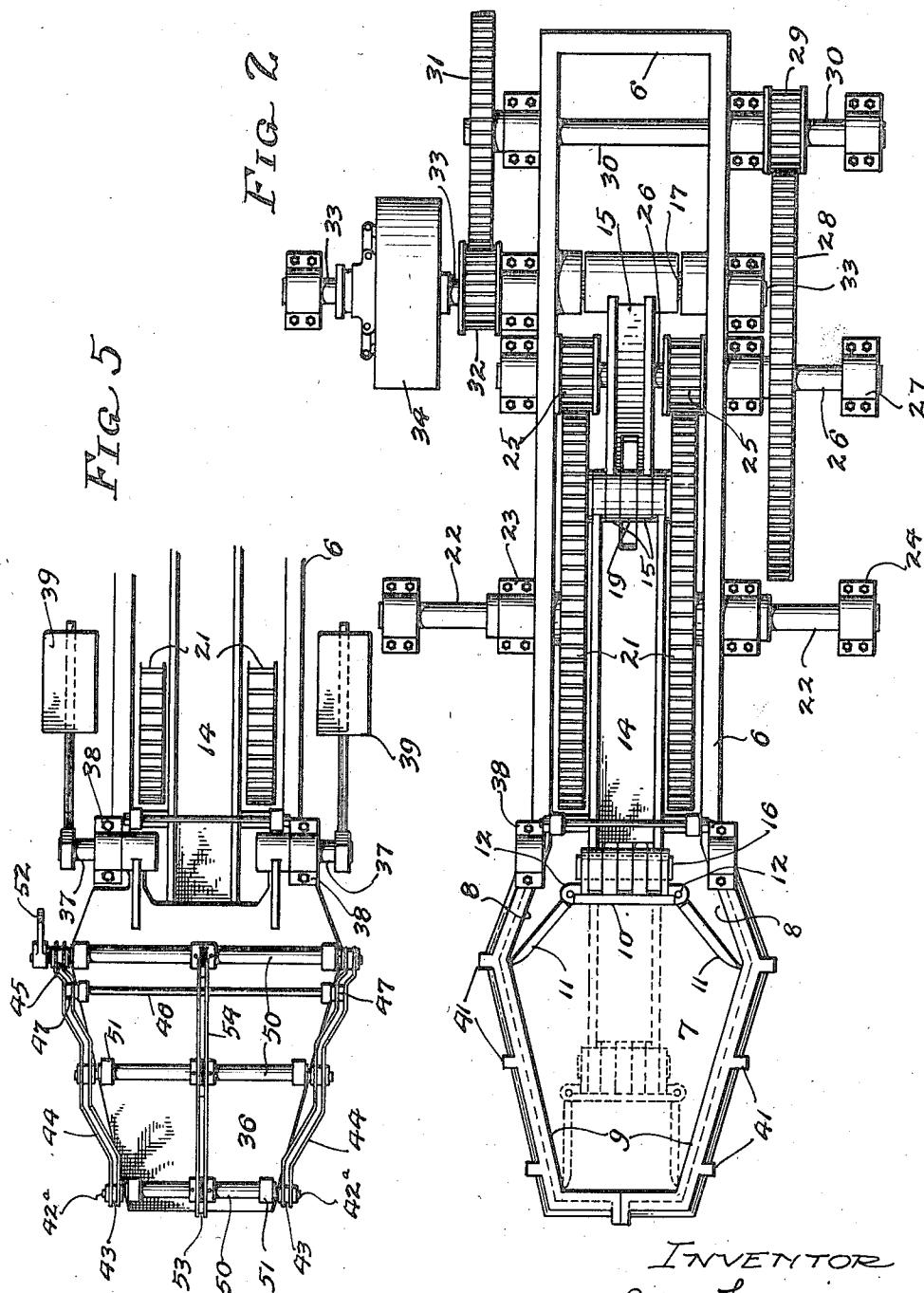
INVENTOR
John Lowrie
BY John A. Rasmussen
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3 SHEETS—SHEET 2.



INVENTOR
 John Lowrie
 BY John A. Bonnhardt
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3 SHEETS—SHEET 3.

FIG 3

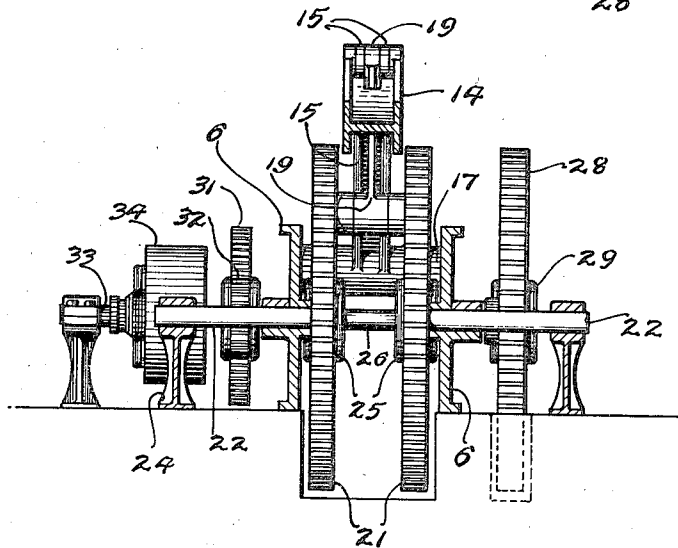
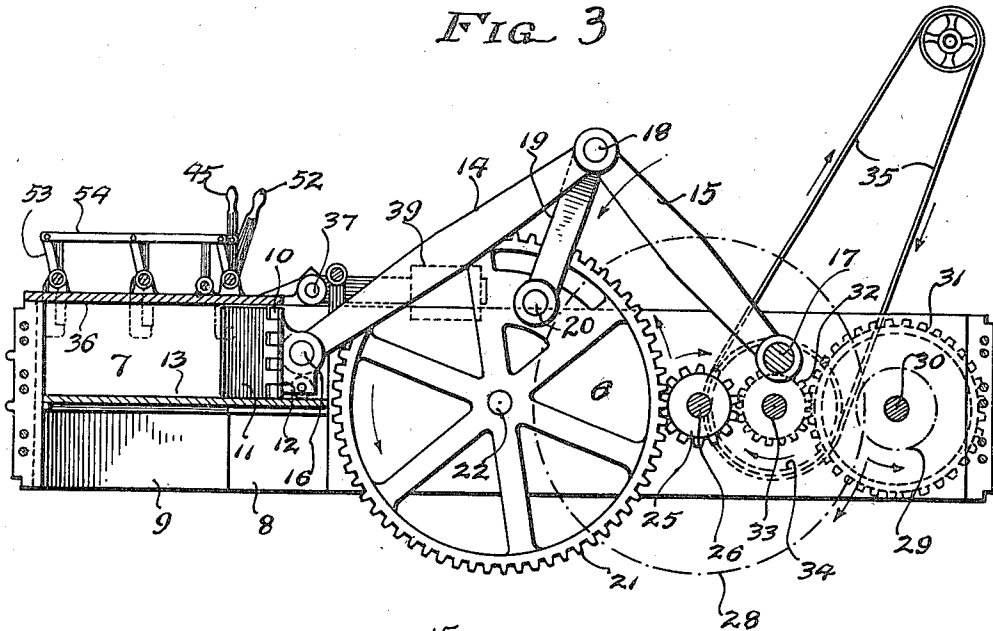


FIG 7

INVENTOR
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UNITED STATES PATENT OFFICE.

JOHN LOWRIE, OF CLEVELAND, OHIO; AMELIA LOWRIE EXECUTRIX OF SAID JOHN LOWRIE, DECEASED.

BALING-PRESS.

1,229,628.

Specification of Letters Patent. Patented June 12, 1917.

Application filed April 29, 1916. Serial No. 94,376.

To all whom it may concern:

Be it known that I, JOHN LOWRIE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Baling-Presses, of which the following is a specification.

This invention relates to baling presses of that type employing a plunger operating in a chamber, the plunger being operated by a crank and toggle.

The press is particularly adapted and intended for baling scrap metal or the like, for which a powerful press is necessary, and is characterized by improvements with respect to the means for operating the plunger, with respect to the construction of the plunger and baling chamber, and with respect to the means for closing the chamber, and in other respects as will more fully appear from the following description and the accompanying drawings.

In the drawings—

Figure 1 is a perspective of the machine.
Fig. 2 is a plan thereof.

Fig. 3 is a vertical longitudinal section.

Fig. 4 is a vertical cross section.

Fig. 5 is a detail in plan.

Figs. 6, 7 and 8 are details of the latch device for holding the cover closed.

Referring specifically to the drawings, 6 indicates a frame at one end of which is the baling chamber 7. These parts are stoutly constructed and are adapted to rest on a suitable frame, not shown. The sides of the baling chamber incline outwardly from the side walls of the frame 6 for a short distance, as indicated at 8, and then incline inwardly or toward each other, as indicated at 9, to the head end of the chamber. A bottom 13 is supported in the baling chamber.

The plunger comprises a head 10 with wings 11 at each side thereof, said wings being hinged to the head as indicated at 12 so that they are free to swing and follow the inclination of the side walls 9, thereby pressing laterally on the material being baled, during the thrust movement. The plunger slides on the bottom 13 and is operated by means of a toggle comprising a pair of bars 14 forming one member and another bar 15 forming the other member of the toggle. The bars 14 are pivotally connected to the back of the head 10 as in-

dicated at 16, and the bar 15 is pivoted at its outer end to a cross shaft 17 extending between the side walls of the frame 6. The toggle joint is formed by a pin 18, which also serves to connect the link 19 which is connected by a pin 20 to and between a pair of crank wheels 21 mounted on stud shafts 22 which extend through boxes 23 in the sides of the frame and are supported at their outer ends by brackets 24 to give desirable rigidity.

The crank gear wheels 21 are driven by pinions 25 on a cross shaft 26 which projects at one end beyond the frame and is supported by a bracket 27. This shaft 26 carries a gear 28 driven by a pinion 29 on a cross shaft 30 which carries a gear 31 driven by a pinion 32 on a shaft 33 operated by a suitable clutch pulley 34 and belt 35 from any suitable source of power. The reducing gearing thus provided gives very powerful pressure.

The cover for the baling chamber is indicated at 36, and it is shaped to fit the chamber. At its rear end it is mounted on rock shafts 37 supported in bearings 38 on the frame, and it is counterbalanced by two weights 39 connected to the shaft. For holding the cover closed there is provided a series of hooks 40 mounted upon the cover, and adapted to engage under lugs 41 on the sides of the chamber. These hooks are arranged in pairs, at opposite sides of the chamber, each pair of hooks being secured to or projecting from collars 42 which turn on eccentric pins 42^a at the ends of the rock shafts 50 mounted in brackets 51 on the cover. Each collar has an arm 43 and the arms at each side of the cover are connected by links 44. One arm at one side is extended as indicated at 45 to form a hand lever, and the arms at the opposite sides are connected for simultaneous operation by means of a cross shaft 46 and arms 47 connected to the links 44, whereby the single lever 45 will swing all the hooks at once, to engage or disengage the same with respect to the lugs 41.

For tightening the hooks, after they are engaged, each shaft 50 has an arm 53, and these arms are connected by links 54, and one end of one shaft is provided with a hand lever 52. By swinging this lever, the shafts are rocked in the bearings 51 and the eccentricity of the pins 42^a which carries the

hooks causes said hooks to draw tightly against the lugs 41 when the cover is closed, or to release therefrom when the cover is to be opened. This mechanism provides
5 clamping devices which can be easily and quickly operated for the intended purpose and which will withstand any amount of pressure that may be exerted against the under side of the cover when the plunger is in
10 action.

In the operation of the press, with the parts as shown in Fig. 1, the material is placed within the chamber and the plunger is advanced. By its advance the material is
15 compressed lengthwise, and the wings 11, sliding in contact with the inclined walls 9, are forced toward each other with a powerful wedge action until finally they are brought to parallel position, against the
20 head end of the chamber, as shown in dotted lines in Fig. 2, the bale being thus compressed between the head and wings of the plunger and the end of the chamber. When the plunger is retracted, the wings are
25 opened and the bale is released for its removal and for the next operation.

What I claim as new is:

1. In a baling press, the combination of a
30 baling chamber with converging walls, a plunger having forwardly projecting hinged wings bearing against said walls and adapt-

ed to be swung inwardly when the plunger is advanced, by the inclination of said walls, and means to operate the plunger.

2. In a baling press, the combination of a
31 baling chamber with converging side walls, a plunger working in said chamber and comprising a head and forwardly projecting leaves hinged to the opposite edges
40 of said head and bearing at their free ends against said walls and adapted to be swung inwardly thereby, and means to operate the plunger.

3. In a baling press, the combination of a
41 baling chamber, a plunger therein, and means carried by the plunger and actuated by the advance thereof to apply lateral
45 pressure to material in the chamber.

4. In a baling press, the combination with
50 a frame and a baling chamber connected thereto, of a plunger, and operating mechanism connected thereto and including shafts having bearings in the sides of the frame, and bearing brackets for the outer
55 ends of said shafts, spaced from the sides of the frame.

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

JOHN LOWRIE.

Witnesses:

JOHN A. BOMMHARDT,

CHARLES E. BOWMAN.