No. 797,854. PATENTED AUG. 22, 1905.

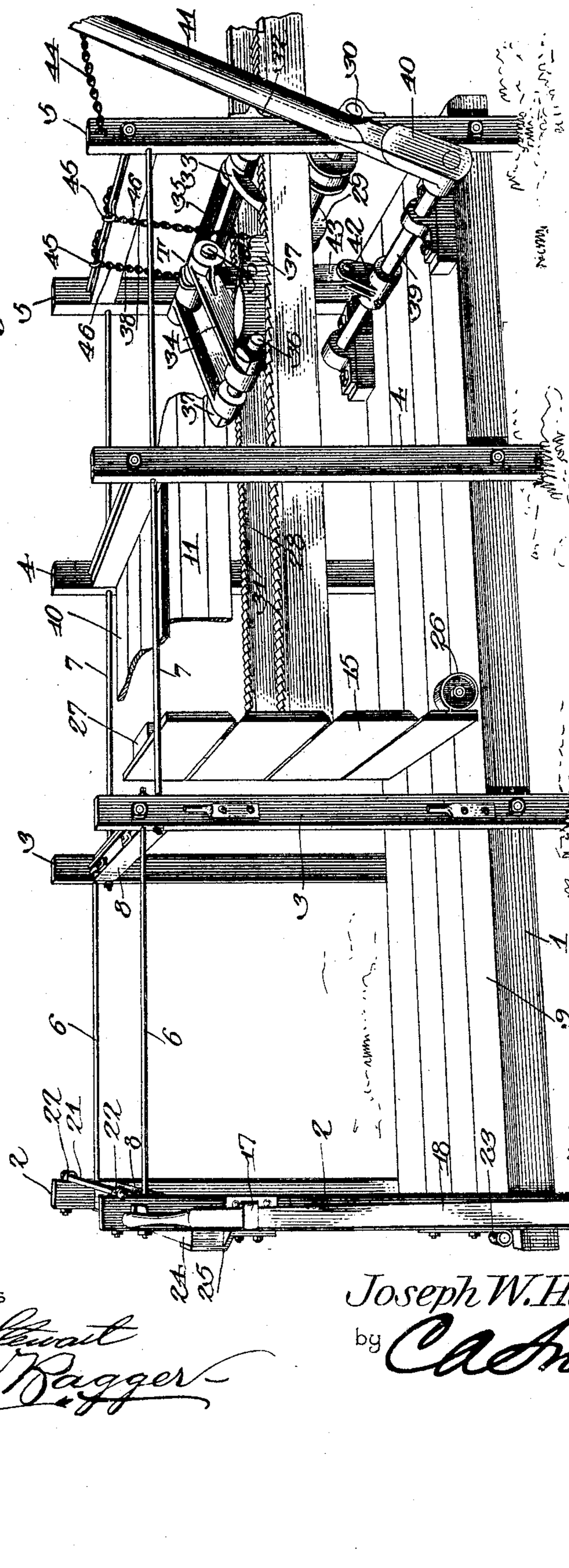
J. W. HOBSON.

BALING PRESS.

APPLICATION FILED DEC. 10, 1904.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

E. F. Stewart

M. Bagger

Joseph W. Hobson, Inventor.

by Cachow & Co

Attorneys

ANDREW. B. GRAHAM CO., PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.

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2 SHEETS—SHEET 2.

Fig. 3.

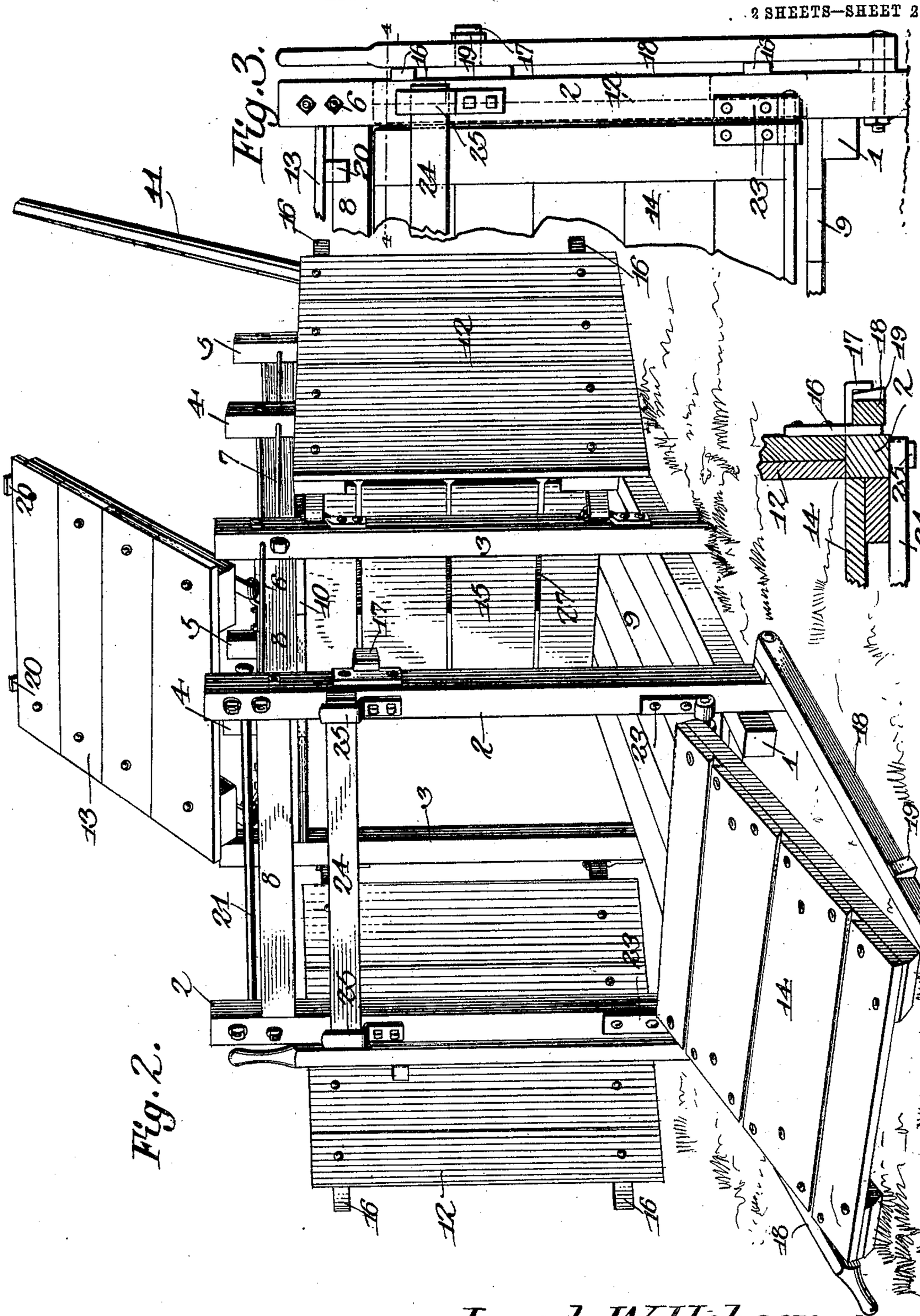

Fig. 2.

Fig. 4.

Witnesses

E. F. Hobart

Wm. Bagger

Joseph W. Hobson, Inventor.

by Cachow & Co

Attorneys

ANDREW. B. GRAHAM CO., PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOSEPH W. HOBSON, OF BAYONNE, NEW JERSEY.

BALING-PRESS.

No. 797,854. Specification of Letters Patent. Patented Aug. 22, 1905.

Application filed December 10, 1904. Serial No. 236,388.

To all whom it may concern:

Be it known that I, JOSEPH W. HOBSON, a citizen of the United States, residing at Bayonne, in the county of Hudson and State of New Jersey, have invented a new and useful Baling-Press, of which the following is a specification.

This invention relates to presses for baling hay and similar material; and it has for its object to simplify the construction and to improve the operation of this class of devices.

The present invention consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of embodiment of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that the right is reserved to any changes, alterations, and modifications to which recourse may be had within the scope of the invention and without departing from the spirit or sacrificing the efficiency of the same.

In said drawings, Figure 1 is a perspective view showing the frame and the operating mechanism of the improved press, the casing or lining of the press having been almost entirely removed for the purpose of better illustration. Fig. 2 is a perspective view of the press seen from the direction of the baling-chamber and showing all the doors of the baling-chamber open, but showing the fastening means for the front and top doors in position. Fig. 3 is a detailed side view of the front end of the press, showing the doors of the baling-chamber shut. Fig. 4 is a sectional detail view taken on the line 4 4 in Fig. 3.

Corresponding parts in the several figures are indicated by like characters of reference.

The frame of the improved baling-press includes a pair of sills 1, which are disposed parallel to each other at each side of the press, as will be readily understood, although only one of said sills appears in the drawings. Suitably connected with said sills are pairs of uprights 2, 3, 4, and 5, which are suitably spaced apart, the uprights 2 being disposed at the front and the uprights 5 at the rear end, while the uprights 3 and 4 are intermediately disposed. These uprights are spaced and connected at their upper ends by means of longitudinal rods 6 7 and transverse braces 8 8, constituting a strong and durable frame, as clearly shown in Fig. 1 of the drawings. This frame is provided with a lining which constitutes the casing of the press, said lining being constructed of lumber of suitable thickness. A portion 9 of said lining extends the entire length of the frame and constitutes the floor of the press. The sides and the top, only a portion of which latter has been shown, are intended to extend between the uprights 3 and 5 to form the top 10 and sides 11 of the press.

The baling-chamber of the improved press is included between the floor of the press, a pair of side doors 12 12, a top door 13, and a front or end door 14, the remaining side of the baling-chamber being formed by the head-block or follower 15, as will be hereinafter described. The side doors 12 12 are hingedly connected with the uprights 3 3 and are adapted to fit between the latter and the front uprights 2 2, as will be readily understood. Said side doors are provided with straps 16, projecting at their free edges and constituting stops which when the doors are closed abut upon the uprights 2. The latter are provided with L-shaped hooks or catches 17, and mounted pivotally at the lower ends of said uprights are levers 18, provided with suitably-disposed wedge-plates 19, adapted when the levers are raised to engage the hooks or catches 17, while the bodies of the levers bear against the stops or straps 16 of the doors, which latter will thus be retained in closed position. The levers will be retained in engaging position by frictional contact between the wedge-plates 19 and the hooks or catches 17.

The top door 13 is hingedly connected with the transverse brace 8, connecting the upper ends of the uprights 3 3, and said top door is provided at its free edge with lugs 20, adapted to engage the cross-brace 8, connecting the upper ends of the uprights 2 2. The top door may be retained in closed position by means of a rod 21, engaging staples 22 upon the uprights 2 near the upper ends of the latter.

The front or end door 14 is connected, by means of hinges 23, with the lower ends of the front uprights 2. When said door is closed, its upper edge will engage the cross-brace 8, connecting the uprights 2, and said door may be retained in closed position by means of a bar 24 engaging a pair of keepers 25 upon the front uprights 2.

The head-block or follower 15 is mounted for longitudinal movement in the press-box,

and it is supported upon rollers or wheels 26, suitably journaled near its lower edge. The follower is provided upon its rear side with a vertically-disposed brace 27, to the sides of which are secured a pair of spaced push-bars 28, the rear ends of which are preferably supported by flanged rollers 29 upon a shaft 30, supported by the rear uprights 5 5, thus enabling the follower and its related parts to be easily operated. Upon the upper sides of the push-bars 28 are secured ratchet-bars 31, the teeth of which are beveled or inclined in a forward and downward direction.

The rear uprights 5 5 support a shaft 32, carrying pawls or dogs, as 33, which engage the ratchet-bars 31 and act as detents to prevent rearward movement of the follower. T designates a toggle composed of a pair of links 34 and 35, which are pivotally connected by a pin 36, and the latter of which, 35, is pivotally supported upon the shaft 32. The front end of the link 34 has a transverse pin 36^a, carrying a pair of trailing pawls 37, the toothed ends of which engage the ratchet-bars 31, as will be clearly seen in Fig. 1. Suitably connected with said trailing pawls are chains or flexible members 38, whereby they may be raised from engagement with the ratchet-bars, said flexible members being of any suitable length and extended to any suitable point where they may be readily laid hold of by the operator.

The bottom of the press-box supports a transverse shaft 39, having at one end a socket 40, in which is fitted a hand-lever 41. The shaft 39 has a crank member 42, which is connected, by means of a link 43, with the pin 36, whereby the links of the toggle-joint are pivotally connected. The proportion and relative arrangement of the parts is such that when the shaft 39 is operated by the lever 41 to move the crank 42 in an upward direction the pivotally-connected ends of the toggle-links 34 and 35 will be elevated and the trailing pawls will be caused to slide in a rearward direction over the teeth of the ratchet-bars 31, the latter being meanwhile prevented from backward movement by the pawls or detents 33. When the lever is depressed and the crank 42 is moved toward a horizontal position, the pivotally-connected ends of the toggle-links will be lowered and the trailing pawls will move in a forward direction, acting upon the ratchet-bars, and consequently moving the follower forwardly in the direction of the baling-chamber. When this forward movement takes place, the detents 33 will slide over the teeth of the ratchet-bars.

A short chain or similar flexible member 44 may be connected with the upper end of one of the uprights 5, said chain being adapted to be detachably connected with the hand-lever 41 for the purpose of securing the latter in an approximately upright position when the press is not in use. Suitably-supported hook members 45 are provided, said hook members being adapted to engage chains 46, connected with the free ends of the trailing pawls 37, which latter may thereby be raised from engagement with the ratchet-bars and supported in inoperative position.

By making slight modifications, which are within the skill of the ordinary mechanic, the operating mechanism of the press may be changed, so as to enable it to be operated by power instead of by means of the hand-lever 41.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood. Initially the follower is moved rearwardly into the press-box as far as possible, this being accomplished by first raising the trailing pawls from engagement with the ratchet-bars by means of the chains 38, which may be placed temporarily in engagement with supporting-hooks 45, while the detents 33 are likewise temporarily disengaged from said ratchet-bars. When the follower has been moved rearward to the desired extent, which is accomplished manually by pulling upon the bars 28, the pawls 37 and detents 33 are again placed in engagement with the ratchet-bars, and the front or end door 14 of the baling-chamber is thrown open, after which the material to be compressed is pitched into the press-box and baling-chamber. The door 14 is then closed and secured by the cross-bar 24, and the operating mechanism of the press is then manipulated, thus forcing the follower forwardly in the direction of the baling-chamber and compressing the material within the latter. When the material has become sufficiently compressed or condensed, the side doors of the press may be thrown open while the bale is being tied in the usual manner. The front door of the press is then thrown open to relieve the pressure upon the bale, thus enabling the detents and pawls to be readily disengaged from the ratchet-bars while the follower is being withdrawn, and the bale may then be removed from the press. As will be seen, access may be had to the bale from four sides, so that if the bale should become stuck or hung in the baling-chamber it may be readily freed and ejected.

By the operating mechanism which has been herein described a great power may be developed with slight initial exertion and the material may be compressed to a great degree of density.

Having thus described the invention, what is claimed is—

1. In a baling-press, a frame having posts or uprights, a baling-chamber having doors hingedly connected with uprights spaced from the front end of the press, said doors having stops abutting upon the front uprights, hook-shaped catches upon said uprights, and levers connected pivotally with said uprights and

having wedge-plates adapted to engage said catches.

2. In a baling-press, a press-box, a baling-chamber at the front end of said box, said baling-chamber being provided with an end door, a top door, and vertically-hinged side doors, means for securing said doors in a closed position, a follower movable longitudinally in the press-box and having a vertically-disposed brace upon its rear side, push-bars connected with and spaced apart by said brace, rotary supporting means for the follower and the push-bars, and means for forcing the latter forwardly in the direction of the baling-chamber.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOSEPH W. HOBSON.

Witnesses:
M. S. HOBSON,
F. M. CURTIS.