

No. 797,735.

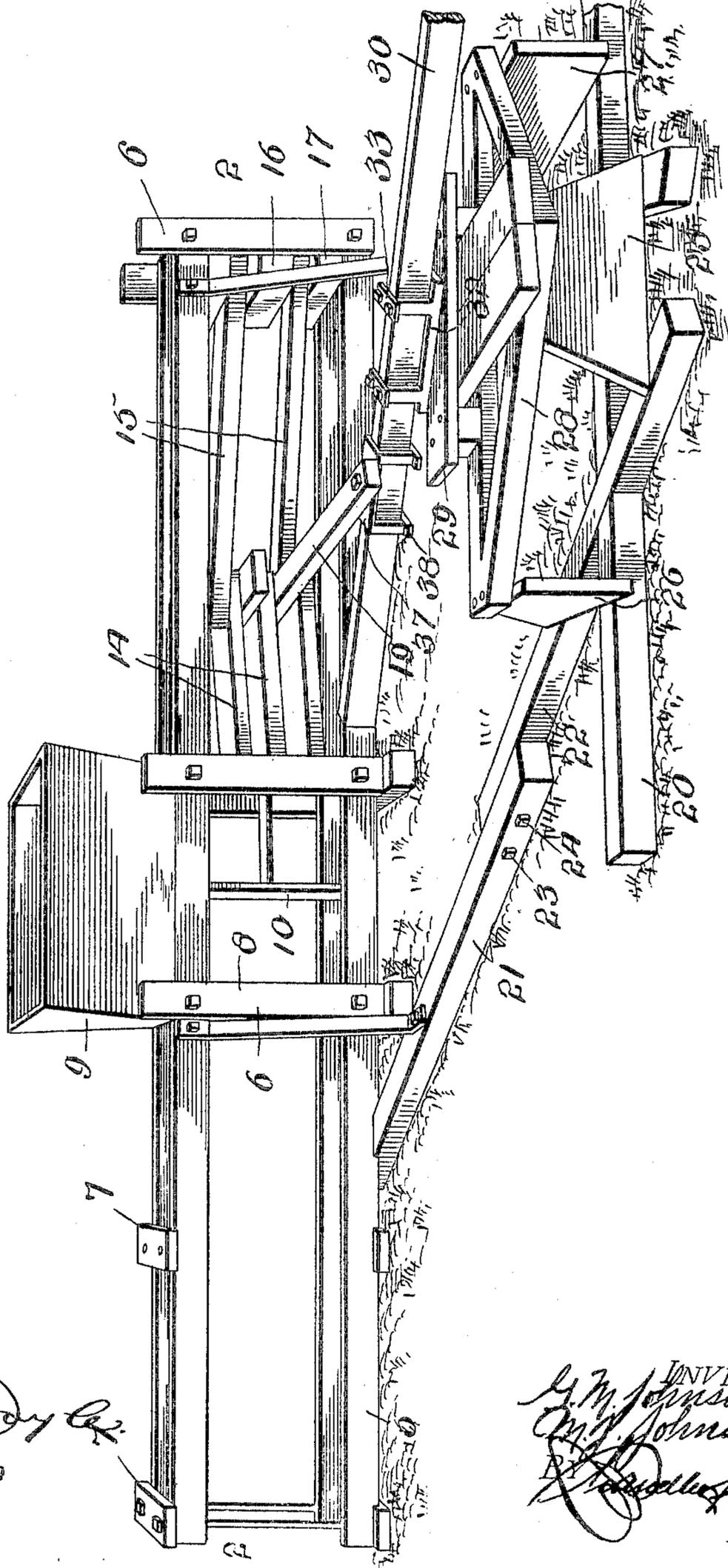
PATENTED AUG. 22, 1905.

G. M. & M. J. JOHNSON.
HAY BALER.

APPLICATION FILED DEC. 18, 1903. RENEWED JAN. 26, 1905.

2 SHEETS—SHEET 1.

FIG. 1.



WITNESSES.

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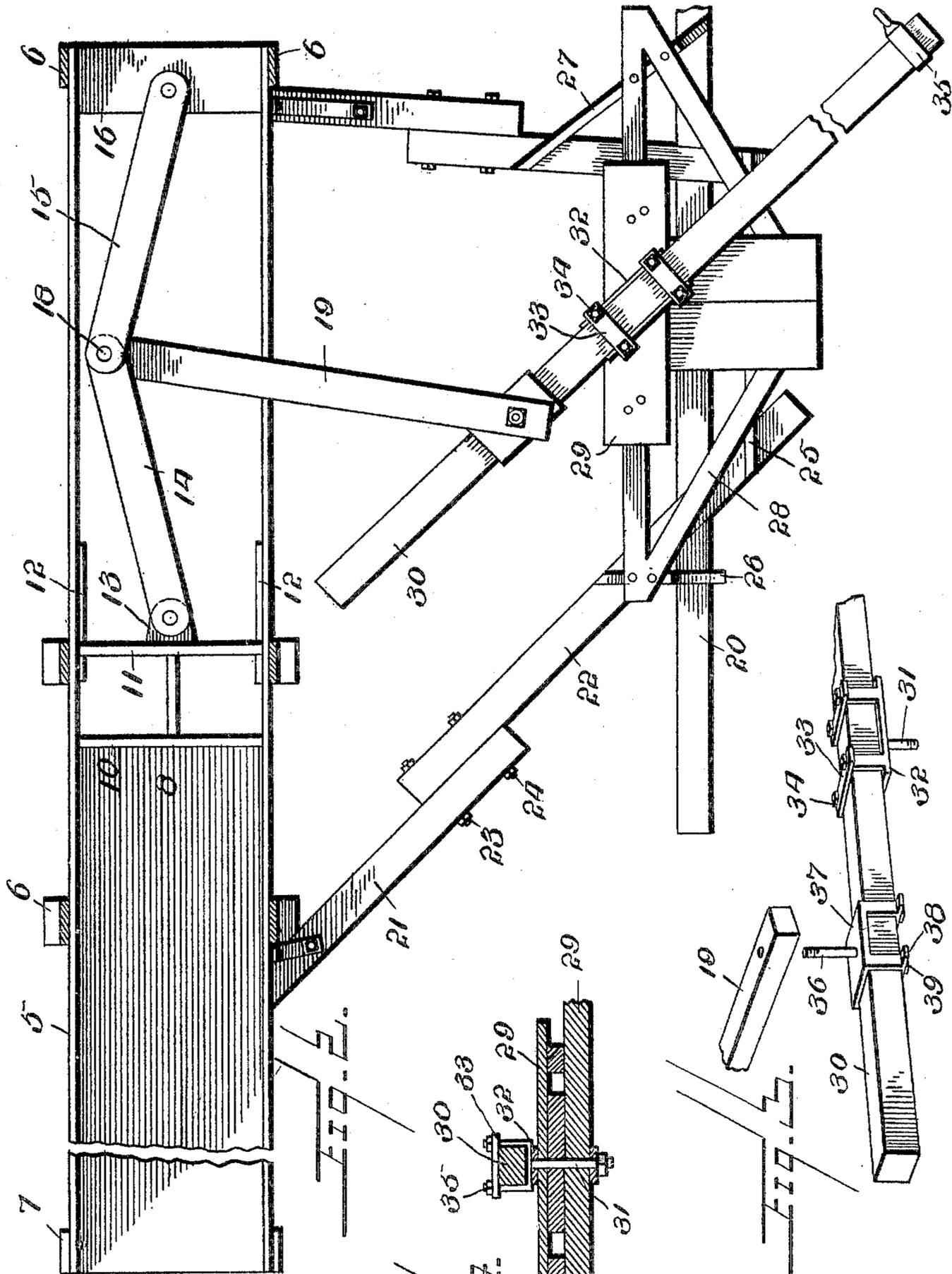
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UNITED STATES PATENT OFFICE.

GEORGE MILLIGAN JOHNSON AND MELVIN J. JOHNSON, OF
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HAY-BALER.

No. 797,735.

Specification of Letters Patent.

Patented Aug. 22, 1905.

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To all whom it may concern:

Be it known that we, GEORGE MILLIGAN JOHNSON and MELVIN JEFFERSON JOHNSON, citizens of the United States, residing at Morgantown, in the county of Butler, State of Kentucky, have invented certain new and useful Improvements in Hay-Balers; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to baling-presses, such as are employed in baling hay; and it has for its object to provide a press which will embody in its operating mechanism a toggle-lever and connections which will permit of operation of the plunger with great pressure with the expenditure of a minimum of energy.

A further object of the invention is to provide a construction which will be extremely rigid, and which will be strong and durable.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a perspective view showing a press embodying the present invention. Fig. 2 is a section through the body of the press, the horse-power being shown in top plan view. Fig. 3 is a detail view showing the sweep with the adjustable pivot and the adjustable crank-pin with the pitman for operating the toggle-lever. Fig. 4 is a vertical section through the sweep and its fulcrum-pin and through the platform in which the pin has the bearing.

Referring now to the drawings, there is shown a press comprising a body portion including the longitudinal sills 5 and connected uprights 6 and cross-pieces 7. At the central portion of the body of the press is the compression-chamber 8, to which is fed from a hopper 9 the material to be baled. In connection with the compression or baling chamber 8 is employed a plunger 10, which slidably engages the longitudinal sills and is movable transversely beneath the hopper, so as to compress the material to the proper degree.

At the rear end of the stem of the plunger 10 is a cross-head 11, which slidably engages guide-rails 12 in the body of the press and serve to hold the plunger with its stem against lateral displacement in the operation of the press. An ear 13 is formed upon the cross-head 11, and to this ear is pivoted one member 14 of a toggle-lever, a second member 15 of

said toggle-lever being pivoted between the cross-pieces 16 and 17 at the end of the body of the press. The adjacent ends of the toggle members are connected by a pivot 18, which pivot passes also through a pitman 19, which is disposed with its end between the overlapping ends of the toggle members or links. The pitman 19 projects laterally from the body of the press and by reciprocating it longitudinally the toggle members or links are swung laterally and move the plunger longitudinally or actuate it.

To actuate the pitman 19, a horse-power is provided and comprises a sill 20, which in action lies substantially parallel with the body of the press, and to which sill are connected two-part braces, each comprising a pair of members 21 and 22, which are overlapped and connected by bolts 23 and 24, so that when one bolt is withdrawn one section of the brace may be folded upon the other to occupy lesser space. The braces diverge in the direction of the body of the press and are connected at their divergent ends to the lower sills 5. The convergent ends of the braces project slightly beyond the sill 20 and upon their convergent ends is mounted a support 25, other supports 26 and 27 being mounted upon the sill 20 and the braces at the sides of the sill adjacent to the press-body, these supports receiving a triangular frame 28. Upon the frame 28 is mounted a platform 29, which supports the sweep 30. The sweep 30 is pivotally mounted, the pivot 31 being formed upon a yoke-plate 32, which embraces the sweep and is held in place by means of the cross-plate 33, through which are passed the threaded ends of the yoke-plate and on which threaded ends are screwed clamping-nuts 34. When the clamping-nuts are loosened, the sweep may be shifted longitudinally, so that the fulcrum formed by the pivot may be spaced differently from the outer or power end of the sweep to which the power is applied. The power end of the sweep has draft appliances 35 attached to it so that a draft-animal may be hitched thereto to swing the sweep in the operation of the press as hereinafter described. The pitman 19 is connected to the sweep by means of a crank-pin 36. The crank-pin 36 is carried by a yoke-plate 37, which embraces the sweep, the screw-threaded ends of the yoke-plate extending below the sweep and through a clamping-plate 38, against

which latter impinge nuts 39, which are screwed onto the ends of the yoke-plate. The crank-pin pivotally engages the end of the pitman 19 and is located such a distance from the fulcrum of the sweep that when the sweep is swung through a specified arc the pitman is shifted longitudinally to an extent sufficient to operate the toggle so as to move the plunger the required stroke. By increasing the distance between the fulcrum of the sweep and the crank-pin a lesser angular movement of the sweep will be required, it being thus seen that the parts are adjustable to obtain a different leverage in such manner that the effective length of the sweep may be increased without necessitating a longer travel of the end of the sweep.

What is claimed is—

A baling-press comprising a frame including a baling-chamber and guide-rails, a plunger in the baling-chamber, a cross-head connected to the plunger and slidably engaged with the guide-rails, a toggle-lever connected

at one end to the frame and at the other end to the cross-head, and a horse-power comprising a sill parallel with the frame of the baling-press, braces connected to and extending at both sides of the sill and connected to the frame of the baling-press, supports mounted upon the sill and braces, a frame mounted upon the support, a platform mounted upon the frame and having a bearing therein, a pivot-pin engaged in said bearing, a sweep with which the pivot-pin is connected and longitudinally of which it is adjustable, a crank-pin connected to the sweep and adjustable longitudinally thereof, and a pitman connected to the crank-pin and to the toggle-lever.

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE MILLIGAN JOHNSON.

MELVIN J. JOHNSON.

Witnesses:

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CLYDE WAND.