No. 837,540. PATENTED DEC. 4, 1906.

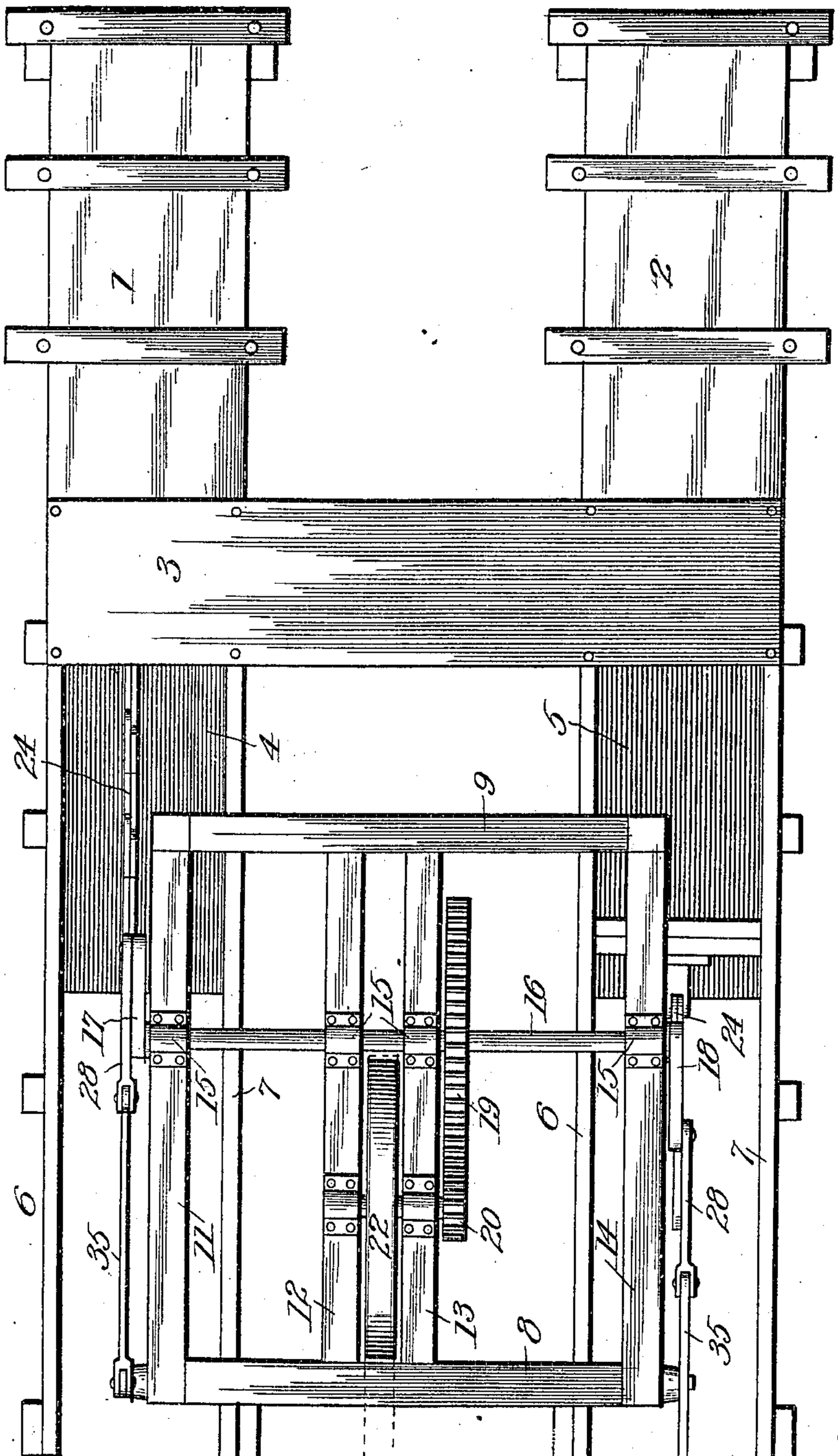
W. H. BONWELL.

BALING PRESS.

APPLICATION FILED JAN. 3, 1906.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 3.

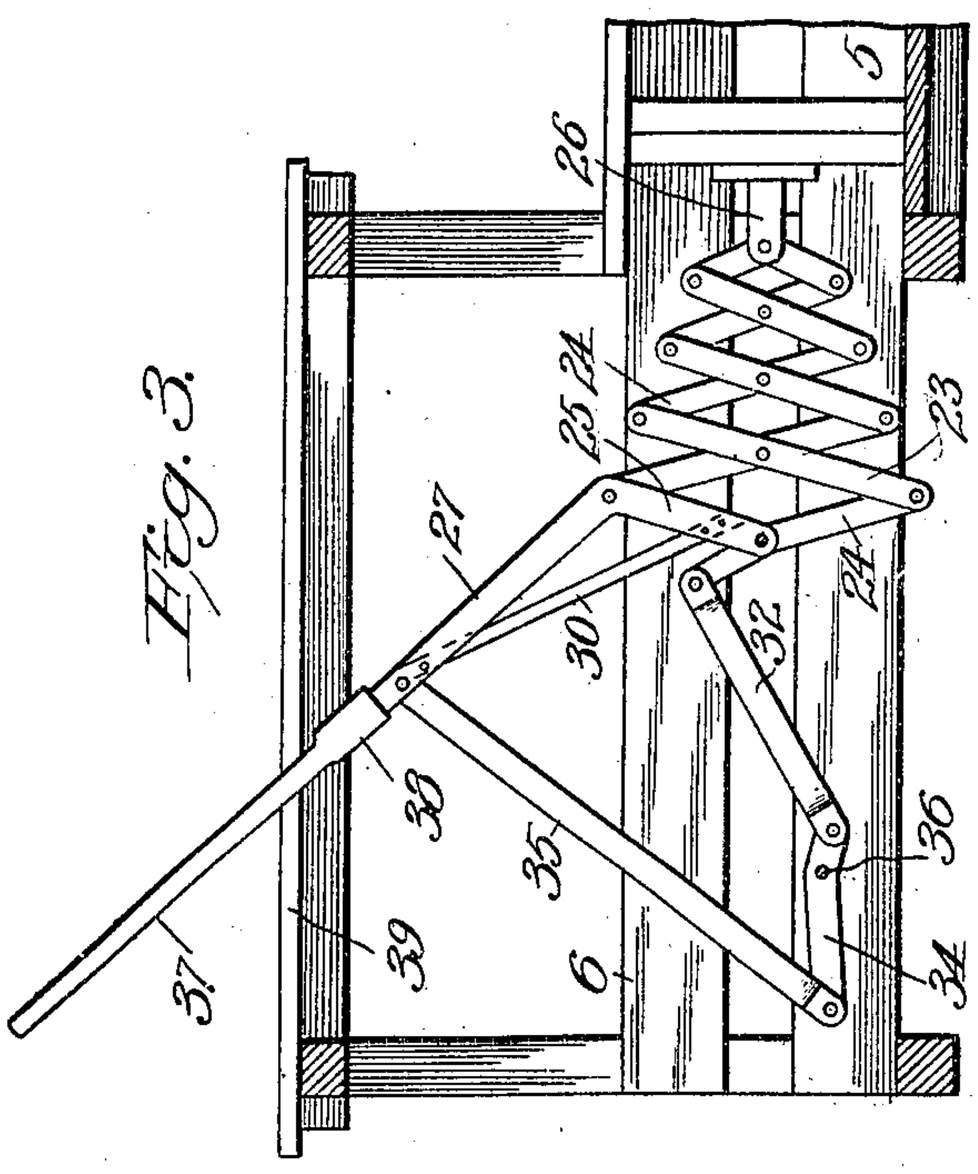
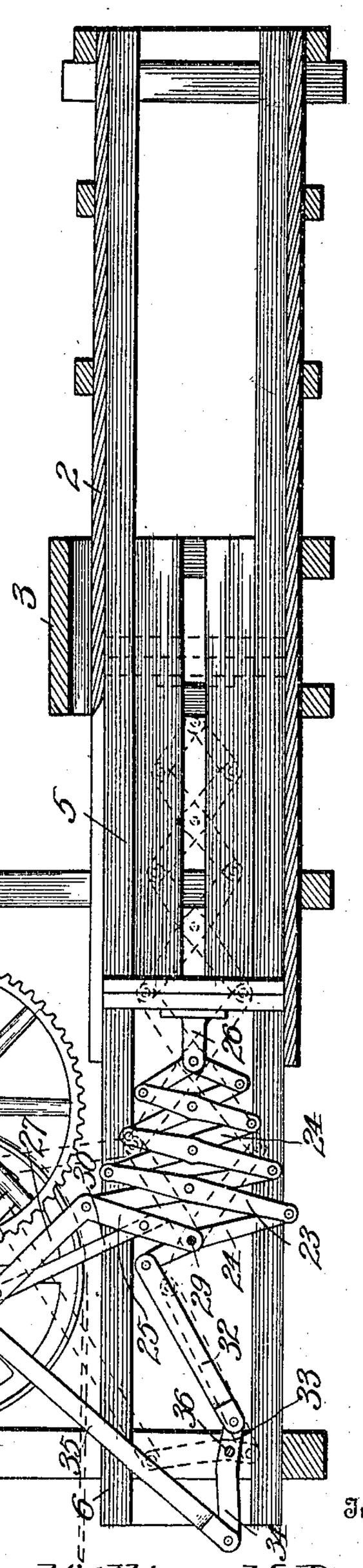


Fig. 2.



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BALING-PRESS.

No. 837,540. Specification of Letters Patent. Patented Dec. 4, 1906.

Application filed January 3, 1906. Serial No. 294,461.

To all whom it may concern:

Be it known that I, WILLIAM H. BONWELL, a citizen of the United States, residing at Brookville, in the county of Franklin and State of Indiana, have invented a certain new and useful Baling-Press, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to baling-presses, the object in view being to provide a double baling-press in which a plurality of baling-chambers are arranged side by side and the plungers or platens thereof connected by a novel system of levers to a common operating-shaft, to which motion is imparted by a belt from a suitable motor, the arrangement being such that as one platen is advanced to compress the material in the baling-chamber the other platen is retracted to permit another charge of material to be introduced into the feed-chamber, and vice versa.

A further object of the invention is to provide a system of levers of such character and arrangement as to adapt the same to a single hand-operated baling-press as well as a double motor-actuated baling-press.

With the above and other objects in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination, and arrangement of parts, as hereinafter fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a plan view of a double baling-press embodying the present invention. Fig. 2 is a vertical longitudinal section through the same. Fig. 3 is a detail section showing the plunger-actuating mechanism adapted to a hand-operated press.

Like reference-numerals designate corresponding parts in all figures of the drawings.

Referring to the drawings, 1 and 2 represent two baling-chambers arranged side by side at a suitable distance apart and connected together by a cross plank or deck or platform 3, upon which an attendant stands and along which he moves in delivering the hay or other material into the feed-chambers 4 and 5, which form continuations of the inner ends of the baling-chambers 1 and 2, the platform 3 being thus located between the feed and baling chambers. The sides 6 and 7 of the baling and feed chambers are extended back of the feed-chambers, as shown, and form part of the frame in which the operating or baling mechanism is mounted, such frame also comprising the cross-bars 8 and 9 and the longitudinal timbers 11, 12, 13, and 14.

Journaled in bearings 15 on the frame just hereinabove described is a crank-shaft 16. This crank-shaft has oppositely-projecting cranks 17 and 18 at its extremities, to which the platen-operating connections, hereinafter described, are connected, and said shaft is further provided with a gear-wheel 19, which meshes with and is driven by a gear-pinion 20, fast on a short counter-shaft 21, which constitutes the main driving-shaft of the press and carries a band-wheel 22, adapted to receive a driving-belt from a motor arranged near the press. The relative sizes of the gear 19 and pinion 20 may be such as to give the desired power to the crank-shaft 16 according to the work to be done.

An independent set of operating connections is employed for each platen; but both sets are coupled to the same crank-shaft 16, as shown in Fig. 1. Each set of connections comprises a series of levers 23 and 24, crossing each other, as shown in Fig. 2, and pivotally connected at the points where they cross, as at 25, after the fashion of lazy-tongs, except that the levers are progressively shorter in length as they approach the platen of the press and where they connect to an arm or lug 26 on the back of the platen.

One of the levers 25 farthest from the platen is provided with an extension 27 in the form of an elbow, and the extremity of said elbow extension of the lever is pivotally attached to one end of a pitman 28, having its other end pivotally connected to the crank at the adjacent end of the shaft 16. The opposite end of the elbow-lever is fulcrumed on a pin or bolt 29, bearing a fixed relation to the main frame of the press. 30 designates a brace connecting the arms of the elbow-lever just referred to, said lever as a whole constituting what may be termed the "main" drive-lever of the actuating connections. One of the levers 24 farthest from the platen is also extended beyond the fulcrum-point 29 and has pivotally connected to such extension a link or connecting-bar 32, having its other end pivotally connected to one arm 33 of an auxiliary drive-lever 34, the other arm of which has pivotally connected thereto one end of another link or connecting-bar 35, the opposite end of which connects pivotally with the main drive-lever 27, as clearly shown

in Figs. 2 and 3. The auxiliary drive-lever 34 is fulcrumed at a point intermediate of its ends at 36 on the machine-frame.

By the particular arrangement of levers hereinabove described the lazy-tong members of the system of levers are acted upon in both directions by a pulling strain—that is to say, in one direction the link or connecting-bar 32 acts with a pulling strain on the lazy-tong members and in the opposite direction the link or connecting-bar 35 acts with a pulling strain on said members, thereby reducing any tendency of the links to buckle and create excessive friction. Furthermore, by a proper proportioning of the gears 19 and 20 and the levers 23, 24, 27, and 34 the horse-power of the motor from which the motion is belted to the driving band-wheel 22 may be increased and multiplied for advancing the press-platen and compressing the hay or other material to be baled.

The baling-press above described may be adapted to hand-operating purposes by extending the main drive-lever 27, as shown in Fig. 3, 37 designating a hand-lever provided with a socket end 38, which slips over the extremity of the drive-lever. In connection with the hand-lever it is desirable to employ an elevated platform 39, upon which the operator may stand and work, the lever 37 extending well above said platform, as shown. The press mechanism in all other respects is identical with that used in the power-press; but it may be desirable to change the points of fulcrum of the drive-levers to give greater leverage.

I claim—

1. The combination with a press-platen, of a set of lazy-tong levers connected with said platen, a drive-lever for actuating the lazy-tong levers, an auxiliary drive-lever, and links connecting said auxiliary drive-lever with the main drive-lever and the lazy-tong levers.

2. The combination with a press-platen, of a set of lazy-tong levers connected therewith, a main drive-lever for actuating the lazy-tong levers, an auxiliary drive-lever having two arms, a link connecting one of said arms with the main drive-lever, and another link connecting the other arm with the lazy-tong levers.

3. The combination with a press-platen, of a set of lazy-tong levers connected therewith, certain of said levers being provided with extensions and one of such extensions constituting a drive-lever, an auxiliary drive-lever fulcrumed intermediate its ends on the machine-frame, and links extending from the arms of the auxiliary drive-lever to the main drive-lever and the other lazy-tong-lever extension.

4. The combination with a plurality of baling-chambers, and a platen for each baling-chamber, of a power-shaft having oppositely-projecting cranks, a set of lazy-tong levers connected with each platen, a plurality of drive-levers connected with each set of lazy-tong levers, and pitman connections between said drive-levers and the crank-shaft.

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

WILLIAM H. BONWELL.

Witnesses:

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