

Aug. 6, 1929.

J. HANSEN

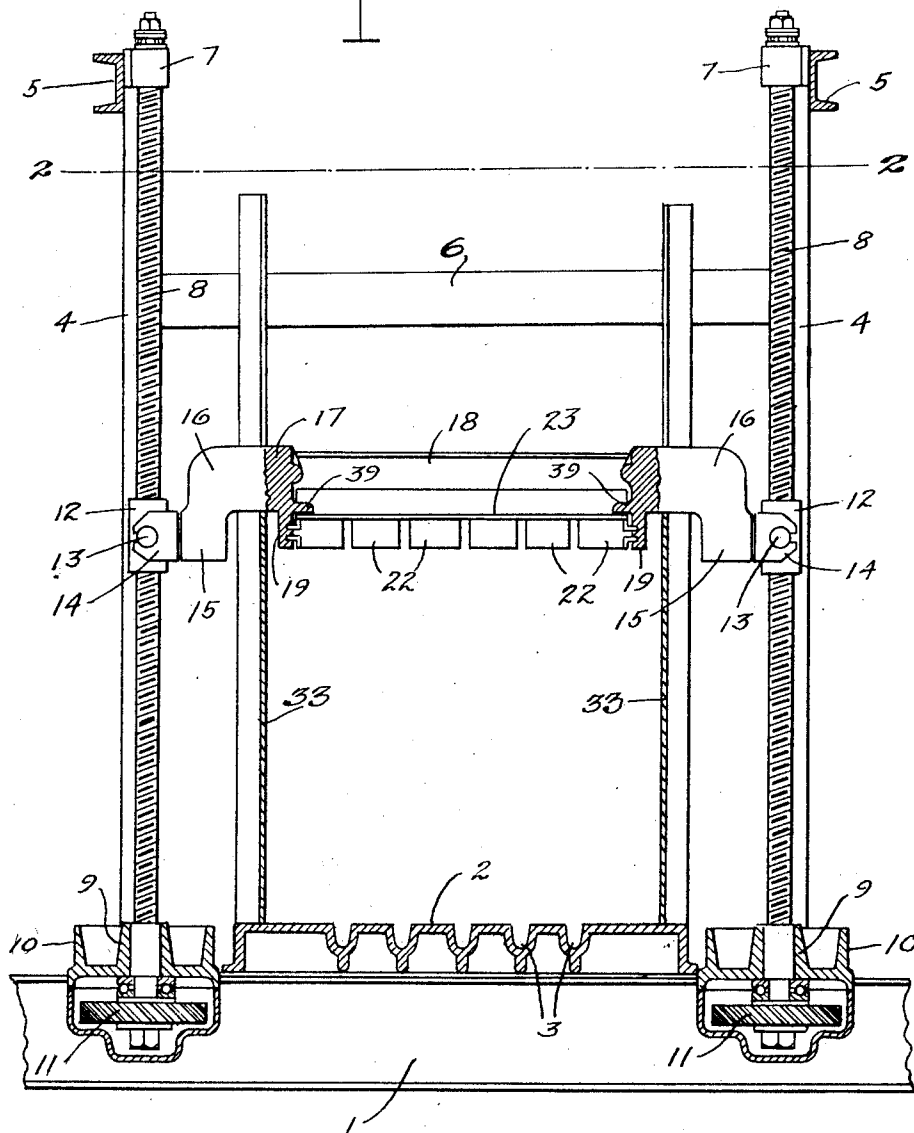
1,723,348

POWER BALING MACHINE

Filed July 20, 1925

4 Sheets-Sheet 1

FIG. 1



INVENTOR
John Hansen,
BY Walter N. Haskell,
his ATTORNEY

Aug. 6, 1929.

J. HANSEN

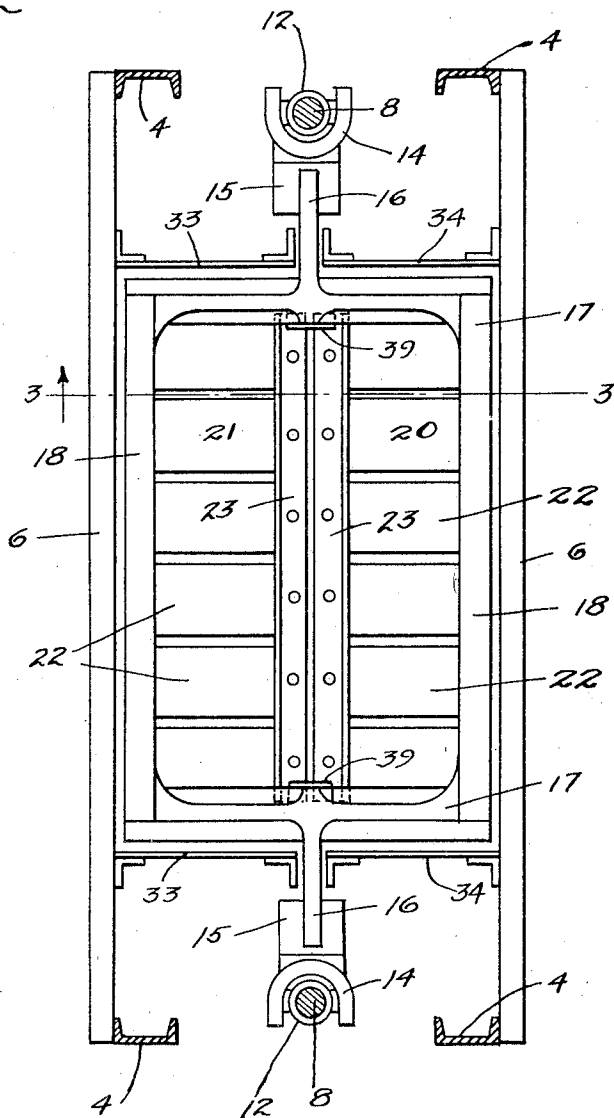
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FIG. 2



INVENTOR
John Hansen
BY Walter N. Haskell.
his ATTORNEY

Aug. 6, 1929.

J. HANSEN

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FIG. 3

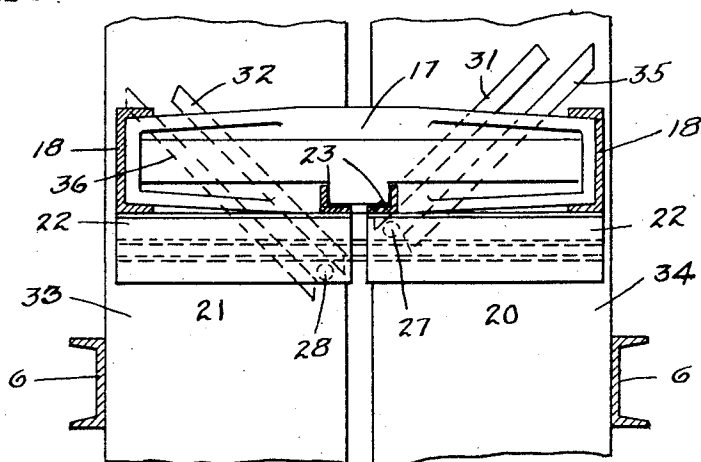
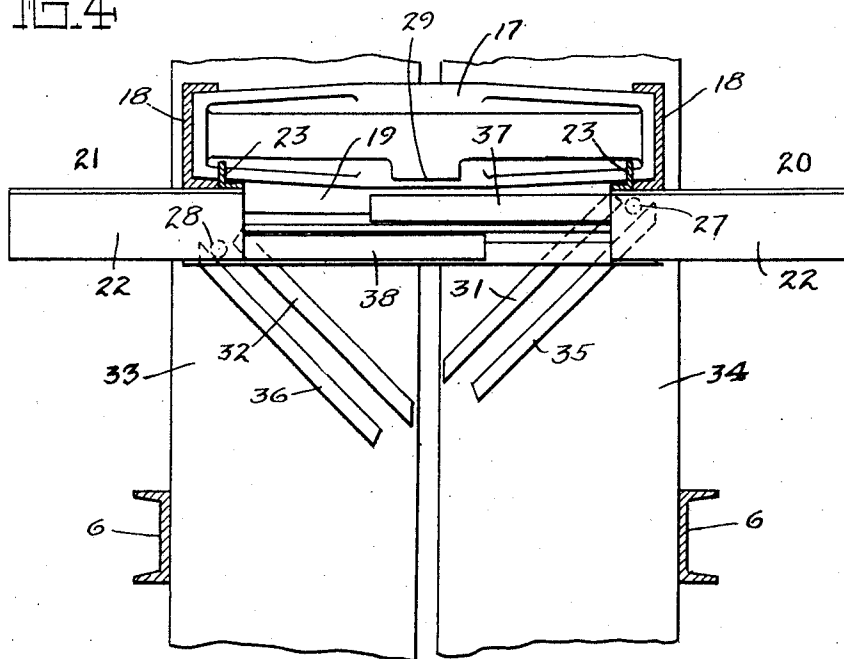


FIG. 4



INVENTOR

BY *John Hansen,*
Walter N. Haskell,
his ATTORNEY

Aug. 6, 1929.

J. HANSEN

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FIG. 5

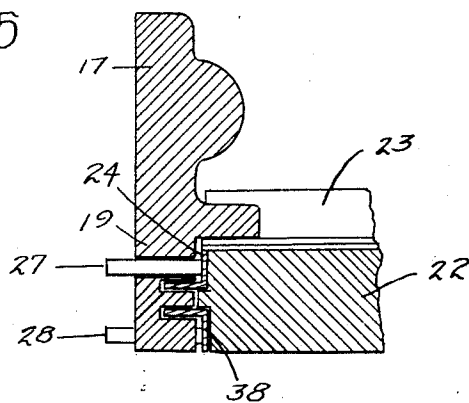


FIG. 6

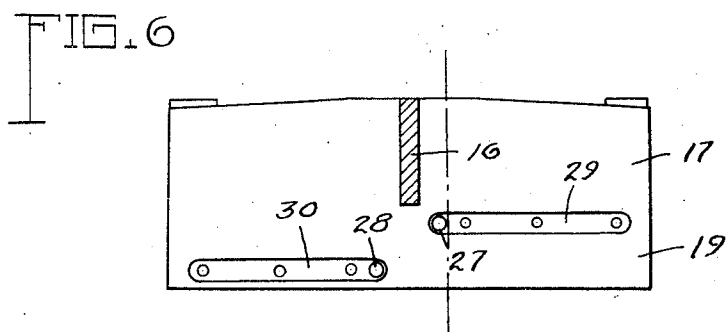
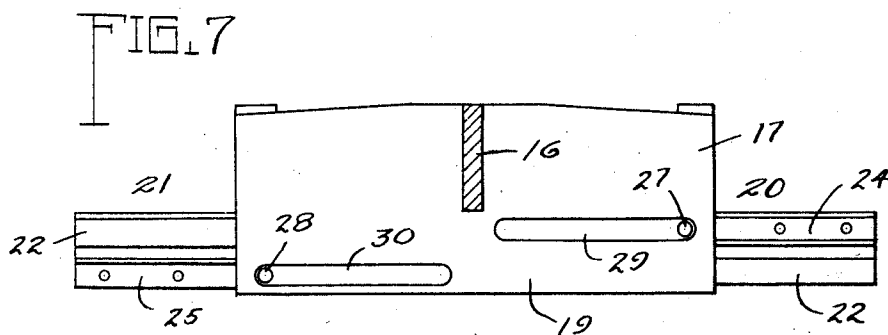


FIG. 7



INVENTOR
John Hansen,
BY Walter N. Haskell,
his ATTORNEY.

UNITED STATES PATENT OFFICE.

JOHN HANSEN, OF BETTENDORF, IOWA.

POWER BALING MACHINE.

Application filed July 20, 1925. Serial No. 44,684.

My invention has reference to power baling machines, and belongs to that type of such machines which embodies a receptacle for the material in which a platen is movable vertically, the movement of said platen being impelled by vertical screw shafts at the ends thereof. Such a construction is fully set forth in former application for Letters Patent of the United States filed by myself April tenth, 1925, Serial No. 24,425. This class of machines is designed for handling large quantities of material, to be fed into the machine from above, which operation makes it necessary that the platen be disposed of in some manner, so as not to be an obstacle to the filling of the machine.

The chief purpose of the present invention is to provide a novel form of platen, and novel means for the operation thereof, so that after it has been in use in compressing the material in the receptacle it may be returned to an upper position, and actuated so as to entirely clear the passage for the material. This is accomplished by forming the platen in two sections, movable from each other, and mechanism for automatically separating said sections as the platen nears the upper end of its movement.

In the drawings;

Fig. 1 is a longitudinal vertical section on a substantially medial line of a machine embodying the invention, the true proportions not being maintained therein, more specially as to the length of the machine.

Fig. 2 is a plan view thereof, partly in section on the broken line indicated at 2—2 of Fig. 1.

Fig. 3 is a cross-section on the broken line 3—3 of Fig. 2 with the platen shown in a closed position.

Fig. 4 is a similar view, with the platen in open position.

Fig. 5 is a fragmentary detail, partly in section, showing the manner of supporting one of the platen sections.

Fig. 6 is an end view of the platen frame, with the platen closed.

Fig. 7 is a similar view, with the platen sections separated.

Referring first to Figures 1 and 2 of the drawings, the reference number 1 indicates a base, preferably formed of I-beams, upon which is supported a floor 2, provided with cross-channels 3 to receive the bale-tie wires. Upon said base is supported a frame formed of corner-posts 4, of channel-plate forma-

tion, united near their upper ends by cross-pieces 5, and connected longitudinally by plates 6. Fixed at a central point to each of the cross-pieces 5 is a bearing 7, by which are rotatably supported the upper ends of a pair of screw shafts 8, the lower ends of which shafts are journaled in bearings 9 on cross-plates 10, mounted on the base 1. Fixed on the lower ends of the shafts 8 are volute-gear wheels 11, adapted for simultaneous operation from a common source of power.

Vertically movable on the shafts 8 is a pair of sleeves 12, carrying trunnions 13, upon which are rockingly mounted bearings 14, with which are pivotally connected arms 16, by means of sleeves 15 on the ends of said arms, and supported on pins projecting from said bearings. Supported by the inner ends of the arms 16 is a frame 17, having side pieces 18, the complete frame being rectangular in form, and of a suitable size to permit the entry of material through the same into the receptacle of the machine. Projected downwardly from the end-pieces 17 are plates 19 which form supports for the ends of a pair of platen sections indicated generally at 20 and 21. Each of said sections is formed of a plurality of blocks 22, spaced apart, each series of blocks being united at their inner ends by angle-plates 23. The spaces between the blocks coincide in position with the channels 3 in the floor of the receptacle. The end blocks of the section 20 are provided on their outer faces with angle-plates 24, the outstanding flanges of which are slidable in channels in the inner faces of the supports 19. The end blocks of the section 21 are similarly provided with angle-plates 25, the flanges of which are also slidable in channels in the faces of the supports 19, and in spaced relation with the plates 24. (Figs. 5 and 7.) The ends of the sections are also provided with pins 27 and 28, respectively, projecting through slots 29 and 30 in the supports 19. By the means just described the platen sections are permitted to move outwardly and away from each other, leaving a space between the same of practically the same dimensions as those of the opening in the frame 17. The outward movement of said sections is limited by the plates 23, which engage the side-pieces 18, as shown in Fig. 4.

In the upward movement of the platen frame the ends of the pins 27 and 28 come

into engagement with inclined strips 31 and 32, fixed to the inner faces of end-plates 33 and 34, fixed in the main frame of the machine, and spaced apart from each other. A continued upward movement of the platen frame operates to move the pins 27 and 28 outwardly, carrying with them the platen sections, into the positions shown in Figures 4 and 7. The strips 31 and 32 are positioned at a point higher than the top of the receptacle so that there is no engagement of the pins therewith, and no movement of the platen sections outwardly, until the platen has attained a point above said receptacle. With the platen parts fully separated the operation of filling the receptacle can be easily accomplished.

In the return movement of the platen frame downwardly the pins 27 and 28 engage the edges of strips 35 and 36, also attached to the end plates 33 and 34 in parallel relation with the strips 31 and 32. As the downward movement continues the pins and platen sections are again moved inwardly into closed relation. The angle-plates 24 and 25 are formed with inward extensions 37 and 38, which overlap, as shown in Fig. 4. By means of said extensions a better support is provided for the platen sections in their outward positions, and a more steady operation thereof secured.

Movement is imparted to the platen frame by the rotation of the screw shafts 8, so as to give a simultaneous movement to the sleeves 12 in an upwardly or downwardly direction, as may be desired. In the closed position of the platen sections, which is the position thereof when the contents of the machine are being compressed thereby, the outer ends of the blocks 22 are in contact with the lower edges of the plates 18, and the angle-plates 23 are in engagement at their ends with stops 39 on the frame pieces 17. The platen is thereby held rigidly against any compression resistance from the contents of the receptacle beneath the same.

The end-plates 33 and 34 are similarly formed at opposite ends of the machine, and the lower portions thereof may be used as the end-plates of the receptacle for the material. The spaces between the end-plates form guides for the arms 16, the universal joint support of the ends of said arms permitting a limited amount of flexibility to the platen in its compression action, so that it will not become jammed in position.

What I claim, and desire to secure by Letters Patent, is;

1. A device of the class described, comprising a frame and receptacle therein, a

platen frame vertically movable in said receptacle, and above the same, means for imparting movement to said platen frame, a platen supported in said platen frame, formed of two sections, movable away from each other to form an opening for the delivery of material to the machine, means for opening said sections at the end of the upward movement of the platen frame, and means for again closing the same at the beginning of the return movement downwardly.

2. A device of the class described, comprising a frame and receptacle therein, vertical screws rotatably mounted in the ends of said frame, sleeves mounted on said screws, so as to move vertically upon the rotation thereof, a platen frame supported by said sleeves, and capable of movement vertically in said receptacle, and above the same, platen sections supported in said platen frame, capable of movement away from each other, means for opening said sections at a point above the receptacle, to permit the delivery of material thereto and means for closing the same upon the platen frame beginning a return movement downwardly.

3. A device of the class described, comprising a frame and receptacle therein, a vertical screw mechanism mounted in said frame, a rectangular frame carried by said screw mechanism, so as to be movable vertically in said receptacle, and above the same, platen sections supported in said rectangular frame, so as to be capable of movement away from each other, and means for opening said sections at a point above said receptacle, to permit the delivery of material thereto through said rectangular frame.

4. In a device of the class described, a main frame and receptacle therein having vertically channeled end plates, a platen frame vertically movable in said receptacle and to a point above the same, and provided at its ends with supporting plates, platen sections provided at their ends with plates having a slidable relation with said supporting plates, and provided with overlapping extensions, pins projecting from the ends of said platen sections, guides supported by said end plates, adapted to be engaged by said pins, near the end of the upper movement of said platen frame, to move said platen sections outwardly, and means for moving said platen frame upwardly or downwardly, as desired.

In testimony whereof I affix my signature.

JOHN HANSEN.