C. J. LIVERING.

JACK.

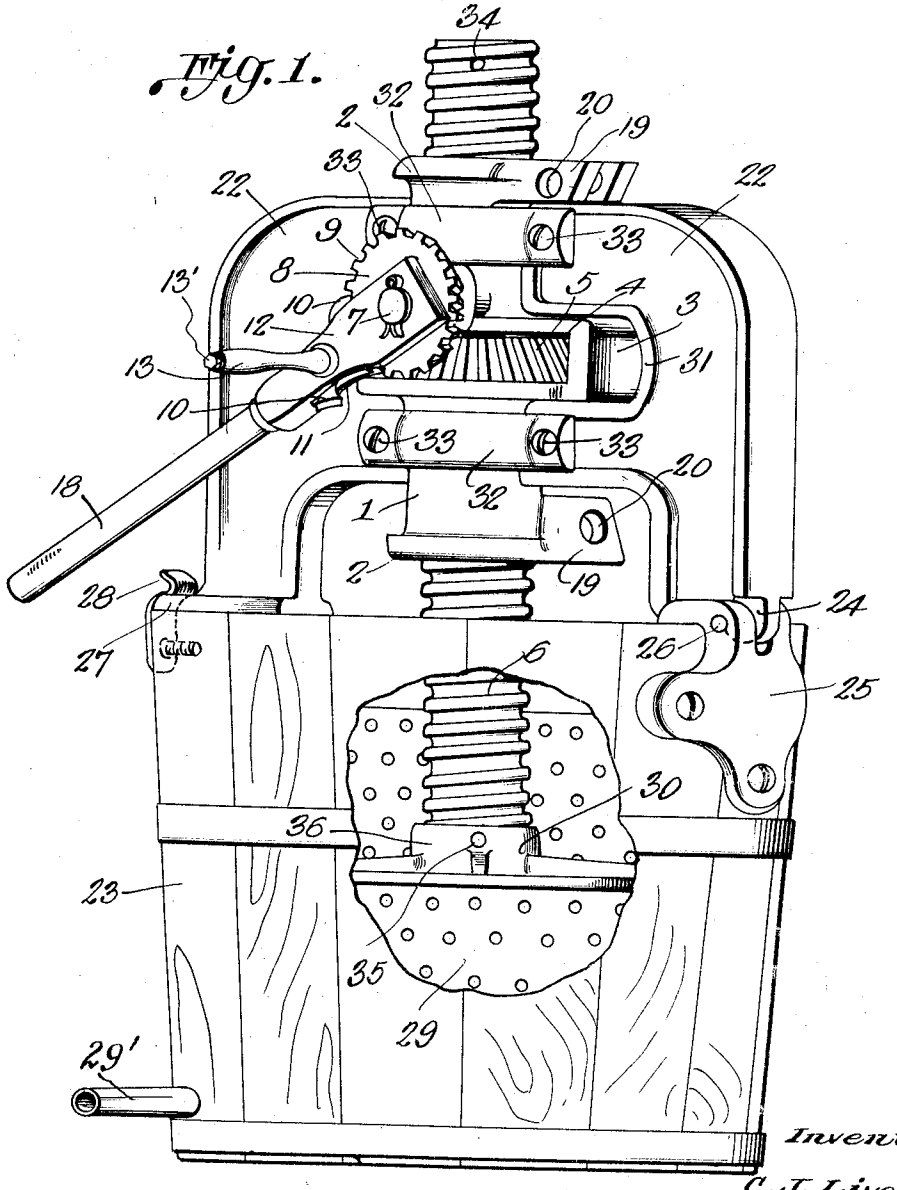
APPLICATION FILED OCT. 4, 1919.

1,343,872.

Patented June 15, 1920.

2 SHEETS—SHEET 1.

Fig. 1.



Inventor.
C. J. Livering
by Lacey & Lacey,
his Attys

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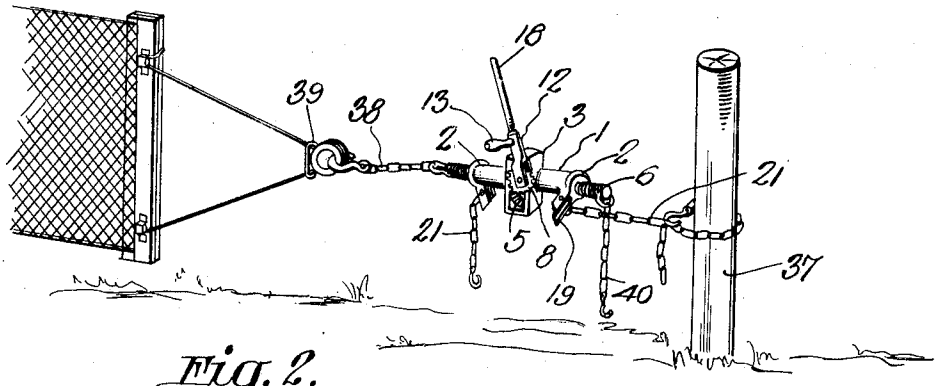


Fig. 2.

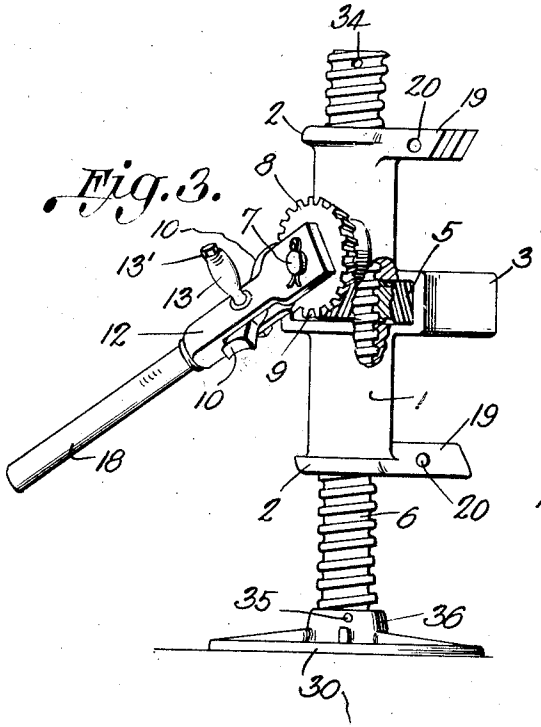
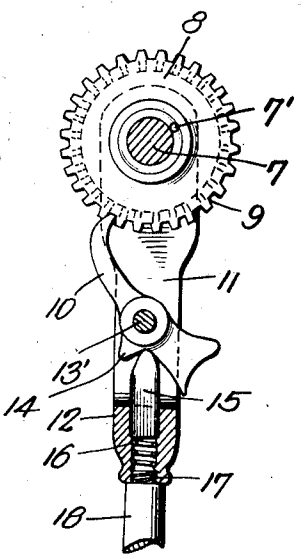


Fig. 3.

Fig. 4.



Inventor.

C. J. Livering.

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UNITED STATES PATENT OFFICE.

CHARLES J. LIVERING, OF ST. PETERSBURG, FLORIDA.

JACK.

1,343,872. Specification of Letters Patent. Patented June 15, 1920.

Application filed October 4, 1919. Serial No. 328,397.

To all whom it may concern:

Be it known that I, CHARLES J. LIVERING, a citizen of the United States, residing at St. Petersburg, in the county of Pinellas and State of Florida, have invented certain new and useful Improvements in Jacks, of which the following is a specification.

This invention seeks to provide simple and efficient mechanism which may be utilized to operate a fruit or vegetable press or employed to stretch fence wires. The mechanism may also be used as a lifting jack and various other functions may be performed as the possessor may require.

The invention is illustrated in the accompanying drawings and will be hereinafter fully set forth.

In the drawings—

Figure 1 is a perspective view showing the mechanism arranged for use in connection with a lard press;

Fig. 2 is a perspective view showing the device arranged as a fence wire stretcher;

Fig. 3 is an elevation showing the device arranged as a lifting jack;

Fig. 4 is a detail section of a portion of the handle.

In carrying out the invention, I employ a tubular body 1 having annular flanges or enlargements 2 at its ends and provided centrally with an enlarged or offset portion 3 having an opening 4 therethrough whereby it may serve as a housing for a beveled gear 5. The hub of said beveled gear is internally threaded so as to operatively engage a worm or screw 6 which is inserted longitudinally through the body 1 and may be of any desired length. It will be readily understood that the sides of the enlargement or housing 3 will engage the opposite faces or ends of the beveled gear and will thereby prevent the same moving longitudinally of the body 1 so that when the said gear is rotated it will act upon the worm or screw 6 so as to cause longitudinal movement of the same through the body. A stud 7 projects from the side of the body immediately adjacent the enlargement or housing 3 and upon the said stud is rotatably fitted a beveled gear 8 meshing with the gear 5, as clearly shown, a spring 7′ being fitted loosely around the stud and within the hub of the gear 8. This spring is in frictional engagement with both the gear and the stud and its resistance to motion is sufficient to hold the gear while the actuating pawl is being returned to its starting point. The gear 8 has its periphery at its larger end formed with teeth 9 adapted to be engaged by a pawl 10 pivotally mounted within the bifurcation or fork 11 of a lever or handle member 12 which is pivotally engaged upon the stud 7, as clearly shown. A laterally projecting handle 13 is provided upon the member 12 and this handle 13 is carried by a bolt 13′ extending through the said member 12 to serve as the pivot for the pawl 10. On one edge of the pawl 10 is a lug 14 which receives the thrust of a dog 15 housed within the lever member 12 and normally pressed into engagement with the pawl by a spring 16, as shown in Fig. 4, and as will be readily understood. The free end of the member 12 is constructed with a socket 17 to receive the end of a lever or extension 18 so that considerable leverage may be exerted when it is desired to operate the mechanism as a ratchet feeding device. At the ends of the body 1 are clevises or projections 19 having openings 20 therethrough to be engaged by the ends of chains, indicated at 21.

When the device is to be used as a press, I employ a frame adapted to fit to and around the body 1 so as to support the same in an upright position. This frame consists of similar standards 22 adapted to rest upon the upper edge of a suitable receptacle 23, the lower end of one member 22 being constructed with a perforated lug 24 adapted to fit within the upper notched portion of a bracket 25 secured upon the receptacle, the standard being pivotally connected to said bracket by a pin 26 inserted through the upper notched portion of the bracket and the lug or ear 24 of the standard. The coacting standard 22 is provided at its lower end with a projecting flange 27 over which a spring clip 28 is engaged to hold the frame upon the receptacle. Within the receptacle is the usual perforated inner cylinder, indicated at 29, through which the liquid or partly liquid matter is forced, said matter discharging through the outlet spout 29′. Upon the lower end of the worm or screw 6 is a follower 30 which will bear upon the material placed within the cylinder 29 and compress the same as the screw is forced downwardly. The inner opposed edges of the standards 22 are constructed

with inset or notched portions 31 to fit around the enlargement or housing 3 of the body 1 and below the said housing and above the stud 7, I secure to the standards 22 clip plates 32 which fit closely to the body 1 and are secured at their ends to the inner ends of the standards by screws or other fasteners, indicated at 33. The clip plates bridge the space between the inner edges of the standards and effectually support the body 1 between the standards so that lateral movement of the said body cannot occur. The clevises or projections 19 at the upper end of the body may rest upon the upper end of one of the standards 22 so as to prevent dropping of the body and endwise movement of the body is further prevented by the engagement of the housing 3 within the notch 31.

An opening 34 is formed through the screw 6 at each end thereof to receive a chain or cable when the device is to be used as a stretcher and the follower 30 may be secured to the screw by a pin 35 inserted through its hub 36 and the opening 34 in the adjacent end of the screw.

When the device is arranged for use as a press, as shown in Fig. 1, the pawl 10 will be permitted to remain constantly in engagement with the ratchet teeth 9 upon the gear 8 and the member 12 will be continuously rotated through power applied to the handle 13. The rotation of the gear 8 will be imparted directly to the gear 5 which by its engagement with the screw will effect an endwise or longitudinal movement of the screw so that it will be caused to move downwardly through the body 1 and thereby exert a compressing force upon the material within the cylinder 29. When the device is to be used as a wire stretcher, the chain 21 engaged in one of the clevises or projections 19 is wrapped around or otherwise secured to a fixed support, such as the post 37, and a chain 38 arranged to connect the remote end of the screw 6 with a fence clamp 39 as indicated in Fig. 2. The pawl 10 is, of course, engaged in the teeth 9 of the gear 8 so that, when the lever 18 is operated, the gear 8 will be actuated and the gear 5 rotated. The movement of the gear 5 will effect longitudinal or endwise movement of the screw 6 so that a pull will be exerted through the chain 38 upon the strands of the fence or upon the fence wires. This operation will continue until the end of the chain 38, or the stirrup by which it is connected to the screw 6, impinges against the end of the body 1 and thereby stops relative movement of the body and screw. The chain 40 carried by the end of the screw 6 remote from the chain 38 may then be secured around the post 37 and the chain 21 released from the post after which operation the previously idle chain 21 is engaged in the fence wire clamp and the chain 38 released therefrom. If the pawl 10 be now reversed, the operation of the lever 18 will cause the level gears to rotate and effect movement of the body along the screw and exert a pull upon the fence wires from the body through the connecting chain 21, the stretching operation being thus performed continuously until completed without removing the device from the anchor post. It will be understood, of course, that when the device is used as a wire stretcher the follower 30 is removed from the screw 6, but if it be desired to utilize the device as a lifting jack the said follower will be retained upon the screw when the body 1 is removed from between the standards 22 and will serve as a supporting base or foot for the screw which will be arranged vertically, as shown in Fig. 3, the upper clevis or projections 19 being engaged under the object to be raised. The gear 8 will be rotated continuously by utilizing the handle 13 when the device is used as a jack, the pawl being set so that the body will be caused to ride upward on the screw whereas in stretching fence wires the gearing will preferably be actuated intermittently by oscillating the lever 18. When used as a press, the gearing will be continuously rotated, being set to cause the screw to ride downwardly through the body. It will also be readily understood that when it is desired to use the device as a jack or wire stretcher the plates 32 may be very quickly and easily removed by withdrawing the fasteners 33 whereupon the body 1 and the parts carried thereby may be easily moved from between the standards.

My mechanism is very simple in its construction and arrangement and may be advantageously used for a variety of purposes.

Having thus described the invention, what is claimed as new is:

1. A mechanism for the purpose set forth comprising a frame adapted to rest upon a receptacle, a body supported within said frame, a worm mounted in the body for endwise movement therethrough and carrying a follower, and means on said body for effecting endwise movement of said screw, said means, the body and the screw being removable together from the frame.

2. The combination of a frame consisting of spaced standards, a tubular body fitted between said standards and held against endwise movement thereby, clip plates removably secured to the standards adjacent the inner edges thereof and fitting closely around the said body, a screw mounted in the body for endwise movement, and means on the body for effecting endwise movement

of the screw, said means, the screw and the body being removable together from the standards upon release of the clip plates.

3. In a mechanism for the purposes set forth, the combination of a body having a central enlargement provided with open ends, a worm inserted through the body, a gear disposed within the enlargement of the body and operatively engaging the exterior surface of the screw, means mounted upon the body for rotating said gear, and a supporting frame having central notches to engage around the central enlargement of the body and provided with fastening devices to engage around the ends of the body.

4. An apparatus for the purposes set forth comprising spaced standards having mating recesses in their opposed edges, a body having a lateral enlargement engaging said recesses, clip plates secured to the standards and fitting the ends of the body, a screw movable through the body, and means on the body for effecting movement of the screw.

5. An apparatus for the purpose set forth comprising a tubular body having lateral support-engaging projections at its ends and an open-sided enlargement intermediate its ends, a screw inserted longitudinally through said body and provided with transverse openings in its ends to be engaged by supporting members, a gear mounted in the open-sided enlargement of the body and operatively connected with the screw whereby to cause endwise movement of the screw through the body, and means on the body adjacent the enlargement to actuate said gear.

In testimony whereof I affix my signature.

CHARLES J. LIVERING. [L. S.]