Nov. 16, 1943. L. F. ARNETT ET AL 2,334,304

PORTABLE LOADER

Filed Dec. 8, 1941 3 Sheets-Sheet 1

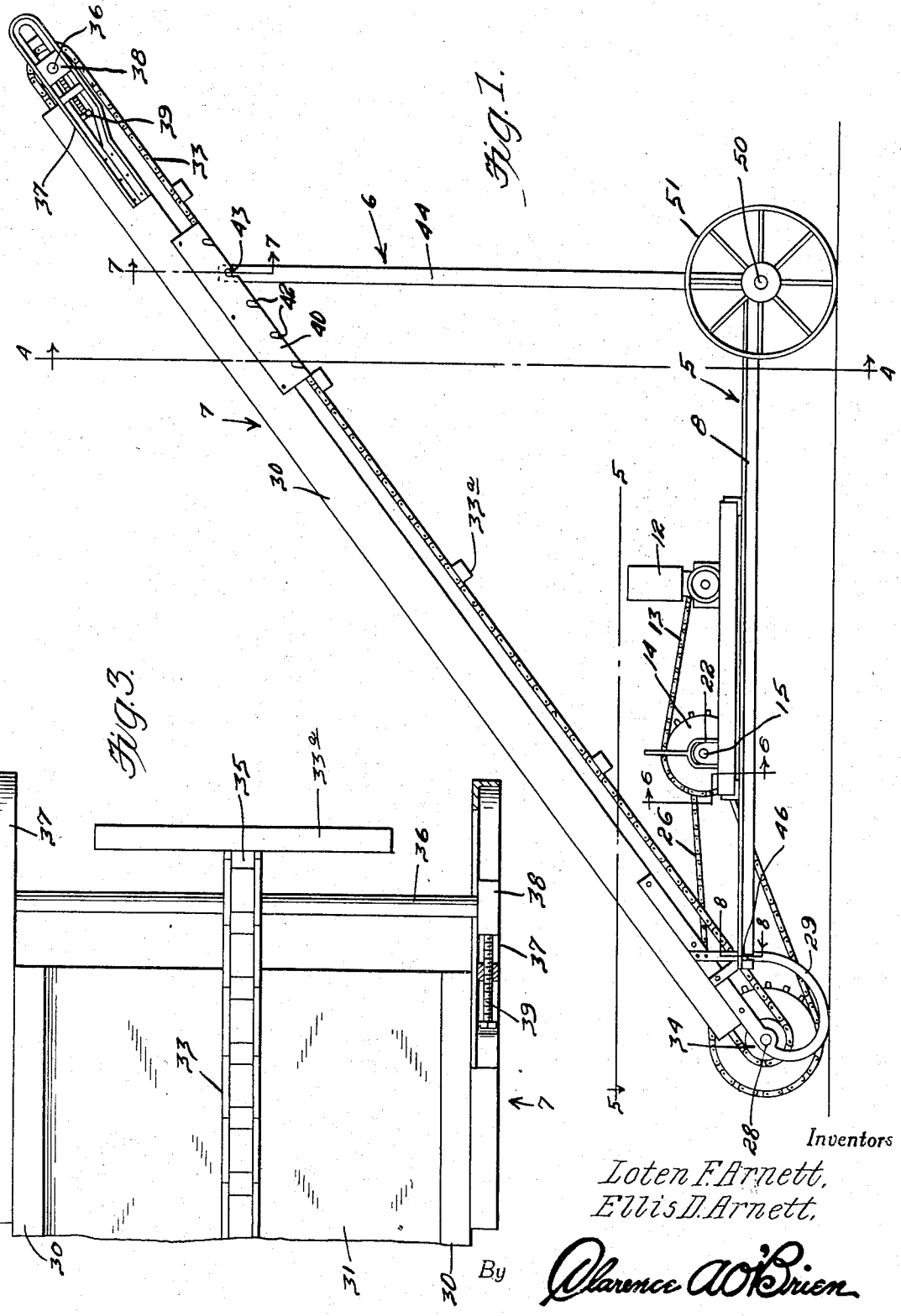


Fig. 1.

Fig. 3.

Inventors

Loten F. Arnett,

Ellis D. Arnett,

By Clarence A. O'Brien

Attorney

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Filed Dec. 8, 1941 3 Sheets-Sheet 2

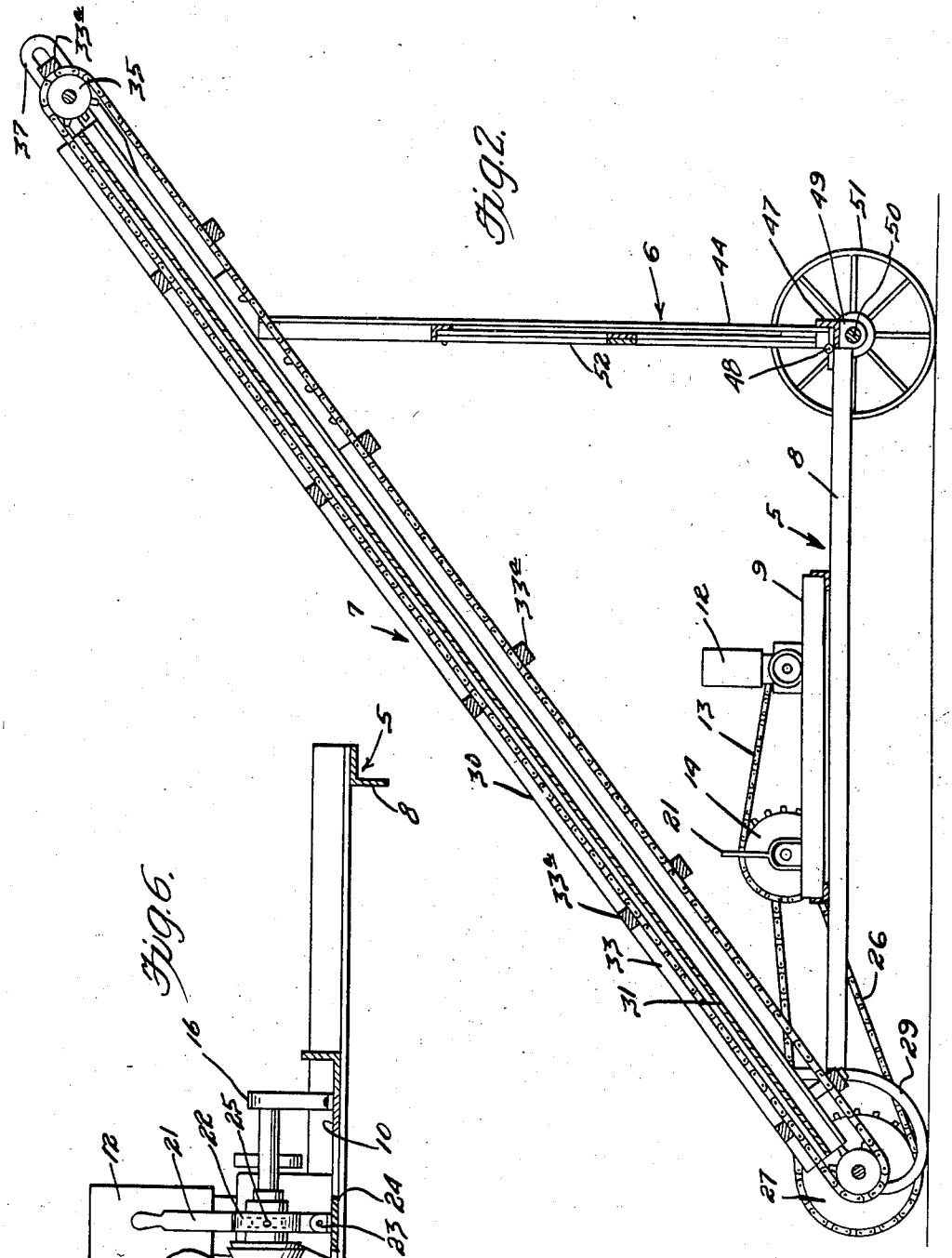


Fig. 2.

Fig. 6.

Inventors

Loten F. Arnett.

Ellis D. Arnett.

By Clarence A. O'Brien

Attorney

Nov. 16, 1943. L. F. ARNETT ET AL 2,334,304

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Filed Dec. 8, 1941 3 Sheets-Sheet 3

Fig. 4.

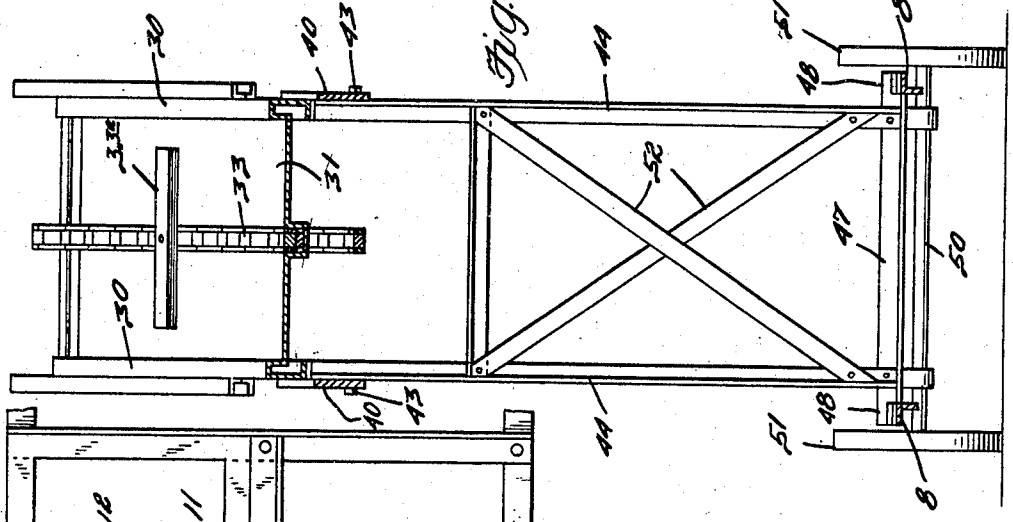


Fig. 5.

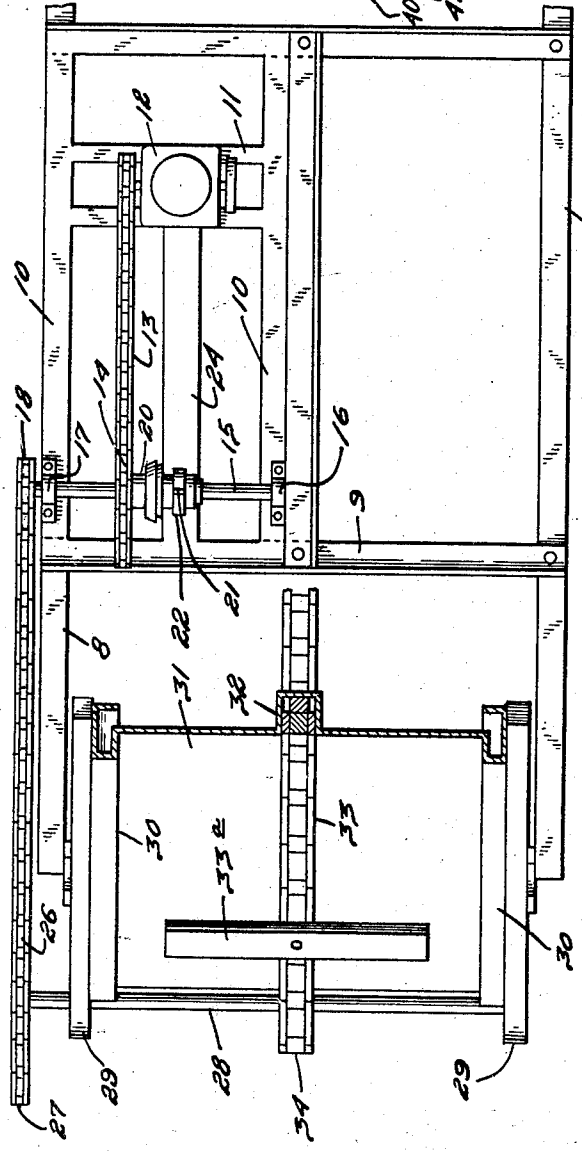


Fig. 6.

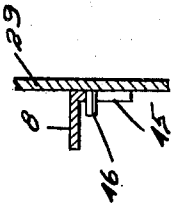
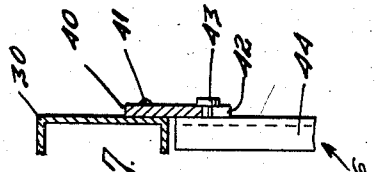


Fig. 7.



Inventors

Loten F. Arnett.

Ellis D. Arnett,

By Clarence A. O'Brien

Attorney

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UNITED STATES PATENT OFFICE

2,334,304

PORTABLE LOADER

Loten F. Arnett and Ellis D. Arnett,
Ontario, Calif.

Application December 8, 1941, Serial No. 422,156

1 Claim. (Cl. 198—233)

This invention relates to new and useful improvements in portable loaders and more particularly to a loader for loading sacks, bales, boxes and various other items.

The principal object of the present invention is to provide a loader which is divisible into convenient major sections to facilitate shipping and assembling.

Another important object of the invention is to provide a portable loader which can be conveniently adjusted for various elevations.

These and various other important objects and advantages of the invention will become apparent to the reader of the following specification.

In the drawings—

Figure 1 represents a side elevational view of the loader.

Figure 2 is a vertical sectional view through the loader.

Figure 3 is a fragmentary top plan view of the elevator sections with a portion in section.

Figure 4 is a vertical sectional view taken substantially on the line 4—4 of Figure 1.

Figure 5 is a fragmentary horizontal sectional view taken substantially on the line 5—5 of Figure 1.

Figure 6 is an enlarged cross sectional view taken substantially on the line 6—6 of Figure 1.

Figure 7 is a fragmentary sectional view taken substantially on the line 7—7 of Figure 1.

Figure 8 is a fragmentary detailed sectional view taken substantially on the line 8—8 of Figure 1

Referring to the drawings wherein like numerals designate like parts, it can be seen that the loader is constructed of a plurality of easily handled major sections, consisting of a chassis section generally referred to by numeral 5, an upright or prop section generally referred to by numeral 6 and an elevator section generally referred to by numeral 7.

The chassis section 5 consists of a pair of elongated side members 8, 8 which are bridged at their intermediate portions by a frame assembly 9 involving a pair of parallel members 10, 10. Cross members 11 between the members 10, 10 serve to support a power plant 12 which drives a sprocket chain 13 disposed over a sprocket wheel 14 on a counter-shaft 15. The counter-shaft 15 is journaled through bearings 16, 17 supported by the parallel members 10, 10. One end of the shaft 15 carries a small sprocket wheel 18, while splined on the intermediate portion of the shaft 15 is a clutch element 19, one side of which is adapted for engaged relation with respect to a collar 20 carried by the sprocket wheel 14. A lever 21 having a yoke 22 at its lower portion straddling the clutch sleeve 19 and being pivotally connected at its lower portion as at 23 to a suitable support 24 is also provided with pins 25 which are disposed into a circumferential groove in the clutch sleeve 19.

A sprocket chain 26 extends from the small sprocket wheel 18 to a substantially large sprocket wheel 27 carried by a shaft 28 at the lower end of the elevator section 7. This shaft 28 is journaled through the forward end portions of arcuate-shaped foot bars 29, 29, the inner end portions of which are suitably secured to the lower end portions of the side walls 30, 30 of an elongated table or plate 31 which forms part of the elevator section 7.

As can be seen in Figure 5, this elongated plate or table 31 is preferably of sheet metal and has its longitudinal edge portions stamped or otherwise formed to provide upstanding side walls 30. The longitudinal intermediate portion of the table 31 is formed to provide a trough 32 in which moves an endless sprocket chain 33, this chain 33 passing over a sprocket wheel 34 on the intermediate portion of the shaft 28 at the lower end of the elevator section 7 and over a sprocket wheel 35 at the intermediate portion of a shaft 36 located at the upper end of the elevator section 7. As can be seen in Figures 1 and 3, guide frames 37 extend from the upper ends of the side walls 30 and have bearing blocks 38 slidable therein and adjustable by screws 39. Through these blocks 38 are journaled the ends of the shaft 36.

A plate 40 is riveted or otherwise secured as at 41 to the outer side portion of each of the side walls 30, 30 in a manner to depend as substantially shown in Figure 7. Each of these plates 40 is provided with a plurality of notches 42 in the lower edge portions thereof for receiving headed studs 43 at the upper ends of angular posts 44 which form parts of the section 6. Thus the upper portion of the elevator section 7 is detachable with respect to the upper portion of the prop section 6.

As is apparent in Figures 1 and 8, the side members 8, 8 of the chassis frame section 5 are of angle construction and the forward ends of these members have their depending flanges vertically slotted as at 45 to receive pins 46 which project outwardly from corresponding foot bars 29. Thus the lower end of the elevator section 7 is detachable from the forward end of the chassis section 5.

The prop section 6 besides including the posts

44 involves a horizontally disposed angle member 47 from which the posts 44 rise. As is clearly shown in Figures 2 and 4, the rear ends of the frame members 8 are hingedly connected as at 48 to the angle bar 47. Bearings 49 depend from the angle bar 47 and through these bearings is disposed an axle 50 on which are ground engaging wheels 51. Crossed brace members 52 are provided between the upright posts 44.

Referring to Figures 2 and 4, it can be seen that the top portion of the upper flight of the chain 33 is flush with the top of the table 31 and that slats 33a are secured at their intermediate portions to the chain 33 at equal spaced intervals and are adapted to ride against the table 31 and push upwardly along the table any items placed on the table.

As is apparent, the clutch 19, 20, can be operated to control operation of the endless chain 33 and the loading action of the machine. The machine can be easily pushed about on the wheels 51 and when it is desired to shift the machine from one point to another the elevator section 7 is entirely removed and the section 6 lowered upon the chassis frame 2 after the power plant and clutch mechanism supporting frame 9 has been removed.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

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

A loader comprising an elevator inclined upwardly and rearwardly and having a front end, a pair of downwardly curving ground engaging shoes of skeleton form on said front end of the elevator at opposite sides thereof, and having lateral studs thereon, a chassis including a pair of side bars extending rearwardly from said shoes and having notched front ends fitting over said studs to detachably connect the bars to the shoes, a wheel supported axle at the rear of said bars, a prop for the elevator swingably mounted at end on said axle for adjustment forwardly and downwardly over said chassis and detachably connected at its upper end to said elevator, and hinge connections between the lower end of said prop and the rear ends of said bars having the axes thereof in front of and above the axle, whereby when the prop is disconnected from the elevator, the weight of the chassis will tend to swing said prop forwardly and downwardly.

LOTEN F. ARNETT.
ELLIS D. ARNETT.