

June 26, 1928.

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I. A. WEAVER ET AL

PROPELLING JACK

Filed March 23, 1925

2 Sheets-Sheet 1

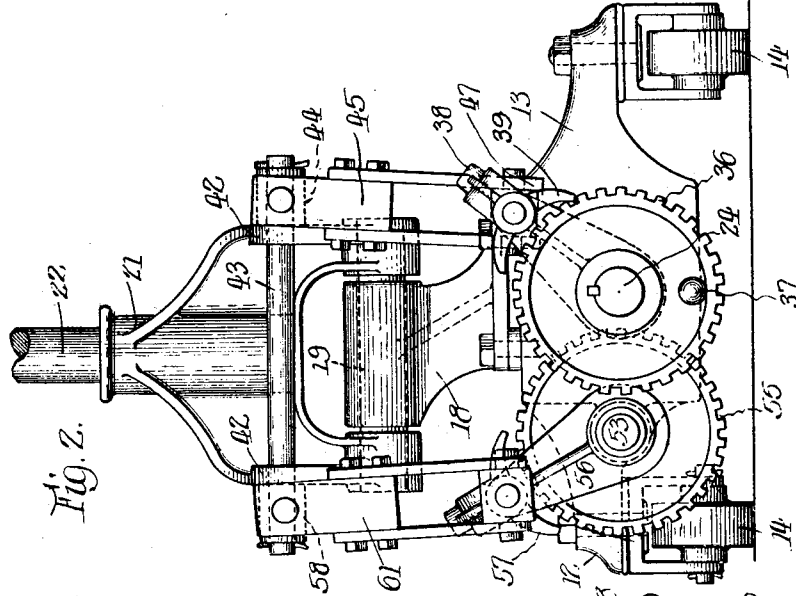


FIG. 2.

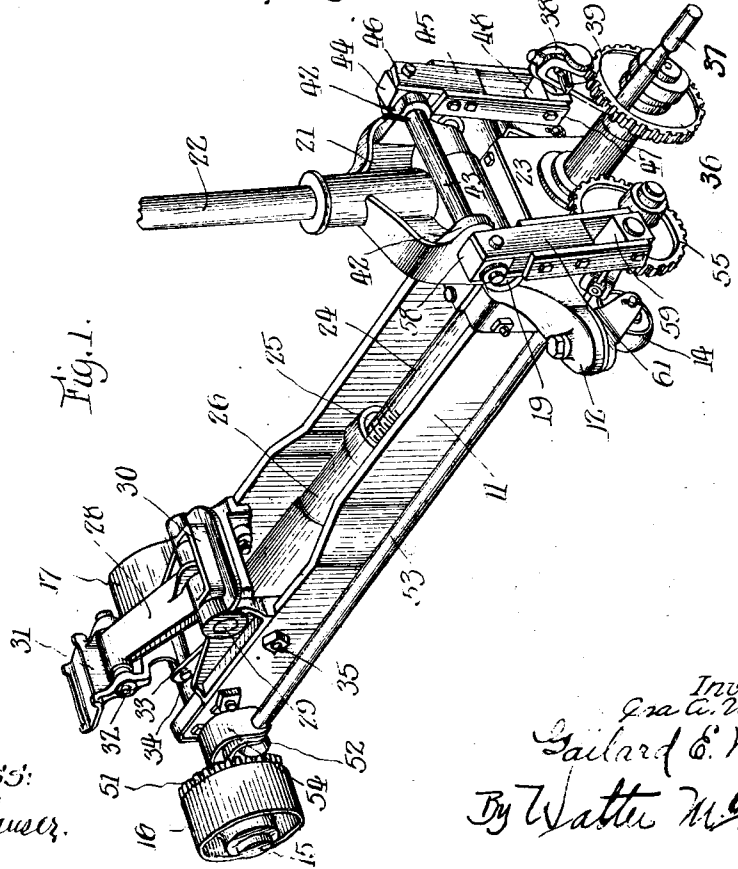


FIG. 1.

Witness:
(J. Sauer.

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2 Sheets-Sheet 2

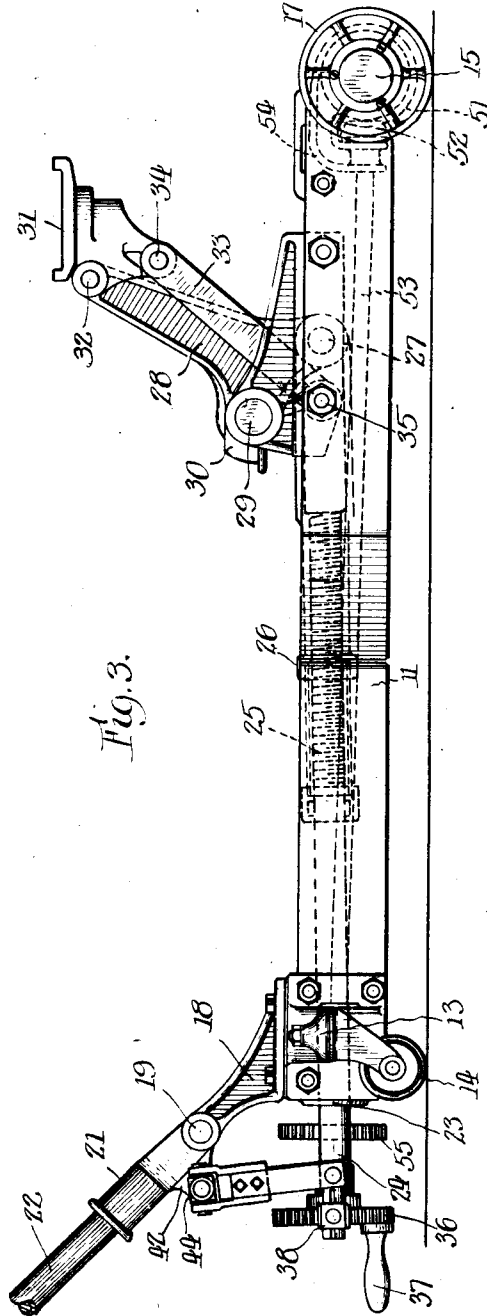


Fig. 3.

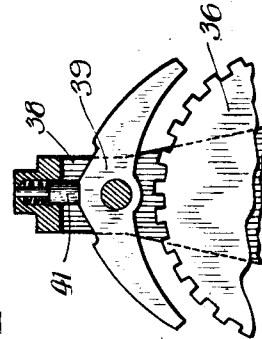


Fig. 4.

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UNITED STATES PATENT OFFICE.

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PROPELLING JACK.

Application filed March 23, 1925. Serial No. 17,812.

In using so-called truck-jacks with auto-
mobiles, which are constructed to raise and
lower and, by reason of their supporting
carrying wheels, are adapted to transfer or
5 convey their loads, it has been found desir-
able, particularly in the case of heavy
automobiles, to provide power-increasing
driving means in association with the jack
or truck, whereby the load may be propelled
10 or moved with greater facility than has
heretofore been possible by merely pulling
or pushing the truck-jack.

Inasmuch as such a well-known truck-jack
is equipped with a handle for operating the
15 load elevating and lowering means, at least
in the preferred embodiment of the inven-
tion, this same handle has been given the
capacity through its rocking or pumping
movement for propelling or driving the
20 truck-jack and the load which it carries.

To enable those skilled in this art to fully
understand this invention and its several
advantages, both from structural and func-
25 tional standpoints, we have illustrated a
preferred or desired embodiment of the in-
vention in the accompanying drawings,
throughout the several views of which like
reference characters have been made to refer
to the same parts or elements.

30 In these drawings:

Figure 1 is a fragmentary, perspective
view of the new propelling truck-jack;

Figure 2 is a fragmentary, front elevation
of the structure on an enlarged scale;

35 Figure 3 is a side elevation of the novel
truck-jack with the handle partly broken
away; and

Figure 4 is a detail section illustrating
one of the double pawls and the spring
40 means for retaining it in neutral or in either
operative position.

By reference to these drawings, it will be
perceived that the truck-jack includes a
main frame or body 11, and, at its forward
45 end, this portion of the structure is sup-
plied with opposite outstanding brackets 12
and 13, each supplied with a suitable caster-
wheel 14, the two comprising the load-carry-
ing means at the front end of the truck.

50 At its rear end, the appliance has a cast-
ing fastened to the spaced, longitudinal ele-
ments 11 and supplying a suitable bearing

for a cross-shaft 15 on the opposite ends
of which are affixed the two, rear, carrying
wheels 16 and 17.

55 Upstanding from the top of the front
portion of the frame structure we employ a
bracket 18 bolted thereto on which is ful-
crumed at 19 the lower bifurcated end mem-
ber 21 of a vertically-rockable operating
60 handle 22 which, of course, will be of suit-
able length to perform its functions.

Revolubly mounted in a front block 23
forming part of the supporting frame, we
employ a longitudinal shaft 24 between the
65 two, spaced, lengthwise-disposed mem-
bers of the frame, such shaft having a rear,
screw-threaded part 25 cooperating with an
internally-threaded socket member 26 the
70 rear end portion of which has a rocking con-
nection at 27 with the short arm of a bell-
crank 28 fulcrumed at 29 in a bracket or
casting 30 mounted on the top of the truck-
frame near its back end.

A saddle casting 31 adapted or designed
75 to engage and lift or lower a suitable part
of the automobile, is hinged at 32 to the
upper, longer arm of such bell-crank, as is
fully illustrated, the element 31 being prop-
erly or appropriately shaped or formed to
80 efficiently and effectively perform its func-
tions.

In order to maintain or keep the top
or working surface of such saddle mem-
ber always in substantially horizontal posi-
85 tion, it is connected to the main-frame by a
pair of spaced links 33, 33 of equal length
hinged to the element 31 at 34 and to the
frame or support at 35.

At its front end, the longitudinal, screw-
90 threaded shaft 24 has a ratchet-wheel 36
fixed thereto, the ratchet-teeth thereof hav-
ing more or less radially disposed side faces,
whereby it and the shaft may be turned in
either direction.

95 Such ratchet-wheel may have a forward-
ly-projecting handle 37 by which it and the
associated shaft 24 can be turned by hand
provided the load actuated by the shaft is
not excessive.

100 An arm 38 is loosely or rockingly mounted
on the shaft 24 or on the hub of the ratchet-
wheel 36 adjacent to the latter, and, at its
outer end, the arm is equipped with a

double-ended, pivoted pawl 39 with which a spring-plunger 41 coacts to hold the pawl in either active position or in its neutral, central position.

8 The handle socket-member 21 has spaced bearings 42—42 for a cross rock-shaft 43 on one end of which a cubical-shaped swivel-block 44 is rockingly mounted and this is connected with the oscillatory arm 38 below
10 by a skeleton link 45 having upper separated ears 46 hinged to the block 44 and similar lower ears or lugs 47 at right-angles to the upper ears hinged to a block 48 rockingly mounted on the outer end portion of arm 38.

15 Assuming that the pawl 39 has been shifted by the foot or hand into operative or active relation to the companion ratchet-wheel 36, as the handle 22 is rocked or oscillated up and down, the shaft 24 will be
20 turned intermittently or step by step and the load-supporting arm 28 and its saddle will be correspondingly elevated or lowered depending upon which end of the pawl 39 is in action.

25 Owing to the leverages available, no difficulty is encountered in raising or lowering any load within the capacity of the appliance.

30 In order to propel or drive the truck-jack by rocking the same handle in the same direction, we provide the following cooperating instrumentalities.

The rear truck carrying-wheel 16 has a gear 51 on its inner face in mesh with a pinion 52 on the end of a lengthwise-arranged
35 shaft 53 supported at its back end in a bracket extension 54 of the rear casting having the bearing for shaft 15, the front part of the shaft having an appropriate bearing in the lateral bracket 12.

40 The front protruding part of this shaft 53 has a ratchet-wheel 55 fastened to it and at the side of such wheel we employ a rock-arm 56 oscillatory on the shaft or on the hub of the ratchet-wheel and carrying a
45 double-ended, spring-held pawl 57 like the companion elements 38 and 39.

50 In like manner, a swivel-block 58 on the end of the shaft 43, opposite that on which the block 44 is mounted, is operatively connected to a swivel-block 59 on arm 56 by a skeleton link 61 like or similar to the link 45 and its connections.

55 It will be readily understood, that, by rendering the one or the other end of pawl 57 operative on its associated ratchet-wheel 55, and then pumping or rocking the handle 22 up and down, in the manner already indicated in connection with the load raising
60 and lowering mechanism, the truck as a whole and the load which it sustains may be propelled or driven either forwardly or rearwardly as occasion may require.

65 Thus it will be perceived that the single handle may be used to actuate either mecha-

nism to perform its particular function by merely controlling the positions of the two pawls, both or either of which may be retained in central, neutral, inactive position when required. 70

In both instances, the mechanical advantage accrues because of the several serving leverages arranged in series relation, and consequently the necessary work may be performed by the operator without undue effort or strain. 75

Owing to the endwise thrusts imposed on shaft 24, it is provided with proper means for withstanding them, but it has been deemed unnecessary to illustrate these in detail because they form no particular part of the present invention. 80

Those skilled in this art will readily understand that the invention is not limited and restricted to the precise and exact details of construction illustrated and described and that many minor mechanical changes may be made in the appliance presented without departure from the heart and essence of the invention as defined by the appended claims and without the sacrifice of any of its substantial benefits and advantages. 85 90

The preferred embodiment of the invention presented above and in the accompanying drawings is set forth by way of example only, some of the possible mechanical changes or other embodiments being indicated by the scope of the following claims defining the breadth of the invention. 95 100

We claim:

1. In a truck-jack, the combination of a support, carrying-wheels for said support, movable means on said support to raise and lower the load including a ratchet member, means to propel the truck including a second ratchet member, a handle movably mounted on the truck, two pawls operated by the movements of the handle, the one co-acting with one ratchet member to operate the load raising and lowering means, the other co-acting with the other ratchet member to propel the truck, and means to render either pawl independently operative on its ratchet member. 105 110 115

2. In a truck-jack, the combination of a support, carrying-wheels for said support, movable means on said support to raise and lower the load including a ratchet-wheel, means to propel the truck including a second ratchet-wheel, a handle rockingly mounted on the truck to turn about a fixed axis, two pawls operated by the movements of the handle, the one co-acting with one ratchet-wheel to operate the load raising and lowering means, the other co-acting with the other ratchet-wheel to propel the truck, and means to render either pawl independently operative to turn its ratchet-wheel in either direction. 120 125 130

3. In a truck-jack, the combination of a support, carrying-wheels for said support, movable means on said support to raise and lower the load including a ratchet-member, means to propel the truck including a second ratchet-member, a handle rockingly mounted on the truck for movement only in a plane lengthwise the truck, two pawls operated by the rocking movements of the handle, the one co-acting with one ratchet-member to operate the load raising and lowering means, the other co-acting with the other ratchet-member to propel the truck, and means to render either pawl independently operative on its ratchet-member.

4. In a truck-jack, the combination of a support, carrying-wheels for said support, movable means on said support to raise and lower the load including a first shaft dis-

posed lengthwise said support and a ratchet-wheel on said shaft, means to propel the truck-jack including a second shaft arranged lengthwise said support and a ratchet-wheel on said second shaft, a handle rockingly mounted on said support for movement only in a plane lengthwise said support, and two pawls operated by the movements of said handle, the one adapted to coact with the ratchet-wheel of the first shaft to operate said load raising and lowering means, the other designed to co-act with the ratchet-wheel of said second shaft to operate said truck-jack propelling means.

In witness whereof we have hereunto set our hands.

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