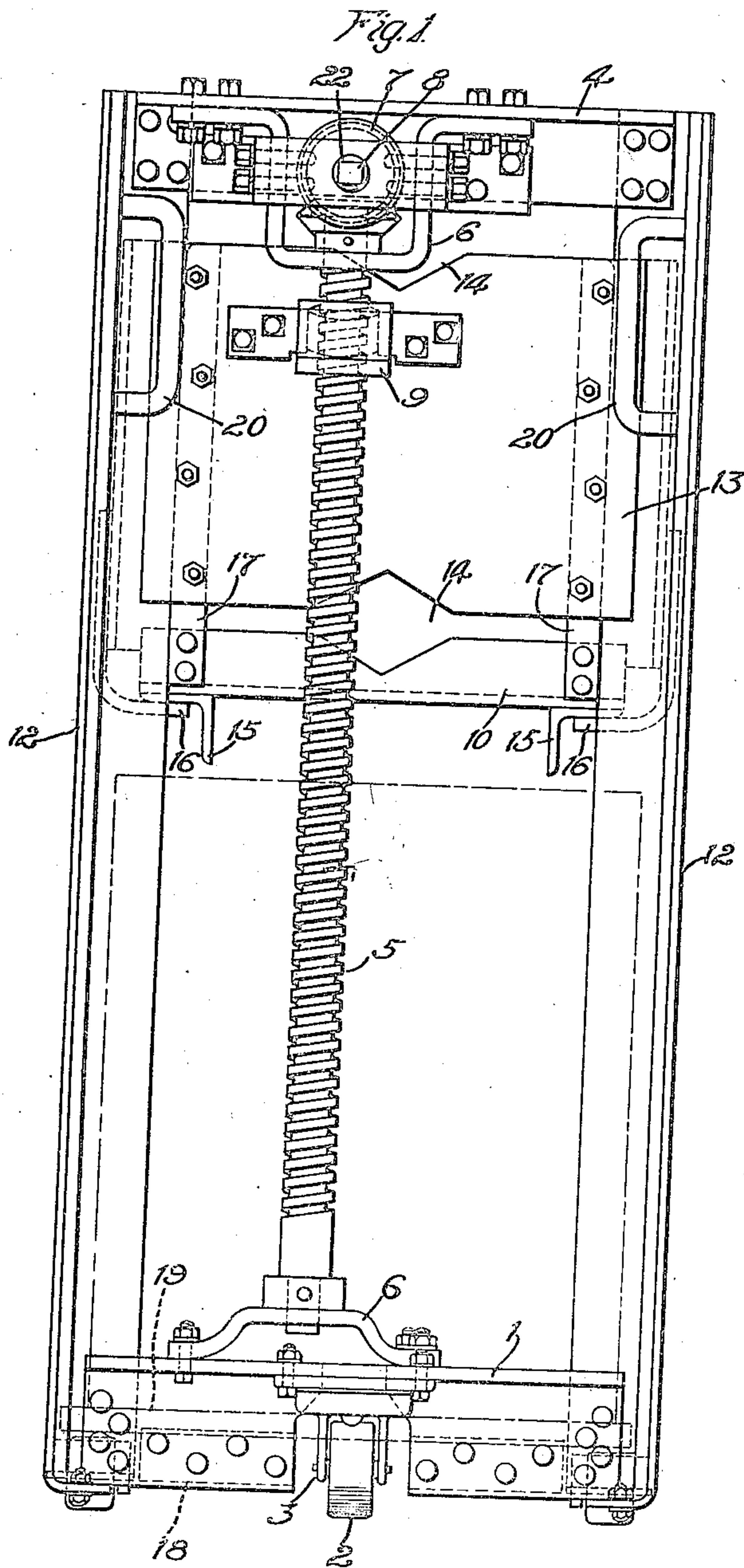


Jan. 2, 1923.

A. H. BAKKEN.  
TANK LIFTING TRUCK.  
FILED DEC. 17, 1919.

1,440,434

2 SHEETS-SHEET 1



WITNESSES:

J. B. Merrill  
J. H. Miller

INVENTOR

Andrew H. Bakken

BY

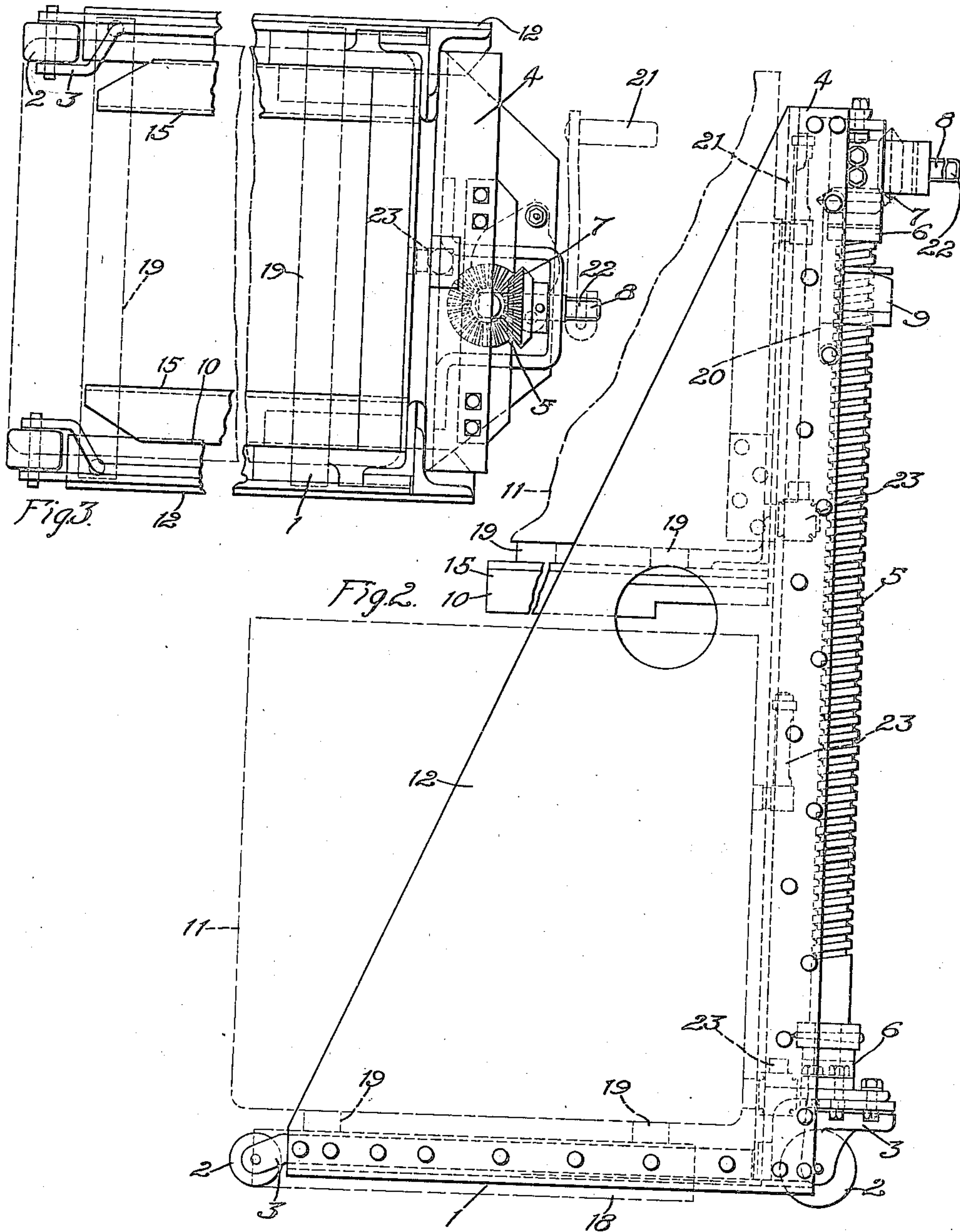
Chesley E. Carr  
ATTORNEY

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2 SHEETS-SHEET 2



WITNESSES:

*J. B. Merrill*  
*J. H. Miller*

INVENTOR

*Andrew H. Bakken*

BY

*Lesley E. Barr*  
ATTORNEY



## UNITED STATES PATENT OFFICE.

ANDREW H. BAKKEN, OF EDGEWOOD PARK, PENNSYLVANIA, ASSIGNOR TO WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, A CORPORATION OF PENNSYLVANIA.

## TANK-LIFTING TRUCK.

Application filed December 17, 1919. Serial No. 345,616.

*To all whom it may concern:*

Be it known that I, ANDREW H. BAKKEN, a citizen of the United States, and a resident of Edgewood Park, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Tank-Lifting Trucks, of which the following is a specification.

My invention relates to devices for facilitating the manipulation of electrical apparatus and particularly to transporting and lifting devices for circuit-interrupter tanks.

One object of my invention is to provide a device of the above indicated character that shall be simple and durable in construction, effective in operation and easy to manipulate by one person.

Another object of my invention is to provide means for raising and lowering the tanks of circuit-interrupters of the oil-immersed type that shall so facilitate the removal and replacement of the tanks as to effectively reduce the amount of labor ordinarily attending such operation and insure that the interrupters will be out of service only a substantially minimum period of time.

Heretofore, it has been customary in removing and replacing the tanks of certain types of circuit interrupters, to employ ordinary means, such as levers, chains, jacks, block-and-tackle and numerous other makeshift devices or combinations, thus causing much unnecessary labor and expense and being the causes of accidents to workmen and interfering with the operation of a circuit an undue period of time. Further, the services of more than one person have usually been required in such manipulations.

In practicing my invention, I provide a relatively simple and compact combined transporting and lifting device by which the tanks of circuit interrupters may be quickly and expeditiously removed and replaced by a single operator, thus facilitating the manipulation of the tanks, reducing the amount of labor, expense and danger to workmen and insuring a substantially minimum of interruption in the service of a circuit.

In the accompanying drawings, Figure 1 is a rear elevational view of the device embodying my invention; Fig. 2 is a side

elevational view of the device, showing a tank in one position, and a portion of the tank in another position, thereon, and Fig. 3 is a broken plan view of the device.

In general, my device comprises a vehicle or truck body portion 1, preferably constructed of structural steel, wheels 2 mounted thereon by suitable bearing members 3, a vertical rear wall or end structure 4, a vertical worm screw 5, bearing members 6 for the screw 5, gears 7 for rotating the screw, a shaft 8 for operating the gears, a traveling-nut device 9 for the worm screw 5 and co-operating with a platform 10 or other movable structure to raise and lower a tank 11, and side guide members or walls 12 that are preferably tapered from the upper rear to the lower front part of the device.

The body portion 1 is of substantially U-shape and is disposed horizontally with its open end forward, one of the wheels 2 being at the end of each leg and the other wheel 2 being, preferably, mounted in a swivel bearing, at the rear of the body portion. This provides a structure that may be moved forward to a position surrounding a tank on three sides. The horizontal or bottom portion of the platform 10 is, also, similarly of U-shape, from the central portion of which a vertical end wall or structure 13 projects. The structure 13 supports, and is adapted to move with, the traveling-nut device 9 and is provided with openings 14 for a purpose to be hereinafter described.

Horizontally-disposed angle members 15 extend forwardly from the bottom of the wall 13 at positions inside, and adjacent, the side legs of the body portion 1. Angle members 16 and plates 17 are riveted or otherwise attached to, and secure, the angle members 15 to the structure 13.

A block 18 of a width less than the distance between the sides of the body portion 1 is provided, at its upper side, with transverse beams 19 that extend beyond the sides of the block 18.

Assuming the tank 11 to be on the block 18 and isolated with respect to both the vehicle 1 and the circuit interrupter, of which it constitutes a part, the vehicle, with the platform 10 in its lower position, may be wheeled, by pushing against handles 20 on the side walls 12, to a position surrounding the tank 11. This places the angle members



15 under the protruding ends of the beams  
19 in a position to be lifted by the platform  
10. By placing a co-operating crank-handle  
member 21 on a square or keyed end 22 of  
5 the shaft 8 and turning the handle member  
21, the tank 11 may be lifted by movement  
transmitted from the handle 21 to the shaft  
8, the gears 7, the screw 5, the traveling-nut  
device 9, the platform 10 and the block 18 to  
10 the tank. When in position on the platform  
10, and in moving upwardly, the tank is am-  
ply guarded against displacement by the  
side walls 12 which, in the upper position of  
the tank, against the circuit interrupter  
15 structure (not shown), so clear the upper  
edges of the tank as to permit ready access  
to fastening devices (not shown) that are  
disposed adjacent to the upper edges of the  
tank. After a tank has been so lifted and  
20 secured in operative position, the platform  
10 may be lowered and the vehicle 1 moved  
to position under another tank, either in or  
away from its operative position. The open-  
ings 14 are provided in the structure 13 to  
25 permit gauges, taps or other projecting  
members 23 on the tank to be placed therein  
in order that the center of gravity of the  
tank may be properly positioned with re-  
spect to the vehicle 1.  
30 The device is exceedingly simple in con-  
struction and operation and facilitates, to a  
high degree, the manipulation of relatively

heavy tanks that have heretofore been diffi-  
cult to handle.

While I have shown and described a par- 35  
ticular form of my invention, changes may  
be effected therein without departing from  
the spirit and scope thereof, as set forth in  
the appended claim.

I claim as my invention: 40

A transporting and lifting device com-  
prising a movable truck provided with a  
horizontally disposed frame and with verti-  
cal side walls that have their forward edges  
inclined rearwardly from the front edge of 45  
the frame, a vertically disposed worm screw  
supported from the rear edge of the said  
frame and at one side of the longitudinal  
center line thereof, a platform having a nut  
secured thereto for engagement by the worm 50  
screw to effect vertical movement of the  
platform, and a vertically disposed guard  
plate secured to the rear edge of the plat-  
form to prevent a mass carried by the plat-  
form from being moved too far rearwardly, 55  
an opening being provided in the guard  
plate, adjacent to its vertical center line, to  
permit projecting portions of the mass being  
carried to extend therethrough.

In testimony whereof, I have hereunto 60  
subscribed my name this 25th day of No-  
vember 1919.

ANDREW H. BAKKEN.