May 15, 1923.

1,455,689

G. WEIDINGER

EXCAVATING AND LOADING APPARATUS

Original Filed Sept. 22, 1921 2 Sheets-Sheet 1

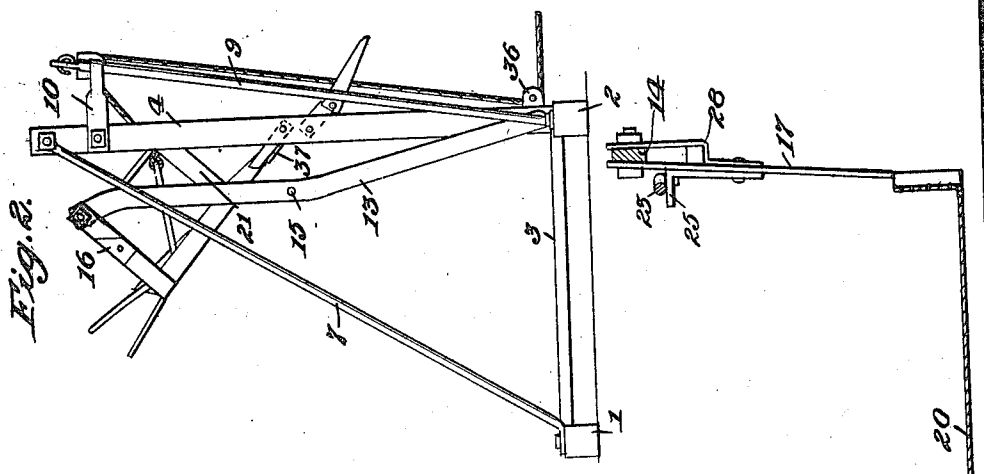


Fig. 2.

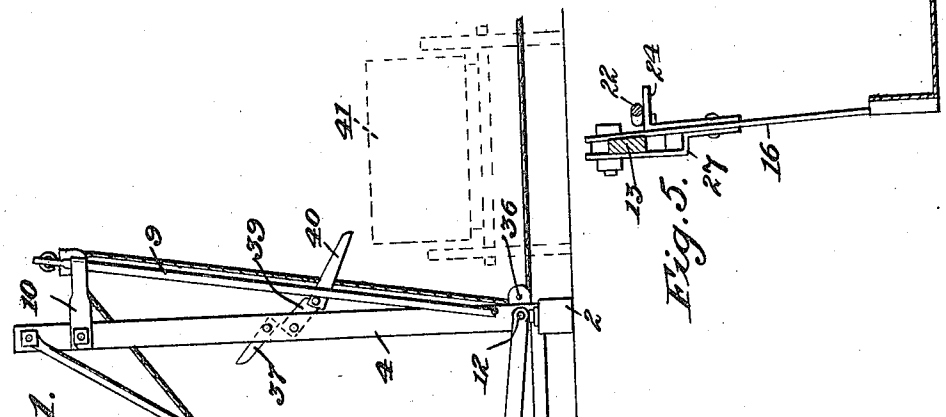


Fig. 5.

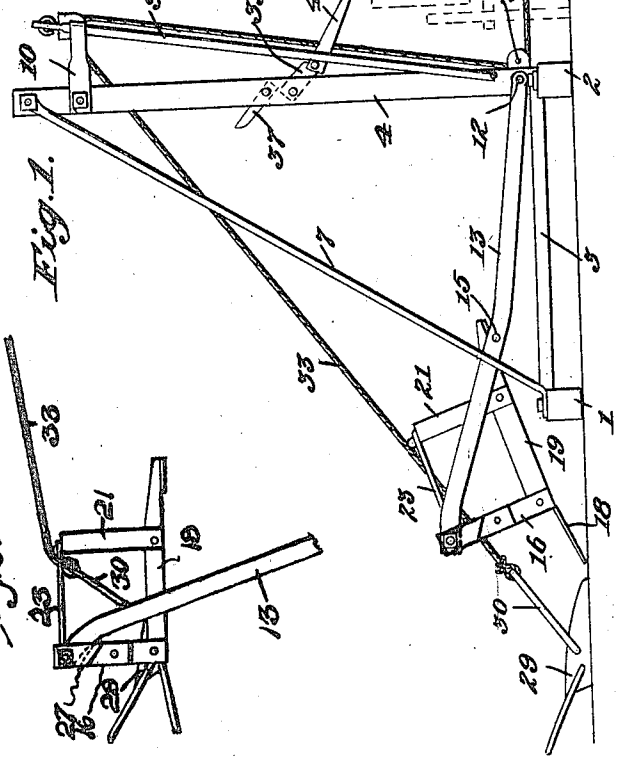


Fig. 1.

Fig. 6.

Inventor:
George Weidinger
By Wm. L. Symons
Atty.

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Fig. 3.

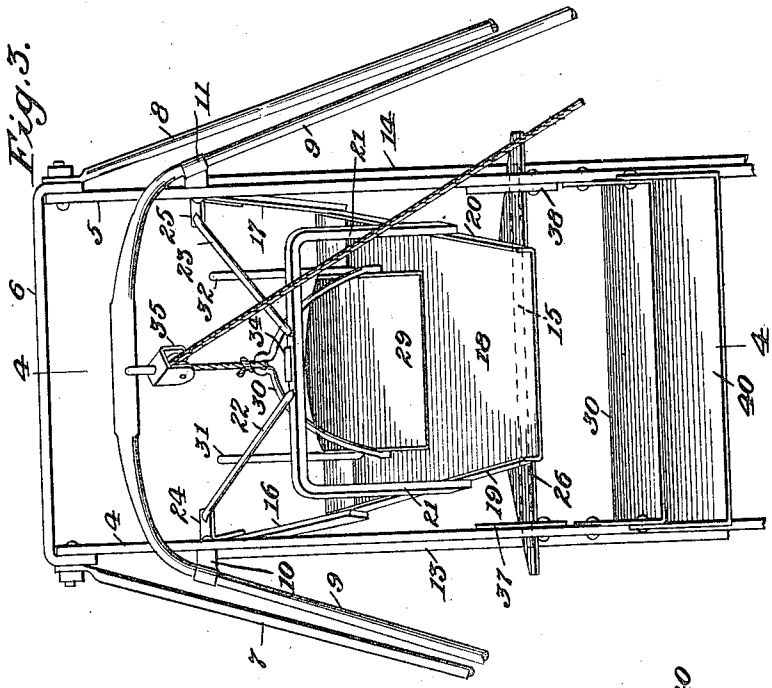
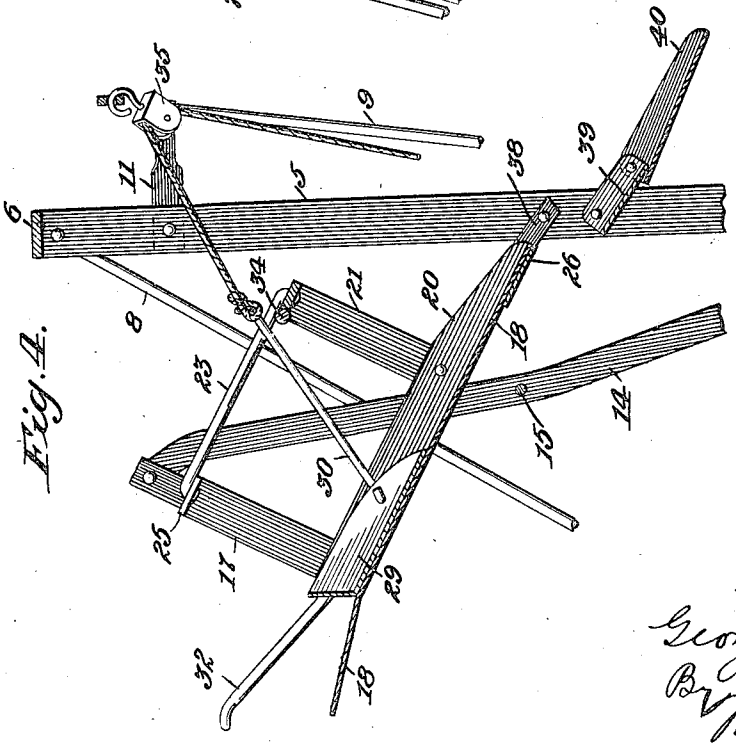


Fig. 4.



Inventor:
George Weidinger
By Wm. L. Symons
Atty.

Patented May 15, 1923. 1,455,689

UNITED STATES PATENT OFFICE.

GEORGE WEIDINGER, OF MOUNT STERLING, OHIO.

EXCAVATING AND LOADING APPARATUS.

Application filed September 22, 1921, Serial No. 502,498. Renewed March 5, 1923.

To all whom it may concern:

Be it known that GEORGE WEIDINGER, a citizen of the United States of America, residing at Mount Sterling, in the county of Madison and State of Ohio, has invented certain new and useful Improvements in Excavating and Loading Apparatus, of which the following is a specification.

My invention relates to an apparatus for excavating loading and conveying earth, sand, gravel or similar materials. It is also adapted to be used for loading manures.

An object of my invention is the construction of an apparatus by means of which material may, by continuous movement and a single source of power, be excavated, carried to a loading apparatus, elevated and dumped into a wagon or other conveying means.

A further object of my invention is the pivotal arrangement of a platform, one end of which will rest on the ground when the arms to which it is attached are in their lowered position and which will remain substantially horizontal while being elevated until tipped by contact with the tipping fingers on an upright of the frame.

A still further object of my invention is the construction of a chute, a part of which is pivotally mounted to permit the discharge end to be raised and lowered.

A still further object of my invention is to provide means on the scraper carrying platform to contact with the bail of the scraper to raise the platform to a dumping position.

These and further objects of my invention are carried out in an apparatus one form of which is shown in the acccompanying drawings in which,

Figure 1 is a side elevation with the platform in a lowered position.

Figure 2 is a side elevation with the platform in a dumping position.

Figure 3 is a front elevation with some of the parts cut away.

Figure 4 is a section on the line 4—4 of Figure 3, and

Figure 5 is a sectional detail showing the lugs to prevent the platform from tilting backward when it is elevated.

Figure 6 is a side elevation showing the platform in raised position with some of the parts omitted.

The base of my device comprises two sills or runners 1 and 2 made any suitable size and of any suitable material such as wood, which are connected by crossbars at each end, one bar 3 only being shown; the bar on the other end being a duplicate thereof. Mounted on sill 2 are two uprights 4 and 5 joined at the top of a crossbar 6. These uprights may be made of steel or other suitable material and are supported in position by braces 7 and 8, one end of each brace being joined to one of the uprights and the other end of each brace to the ends of the sill in any suitable manner such as by bolts. The uprights are further supported by a brace 9, the ends of which are attached to the sill 2, which is joined to the uprights 4 and 5 by braces 10 and 11. Pivotally connected to the upright 4 at 12 is a platform carrying arm 13. A duplicate arm 14 is similarly connected to the base of the upright 5. These arms may be braced by a rod 15 which has a function, in addition to its bracing function, which will be referred to latter. Pivotally suspended to the outer end of the arms 13 and 14 by platform supporting arms 16 and 17 is a platform 18, having upturned sides 19 and 20 extending from the arms 16 and 17 toward the front of the platform. The platform 18 extends to the rear of the arms 16 and 17, and the end thereof may rest on the ground or any suitable support. Extending from forward of the middle of the length of the platform is a bail 21 from the upper part of which run two rods 22 and 23 to lugs 24 and 25 to support the bail and for another purpose to be pointed out later. Extending across the front of the platform 18 is a bar 26. When the apparatus is in the position to receive material to be conveyed the front of the platform 18 rests on the rod 15 and the ends of the bar 26 rest on the arms 13 and 14, thus making a suitable angle for the platform to receive advantageously the scraper filled with material, as shown in Figure 1. The platform is pivotally hung from the ends of the arms 13 and 14 as shown in Figure 5 and is prevented from tipping to the rear and thus causing the scraper with material to slide off by stops 27 and 28 on the arms 16 and 17. The usual scraper 29, having a bail 30 and handles 31 and 32, has attached thereto a cable 33 which runs over a roller 34 fixed in the bail 21, to a pulley 35 attached to the top of the support 9 and thence to a pulley 36. Suitable power may be applied to the

end of the cable 33. Placed on the uprights 4 and 5 are tilting fingers 37 and 38 with which the ends of the bar 26 come in contact when the platform is raised, and carried forward. The shape of these fingers cause the front of the platform to be gradually lowered until the supporting arms have completed their forward movement. There is also attached to the uprights 4 and 5 a chute 39 and pivotally connected thereto a part 40 which may be raised and lowered in accordance with the height of the wagon 41, shown in dotted lines, or any other suitable conveying means.

The operation of my apparatus, which will be clearly understood from the foregoing description, may be briefly described as follows:

The scraper may be filled by any suitable means independently of the apparatus and may then have attached to it the cable to draw it on the platform. It may, however, be filled by applying power to the cable and then by pulling it on to the platform until the bail contacts with the arms 22 and 23 which will cause the platform with the scraper thereon to be raised to the position shown in Figures 2 and 4. From the time the platform leaves the ground until the bar 26 comes in contact with the fingers 37 and 38 it will remain in a horizontal position. This position is maintained by suitably placing the arms and braces on the platform and regulating the length of the scraper bail. As has been pointed out, the platform is prevented from tilting backward by stops on the arms which support it. When the platform comes in contact with the tilting fingers the front of the platform is lowered, dumping the material into the chute.

It will be understood that my apparatus may be moved from place to place for use by attaching power to sills which act as runners, or in any other suitable manner.

While I have shown a scraper as the implement to be used to excavate the material and to convey it to the carrying platform, it is understood that my invention also contemplates using any form of device to carry the material to be loaded to the elevating and dumping platform.

It is further understood that my apparatus is as well adapted to loading manure from a bin or pile as other material, by using instead of the scraper shown, any conventional form of scooper fork such as is well known in the art, and illustrated in the patent to Blewett, No. 1,304,445, of May 20, 1919, or the patent to Allerecht, No. 765,951, of July 26, 1904.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:

1. An apparatus of the kind described comprising a suitable frame, uprights mounted thereon, arms pivotally connected to said uprights, a material carrying platform, means to connect said platform to said arms, means on said connecting means to prevent said platform from tilting backward when raised and to maintain said platform when raised in a substantially horizontal position, a material carrying receptacle adapted to be placed on said platform, a bail for said receptacle, bail abutting means on said platform, power means attached to said bail to raise said platform, and platform tilting means.

2. An apparatus of the kind described comprising a suitable frame, uprights mounted thereon, arms pivotally connected to said uprights, a material carrying platform, said platform having arms, said platform arms pivotally connected to said first-mentioned arms, said platform arms having stops thereon to prevent the backward tilting of said platform beyond substantially a horizontal position and means to raise and tilt said platform forward.

3. An apparatus of the kind described comprising a suitable frame, uprights mounted thereon, arms pivotally connected to said uprights, a material carrying platform connected to said arms, said platform adapted to maintain substantially a horizontal position when raised, a material carrying receptacle adapted to be placed on said platform, a bail for said receptacle, a bail abutting means on said platform, said abutting means adapted to stop the forward movement of said receptacle on said platform, power means attached to said receptacle to raise said platform and receptacle and platform tilting means on said receptacle.

In testimony whereof I affix my signature.

GEORGE WEIDINGER.