

No. 773,991.

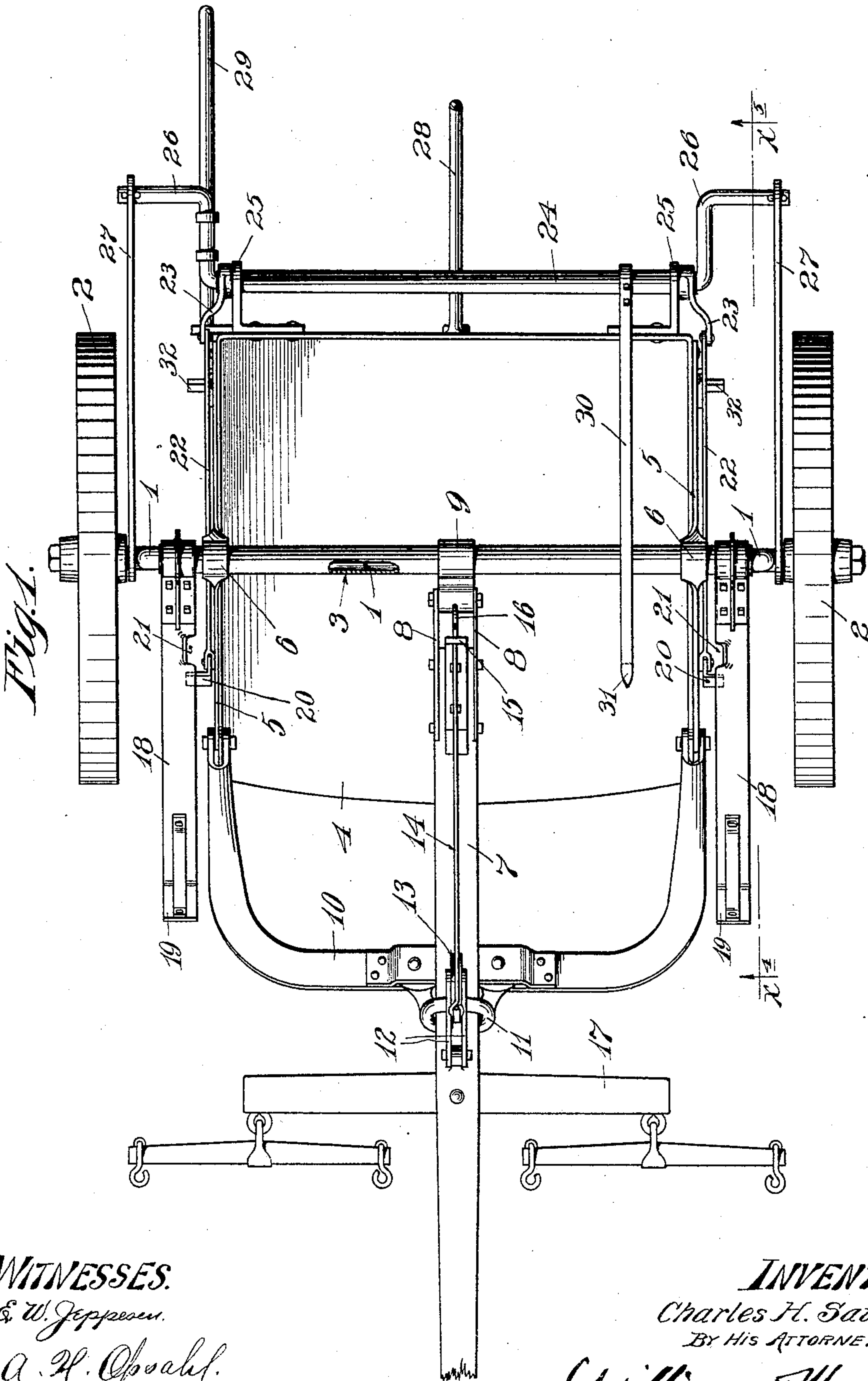
PATENTED NOV. 1, 1904.

C. H. SAWYER.
WHEELED SCRAPER.

APPLICATION FILED AUG. 25, 1904.

NO MODEL.

3 SHEETS—SHEET 1.



WITNESSES.

E. W. Jeppesen.

A. H. Opsahl.

INVENTOR.

Charles H. Sawyer.

BY HIS ATTORNEYS.

Williamson Merchant

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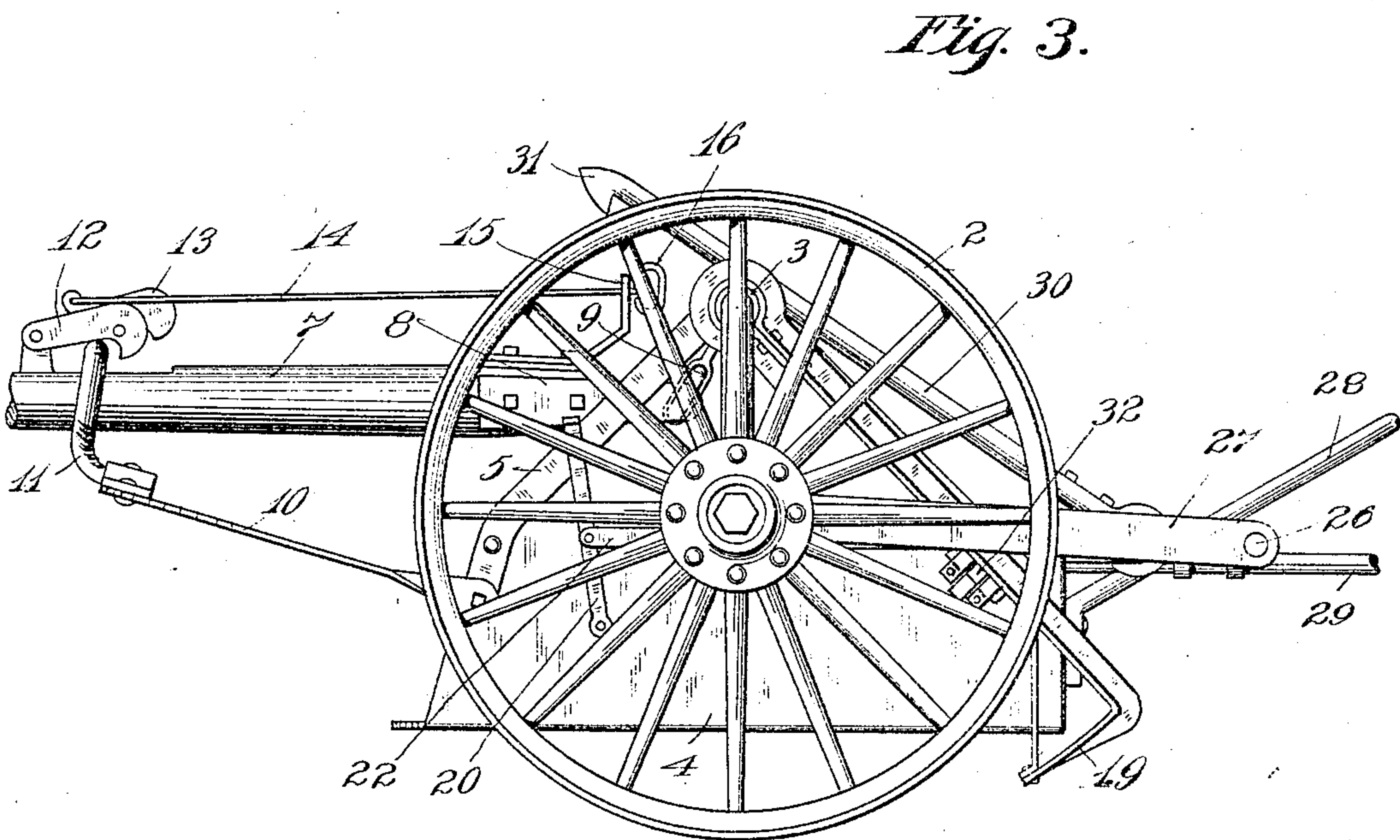
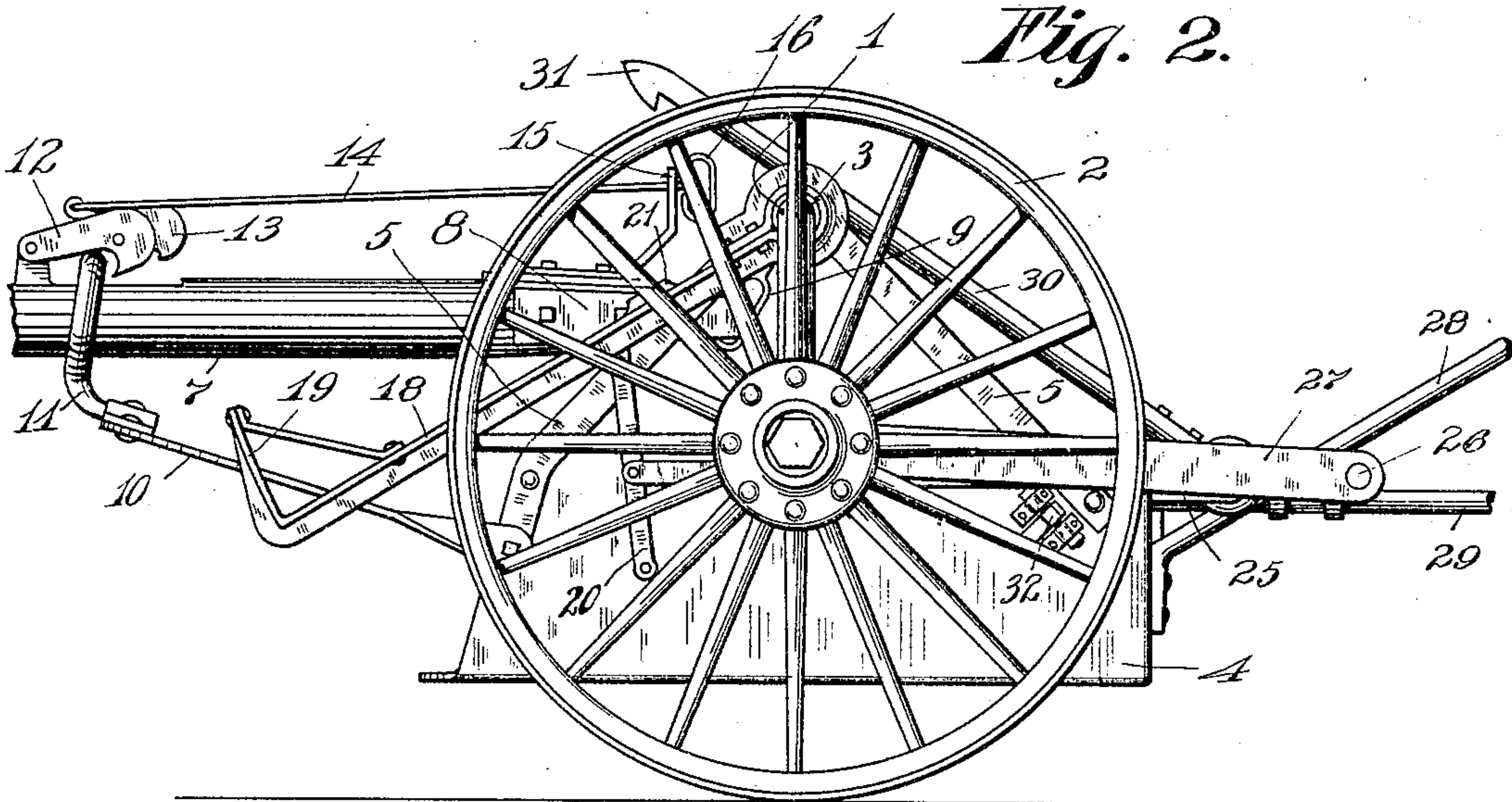
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3 SHEETS—SHEET 2.



Witnesses.

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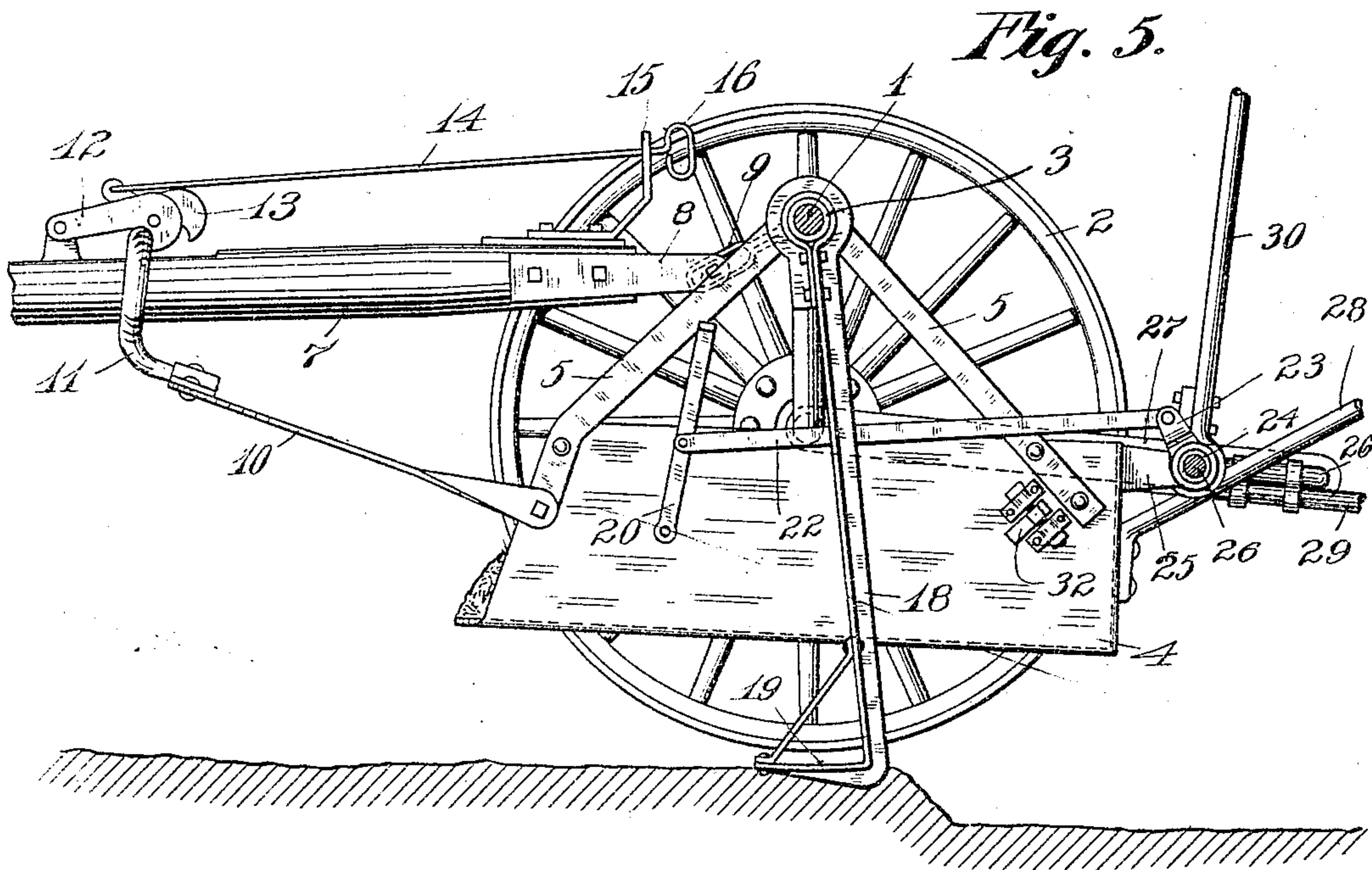
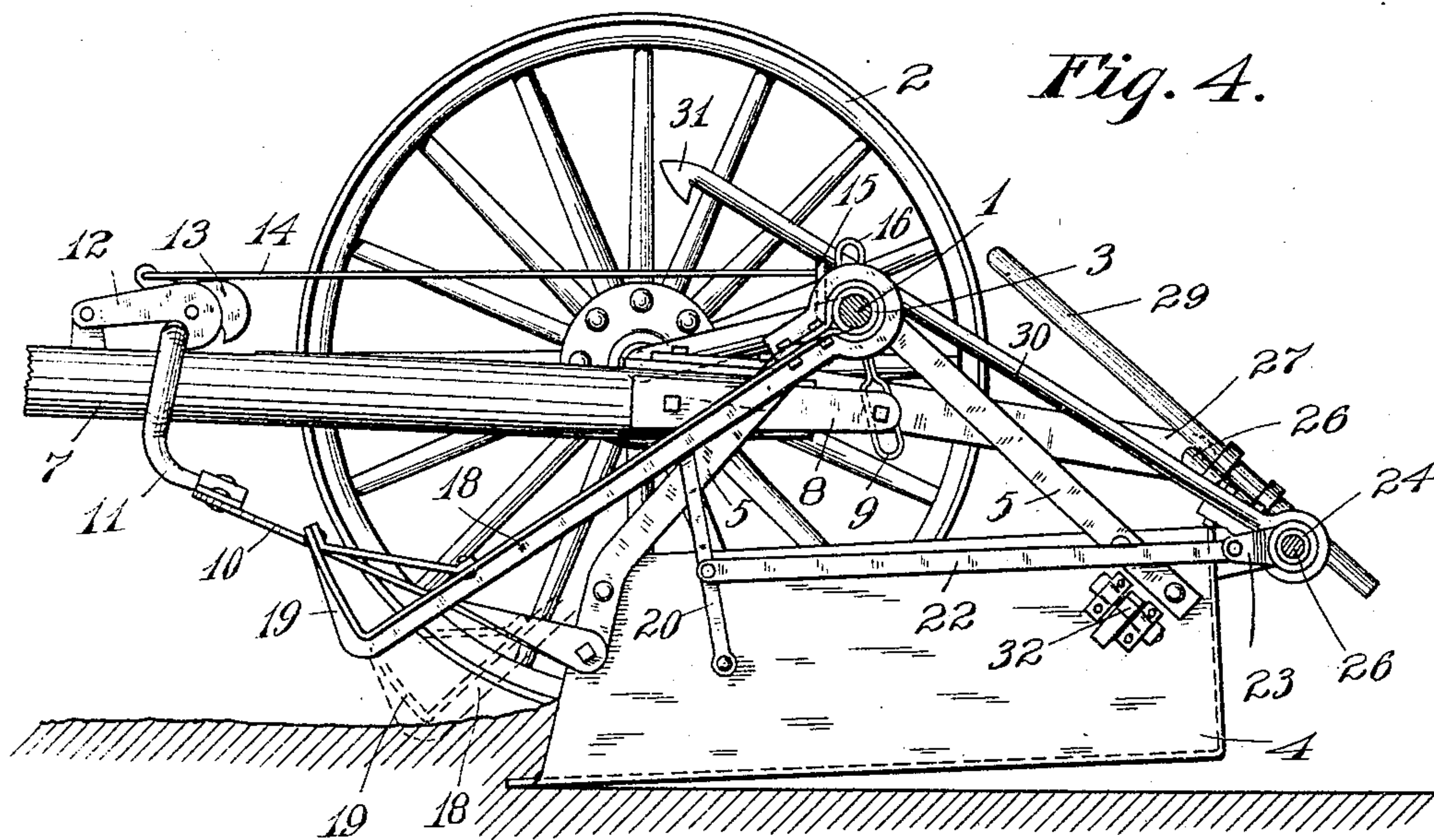
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NO MODEL.

3 SHEETS—SHEET 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

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WHEELED SCRAPER.

SPECIFICATION forming part of Letters Patent No. 773,991, dated November 1, 1904.

Application filed August 25, 1904. Serial No. 222,054. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. SAWYER, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Wheeled Scrapers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention relates to wheeled scrapers of the character set forth and claimed in my prior patents, Nos. 726,993 and 727,208, both issued of date May 8, 1903, and both entitled "Wheeled scrapers."

My present invention has for its object to simplify the construction, improve the operation, and increase the efficiency of wheeled scrapers; and to such ends it consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

In the accompanying drawings, which illustrate my invention, like characters indicate like parts throughout the several views.

Figure 1 is a plan view of my improved scraper. Fig. 2 is a left-side elevation of the same. Fig. 3 is a view corresponding to Fig. 2, but illustrating different positions of certain of the parts; and Figs. 4 and 5 revertical longitudinal sections taken on the line $x^4 x^5$ of Fig. 1.

The numeral 1 indicates a crank-axle, upon the trunnions of which truck-wheels 2 are mounted in the usual or any suitable way. Loosely mounted on the transversely-extended crank portion of the axle 1 is a long sleeve 3. The scraper-bowl 4 is suspended from the crank portion of the axle, this, as shown, being accomplished by V-shaped hanger-brackets 5, having at their intermediate upper portions bearings 6, that are loosely mounted on the sleeve 3. The pole 7 at its rear end is, as shown, provided with metallic straps 8, which are pivotally connected to a coupling-link 9, which in turn is loosely mounted on the central portion of the sleeve 3. To the forward portions of the sides of the scraper-bowl 4

are pivoted the rearwardly-projecting arms 50 of a drag-bail 10, and to the intermediate forward portion of this bail is rigidly secured a strong metallic loop or eye 11, which embraces and slides on the pole. At all times except when dumping the bail-eye 11 is held against rearward sliding movements on the pole by a hook-like latch-dog 12, which is pivoted to said pole and is provided with a pivoted cam-acting lever 13. The upper end of said lever 13 is connected to a trip-rod 14, which, as shown, works through a guide-bracket 15 on the rear end of the pole and terminates in a handpiece 16. The cam end of the lever 13 is of such length that when thrown downward it will engage the upper surface of the pole and raise the nose of the dog 12 out of engagement with the bail-eye 11, and thus release the bail and allow the same to slide rearward, as is necessary to permit the bowl to be turned upside down or into a dumping position. In Fig. 1 the numeral 17 indicates a two-horse evener attached to the pole.

Rigidly secured to the ends of the sleeve 3 on the crank-axle is a pair of long and strong lifting-legs 18, which at their free ends are bent and braced to form extended ground-engaging feet 19. These lifting-legs 18 are of such length that when turned vertically downward in contact with the ground they will turn the crank portion of the axle vertically upward and lift the wheels slightly from the ground, and thereby raise the filled scraper-bowl from its lowered position (indicated in Fig. 4) into its raised position. (Indicated in Fig. 5.)

The lifting-legs 18 are normally held in forwardly-projecting inoperative position (indicated in Figs. 2 and 4) by means of latch-levers 20, which, as shown, are pivoted to the sides of the scraper-bowl and are provided with outwardly-bent free ends that normally engage the flanges of said legs, but are adapted to be passed through notches 21 in said flanges to release the said legs and to allow them to drop into contact with the ground. These latch-levers 20 are connected by links 22 to short arms 23 of a transverse sleeve 24, mount-

ed in bearings 25 on the rear end plate of the scraper-bowl.

The numeral 26 indicates a crank-rod, the long intermediate portion of which is loosely journaled in the sleeve 24 and the trunnions of which are connected to the trunnions of the crank-axle 1 by means of links 27. The said links 27 are of such length that when the crank-shaft 26 is turned onto a dead-center with respect thereto, as shown in Figs. 1, 2, and 3, the wheels will be drawn rearward with respect to the scraper-bowl and the upturned crank portion of the axle will be locked in its upright position, thereby insuring the scraper-bowl being held in a raised position.

The scraper-bowl 4, as shown, is provided with a rearwardly-projecting hand-bar 28, and the crank-shaft 26 is provided with a radially-projecting hand-bar 29. Also the sleeve 24 is provided with a hand-bar 30, which at its free end is formed with a catch-hook 31, which is adapted to engage with a transverse portion of the drag-bail 10 to hold the scraper-bowl in an upturned dumping position.

Pivoted to the rear portion of each side of the scraper-bowl 4 is a retaining-dog 32, which freely yields to permit the coöperating leg 18 to move rearward and upward, but holds the same against a return movement.

The operation of the scraper, briefly summarized, is as follows: To lower the scraper-bowl into an operative position, as shown in Fig. 4, the hand-bar 29 is forced upward and forward, so as to turn the trunnion portions of the shaft 26 forward, and thereby through the links 27 forcing the trunnions of the crank-axle 1 and wheels forward with respect to the scraper-bowl. This movement of the said parts throws the arms of the crank-axle 1 out of a vertical position and permits the bowl to lower into contact with the ground. When it is desired to raise the filled scraper-bowl back into the normal position, (indicated in Fig. 2,) the hooked hand-bar 30 of the sleeve 24 is forced rearward, thereby bringing the bent ends of the latch-levers 20 into registration with the notches 21 of the lifting-legs 18 and permitting the said legs to drop into contact with the ground, as indicated by dotted lines in Fig. 4. Then under the forward movement of the machine the feet 19 of the legs 18 will engage the ground as a fulcrum and cause said legs to push up into vertical position the arms of the crank-axle 1 and raise the scraper-bowl, as indicated in Fig. 5. To further insure extreme movements of the said crank-axle in this lifting action, the hand-bar 29 is forced rearward, thereby throwing the crank-shaft 26 onto a dead-center and locking the crank-axle and the scraper-bowl in their raised positions. The dumping of the load from the scraper-bowl is accomplished by first pulling on the trip-rod 14 and releasing the drag-bail 10 and by then turning the bowl into an approximately vertical position by an

upward movement of the hand-bar 28. The lifting-legs 18 are restored to normal position by throwing them upward and forward from the position indicated in Fig. 3. In fact, under the movements of the scraper-bowl into a dumping position the dogs 32 throw the legs 18 back to normal positions against the latch-levers 20.

As is evident from the foregoing description, the lifting of the loaded scraper-bowl and all other heavy work connected with the operation of the scraper is done by the horses in the act of drawing the machine forward. All of the manually-performed operations require but little force and may be quickly accomplished. The mechanism while extremely simple has in practice been found very efficient for the purposes had in view.

It will of course be understood that the machine described is capable of many modifications within the scope of my invention as herein set forth and claimed.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. In a wheeled scraper, the combination with a crank-axle, and wheels mounted on the trunnions thereof, of a scraper-bowl suspended from the crank portion of said axle, and a lifting-leg, pivoted to a part having vertical movements with said scraper-bowl and engageable with the ground, to lift said bowl, under the forward movement of the machine.

2. In a wheeled scraper, the combination with a crank-axle, and wheels mounted on the trunnions thereof, of a scraper-bowl suspended from the crank portion of said axle, and a lifting-leg pivoted to the crank portion of said axle and engageable with the ground, to raise the crank portion of said axle, and hence the said bowl, under the forward movement of the machine.

3. In a wheeled scraper, the combination with a crank-axle, and wheels mounted on the trunnions thereof, of a lifting-leg pivoted to the crank portion of said axle, and engageable with the ground, to raise the crank portion of said axle, and hence the said bowl, under the forward movement of the machine, and a latch, releasable at will, normally holding said lifting-leg inoperative, substantially as described.

4. In a wheeled scraper, the combination with a crank-axle, and wheels mounted on the trunnions thereof, of a sleeve loosely mounted on the crank portion of said axle, a scraper-bowl pivotally supported from said sleeve, and a pair of lifting-legs rigidly attached to said sleeve and engageable with the ground, to raise the crank portion of said axle, and hence, said bowl, under the forward movement of the machine, substantially as described.

5. In a wheeled scraper, the combination with a crank-axle, and wheels mounted on the trunnions thereof, of a sleeve loosely mounted on the crank portion of said axle, a scraper-bowl pivotally supported from said sleeve, a

pair of lifting-legs secured to the opposite ends of said sleeve and engageable with the ground, to lift said bowl and the crank portion of said axle, and a latch operative at will, normally holding said lifting-legs in inoperative positions, substantially as described.

6. The combination with a crank-axle, and wheels mounted on the trunnions thereof, of a sleeve loosely mounted on the crank portion of said axle, a scraper-bowl pivotally supported from said sleeve, a pair of lifting-legs secured to the ends of said sleeve and engageable with the ground, to lift said bowl and the crank portion of said axle, under the forward movement of the machine, a pole pivotally connected to the crank portion of said axle, a drag-bail attached to said bowl and slidable on said pole, and a latch normally locking said bail to said pole, substantially as described.

7. The combination with a crank-axle, and wheels mounted in the trunnions thereof, a scraper-bowl supported from the crank portion of said axle, a lifting-leg pivoted to the crank portion of said axle and engageable with the ground, to raise said bowl and the crank portion of said axle, under the forward movement of the machine, and a catch on said bowl engageable with said leg, when the same is turned downward and backward, and operating thereon to force the same upward and forward, back to a normal position, when said bowl is turned into a dumping position, substantially as described.

8. The combination with a crank-axle, and wheels mounted on the trunnions thereof, of a scraper-bowl pivotally supported from the crank portion of said axle, a lifting-leg pivoted on the crank portion of said axle and engageable with the ground, to raise said bowl and the crank portion of said axle, under the forward movement of the machine, a latch, releasable at will, normally holding said leg in a forwardly-projecting, inoperative position, and a catch carried by said bowl, engageable with said leg when the same is turned rearward, and operating thereon to throw the same upward and forward to its normal position when said bowl is turned into a dumping position, substantially as described.

9. In a wheeled scraper, the combination with a crank-axle, and wheels mounted on the trunnions thereof, of a scraper-bowl pivotally

supported from said crank portion of said axle, a lifting-leg pivotally mounted on the crank portion of said axle and engageable with the ground, to raise said bowl and the crank portion of said axle, under the forward movement of the machine, a crank mounted on said bowl and provided with a handpiece for oscillating the same, and a connection between said crank and the said crank-axle, whereby said wheels may be thrown forward and rearward with respect to said bowl, by means of said crank, substantially as described.

10. In a wheeled scraper, the combination with a crank-axle, and wheels mounted on the trunnions thereof, of a scraper-bowl pivotally mounted from the crank portion of said axle, a lifting-leg pivotally mounted on the crank portion of said axle and engageable with the ground, to raise said bowl and the crank portion of said axle, under the forward movement of the machine, a locking-crank mounted on said bowl and provided with a handpiece for oscillating the same, and a link connecting said crank to one of the trunnions of said crank-axle, said locking-crank normally standing approximately on a dead-center with respect to said link and locking said crank-axle in a position to hold said bowl raised, substantially as described.

11. In a wheeled scraper, the combination with a crank-axle, and wheels mounted on the trunnions thereof, of a loose sleeve on the crank portion of said axle, provided with a pair of lifting-legs engageable with the ground, for the purpose specified, a scraper-bowl pivotally supported from said sleeve, a pole pivotally connected to the crank portion of said axle, a drag-bail pivoted to said bowl and slidable on said pole, a latch normally locking said bail to said pole, a locking crank-shaft mounted on the bowl and provided with a handpiece, and a pair of links connecting the crank portions of said crank-shaft to the trunnions of said crank-axle, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES H. SAWYER.

Witnesses:

ROBERT C. MABEY,
F. D. MERCHANT.