

No. 614,792.

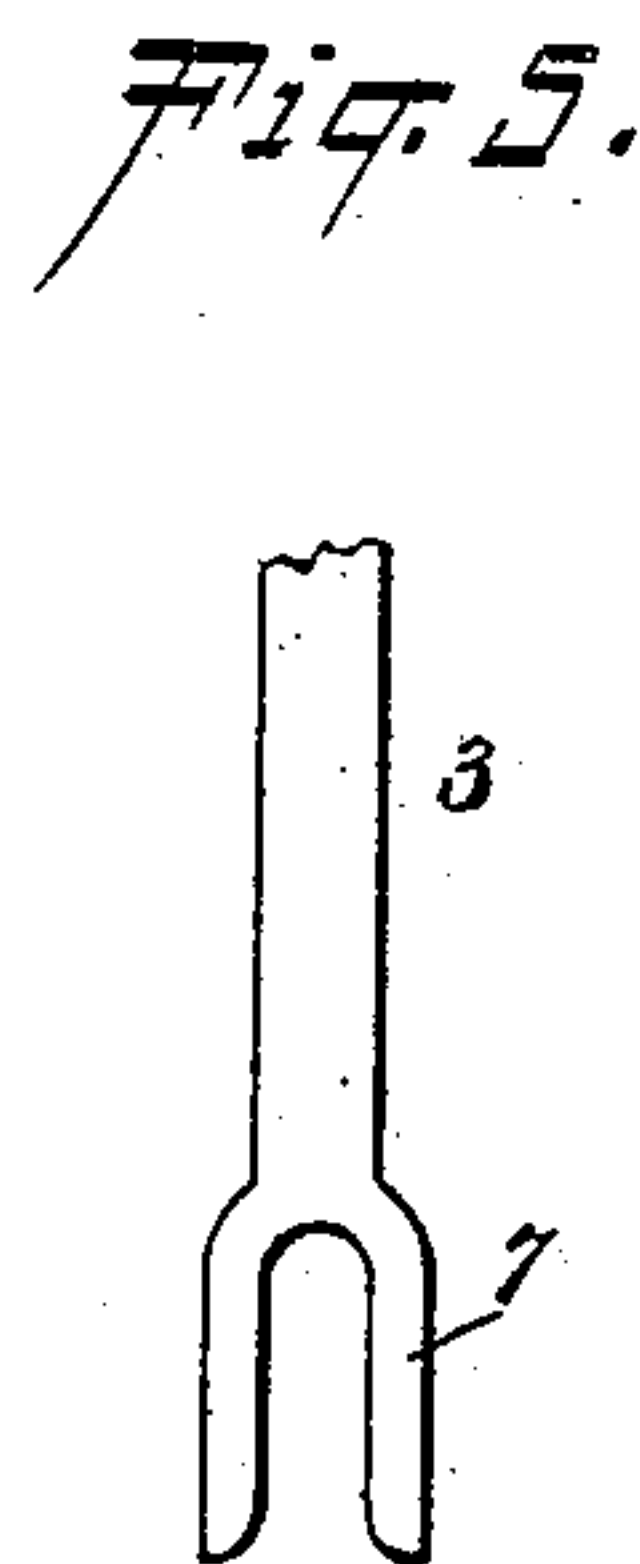
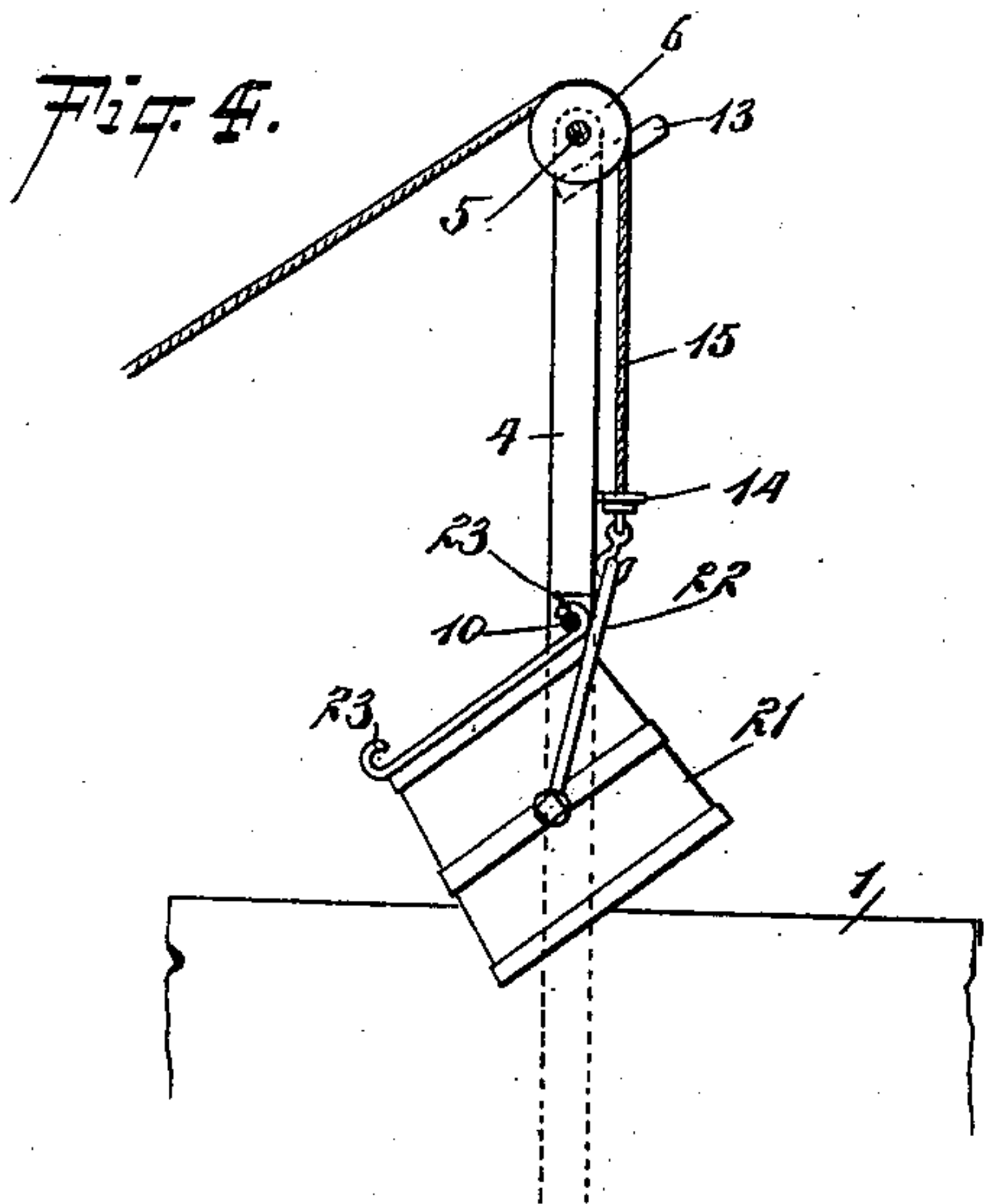
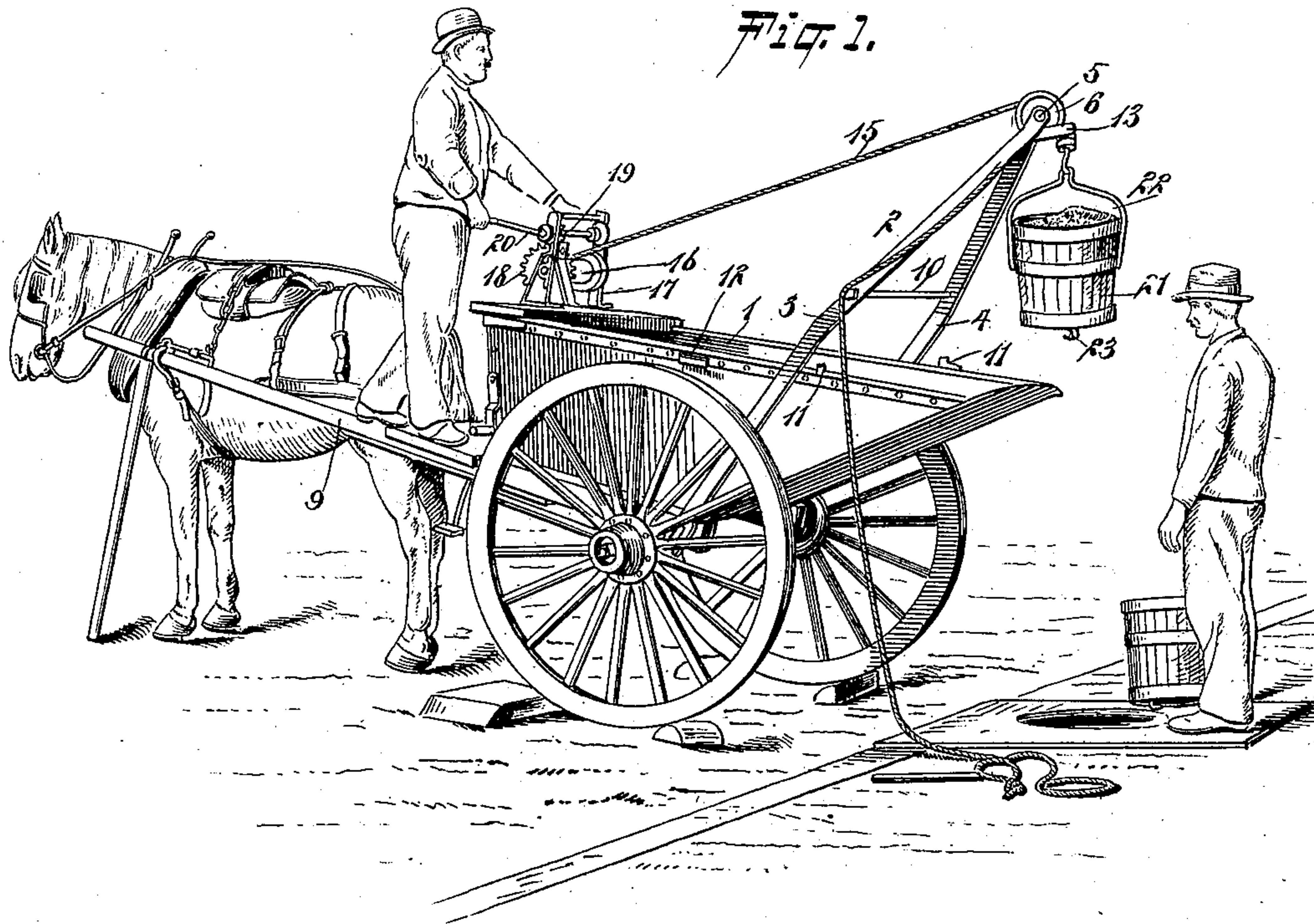
Patented Nov. 22, 1898.

S. L. COOPER & F. W. KEYS.
HOISTING APPARATUS.

(No Model.)

(Application filed Feb. 16, 1898.)

2. Sheets—Sheet 1.



WITNESSES:
William P. Gaebel,
C. R. Ferguson

INVENTORS
S. L. Cooper,
F. W. Keys.
BY
Mumford
ATTORNEYS.

No. 614,792.

Patented Nov. 22, 1898.

S. L. COOPER & F. W. KEYS.
HOISTING APPARATUS.

(Application filed Feb. 16, 1898.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 2.

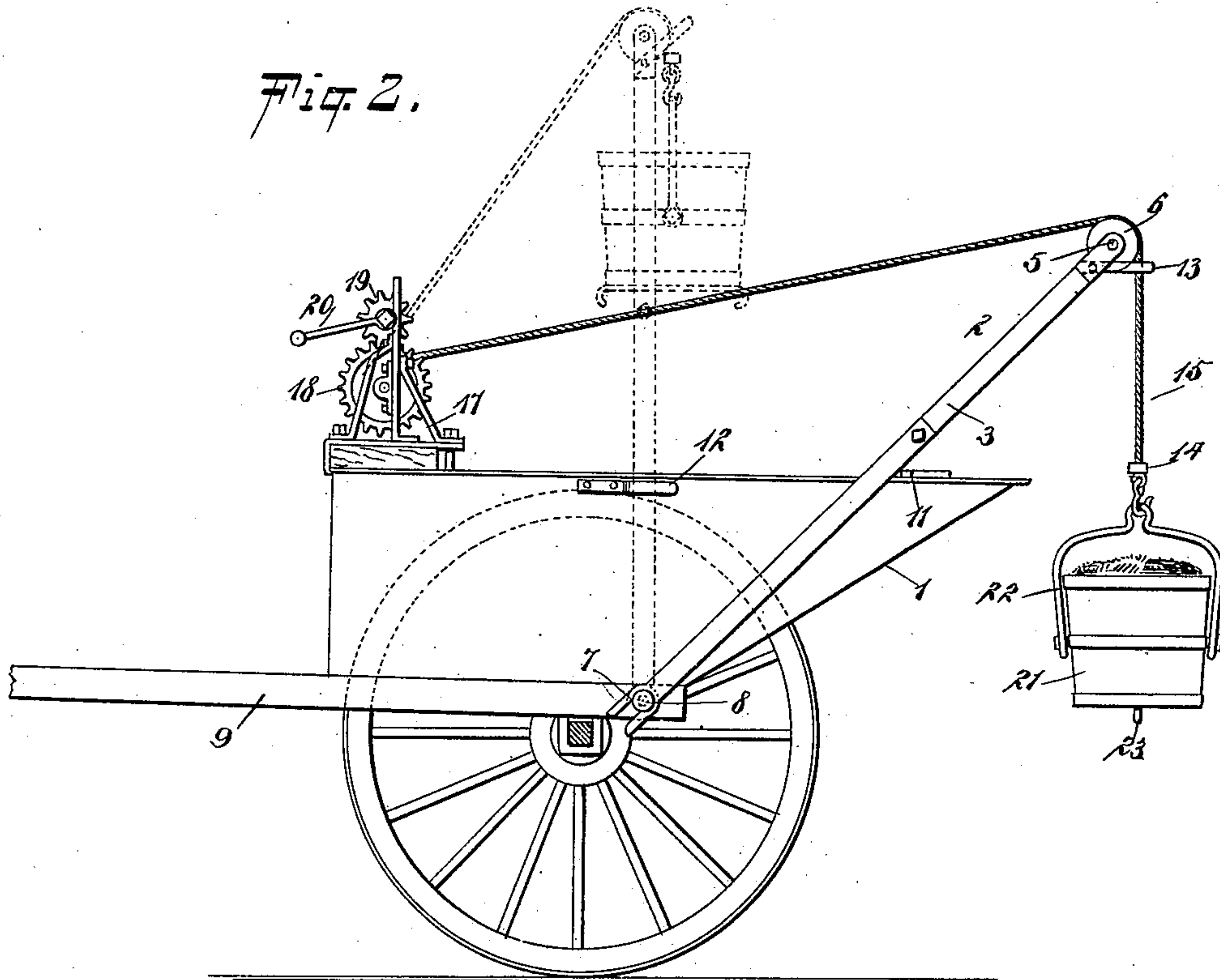
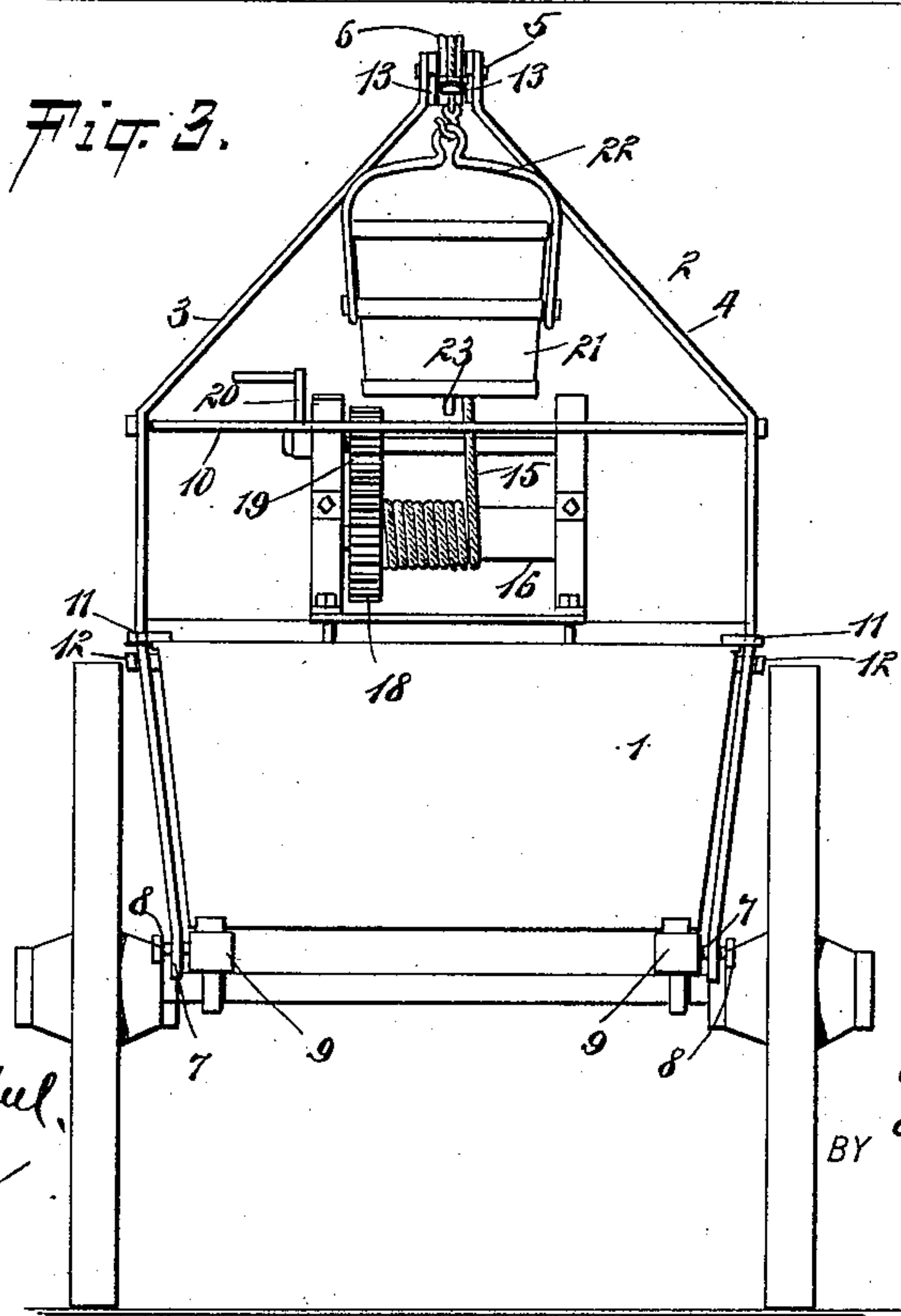


Fig. 3.



WITNESSES:

William P. Gabel,
C. R. Ferguson.

INVENTORS

S. L. Cooper
F. W. Keys.

BY

Munn
ATTORNEYS.

UNITED STATES PATENT OFFICE.

SAMUEL LISPENARD COOPER AND FRANK WILLIS KEYS, OF YONKERS, NEW YORK, ASSIGNORS TO THOMAS HILL, OF JERSEY CITY, NEW JERSEY.

HOISTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 614,792, dated November 22, 1898.

Application filed February 16, 1898. Serial No. 670,544. (No model.)

To all whom it may concern:

Be it known that we, SAMUEL LISPENARD COOPER and FRANK WILLIS KEYS, of Yonkers, in the county of Westchester and State of New York, have invented a new and improved Hoisting Apparatus, of which the following is a full, clear, and exact description.

This invention relates to a hoisting apparatus designed particularly to be connected to a vehicle used for street-cleaning purposes or for the cleaning of sewers and receiving-basins; and the object is to provide a hoisting device which will be comparatively cheap to manufacture, of simple construction, and easy to operate.

We will describe a hoisting apparatus embodying our invention, and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of a vehicle, showing a hoisting apparatus embodying our invention as applied thereto. Fig. 2 is a side elevation thereof. Fig. 3 is a rear elevation. Fig. 4 is a detail showing a bucket in dumping position, and Fig. 5 is a detail showing the bearing end of a member of the crane.

Referring to the drawings, 1 designates the body of a dumping-vehicle, here shown as a cart; but it is to be understood that our invention may be applied to a four-wheeled vehicle. Mounted to swing relatively to the body of the vehicle is a crane 2, consisting of two diverging sections 3 4. The upper ends of these sections 3 4 are connected by a bolt 5, on which is mounted a grooved wheel 6. The members of the crane extend downward at the sides of the vehicle-body, and the lower end of each section is bifurcated, as at 7, to engage over a pin 8, extended into a fixed portion of the vehicle. As here shown, the pins are extended into the shafts 9; but it is obvious that the bearing-pins may be extended from the body proper or from the axle of the vehicle. Above the vehicle-body the sections 3 4 are braced by a cross-bar 10. This bar 10 not only serves as a brace or stay-

bar for the sections of the crane, but it also serves as a tripping device for a bucket, as will be hereinafter described.

As above stated, the crane is designed to swing relatively to the body of the vehicle. To prevent its swinging too far rearward, we provide the body with back stops 11, against which the sections of the crane may engage, and to prevent its swinging too far forward front stops 12 are secured to the body. Extended outward from the crane at the lower portion of the wheel 6 are fingers 13, designed to be engaged by a lug or shoulder 14 on a hoisting-rope 15, which extends over the wheel 6 to a drum 16, mounted in the frame 17 at the front portion of the vehicle-body. This drum 16 has a gear-wheel 18, meshing with a pinion 19, on the shaft of which is a crank 20. A bucket 21 has a bail 22, designed to be engaged with a hook on the end of the hoisting cable or rope 15. This bail 22 has pivotal connection with the bucket somewhat below its upper end, and affixed to the bottom of the bucket at opposite sides are hooks 23.

In operation the filled bucket 21 is to be engaged with the hook on the cable or rope 15, and then by rotating the drum 16 the bucket will be thrown upward while the crane is in the position indicated in full lines in Fig. 2. When the lug or collar 14 engages with the fingers 13 and upon a continued rotation of the drum 16, the crane carrying the bucket will be moved to a vertical position, as indicated in dotted lines in Fig. 2. Then by lowering the bucket one of the hooks 23 will engage with the trip-bar 10, so that as the cable or rope is wound over the drum the bucket will be inverted, as indicated in Fig. 4, to dump the material into a vehicle-body.

It is obvious that the utility of our invention is not confined to street or sewer cleaning purposes, as it may be used to advantage in excavating, especially where the material excavated is of a soft character, which renders it almost impossible to throw it to the surface by the ordinary shovel. It may be also noted that when the device is used a less number of men will be required than by the usual methods employed—that is, in using

this device only two men are necessary, one to fill the bucket and the other to operate the drum. When not required for use, it is obvious that the crane may be lifted off the bearings or pins 8.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination with a vehicle, of a crane mounted to swing thereon, a grooved wheel at the upper end of said crane, fingers extended outward from the upper portion of the crane, a bar extended across the crane, a cable extended over the wheel, a drum for operating said cable, a lug or collar on the cable adapted to engage with the fingers extended from the crane, a bucket adapted for connection to the cable, and a tripping device on the lower end of said bucket adapted to

engage with the bar extended across the crane, substantially as specified.

2. The combination with a vehicle, of a crane mounted to swing longitudinally of the body of the vehicle, back stops on the body of the vehicle adapted to be engaged by the crane, front stops on the body of the vehicle adapted to be engaged by the crane, a grooved wheel at the upper end of the crane, a winding-drum mounted on the body of the vehicle, and a cable extended from the winding-drum over the grooved wheel, substantially as specified.

SAMUEL LISPENARD COOPER.
FRANK WILLIS KEYS.

Witnesses:

CHARLES KINGSBURY,
ADRIAN M. POTTER.