

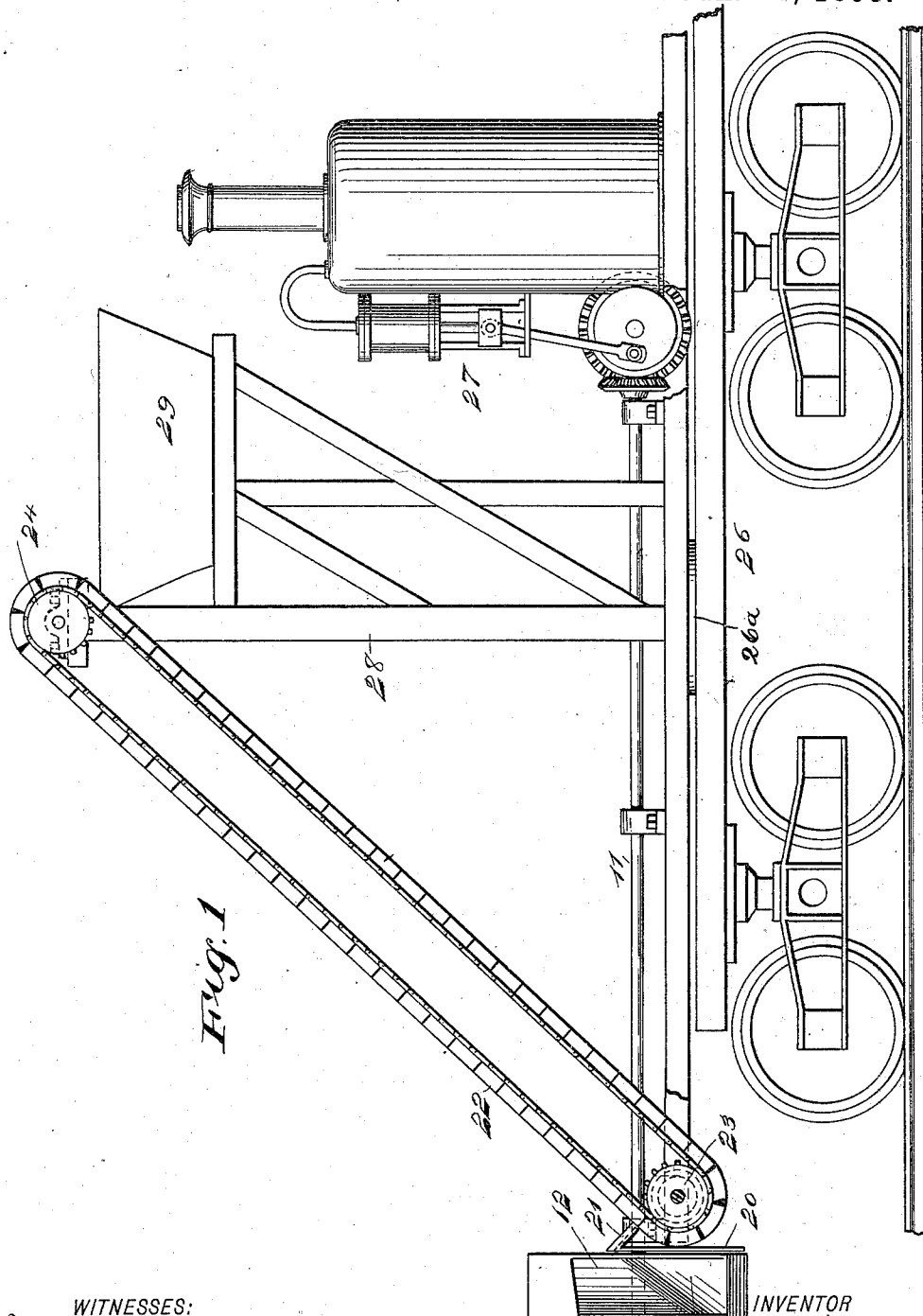
(No Model.)

2 Sheets—Sheet 1.

A. ROLL.
DIGGER.

No. 533,376.

Patented Jan. 29, 1895.



WITNESSES:

John A. Beapham
W. B. Hutchinson

INVENTOR

A. Roll
Munn & Co
ATTORNEYS.

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Fig. 2

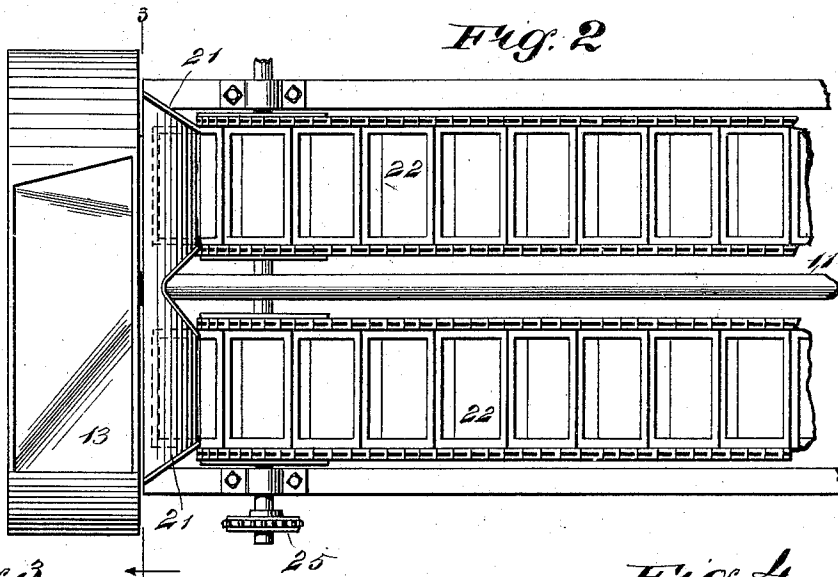


Fig. 3

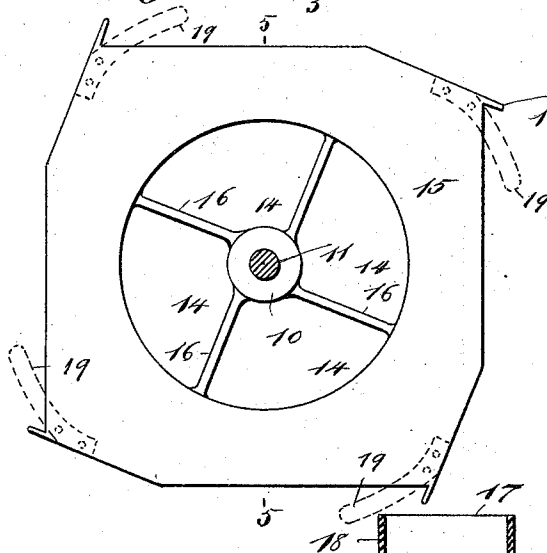


Fig. 4

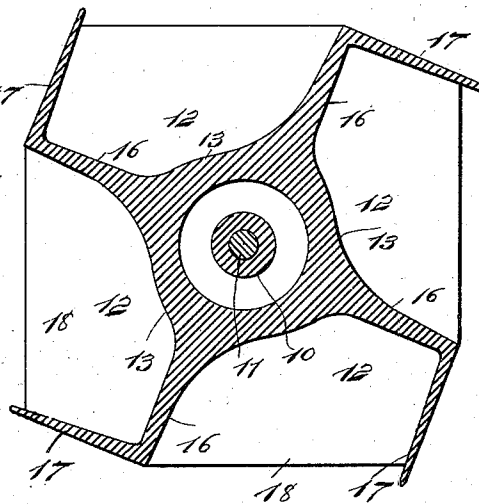
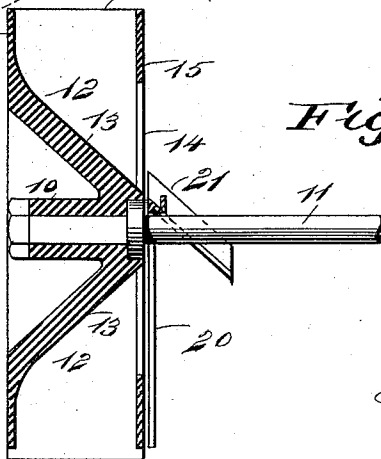


Fig. 5



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UNITED STATES PATENT OFFICE.

ALBERT ROLL, OF SOUTH AMBOY, NEW JERSEY.

DIGGER.

SPECIFICATION forming part of Letters Patent No. 533,376, dated January 29, 1895.

Application filed March 22, 1894. Serial No. 504,669. (No model.)

To all whom it may concern:

Be it known that I, ALBERT ROLL, of South Amboy, in the county of Middlesex and State of New Jersey, have invented a new and Improved Digger, of which the following is a full, clear, and exact description.

My invention relates to improvements in diggers; and the object of my invention is to produce a very cheap, simple and effective digger, which is adapted to rapidly scoop up dirt or other matter, and deliver it to an elevator or other conveyer, which, however, is particularly adapted for scooping up coal out of a pile and delivering it upon a conveyer or elevator adapted to load a car; and to construct the digger so that it, together with its operating engine and the elevators connected therewith, may be conveniently carried and operated on a flat car.

To these ends my invention consists of a digger, the construction of which will be hereinafter described and claimed.

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

Figure 1 is a side elevation of my improved digger and connected apparatus, mounted on a flat car. Fig. 2 is a broken plan view of the same. Fig. 3 is a sectional elevation of the digger on the line 3—3 of Fig. 2. Fig. 4 is a cross section of the digger; and Fig. 5 is a vertical section on the line 5—5 of Fig. 3.

The digger is adapted to revolve, and has a series of pockets adapted to scoop up dirt or other material, and the digger is particularly adapted for lifting coal. It has a central hub 10 which is adapted to be secured to a driving shaft 11, and it is provided with a series of circumferential pockets 12, open at their outer ends so that coal, dirt, or other material may readily enter them, and these pockets have inclined inner walls 13, which deliver to openings 14 in one side 15 of the digger. The pockets are separated by radial walls 16, which extend from the side 15 to the opposite side 18 of the digger, which side is closed, and the radial walls merge in tangential extensions 17 which project slightly beyond the periphery of the walls 15 and 18, as shown clearly in Figs. 3 and 4, so that when the digger is revolved, these extensions act as

scoops and lift the material into the adjacent pockets 12.

When used for lifting coal or any loose material, the digger is constructed as already described, as shown in Fig. 4, but if it is to be used for loosening and raising dirt which is compact, the digger is provided with radial teeth 19, as shown by dotted lines in Fig. 3.

The side of the digger which is provided with the openings 14, has opposite its lower portion a stationary apron 20, which prevents the material from falling out of the lower side of the digger, and at the top of this apron is a spout 21 which is inclined downward, as shown clearly in Fig. 5, and which straddles the shaft 11, as shown in Fig. 2. Thus when the digger is revolved, the material is carried to the upper side thereof and then runs out through the openings 14 into the spout 21 from which it is delivered to an elevator or carrier 22, which may be of any suitable construction and which, as illustrated, comprises the usual chains and buckets thereon, the chains running over sprocket wheels 23 and 24, and the shaft of the lower sprocket wheels is provided with a driving wheel 25.

The digger is preferably arranged on a flat car 26, and the shaft 11 is journaled in suitable bearings thereon and geared to an engine 27 by which the shaft is driven. The elevator is carried on a suitable framework 28 mounted on the car, this framework forming a support for both shafts of the elevator and also for a hopper 29 which is arranged beneath the upper end of the elevator, so that the material is discharged from the elevator into it, and a chute may be extended from this hopper to one side so as to discharge into an adjacent car. The whole support of the digger, elevator, engine, &c., is pivoted at 26^a so that the digger may have a wide range of action at the side of the car. This construction is not shown with great detail, as I do not claim it as my invention, and it will be understood that any ordinary conveying mechanism may be used to receive and take care of the material discharged by the digger.

It will be observed that when the digger is revolved, its capacious pockets rapidly fill themselves with the material to be digged and raised, and the angular shape of the walls 16 and 17 prevents the accidental sliding out

of the material, while the inclined walls 13 and openings 14 enable the material to slide out when the proper place is reached.

It will be further noticed that the digger is
5 extremely cheap and simple and that it may be very easily operated.

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

10 The herein described rotary digger or scoop formed in a single piece and consisting in the hub 10, a conical flange integral with the hub and forming the inclined bottom, 13, of a series of pockets 12, a flange 18 around the
15 larger end of the conical flange and forming

the outer wall of said pockets, an annular flange 15 forming the inner wall of said pockets, a series of radial partitions 16 integral with the walls or flanges 15—18 and with the said conical bottom-forming flange, and the
20 tangential partitions extending from the outer ends of the partitions 16 over a portion of each pocket and projecting beyond the peripheries of the walls 15—18, substantially as described.

ALBERT ROLL.

Witnesses:

WARREN B. HUTCHINSON,
C. SEDGWICK.