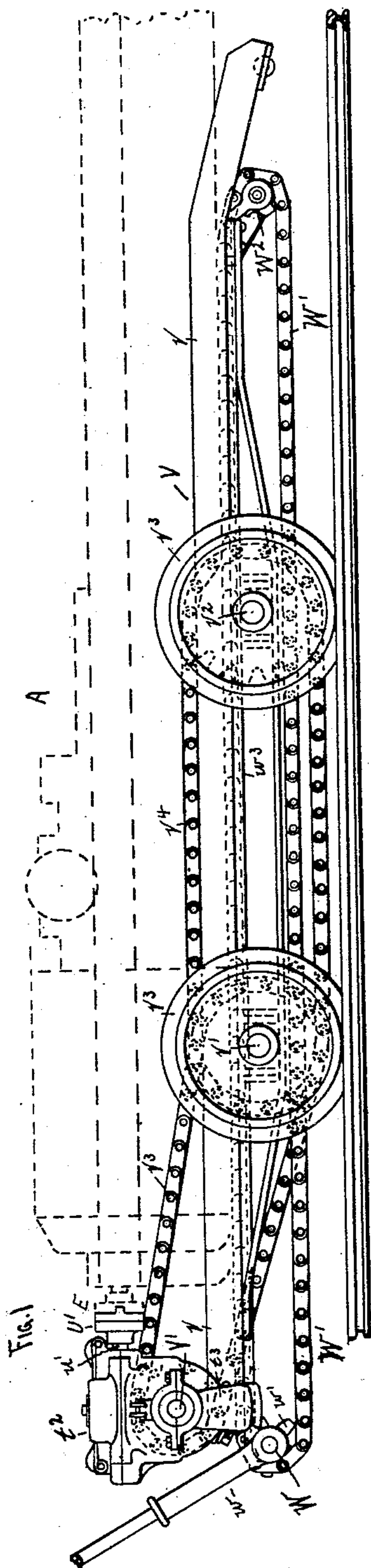


A. PALMROS.
MINING MACHINE TRUCK.

(Application filed Nov. 21, 1900.)

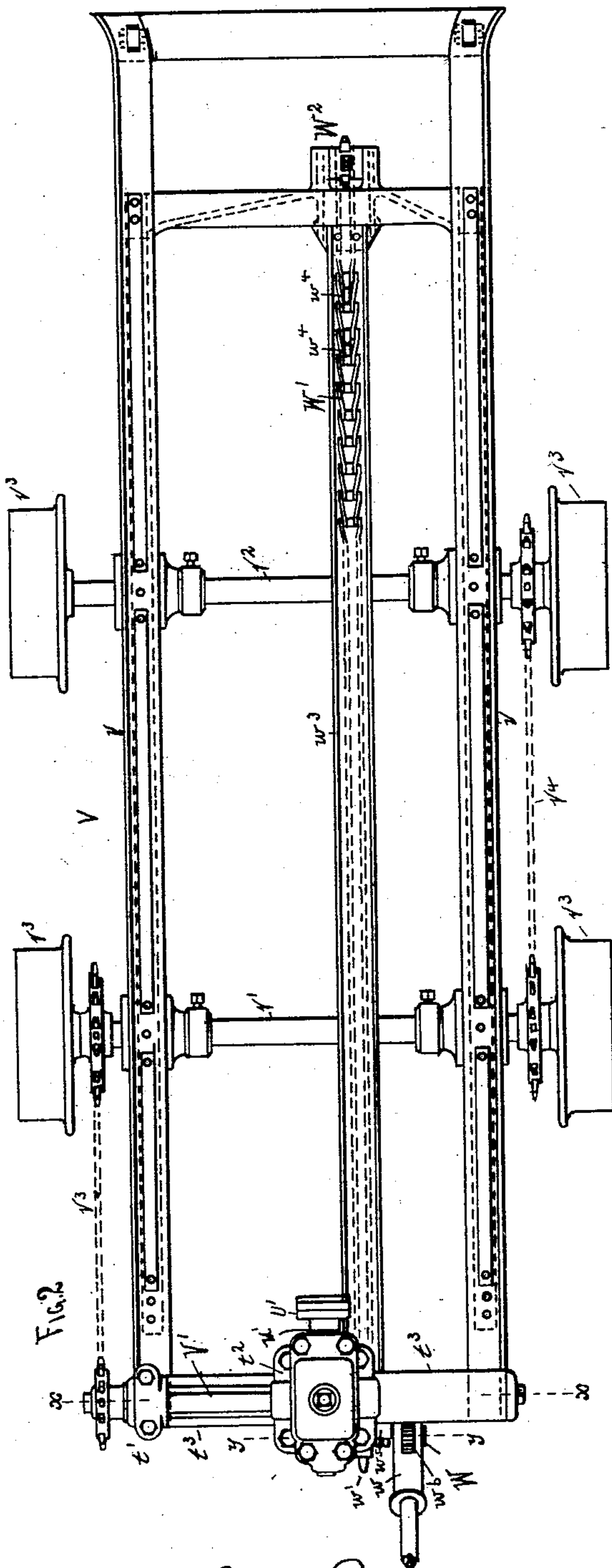
2 Sheets—Sheet 1.

(No Model.)



WITNESSES.

C. N. Woodward
A. K. Williams



Alex. Palmros — INVENTOR,
By *H. H. Blair* —
ATTORNEY.

No. 702,817.

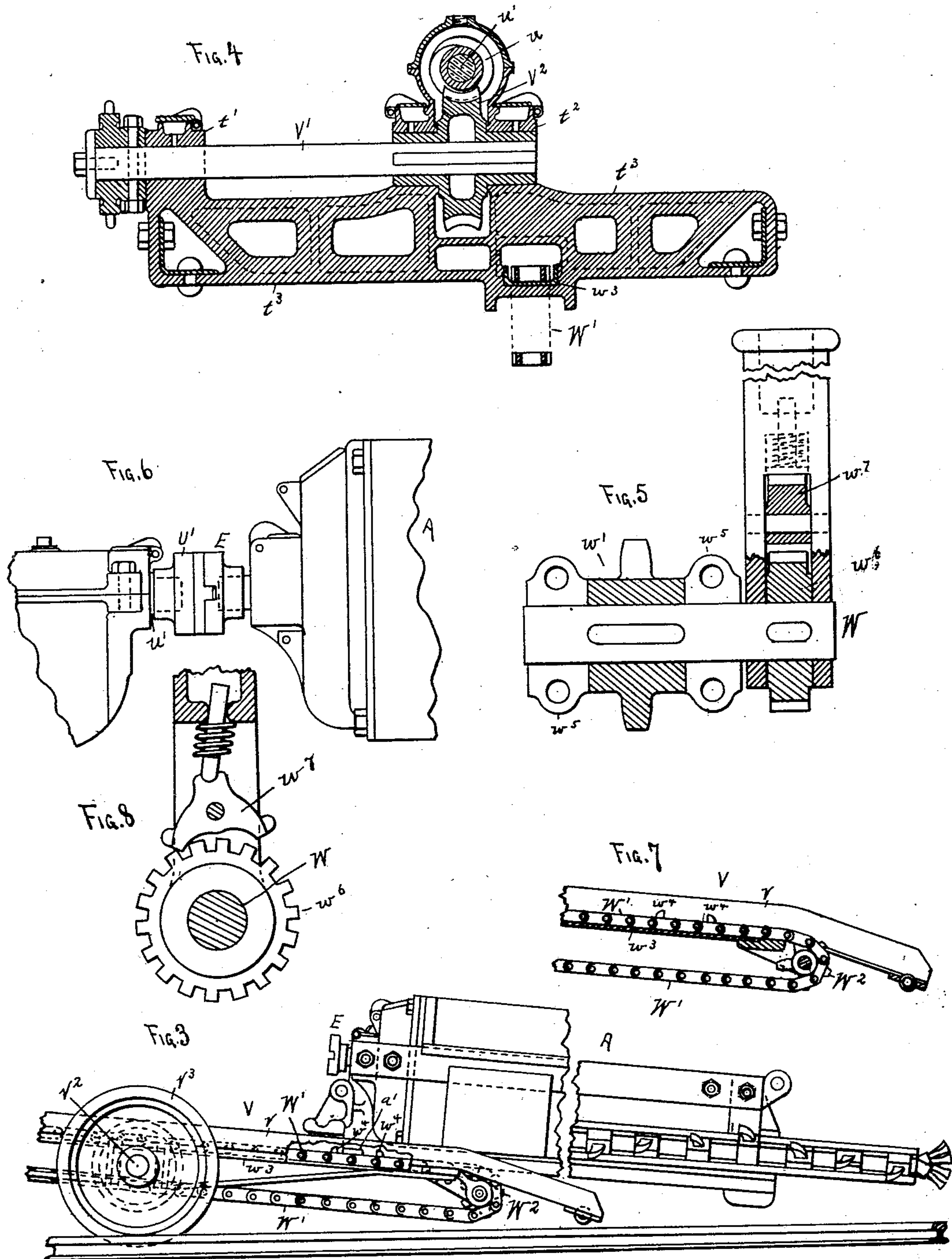
Patented June 17, 1902.

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(Application filed Nov. 21, 1900.)

(No Model.)

2 Sheets—Sheet 2.



WITNESSES.

C. N. Woodward
A. H. Williams Jr.

Alex Palmros INVENTOR,
By H. H. Bliss ATTORNEY.

UNITED STATES PATENT OFFICE.

ALEXANDER PALMROS, OF COLUMBUS, OHIO, ASSIGNOR TO THE JEFFREY MANUFACTURING COMPANY, OF COLUMBUS, OHIO, A CORPORATION OF OHIO.

MINING-MACHINE TRUCK.

SPECIFICATION forming part of Letters Patent No. 702,817, dated June 17, 1902.

Application filed November 21, 1900. Serial No. 37,290. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER PALMROS, a citizen of Finland, residing at Columbus, in the county of Franklin and State of Ohio, have
5 invented certain new and useful Improvements in Mining-Machine Trucks, of which the following is a specification, reference being had therein to the accompanying drawings.

10 Figure 1 represents a side elevation of the entire apparatus with a cutting-machine (indicated by dotted lines) in position thereon. Fig. 2 is a plan view of the transporting mechanism detached from the cutting-machine.
15 Fig. 3 illustrates the positions of the two parts of the mechanism just as the cutter-machine part is beginning to be drawn up onto the truck part. Fig. 4 is a section on the line xx of Fig. 2 on a larger scale. Fig. 5 is a section of the line yy of Fig. 2 on a larger scale.
20 Fig. 6 is a detail view of the clutching devices which unite the two parts of the mechanism on a larger scale. Fig. 7 is a sectional detail of the lower or receiving end of the
25 truck part of the apparatus, illustrating its construction more fully. Fig. 8 is a detached sectional detail of the ratchet mechanism.

The two essential parts of the mechanism to which this invention relates are the cutting
30 apparatus and the transporting apparatus, the purpose of the invention being to so construct these parts and so relate them that they can effectually coact in transporting the cutting apparatus from place to place, as
35 from one room in the mine to another.

The cutting apparatus herein illustrated is indicated as a whole by A. Inasmuch as there can be considerable variation with respect to this without departing from the essential features of the invention, it is not necessary to illustrate or describe the two parts of this mechanism in detail. The one illustrated has a bed-frame and a carriage provided with a cutting apparatus and a motor
45 on the carriage. At a special place in the gearing and shafting provision is made for clutching them to power-transmitting parts on the transporting apparatus. Any suitable devices can be employed for this purpose,
50 and the motor, its armature, and the shaft-

ing and gearing can be arranged in any preferred way that will permit them to accomplish their several purposes and also allow them to be connected in the manner here contemplated. As shown in the present
55 mechanism, the motor has its armature-shaft arranged longitudinally on the machine, and the gearing and shafting interposed between it and the cutting apparatus are placed in front of the motor. The armature-shaft is
60 extended backward beyond the commutator and beyond the rear bearing, the latter being provided with one member of a clutch mechanism, as indicated at E. The other member of the clutch is shown at U'. This clutch
65 is for the purpose of connecting the mining-machine or its motor to the mechanism on the transporting-truck, by means of which the machine or motor can be utilized to effect its own propulsion bodily from place to place.
70

The truck is indicated as a whole by V. It has the bed part v , mounted on the axles v' v^2 , which latter are secured to the truck-wheels v^3 . At one end the bed part V is provided with a transverse shaft V' , suitably mounted
75 in bearings t' t^2 on a transverse binder-frame t^3 . The bearing t^2 carries a worm-gear at V^2 , with which a worm-pinion u on the shaft u' engages, the shaft u' carrying the aforesaid clutch element U', as shown. The shaft V'
80 is connected to the axle v' by a driving-chain v^3 , and the two axles are connected together by a supplemental driving-chain v^4 . By this means motion imparted to the shaft u' will be transmitted to the axles v' v^2 .
85

W is a shaft mounted in bearings W^5 on the transverse frame t^3 at the rear end of the truck-frame and adapted to be rotated by means of a ratchet-and-lever mechanism at w w^6 w^7 . The shaft W has a sprocket-wheel w' ,
90 from which a chain W' extends to a sprocket-wheel W^2 , near the front end of the truck and below the bottom thereof. The pawl w^7 of the ratchet mechanism is double-ended, as shown in Fig. 8, and is adapted to act alternately
95 against opposite sides of the ratchet-wheel w^6 , so that the ratchet-wheel may be operated in either direction to correspondingly operate the chains W' in either direction. Along the top of the truck there is
100

supported a channel or guideway w^3 , in which the upper part of the chain W' runs, and the chain being endless it can be connected by means of lugs w^4 to the bed of the cutting-machine, the lugs being adapted to engage one of the bottom cross-bars a' , as shown in Fig. 3. Inasmuch as this chain is capable of having power imparted to it in either direction, as before stated, it is possible not only to drag the cutting apparatus from the ground up onto the truck, but also to drive or push it from the truck over the front end when desired.

The manner of operating the parts above described will be readily understood. When the cutting apparatus is to be placed on the car or truck, the front end of the latter is tipped slightly, as shown in Fig. 3, and the rear end of the cutter is placed thereon in such a position that the lugs w^4 will engage with one of the bed cross-bars a' . Then by the pawl-and-lever mechanism the chains are rotated and the machine is pulled back far enough to have the two parts E U' of the above-described clutch come into engagement. Then the current can be admitted to the motor, and the shaft w' will be rotated, with the result that the driving-chains v^3 v^4 will rotate the axles and the truck-wheels v^3 and the machine thereby carried to any place that may be desired. When it is necessary to again remove the cutter, the endless chain W' is rotated in the opposite direction, and its lugs w^4 will positively move the cutting-machine off and over the front end. In this respect the mechanism is greatly superior to those heretofore used, in which parts were employed that require the pushing of the machine off from the truck by crow-bars or other manually-operated tools. I also believe myself to be the first to have provided a transporting device of this class having a fixed power mechanism at the rear end, with a clutch element so arranged that it is brought immediately into action and caused to engage with its counterpart at the instant that the cutting apparatus reaches the rear end of its movement.

What I claim is—

1. In a combined coal cutting and transporting mechanism, the combination of the truck, the supporting-wheels, the power-shafting, means connecting the power-shafting to the supporting-wheels, the worm-gearing, the clutch element, and the separable cutting apparatus, having an electric motor and counterpart clutch element, said cutting apparatus being adapted to be drawn to such position on the transporting mechanism as to have the two clutch elements mutually engage, substantially as set forth.

2. In a combined coal cutting and trans-

porting mechanism, the combination of the truck, the supporting-wheels, the transverse shaft, the sprocket-gearing connecting the transverse shaft with the supporting-wheels, the longitudinally-arranged shaft, the worm-gearing connecting the longitudinal and the transverse shafts, the clutch element on the longitudinal shaft, and the cutting apparatus adapted to be drawn onto the truck, and having a clutch element counterpart to, and adapted to be engaged with the aforesaid clutch element, substantially as set forth.

3. In a transporting-truck for transporting mining-machines, the combination of the platform having a guideway for the mining-machine, the supporting-wheels, the endless chain mounted longitudinally of the platform, and adapted to move a mining-machine such as aforesaid positively off from the platform, or positively onto the platform, and reversible power devices for actuating said chain, substantially as set forth.

4. In a wheeled truck for transporting mining-machines, the combination of the platform, the supporting-wheels, the endless chain mounted longitudinally of the platform and adapted to detachably engage with the mining-machine and move it longitudinally, and means for imparting power to the chain substantially as set forth.

5. In an apparatus comprising a wheeled truck and a separable mechanism adapted to be transported by the truck and provided with a motor and a rotary power-transmitting element actuated by the motor and otherwise having a fixed position, the combination of the truck-frame, the wheels thereon, the power-transmitting devices connected with the wheels, the initial power-receiving element actuating said power-transmitting devices having a fixed position and adapted to mesh or be engaged with the power-transmitting element on the separable mechanism when the latter is moved bodily onto the truck, substantially as set forth.

6. In an apparatus comprising a wheeled truck and a separable mechanism adapted to be transported by the truck and provided with a motor, the combination of the truck-frame, the wheels thereon, the power-transmitting devices connected with the wheels, and a shaft longitudinal of the truck, said separable mechanism having also a longitudinal shaft adapted to be actuated by its power devices, and means for connecting said longitudinal shafts.

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

ALEXANDER PALMROS.

Witnesses:

LEOTA I. SAYLOR,
R. GROS. HUTCHINS.