Aug. 5, 1924. 1,503,992

M. S. MOORE

COAL CUTTING MACHINE

Filed Jan. 24, 1923 2 Sheets-Sheet 1

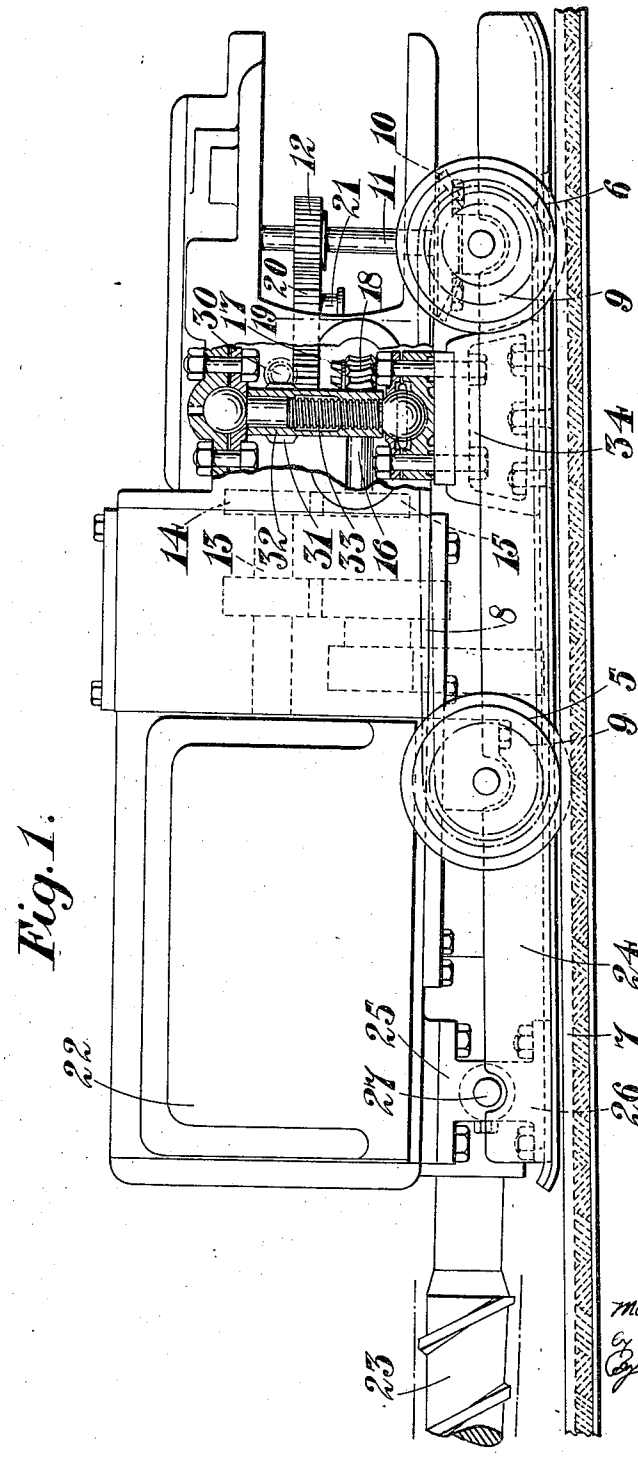


Fig. 1.

INVENTOR.
Matthew Smith Moore,
by Eggleston, Stubbins & Parmelee
his Attys.

Aug. 5, 1924. 1,503,992

M. S. MOORE

COAL CUTTING MACHINE

Filed Jan. 24, 1923 2 Sheets-Sheet 2

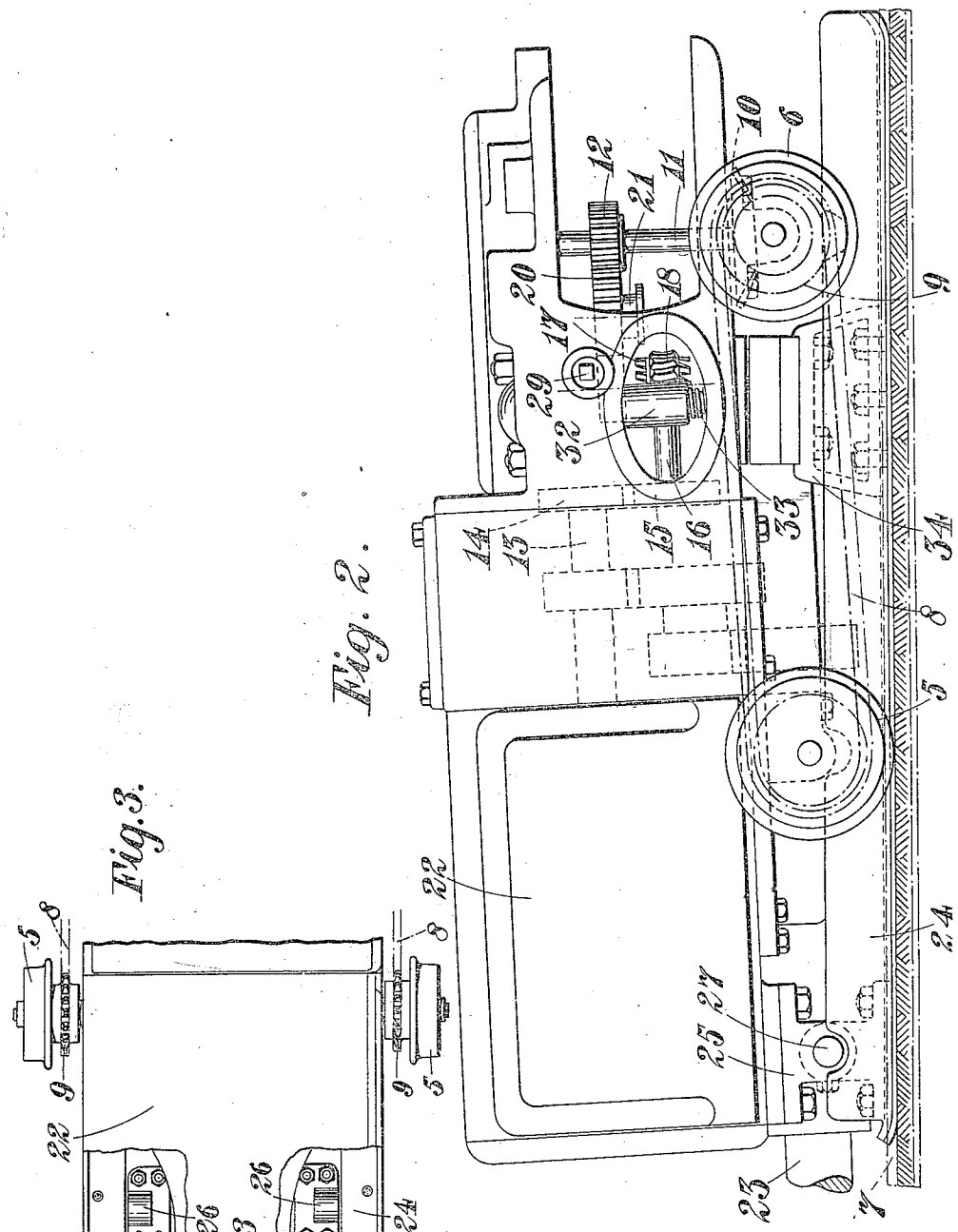


Fig. 2.

Fig. 3.

INVENTOR.
Matthew Smith Moore,
by Byrnes, Stubbins & Carmelee,
his attys.

Patented Aug. 5, 1924. 1,503,992

UNITED STATES PATENT OFFICE.

MATTHEW SMITH MOORE, OF LONDON, ENGLAND, ASSIGNOR TO COWLISHAW, WALKER & COMPANY, LIMITED, OF LONDON, ENGLAND, A BRITISH COMPANY.

COAL-CUTTING MACHINE.

Application filed January 24, 1923. Serial No. 614,571.

To all whom it may concern:

Be it known that I, MATTHEW SMITH MOORE, a subject of the King of England, residing at London, England, have invented certain new and useful Improvements in Coal-Cutting Machines, of which the following is a specification.

This invention is for improvements in or relating to coal-cutting machines and has for one of its objects to provide means whereby the machine may be flitted by its own power independently of a haulage cable or separate truck, another object of the invention being to provide means whereby the machine may be brought readily into position for cutting or flitting.

According to the present invention there is provided in a coal-cutting machine the combination of running wheels (preferably with means for throwing them into driving engagement with the machine power-shaft) with means for raising and lowering the machine relatively to the skid upon which the machine rests when cutting whereby the wheels can be brought at will into or out from engagement with the rails or ground.

Preferably, the machine is hinged at one end to the skid and is provided with means (e. g., one or more jacks operating between the machine and the skid) for raising and lowering the other end relatively to said skid, the running wheels being so placed relatively to the hinge that when the machine is in its raised or cutting position the running wheels are free from engagement with the ground or rails on which they normally run.

Conveniently two pairs of running wheels are so placed that when the end of the machine remote from the hinge is lowered the pair of wheels nearest the hinge will come into contact with the ground or rails and tend to raise that end of the skid and then the other pair will come into contact with the ground or rails thus raising the hinge end of the skid from the ground and allowing the other end to be lifted therefrom.

One embodiment of this invention will now be described with reference to the accompanying drawings which are to some extent diagrammatic. In these drawings:

Figure 1 is a side elevation of the machine in "flitting" position, parts being broken away for clearness;

Figure 2 is also a side elevation of the machine but showing the position of same in its raised or "cutting" position, and

Figure 3 is a plan view of the front portion of the machine with parts of the casing broken away.

Like reference numerals refer to like parts throughout the drawings.

The machine is provided with two pairs of track-wheels 5 and 6 which are arranged to run on rails 7. These two pairs of wheels are coupled by driving chains 8 working on sprocket wheels 9 which are fast with the track wheels. The axle of the rear pair of wheels 6 is provided with a bevel pinion which meshes with a bevel wheel 10 on a vertical shaft 11 which carries also a spur wheel 12. The motor-shaft 13 carries at its free end a pinion 14 which meshes with a wheel 15 on a horizontal shaft 16 carrying a worm 17. This worm meshes with a worm-wheel 18 on a vertical shaft which also carries a pinion 19 engaging a pinion 20 gearing with the wheel 12, aforesaid. The pinion 20 is provided with a collar 21 and is adapted to slide on a vertical shaft under the control of an operating lever (not shown) thus forming a clutch device for throwing the track wheels into or out from engagement with the power shaft. The motor is housed in a casing 22 and is also arranged to drive through suitable gearing the cutter-bar 23.

The machine is hinged at its forward end to the skid 24 the hinge comprising a pair of blocks 25 depending one on each side from the machine and a pair of blocks 26 secured to the skid and upstanding therefrom, each pair of blocks being joined by a pivot pin 27.

Towards the rear of the machine and situated one on each side thereof, is a pair of screw-jacks which operate between the top of the machine and the skid. As shown, each jack may be manually operated by means of a handle applied to the square end 29 of a spindle carrying a worm 30 engaging a worm wheel 31 formed on the sleeve 32 which is internally threaded for engagement with the non-rotatable screw 33. The jack is secured at its lower end to a block 34 on the skid, whereas its upper end is housed in the machine-casing.

The operation of the mechanism is as follows:—

For cutting, the jacks are operated to raise the machine to the position shown in Figure 2 with the track-wheels clear of the rails and the whole weight of the machine supported on the skid which rests on the ground but when the machine is to be flitted the jacks are lowered to bring the machine into the position shown in Figure 1, with the track wheels on the rails and the skid clear of the ground. During the lowering of the machine, the front wheels will come into contact with the rails first because the whole machine is swinging about the front hinge, and then as the lowering continues the machine will pivot about the front wheels so that the forward end of the skid will be lifted. Finally, the jacks, having lowered the back wheels into contact with the rails, will lift the rear end of the skid from the ground and then the machine is free to run on the track.

What I claim as my invention and desire to secure by Letters Patent is:—

1. The combination of a coal-cutting machine, a skid hinged at one end to said machine to swing in a vertical plane, means for swinging the machine about said hinge relatively to the skid and running-wheels so mounted on the machine relatively to the hinge that when the machine is in its raised position the running-wheels are free from engagement with the track on which they normally run.

2. The combination of a coal-cutting machine having a motor, a skid hinged at one end to said machine to swing in a vertical plane, means for swinging the machine about said hinge relatively to the skid, running-wheels so mounted on the machine relatively to the hinge that when the machine is in its raised position the running-wheels are free from engagement with the track on which they normally run and means for operatively connecting said motor to said running-wheels, substantially as described.

3. The combination of a coal-cutting machine, a skid hinged at one end to the machine to swing in a vertical plane, a jack operatively connected at one end to said skid and at the other end to the machine, and arranged to swing the machine about said hinge relatively to the skid, and running-wheels so mounted on the machine relatively to the hinge that when the machine is in its raised position the running-wheels are free from engagement with the track on which they normally run, substantially as described.

4. The combination of a coal-cutting machine having a motor, a skid for engaging the ground hinged at one end to the machine to swing in a vertical plane, a jack operatively connected at one end to said skid and at the other end to the machine and arranged to swing the machine about said hinge relatively to the skid, running-wheels so mounted on the machine relatively to the hinge that when the machine is in its raised position the running-wheels are free from engagement with the track on which they normally run and means for operatively connecting said motor to said running-wheels, substantially as described.

5. The combination of a coal-cutting machine, a skid hinged at one end to the machine to swing in a vertical plane, means for swinging the machine about said hinge relatively to the skid, a pair of running-wheels journalled on said machine intermediate the ends thereof and so placed as to form a fulcrum for the machine when the said running-wheels are in contact with the track during a part of the swinging operation, and a second pair of running-wheels journalled on said machine in such position relatively to said first pair that when they also engage the track the skid can be raised from the ground, substantially as described.

6. The combination of a coal-cutting machine having a motor, a skid for engaging the ground hinged at one end to the machine to swing in a vertical plane, means for swinging the machine relatively to the skid about said hinge, a pair of running-wheels journalled on said machine intermediate the ends thereof and so placed as to form a fulcrum for the machine when the said running-wheels are in contact with the track during a part of the swinging operation, a second pair of running-wheels arranged to be driven by said motor, journalled on said machine and so placed relatively to said first pair that when they also engage the track the skid can be raised from the ground, substantially as described.

7. The combination of a coal-cutting machine having a motor, a skid for engaging the ground hinged at one end to the machine to swing in a vertical plane, a jack operatively connected at one end to said skid and at the other to the machine, and arranged to swing the machine relatively to the skid about said hinge, a pair of running-wheels journalled on said machine intermediate the ends thereof, and so placed as to form a fulcrum for the machine when the said running-wheels are in contact with the track during a part of the swinging operation, a second pair of running-wheels, arranged to be driven by said motor, journalled on said machine and so placed relatively to said first pair that when they also engage the track the skid can be raised from the ground, substantially as described.

In testimony whereof I affix my signature.

MATTHEW SMITH MOORE.

Certificate of Correction.

It is hereby certified that the assignee in Letters Patent No. 1,503,992, granted August 5, 1924, upon the application of Matthew Smith Moore, of London, England, for an improvement in "Coal-Cutting Machines," was erroneously described and specified as "Cowlishaw, Walker & Company, Limited, of London, England, a British Company," whereas said assignee should have been described and specified as *Cowlishaw, Walker & Company (1920) Limited, of London, England, a British Company*, as shown by the records of assignments in this office; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 16th day of June, A. D. 1925.

[SEAL.]

KARL FENNING,
Acting Commissioner of Patents.