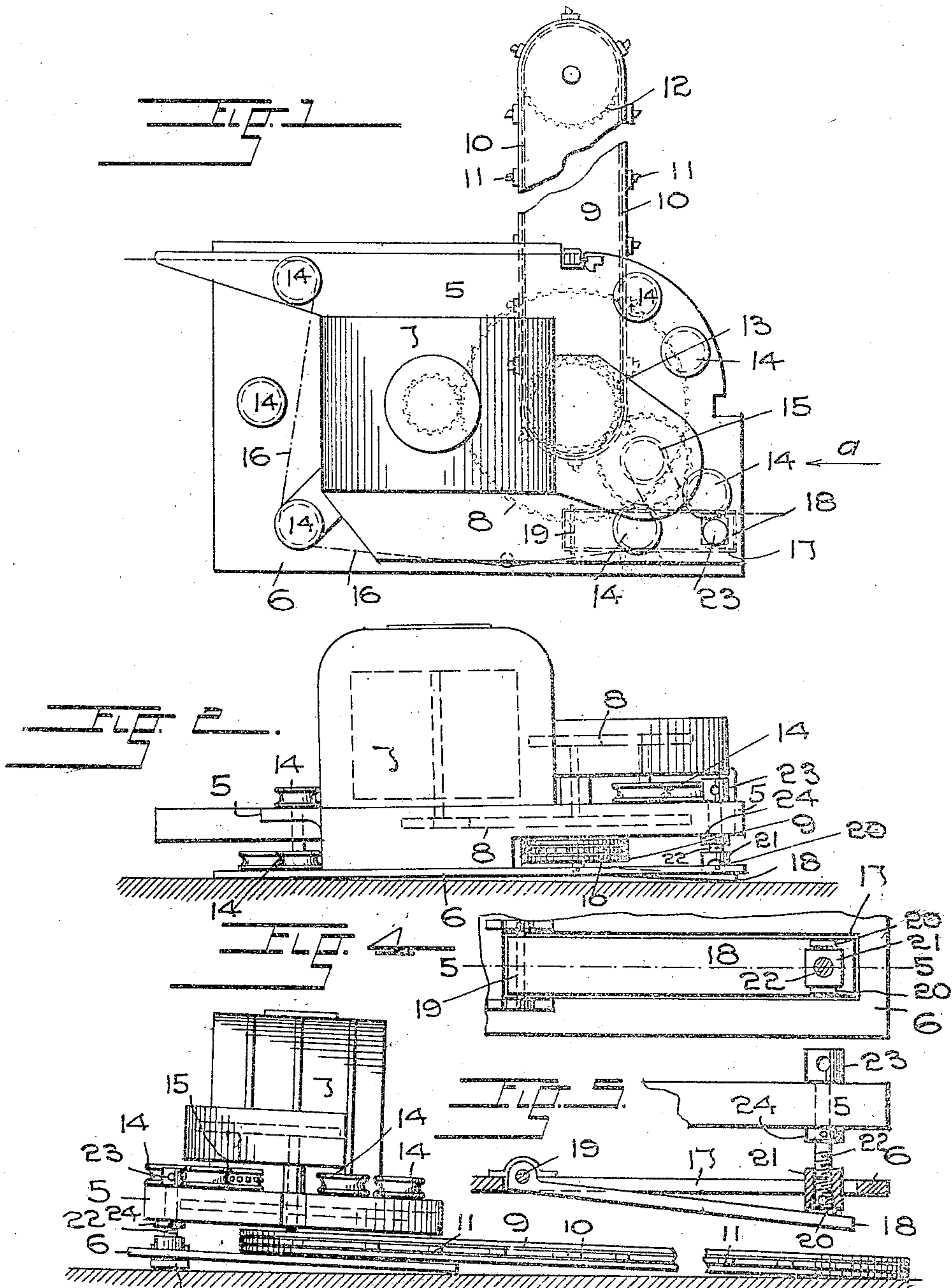


No. 862,831.

PATENTED AUG. 6, 1907.

J. LIPPIS.  
COAL CUTTING MACHINE.  
APPLICATION FILED NOV. 22, 1906.



WITNESSES: 18

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# UNITED STATES PATENT OFFICE.

JOHN LIPPIS, OF COALCREEK, COLORADO.

## COAL-CUTTING MACHINE.

No. 862,831.

Specification of Letters Patent.

Patented Aug. 6, 1907.

Original application filed November 8, 1906, Serial No. 342,531. Divided and this application filed November 22, 1906.  
Serial No. 344,656.

*To all whom it may concern:*

Be it known that I, JOHN LIPPIS, a citizen of the United States of America, residing at Coalcreek, in the county of Fremont and State of Colorado, have invented certain new and useful Improvements in Coal-Cutting Machines, of which the following is a specification.

This invention relates to improvements in coal cutting machines and has for its object to provide means whereby a machine of the class named may readily be placed and held in a tilted position to permit the cutters to penetrate the coal in close proximity to the foot of the wall in the tunnel or room of the mine, and which thus obviates the use of separate appliances to this purpose. I attain these objects by the mechanism illustrated in the accompanying drawings, in the various views of which like parts are similarly designated and in which

Figure 1—represents a plan view of a coal cutting machine having my improved appliance, Fig. 2—a side elevation thereof, Fig. 3—a front elevation looking from a point *a*, Fig. 1, Fig. 4—a fractional plan view of the lower member of the frame showing the thereto applied tilting means, and Fig. 5—a section taken along a line 5—5, Fig. 4.

The coal cutting machine illustrated in the drawings is composed of two connected, superposed members 5 and 6, the upper one of which carries the motor 7 and gearing 8, by which the cutting chain is actuated, while the lower one 6 consists of a plate, which in practice, is in contact with the upper surface of the "so-called" pan employed to guide or convey the machine, or with the floor of the tunnel or room of the mine in which the device is operated.

9 designates the cutter bar, which projecting from the machine, is pivotally supported thereon at its inner extremity, intermediate the two members 5 and 6. An endless chain 10 armed with cutting tools 11 is movably mounted on the arm in engagement with suitable wheels 12 and 13 at its extremities.

The machine is furthermore provided with a series of sheaves 14 which in cooperation with a power driven sprocket wheel 15 and a therewith engaging chain 16, are adapted to impel the machine and the pivoted cutter bar in various directions.

To permit the cutter bar to penetrate into the lowermost portion of the coal wall, in close proximity to the line along which it adjoins the floor of the tunnel or room, the machine has heretofore been inclined by placing a prop or "skid" below the side of the lower member 6, opposite to the side from which the cutter

bar projects. To accomplish this, the side of the machine was raised by means of crow bars or other tools and the skid which usually is composed of a piece of wood or bar of iron, was slid along the floor below the raised machine until the desired degree of inclination had been attained.

It is obvious that the above described method, besides necessitating the use and conveyance of the separate skid and tools is time consuming and laborious and that a tilting appliance, forming part of the machine, will effect a great saving of time, labor and consequent expense.

The lower member of the coal cutting machine is to this end, provided in proximity to its edge opposite from the side from which the cutter bar projects, with a preferably rectangular, oblong slot 17, which in practice contains a correspondingly shaped flat bar or lever 18. This bar is fulcrumed at one of its extremities by means of a pin 19 while at its opposite end it has a pair of upwardly extending lugs 20 between which a nut 21 is pivotally held.

A vertical screw 22, having a capstan head 23 is rotatably mounted in the upper member 5 of the machine, its lower threaded portion engaging the internal cooperative thread of the nut 21.

A collar 24 placed on the screw against the lower surface of the upper member, holds the former against longitudinal displacement.

When it is desired to incline the cutter bar for the purposes hereinbefore described, the screw 22 is turned by means of a bar thrust in one of the apertures of its head, with the result that the free end of the bar 19 engages the floor or surface upon which the machine is placed. Further rotary movement of the screw in the same direction will cause the adjacent portion of the lower member of the machine to rise from the floor and effect the consequent inclination of the cutter arm.

The machine illustrated in the drawings is of the type described and claimed in my application for patent, Serial 342,531, filed Nov. 8, 1906. It should be understood however, that the tilting means may be applied with equal results to machines of similar operation but of different construction.

Having thus described my invention what I claim is:—

1. In a coal cutting machine, the combination with the frame and the cutter member extending therefrom, of a rigid bar pivotally held at one of its extremities in a slot in the said frame and normally in a plane with its lower surface, and means upon the frame to depress the free extremity of the said bar.

2. In a coal cutting machine, the combination with the

frame, and the cutter member, extending therefrom, of a rigid bar pivotally held at one of its extremities in a slot in the said frame, and normally in a plane with its lower surface, a nut movably mounted upon the said member and a screw rotatably held on the said frame in operative engagement with the nut.

3. In a coal cutting machine the combination with the frame including a flat supporting plate and a cutter member mounted thereon of a rigid bar pivotally held at one

of its extremities in a slot in the said plate and normally in a plane with the lower surface, and means upon the frame to depress the free extremity of the said bar.

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

JOHN LIPPIS.

Witnesses:

JAS. W. GROTAM,

JOSEPH D. BLUNT.