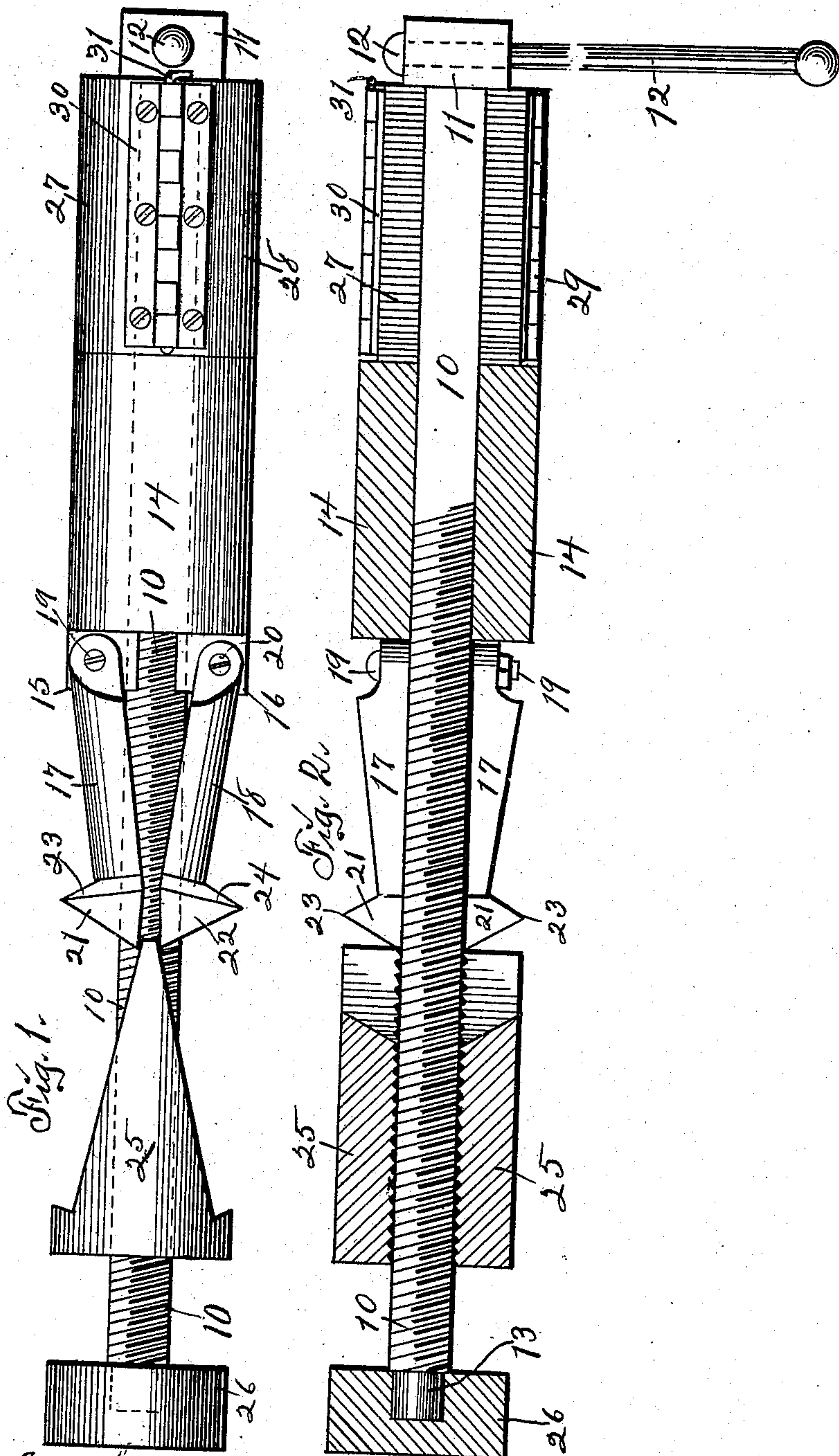


L. W. VEITCH.
COAL MINING MACHINE.
APPLICATION FILED NOV. 18, 1907.

900,003.

Patented Sept. 29, 1908.



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UNITED STATES PATENT OFFICE.

LESLIE W. VEITCH, OF DES MOINES, IOWA.

COAL-MINING MACHINE.

No. 900,003.

Specification of Letters Patent.

Patented Sept. 29, 1908.

Application filed November 18, 1907. Serial No. 403,060.

To all whom it may concern:

Be it known that I, LESLIE W. VEITCH, a citizen of the United States of America, and resident of Des Moines, Polk county, Iowa, have invented a new and useful Coal-Mining Machine, of which the following is a specification.

The object of this invention is to provide improved means for mining coal.

A further object of this invention is to provide improved means for breaking portions of coal off of the face of a vein.

My invention consists in the construction, arrangement and combination of elements hereinafter set forth, pointed out in my claims and illustrated by the accompanying drawing, in which—

Figure 1 is a side elevation of the complete tool. Fig. 2 is a longitudinal, sectional view of the tool.

In the construction of the tool or machine as shown, the numeral 10 designates a feed bar formed with a head 11 on one end portion and provided with a lever handle 12 mounted loosely in and transversely of said head. The feed bar 10 is circular in cross-section and one end portion thereof is smooth, the central and opposite end portions being threaded except the opposite extremity. The extreme end portion of the feed bar opposite the head 11 is reduced in cross-section and formed with a smooth periphery to form a journal 13. A sleeve 14, circular in cross-section, is mounted loosely on the feed bar 10. Ears 15, 16 are formed on and extend longitudinally from one end portion of the sleeve 14 on opposite sides of the feed bar 10. Arms 17, 18, are arranged on opposite sides of the feed bar 10 and are bifurcated at one end to embrace the ears 15, 16. The bifurcated end portions of the arms 17, 18 are pivoted on the ears 15, 16 by means of bolts 19, 20 mounted through them and secured by nuts. The opposite end portions of the arms 17, 18 are formed as semi-annular wedges 21, 22 and the adjacent faces of said wedges are slightly inclined in opposite directions. The shape of the wedges 21, 22 is such that semi-circular cutting edges 23, 24 are formed on the outer surfaces thereof. A wedge 25 is provided and is formed with a central, longitudinal, threaded bore. The wedge 25 is circular in cross-section at one end and the faces of said wedge converge toward the wedges 21, 22, while the sides thereof are parallel and are curved transversely on

arcs. The wedge 25 is adapted to be screwed on the feed bar 10 and normally is arranged with its point between the wedges 21, 22. A step block 26 is mounted loosely on the journal 13 and is of cylindrical form and of approximately the same diameter as the wedge 25 and sleeve 14. A box is provided and formed of two members 27, 28, permanently hinged together on one side by a hinge 29. A hinge 30 is mounted on the opposite side of the members 27, 28, and the parts of said hinge are detachably connected by a pin 31 adapted to be manually seated and unseated relative thereto. The box is adapted to be mounted on and embrace the feed bar between the sleeve 14 and the head 11.

In practical use the parts are adjusted as shown in the drawing and the tool is inserted, step block first, into a drilled hole in the face of a vein of coal. The feed bar 10 is rotated to the right by manual force applied to the lever handle 12. During the rotation of the feed bar 10 to the right, the sleeve 14 is held against rotation and holds the arms 17, 18. Since the wedge 25 is threaded to the feed bar, the rotation of said feed bar to the right causes said wedge to move outwardly between and separate the wedges 21, 22 laterally in opposite directions. The longitudinal, outward movement of the wedge 25 gradually increases the separation of the arms 17, 18 and the wedges 21, 22 and forces the cutting edges 23, 24 into the coal laterally of the drill hole, outward movement of the sleeve 14 being prevented by the interposition of the box between said sleeve and the head 11. When the wedges 21, 22 have been separated, the desired distance or as far as they will go, the box is removed from the feed bar by manual withdrawal of the pin 31 and the separation of the members of the box away from the bar. Thereafter, the feed bar is further rotated to the right and the step block engages the bottom of the drill hole and resists the thrust of the feed bar. Then the thrust of the feed bar reacts on the wedges 21, 22 and causes said wedges to split off portions from the face of the vein of coal. The portions of coal split off from the vein may be removed, the drill hole made deeper and this tool again be employed to split off portions from the vein, or the tool may be removed to another drill hole and the operation thereof be repeated.

I claim as my invention—

1. A coal-mining machine, comprising a

feed bar, a sleeve mounted loosely thereon, arms pivoted to said sleeve, lateral wedges formed on said arms and having cutting edges outside the surface of the arms, and a
5 wedge threaded to said feed bar and adapted to enter between the lateral wedges.

2. A coal-mining machine, comprising a feed bar, means for rotating said feed bar, a sleeve loosely mounted on said feed bar,
10 arms pivoted on said sleeve, lateral wedges on said arms, a wedge threaded to said feed bar and adapted to enter between the lateral wedges, and a box removably mounted on the feed bar adjacent said sleeve.

15 3. A coal-mining machine, comprising a feed bar formed with a head on one end, means for rotating said feed bar, a box removably mounted on the feed bar adjacent to its head, a sleeve loosely mounted on the
20 feed bar adjacent the box, arms pivoted on said sleeve, lateral wedges on said arms and a wedge threaded to said feed bar and adapted to enter between the lateral wedges.

4. A coal-mining machine, comprising a
25 feed bar, a sleeve loosely mounted on said feed bar, arms on said sleeve and adapted for lateral oscillation, lateral wedges on said arms, a wedge threaded to said feed bar and

adapted to enter between the lateral wedges and a step block journaled on said feed bar
30 adjacent the threaded wedge.

5. A coal-mining machine, comprising a feed bar formed with a head on one end and a
35 step block journaled on the other end, a lever handle mounted in the head of the feed bar, a sleeve mounted loosely on the feed bar, arms pivoted on said sleeve, lateral wedges formed on said arms, a wedge threaded to said feed
40 bar and adapted to enter between the lateral wedges, and a box formed of two members hinged together and adapted to be latched on said feed bar between the head and sleeve.

6. A coal-mining machine, comprising a feed-bar, a sleeve mounted loosely thereon,
45 arms carried by said sleeve, laterally projecting wedges on said arms, said wedges formed with cutting edges outside the surface of said arms, and a wedge threaded on the feed bar and adapted to enter between
50 said arms.

Signed by me at Des Moines, Iowa, this
fifteenth day of November, 1906.

LESLIE W. VEITCH.

Witnesses:

S. C. SWEET,

ALFRED ANDERSON.