

(No Model.)

S. McALLISTER.
COAL MINING MACHINE.

No. 373,081.

Patented Nov. 15, 1887.

Fig. 1.

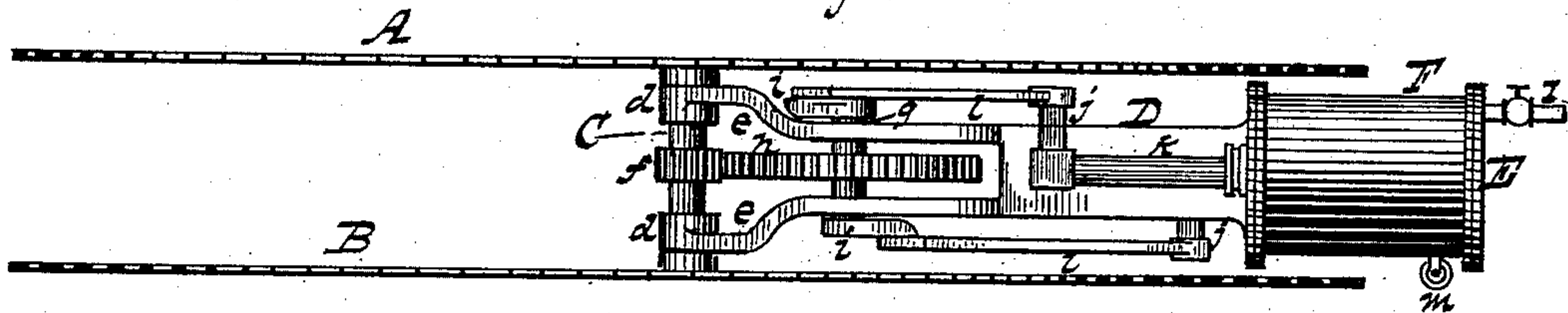
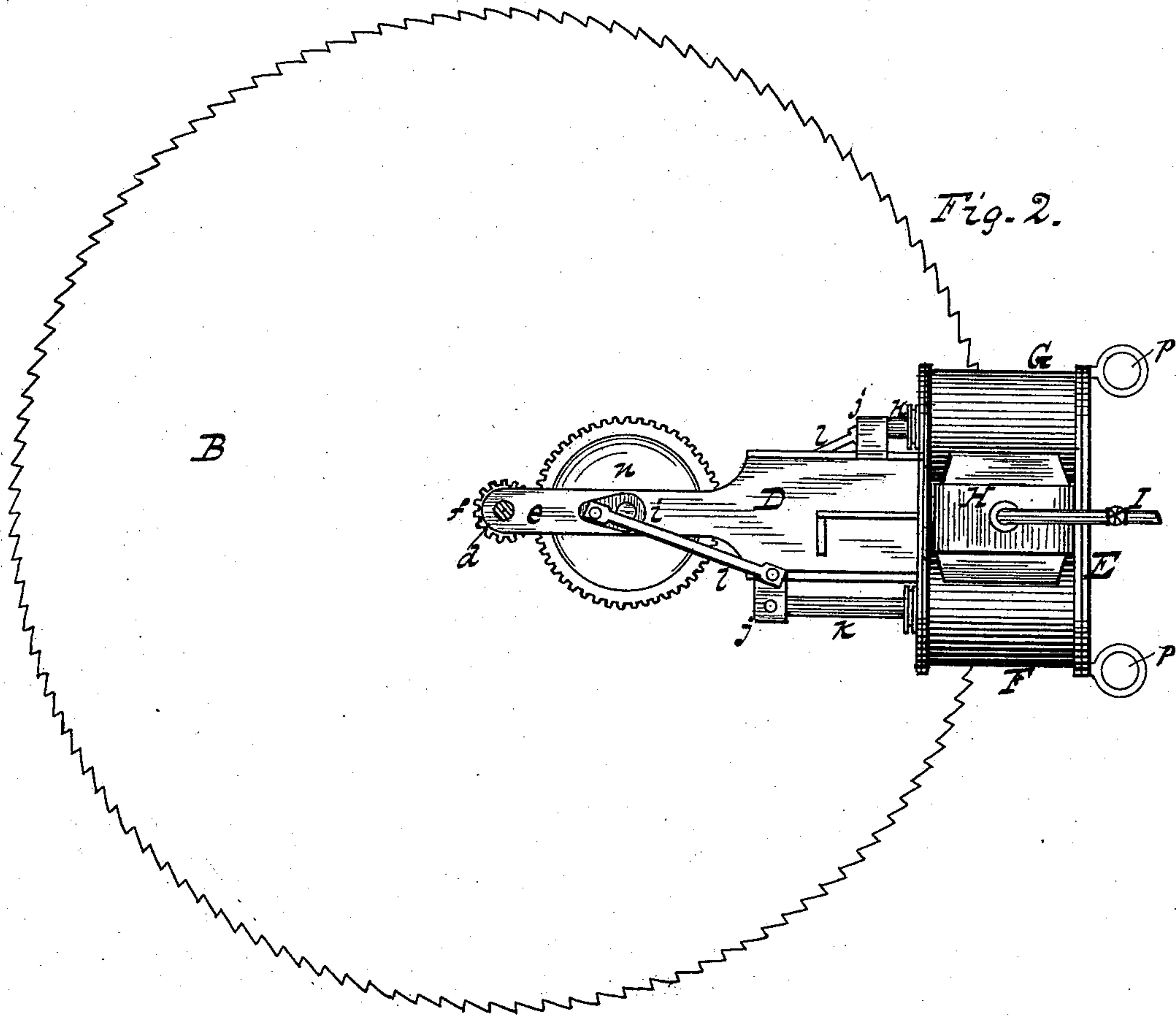


Fig. 2.



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UNITED STATES PATENT OFFICE.

SAMUEL McALLISTER, OF NOBLESTOWN, ASSIGNOR OF ONE-HALF TO O. D. LEVIS, OF PITTSBURG, PENNSYLVANIA.

COAL-MINING MACHINE.

SPECIFICATION forming part of Letters Patent No. 373,081, dated November 15, 1887.

Application filed March 13, 1885. Renewed April 4, 1887. Serial No. 233,671. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL McALLISTER, a subject of the Queen of Great Britain, and a resident of Noblestown, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Machines for Mining Coal, of which the following is a specification.

My invention relates to that class of coal-mining machines wherein large circular saws are arranged in a suitable frame a little distance apart on a common axle and made to cut the bank or body of coal in separate horizontal planes by means of one or more portable engines driven by steam or compressed air; and the nature of my invention consists in the construction, arrangement, and combination of parts, as are hereinafter set forth, and which will be readily understood from the following description, taken in connection with the accompanying drawings, wherein—

Figure 1 represents a side elevation of my improved coal-mining machine, with its horizontal saws, their supporting-frame, gearing, and driving-engine; Fig. 2, a top view of the same, the upper saw having been removed the better to show the parts.

To construct a coal mining machine in accordance with my invention I prepare two large circular saws, A B, and attach one to each end of a short stout shaft, C, so that the saws shall occupy different but parallel planes on the same axial line and at a suitable distance apart. The saw-shaft C is supported by proper bearings, *d*, in the arms *e* of a substantial frame, D, and is provided with a centrally-located pinion or small cog-wheel, *f*. Across the arms of the frame to the rear of this pinion *f* is arranged a second short shaft, *g*, provided with a cog-wheel, *n*, of much larger diameter than that just before mentioned, and with which it engages. On each end of the shaft *g*, carrying the larger toothed wheel, is affixed a crank, *i*, each connected to the cross-head *j* and piston-rod *k* of an engine, E, by means of a suitable link, *l*, whereby a rapid rotary movement may be given to both saws, proportioned to the speed of the engine and the character of the intermediate gearing. This engine E consists of two cylinders, F G, arranged side by side, and provided with the usual valve-chest, H, and inlet-pipe I, common

to both, and such other appliances as may be necessary for making the apparatus effective, the steam or compressed air for driving the engine being conveyed thereto by means of a flexible pipe. Attached to this engine underneath its cylinders F G are one or more small wheels, *m*, or casters, the axis of which is fixed to turn easily in any direction. To the ends of the cylinders most remote from the saws are affixed a couple of handles, *p*, by which the engine may be thrust forward, drawn back, or moved about on its casters to any desired position. The engines, frame, gearing, and operative parts being within the space between the saws make the apparatus very compact.

In coal-mining with this machine the operator thrusts forward the engine until its rapidly-revolving saws A B come in contact with the face of the coal-bed, the under saw being as low down as convenient for easy work—that is, nearly on a level with the floor of the pit—whereupon by a continued thrust forward of the machine the coal will be cut in two parallel planes one above the other and as far in as the saws will reach without interfering with their driving mechanism; and this operation may be conducted against and along the entire face of the exposed coal, which, when undercut by this machine, can be knocked down and removed after the manner usual in such cases.

Having thus briefly described my invention, I claim—

In a machine for mining coal, the combination of two circular saws on the same shaft, the intermediate pinion on said shaft, a larger toothed wheel engaging therewith, a shaft provided with a crank at each end for communicating power to said gearing and saws, a portable engine consisting of two cylinders provided with a pipe or means for supplying steam or compressed air thereto, one or more small wheels or casters under said engine, and handles whereby the entire apparatus may be thrust forward, drawn back, or guided in any direction, for the purposes set forth.

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Witnesses:

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