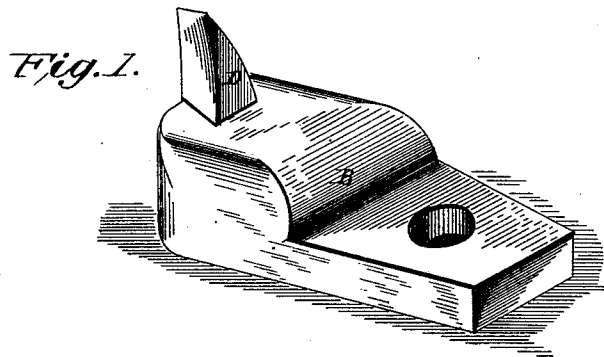
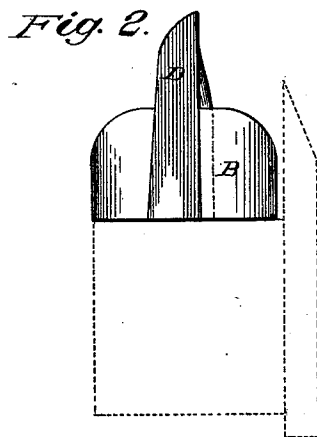
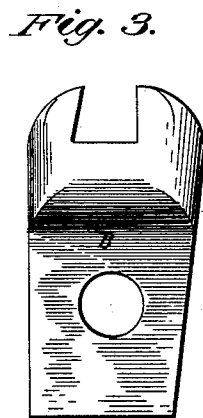
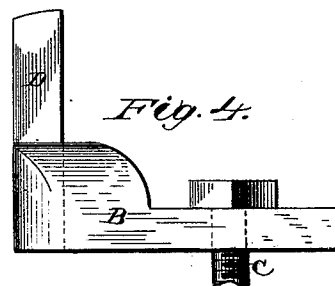


S. F. LECHNER.
Mining-Machine.

No. 218,445.

Patented Aug. 12, 1879.



Witnesses
Red. G. Dieterich
H. S. D. Haines

Inventor
S. F. Lechner
per
F. A. Lehmann
att'y

UNITED STATES PATENT OFFICE.

SANFERD F. LECHNER, OF ROSE TOWNSHIP, CARROLL COUNTY, OHIO.

IMPROVEMENT IN MINING-MACHINES.

Specification forming part of Letters Patent No. **218,445**, dated August 12, 1879; application filed June 24, 1879.

To all whom it may concern:

Be it known that I, SANFERD F. LECHNER, of Rose township, in the county of Carroll and State of Ohio, have invented certain new and useful Improvements in Mining-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in mining-machines, and is applied to an invention for which a patent was granted by the United States, dated January 7, 1879, bearing No. 211,100; and it consists in bolting to the side of the cutter-bar a block or plate in which a cutter-tooth is dovetailed, which tooth clears the way at the side of the outer chain-links, as will be fully described hereinafter.

The accompanying drawings represent my invention.

Figure 1 is a perspective of my invention complete. Fig. 2 is an end view of the block and tooth. Fig. 3 is a plan view of the block. Fig. 4 is a side elevation of the block, tooth, and bolt.

The cutter-bar of the machine remains unchanged in its general form, described in the patent referred to as "substantially rhomboidal in cross-section, except at such points as are traversed by the chains and other places where it is mounted upon the sliding carriers," &c.

In that part of the cutter-bar nearest to the outside links of the chain, and in the projecting side of the rhomboid, is a recess formed of the shape and for the reception of the block B. The end of the block B nearest the chain is re-enforced for greater strength and dovetailed for the reception of the tooth D. To prevent the tooth from sliding upwardly out of place, the dovetail is made wider at the bottom than at the top, and the tooth, corresponding in form to the dovetail, has to be inserted from below, and can only be removed when pushed down-

ward. But the block B being securely bolted to the cutter-bar by the bolt C, the opening of the dovetail, in which the tooth is first introduced, is closed by the cutter-bar; hence, as long as the bolt holds or is not removed, the tooth cannot be dislodged; nor can the block yield to any pressure brought against it when the machine is in operation, because it is backed by the projecting angle of the cutter-bar itself.

If it become necessary to change or remove the tooth, the block B, holding it, has only to be unbolted to attain a free access, and much labor and time are thereby saved, when compared with the difficulties now existing to do the same.

The mortise in the cutter-bar in which the teeth are secured in the present mode of construction I abandon entirely, and avoid, consequently, the weakening of the bar; and in so doing the great difficulty of securing the tooth by means of a key is also overcome. There is, moreover, a danger of bursting the cutter-bar by forcing the key too much when securing a tooth; and even when apparently well secured there is no reliance to be placed upon its permanency.

My object, therefore, has been to overcome and remedy these deficiencies found to exist in the machine as now in use, and experience supports me in stating that I have fully succeeded.

Having thus described my invention, I claim—

In a mining-machine, the dovetailed block B, bolted on the cutter-bar, and into which the cutter-tooth D is inserted from below, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 19th day of June, 1879.

SANFERD F. LECHNER.

Witnesses:

F. M. LECHNER,
T. F. LEHMANN.