No. 868,291. PATENTED OCT. 15, 1907.

H. E. RAWLINS.

MINING MACHINE CHAIN.

APPLICATION FILED FEB. 21, 1907.

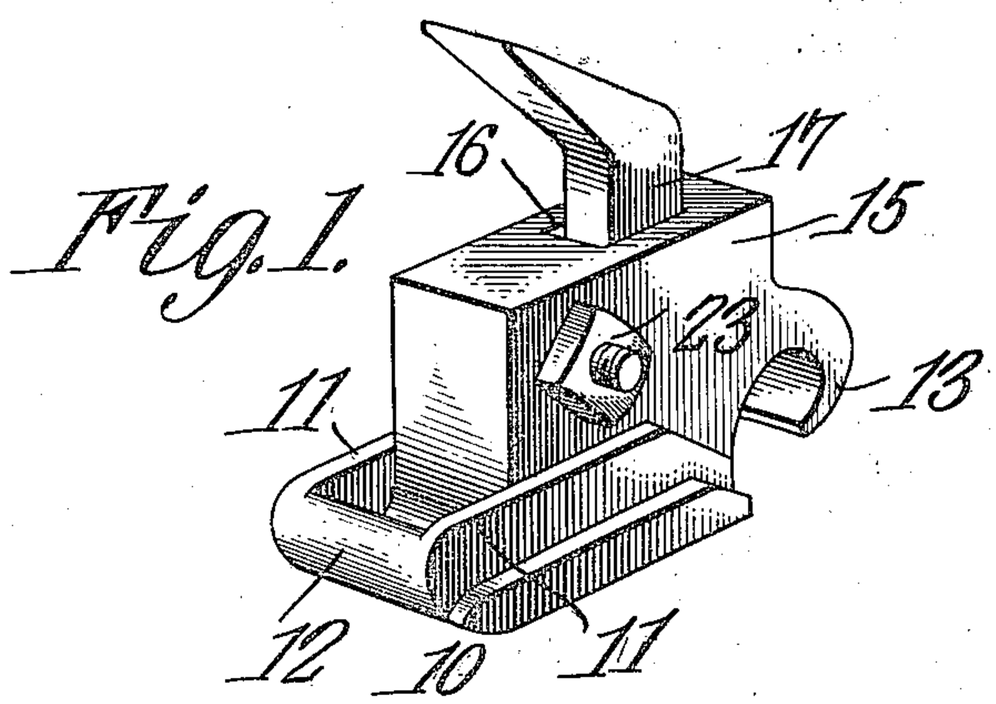

Fig. 1.

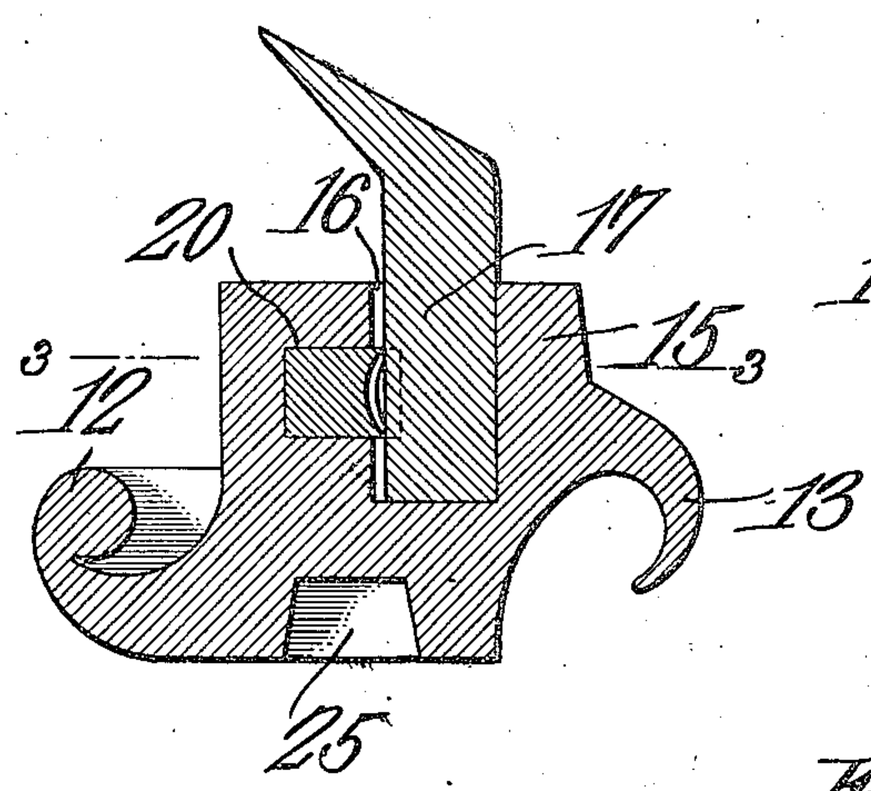

Fig. 2.

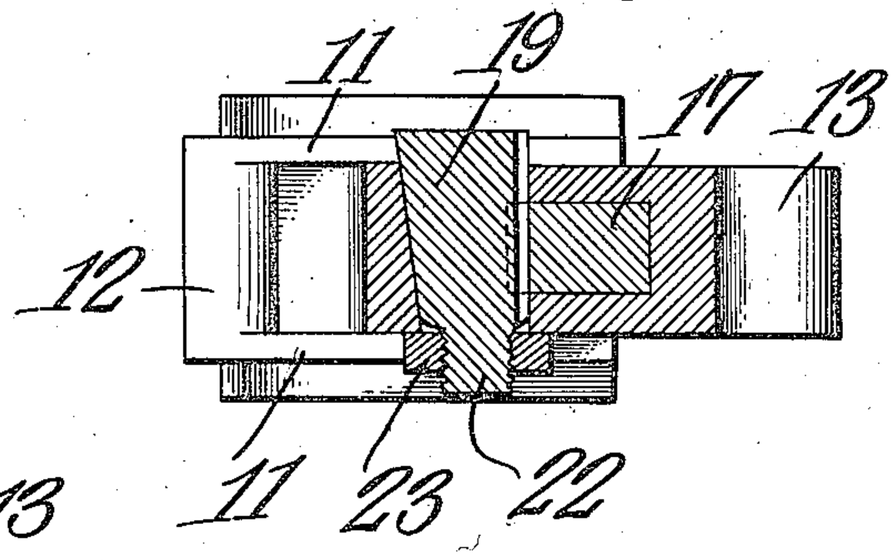

Fig. 3.

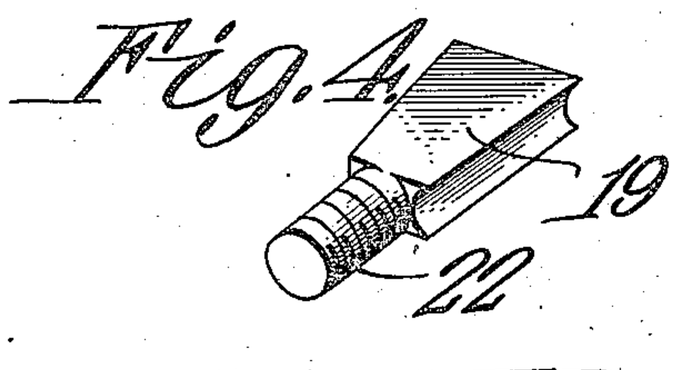

Fig. 4.

WITNESSES:
E. J. Stewart
Jno. E. Parker

Horace E. Rawlins,
INVENTOR.
By C. A. Snow & Co.
ATTORNEYS

UNITED STATES PATENT OFFICE.

HORACE E. RAWLINS, OF DERWENT, OHIO.

MINING-MACHINE CHAIN.

No. 868,291. Specification of Letters Patent. Patented Oct. 15, 1907.

Application filed February 21, 1907. Serial No. 358,671.

To all whom it may concern:

Be it known that I, HORACE E. RAWLINS, a citizen of the United States, residing at Derwent, in the county of Guernsey and State of Ohio, have invented new and useful Mining-Machine Chains, of which the following is a specification.

This invention relates to the construction of links for mining chains, and more especially to the construction of those links which carry the cutter bits.

One of the principal objects of the invention is to provide a link of simple construction, and one which possesses great strength and durability.

A still further object of the invention is to provide an improved means for rigidly holding the cutter bit in place to prevent accidental displacement or turning, or twisting of the bit while at work.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings:—Figure 1 is a perspective view of a chain link constructed in accordance with the invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a sectional plan view on the line 3—3 of Fig. 2. Fig. 4 is a detail perspective view of the cotter detached.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The body portion 10 of the link includes a pair of parallel side arms 11 connected at the end by a bar 12 approximately circular in cross section and designed to receive the hook portion of the next adjacent end, while at the opposite end is a hook 13 for engagement with another link, the structure being similar in this respect to that followed in the construction of the ordinary link belt. The body of the link, however, is solid, and is provided with an upwardly extending integral block 15, in which is formed a rectangular recess 16 designed for the reception of the shank 17 of the bit, the shank being, also, rectangular in cross section.

In order to hold the bit in place, a cotter 19 is used, this cotter passing through a transversely extending opening 20 formed in the block 15, one wall of the opening being parallel with and partly intersecting the opening 16, while the opposite wall is inclined to correspond to the inclination of the rear end of the cotter. The forward edge of the cotter, or that edge which engages with the shank of the bit is concaved, forming two sharp edges which bite into the rear portion of the shank, and by engaging the latter at two separate points, serve to hold the shank firmly in place, preventing its withdrawal, and positively locking the bit from twisting or turning. Projecting from the smaller end of the cotter is a threaded stem 22 to which is adapted a nut 23, and when the nut is tightened against the side of the block 15, the cotter will be drawn forcibly and tightly against the shank of the bit, and will firmly lock the latter in place.

In order to permit the passage of the link over the driving and guiding sprockets, the lower face of the link is provided with a recess 25 into which a tooth of the sprocket wheel may extend, so that work driving movement may be directed to the bit holding link as well as to the other links of the chain.

The construction is such that a worn or broken bit may be readily replaced and the bits may be readily adjusted to any desired height and firmly locked in adjusted position.

I claim:—

A link of the class described having means at its opposite ends for engagement with the adjacent links of a chain, said link having a solid body portion provided with an integral block having one face recessed for the reception of a sprocket wheel tooth, the opposite face of said block being recessed for the reception of the shank of a cutter bit, the inner and rear wall of said recess forming a solid backing to resist the cutting strain on the tool, there being a transversely disposed opening partly intersecting the front wall of the recess, the rear wall of said opening being inclined, a cotter extending through the opening and having its forward edge concaved to form a pair of biting edges that are disposed transversely of the length of the forward edge of the shank and are arranged to bite thereinto to prevent endwise movement of said shank, and means for locking the cotter in place.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HORACE E. RAWLINS.

Witnesses:
C. S. MCDONALD,
CHAS. HAY.