July 31, 1928.

1,679,135

M. P. HOLMES

CUTTER CHAIN

Filed Dec. 15, 1922

Fig. 1.

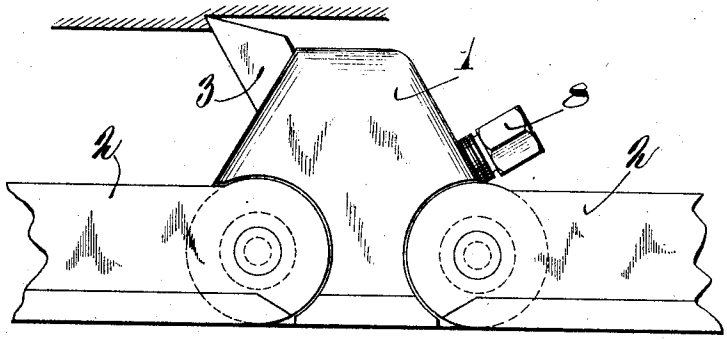


Fig. 2.

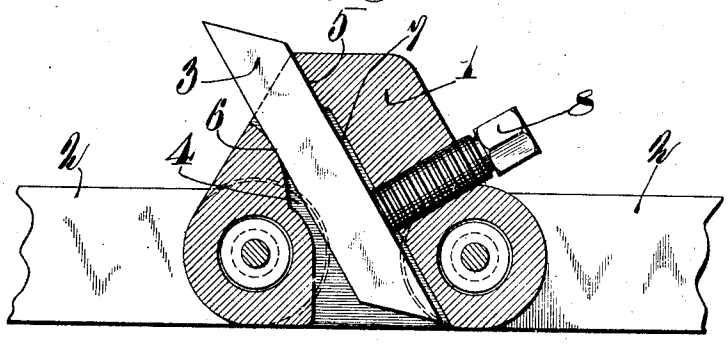
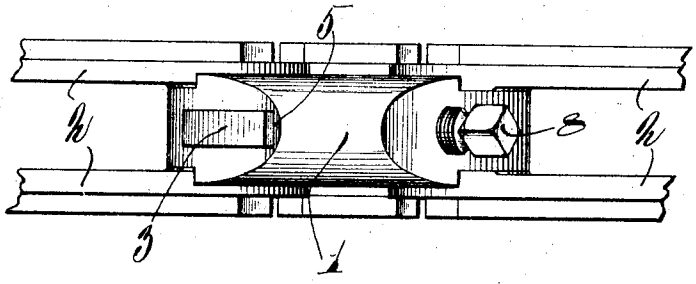


Fig. 3.



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UNITED STATES PATENT OFFICE.

MORRIS P. HOLMES, OF CLAREMONT, NEW HAMPSHIRE, ASSIGNOR TO SULLIVAN MACHINERY COMPANY, A CORPORATION OF MASSACHUSETTS.

CUTTER CHAIN.

Application filed December 15, 1922. Serial No. 607,257.

My invention relates to cutter chains.

It has for its object to provide an improved cutter chain. A more specific object of my invention is to provide an improved cutter bit carrying link having improved provision for holdng a cutter bit thereon whereby the bit is maintained very securely in position by simple readily releasable holding means comprising a minimum of parts well adapted to withstand wear. These and other objects and advantages of my improved construction will be hereinafter more fully described.

In the accompanying drawings I have shown for purposes of illustration one form which my invention may assume in practice.

In these drawings,—

Fig. 1 is a side elevation of a section of a chain equipped with my improvement.

Fig. 2 is a longitudinal sectional view through the bit carrying link.

Fig. 3 is a plan view of the construction previously shown.

In my improved construction it will be understood that the chain comprises a series of bit carrying links 1 pivotally connected to and by adjacent connecting links 2, the links 1 being of an improved construction hereinafter described.

As shown, this link 1 carries a usual double ended bit 3 which is seated in a suitable bit receiving opening 4 in the link with its working end extending therefrom and has one edge on the opposite side from its point and adjacent the latter resting against a flat abutment 5 formed on the member 1 and its opposite edge at a point slightly nearer the opposite end of the bit engaging a curved or rounded surface or pivot 6 formed on the link at a point adjacent the surface 5 but slightly nearer the link pivots. Moreover, it will be noted that within the surface 5 the link 1 is cut away as shown at 7 to enlarge the passage 4, the construction being such that the bit 3 may be passed into the passage 4 and rocked about the pivot 6 into engagement with the flat surface 5 under the action of a set screw 8 threaded in the member 1 and engaging the bit at a point a substantially greater distance from the point of contact of the bit with the pivot 6 than is the abutment 5 from the pivot 6.

As a result of my improved construction it will be observed that a substantial leverage is exerted on the bit 3 by the set screw, the distance between the set screw and the pivot 6 being so proportioned to the distance between the surface 5 and the pivot 6 that the power of the set screw is multiplied and the bit accordingly very firmly gripped. Attention is also directed to the fact that in my improved construction the holding means are of an exceedingly simple character adapted to be manufactured at small expense and to remain firmly in position during the use of the chain at the same time that they are readily releasable when desired.

While I have in this application specifically described one form which my invention may assume in practice, it will be understood that this form of the same is shown for purposes of illustration and that the invention may be modified and embodied in various other forms without departing from its spirit or the the scope of the appended claims.

What I claim as new and desire to secure by Letters Patent is:

1. A cutter link having a bit receiving passage and bit securing means adapted to act upon a bit including a bit pivot engaging one edge of the bit, a cooperating bit abutment engaging the opposite edge thereof, and a bit holding means on the opposite side of said pivot from said abutment engaging the same edge engaging said abutment and spaced from said pivot by a greater distance than the distance between said pivot and abutment, said pivot comprising a rounded surface, said abutment a flat surface, and said holding means a set screw.

2. A cutter chain block having a transversely extending bit-receiving aperture, a bit, a pair of bearing surfaces in opposed offset relation respective to said bit, and a clamping device having engagement with said bit below both of said offset bearing surfaces and cooperating therewith to provide an elongated bearing for said bit at the rear side thereof.

3. A cutter block for mining machines having a bit-receiving aperture restricted adjacent its upper end to provide bearing surfaces for a cutter bit at the front and rear thereof at different points of elevation, and adjustable bearing means below said restricted portion adapted to cooperate with

said bearing surfaces to secure said bit at three points offset longitudinally of each other.

4. A cutter chain block having a transversely extending bit-receiving aperture, a bit, a pair of bearing surfaces in opposed offset relation respective to said bit, and a set screw having engagement with said bit below both of said offset bearing surfaces and cooperating therewith to provide an elongated bearing for said bit at the rear side thereof.

5. A cutter block for mining machines having a bit-receiving aperture restricted adjacent its upper end to provide bearing surfaces for a cutter bit at the front and rear thereof at different points of elevation, and a set screw below said restricted portion adapted to cooperate with said bearing surfaces to secure said bit at three points offset longitudinally of each other.

6. A cutter chain block having a transversely extending bit-receiving aperture, a cutter bit substantially uniform intermediate its ends, a pair of bearing surfaces in opposed offset relation respective to said bit, and a clamping device having engagement with said bit below both of said offset bearing surfaces and cooperating therewith to provide an elongated bearing for said bit at the rear side thereof.

7. A cutter chain block having a forwardly inclining bit-receiving aperture, a bit, a pair of bearing surfaces in opposed offset relation respective to said bit, and a clamping device having engagement with said bit below both of said offset bearing surfaces and cooperating therewith to provide an elongated bearing for said bit at the rear side thereof.

8. A cutter block for mining machines having a forwardly inclining bit-receiving aperture restricted adjacent its upper end to provide bearing surfaces for a cutter bit at the front and rear thereof at different points of elevation, and adjustable bearing means below said restricted portion adapted to cooperate with said bearing surfaces to secure said bit at three points offset longitudinally of each other.

In testimony whereof I affix my signature.

MORRIS P. HOLMES.