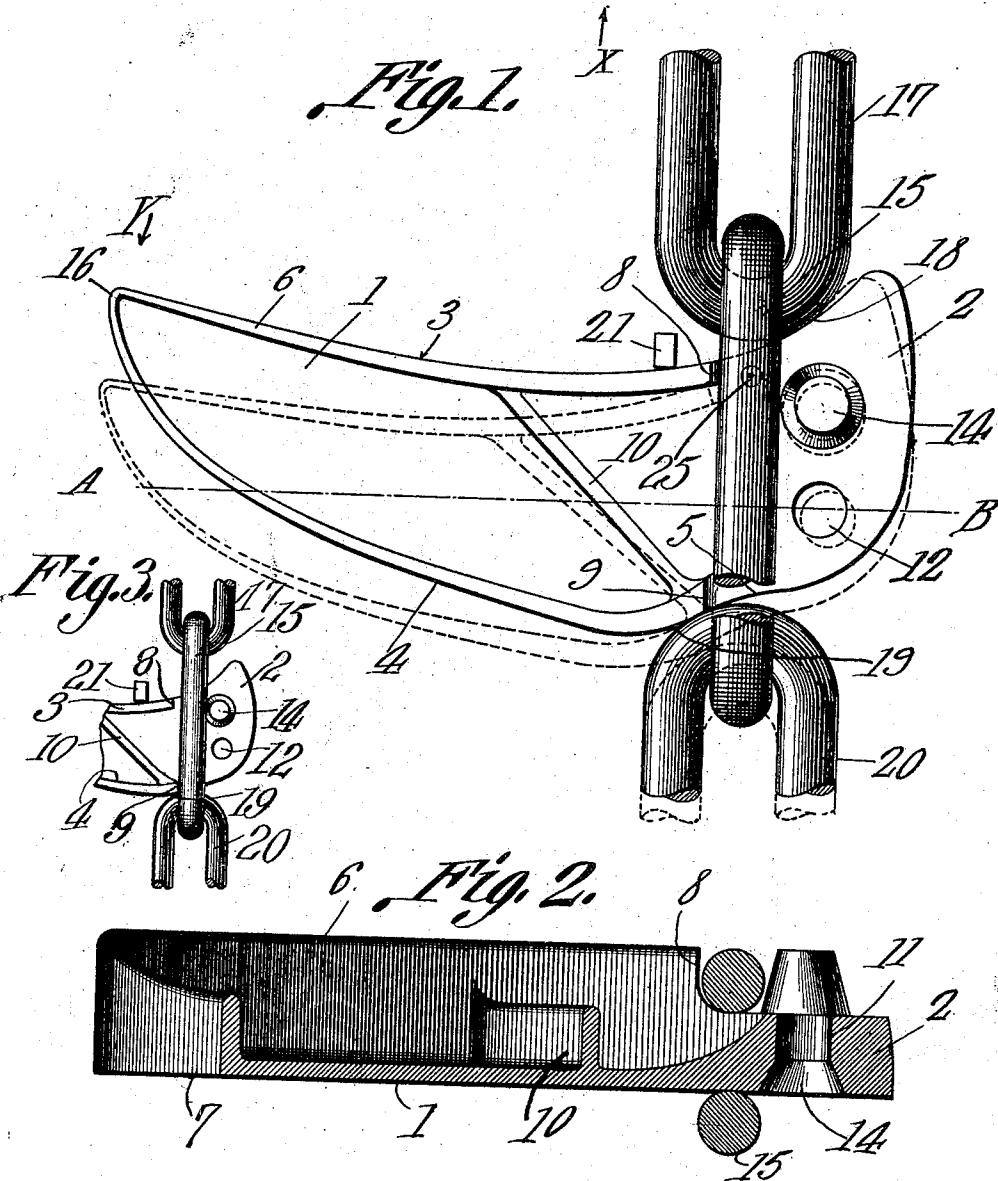


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 CONVEYER CHAIN CLEAT.
 APPLICATION FILED JAN. 10, 1911.

1,013,794.

Patented Jan. 2, 1912.



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FREDERICK E. MARTIN, OF BONAMI, LOUISIANA.

CONVEYER-CHAIN CLEAT.

1,013,794.

Specification of Letters Patent.

Patented Jan. 2, 1912.

Application filed January 10, 1911. Serial No. 601,832.

To all whom it may concern:

Be it known that I, FREDERICK E. MARTIN, a citizen of the United States, residing at Bonami, in the parish of Calcasieu and State of Louisiana, have invented a new and useful Conveyer-Chain Cleat, of which the following is a specification.

It is the object of this invention to provide a conveyer cleat which will make possible the dragging of a large amount of material through the medium of a conveyer chain of ordinary construction, the links of the chain being fashioned from ordinary round bar material.

Another object of the invention is to provide a conveyer cleat which will maintain its position in a chain of this sort, and with this end in view, the cleat is so fashioned that it will have bearing points upon different links of the chain, said bearing points being spaced transversely of the chain.

Another object of the invention is to provide a conveyer cleat which will maintain its position in a chain of the sort above mentioned, as the links of the chain lengthen, through stretching or through wear.

Another object of the invention is to provide a cleat of unusual strength, and one which will promote the lateral yielding of the conveyer chain, as the cleat strikes an obstacle.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings,—Figure 1 is a top plan; and Fig. 2 is a longitudinal section upon the line A—B of Fig. 1; and Fig. 3 is a fragmental top plan showing the cleat in the position it will assume after the chain has been subjected to great wear or stretching.

The cleat is ordinarily a one piece structure, but, in order to facilitate the description of the device, the same will be resolved into component elements.

The cleat, then, comprises a body 1, thickened at one end to form a shank 2. In general outline, the cleat is crescent shaped, the

forward edge 3 of the body 1 being concaved, the rear edge 4 of the body being convexed, whereby the body is reduced in width at one end, as at 16, and broadened at the other end, in the shank portion 2 of the cleat. In the rear edge of the cleat, in the shank 2, the said edge is concaved slightly, toward the longitudinal center of the cleat, as shown at 5. The body 1 is surrounded by an outstanding flange, extended along the concaved forward edge 3, as shown at 6, and along the convexed rear edge, as shown at 7. The extremity of the forward flange 6 defines a shoulder 8, while the extremity of the rear flange 7 defines a shoulder 9, located adjacent the concaved portion 5 of the rear edge of the cleat. From the shoulder 9, a rib 10 extends diagonally of the body 1, into union with the intermediate portion of the front flange 6. In the shank 2, there are one or more openings 11 and 12, adapted to receive a securing member 14, this securing member being a rivet, bolt, or the like.

The cleat, as a whole, is thinned in its shank portion 2, this shank portion being adapted to be inserted through one link 15 of the conveyer chain, the shoulders 8 and 9 being located upon one side of the link 15, while the securing member 14 is located upon the other side of the link and in spaced relation thereto as more clearly shown in Fig. 2.

As denoted by the numeral 18, the concaved forward edge 3 of the cleat is in contact with a forward link 17 of the chain, to one side of the draft line of the chain, the concavity denoted by the numeral 5, and located in the rear edge of the cleat, permitting the cleat to engage a rear link 20, upon the opposite side of the chain from the point of contact 18, as shown at 19. Referring to Fig. 1, when the conveyer chain moves in the direction of the arrow X, the thrust of the material against the end 16 of the cleat will be in the direction of the arrow Y, thus causing the forward edge 3 of the cleat to engage the link 17 at the point 18, upon one side of the draft line of the chain, the rear edge of the cleat engaging the link 20 at the point 19, upon the opposite side of the draft line of the chain. Owing to this construction, there will be a space between the link 15 and the securing member 14, as shown in Fig. 2, and therefore there will be

no strain upon the securing member, due to the weight of the material advanced by the cleat; in fact, the securing member 14 is necessary mainly for the purpose of keeping the cleat from falling out of the conveyer chain after discharging its load.

It frequently happens that the chain becomes slightly elongated, either through the frictional contact between the several links, or through stretching. In such case, the cleat will have a point of pivotal movement, located between the shoulder 8 and the securing member 14, the point of pivotal movement being indicated conventionally by the numeral 25 in Fig. 1. In such case, although the constituent links of the chain stretch or wear slightly, the cleat will have a point of contact 18 with the link 17, upon one side of the draft line, and its point of contact 19 with the link 20, upon the other side of the line, the cleat, under such circumstances, assuming the dotted line position shown in Fig. 1, the points of contact at 18 and 19 permitting the cleat to maintain a position approximately at right angles to the draft line of the chain, even though the chains be slightly worn. By reason of this fact, a single cleat may be used throughout the entire length of the chain, the construction of the cleat being such that ordinary irregularities in the links, will be counteracted, whether these irregularities result from inaccuracy in manufacture, or from a subsequent elongation of the links of the chain, due to continuous use. It frequently happens, however, that the length of the chain will become greatly increased after long continuous use, such a condition being shown in Fig. 3. Under such conditions, the point of contact between the cleat and the link 17, denoted by the numeral 18, will be lost. The cleat will nevertheless remain in its rectangularly disposed position with respect to the draft line of the chain, for the reason that the shoulder 9 will engage the link 15 upon one side of the draft line, the securing member 14 engaging the link 15 upon the other side of the draft line; as Fig. 3 will serve to illustrate. The cleat, under such circumstances, will move into abutment with the link 20, the point of pivotal movement of the cleat, denoted by the numeral 25, moving longitudinally of the link 15.

From the foregoing it will be seen that the cleat will be maintained in position at right angles to the draft line of the chain, no matter whether the chain be new and perfect, whether the chain be slightly worn,

or whether the chain be greatly worn and elongated, as illustrated in Fig. 3.

The upstanding rib 10 serves to reinforce the cleat against abnormal strains, the rib, terminating adjacent the shoulder 9, obviously tending to reinforce the shoulder when, as hereinbefore pointed out, the shoulder serves as one point of support for the cleat.

By fashioning the additional opening 12 in the shank 2, the cleat is lightened, and provision is made for an additional securing member, should the same be desired. The matter of using one or more securing members 14 in the openings 10 and 12, will be dictated by the nature of the conveyer chain.

It frequently happens that as the cleat is advanced in the direction of the arrow X, an obstruction 21, more or less rigid, will be encountered. Owing to the concave outline of the forward edge 3 of the cleat, the cleat will travel transversely of the line of advance of the conveyer chain, when such an obstruction is encountered, moving the conveyer chain transversely, and causing the obstruction 21 to pass around the extremity 16 of the cleat, without imposing a sudden breaking shock upon the cleat or the conveyer chain.

Having thus described the invention, what is claimed is:—

A conveyer cleat having a concave forward edge and a convex rear edge, one end of the cleat being broadened to form a shank for insertion through a conveyer chain link, the cleat being peripherally surrounded by a flange projected from one side and terminating short of one end of the cleat forming shoulders, the forward edge of the shank portion of the cleat being arranged in rocking contact with the rear side of the end of the forward link of the chain and the rear edge thereof having a concavity in rocking contact with the forward side of the end of the rear link of the chain, and a securing member projecting from the shank on the same side of the cleat as said flange for retaining the shank of the cleat between said shoulder and securing member when the cleat is not under the strain of a load, substantially as described.

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

FREDERICK E. MARTIN.

Witnesses:

J. M. WARREN,
J. H. KENESSON.