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CHAIN

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FIG. 1.

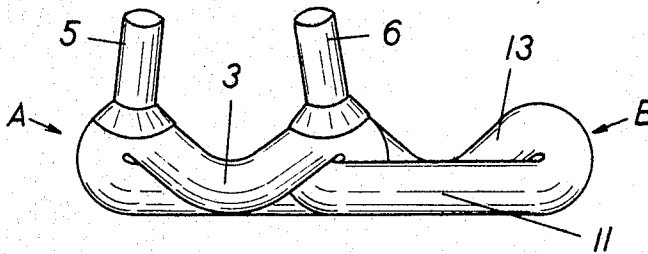


FIG.3.

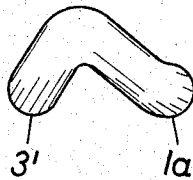


FIG. 2.

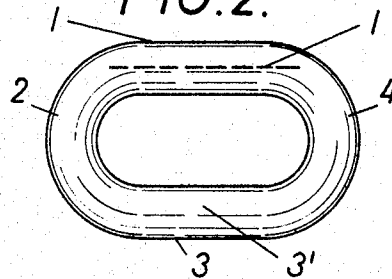


FIG. 4.

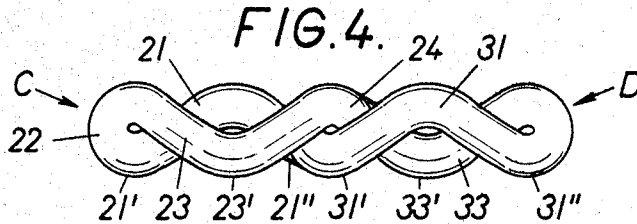
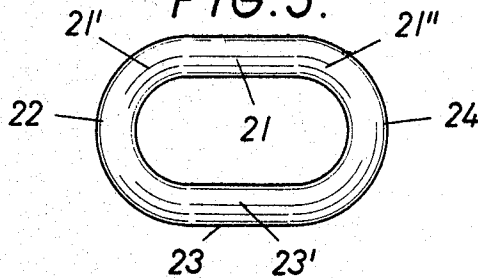


FIG. 5.



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CHAIN

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4 Claims. (Cl. 152-243)

The invention relates to a chain, and more particularly to a chain designed to lie against a base having a relatively even face, e.g. an approximately plane face. The chain according to the invention can with advantage be used as an ice and snow chain for motor tires, but the chain can, for example also be devised as a transport chain.

The invention aims at providing a chain which in service position resting against a base lies firm, with least possible tendency to turn round in its individual links.

Chains are known which, with this object in view, at the crossing points of the links are provided with recesses which engage into one another, the underlying long side in each link being bent upwards approximately in the middle in such manner that the uppermost points on both long sides of each link lie at approximately the same height over the said base. Such a chain will lie firm, but the said recesses have the effect of weakening the links of the chain and reducing the durability.

The object of the present invention is to provide a chain which lies at least as firmly as, but preferably even more firmly than the said known chains, but in which the said weakening is avoided. This is, according to the invention, attained by the chain being given such a shape that when it rests on a horizontal base each link has one long side bent upwards from its central area resting against the base in the direction of both the ends, whilst the curved ends of the link are each bent in such a way that from the transition from the said long side they incline downwards toward the ends of the other long side of the link which rest on the base. The links in the chain are arranged alternately with the first-mentioned long side resting on the one or other side of the chain.

Thereby the end is attained that without any weakening of the links these will lie firmly against an even base.

According to a preferred embodiment of the invention the maximum height of each link, measured from a plane, horizontal base, is approximately equal to double the diameter of the cross section of the chain wire.

When the chain is to be used as snow chain, it can conveniently be fitted with gripping teeth or spikes, which can be attached in a per se familiar way.

Used as transport chain, the chain according to the invention, has a number of advantages. In the first place the chain will as will appear from what has been said above, lie more firmly on the base.

Normally a transport chain is subject to great wear. The chain according to invention will last longer than the ordinary chains, because the contact face between the links is larger and gives the chain a larger wearing face.

An additional advantage of the chain when used as transport chain is that there can be used as driving gear for the chain pinions into which a spike or tooth enters into each link. This is not possible with the ordinary chains, where the links do not lie in the same plane.

In the case of the ordinary transport chains it sometimes happens that a link enters the gear in a wrong position and may cause a stoppage. The chain according to the invention will, as already stated, lie more firmly against the base and will consequently always enter the gear with the links in proper position.

To make the invention easier to understand it will in the following pages be described in greater detail in connection with the drawing.

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In the drawing FIG. 1 shows two meshing links, according to a first embodiment of the invention, placed on an even base and seen from the side.

FIG. 2 is a horizontal projection of one of the links in FIG. 1, and

FIG. 3 shows the link in FIG. 2 looked at from the right end.

FIG. 4 is a view, corresponding to FIG. 1, of two links, according to another embodiment of the invention, and

FIG. 5 is an appurtenant horizontal projection of one of the links in FIG. 4.

In FIG. 1, A and B are two links hooked into each other.

Link A has an approximately straight long side 1, whilst the opposite long side 3 is bent in such a way that from its central area 3', resting against the base, it stretches upwards in the direction of both ends of the chain. The curved ends of the chain link, 2 and 3, are similarly bent in such a way that from the transition from the bent long side they incline downwards toward the ends of the straight long side 1.

Placed on a plane base the chain link A will lie against the base partly at 3', i.e. at the lowest area of the underneath side of the middle of the long side 3, and partly along the line 1a.

The link B is made identically like link A, but is rotated 180° on a vertical axis, in such a way that the straight long side 11 lies on the same side of the chain as the curved long side 3 in the link A. The other long side 13 of link B corresponds to the long side 3 in link A.

When the chain is going to be used as a snow chain, each link is provided with teeth or spikes, which in a familiar way are fastened by welding. Two such teeth, 5 and 6, are shown in FIG. 1 on link A.

In FIG. 4, C and D denote two connected links, according to another embodiment of the invention.

The long sides of link C are denoted 21 and 23 respectively. These are in projection (FIG. 5) approximately parallel, but are, as will be seen from FIG. 4, made curved or undulated in the vertical plane. The long side 21 is bent down in the middle and up at the ends, whilst the long side 23 is bent up in the middle and down at the ends. It follows of itself that the ends of the link, 22 and 24, are likewise undulated, as each end is to connect the one upturned end of the long side 23 with the one downturned end of the opposite long side 21.

If a link, such, for example, as C, is placed on an approximately plane base, the link will lie against the base at three points 23', 21', and 21''. Point 23' is, as it is shown in FIG. 5, situated at the middle of the long side 23, while points 21' and 21'' are situated at the ends of the opposite long side 21.

The links C and D are hooked together in such a way that the long sides, 23 and 33 respectively, which are bent down at the middle, lie on opposite sides of the chain, and the same will then be the case also with the other long sides, 21 and 31 respectively, see FIG. 4.

The bending of the links is, further, executed in such a way that the connected links in position on an approximately plane base will have their points of contact, 21', 21'', 23' and 31', 31'', 33', respectively, approximately in the same plane.

As will be understood, the chain according to this embodiment diverges from the chain according to FIGS. 1-3 only in the fact that the long side in each link, which according to FIGS. 1-3 is approximately straight, is according to FIGS. 4 and 5, bent upwards in the middle. The second long side is in both embodiments bent down in the middle.

Also the chain according to FIGS. 4 and 5 is presumed to be fitted with spikes, similarly to the spikes 5 and 6 (FIG. 1), when it is going to be used as ice or snow chain.

It will be understood that the invention is not limited to the two embodiments shown in the drawings.

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Thus the long side of each link which side is adapted to lie against the base towards the ends of the link may be bent upwards in its middlepart, but not so much as shown in FIGURE 4.

I claim:

1. Chain devised during service to lie against an even base, for example, a snow chain for motor tires, said chain comprising a plurality of links, each link having a pair of long sides and a pair of ends, each link having one long side bent upwards from its middle resting on the base in direction of both ends, while the curved ends of the link are each bent in such a way that from the transition from the said one long side they incline downwards toward the ends of the link's other long side resting against the base, the links in the chain being arranged alternately with the first-mentioned long side lying on the one or other side of the chain.

2. Chain as claimed in claim 1, characterized by the fact that the last-mentioned long side in each link is approximately straight.

3. Chain as claimed in claim 1, characterized by the

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fact that the last-mentioned long side in each link, from the ends resting against the base in direction toward the middle, is bent upwards.

4. Chain as claimed in claim 1 made of wire with approximately circular cross section, characterized by the fact that the maximum height of each link measured from a plane, horizontal base is approximately equal to twice the diameter of the cross section of the chain wire.

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