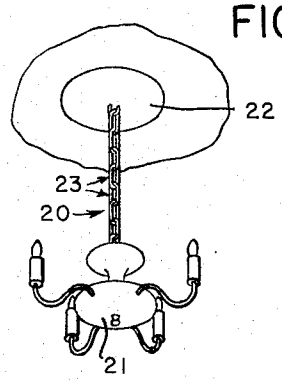
Aug. 16, 1966 T. ROSENBERG 3,267,203

LINK CHAIN HAVING ELECTRICAL CONDUCTING LACQUER PIERCING RIDGES

Filed Aug. 23, 1965

FIG. 1



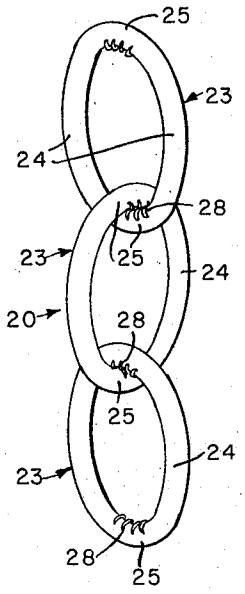


FIG. 2

FIG. 3

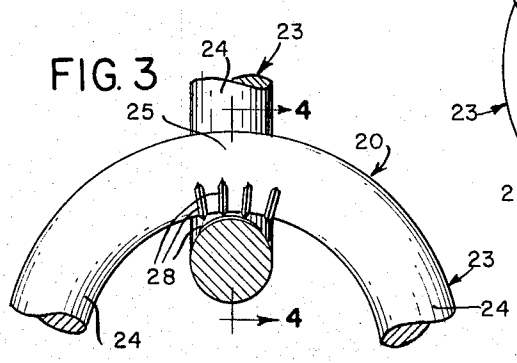
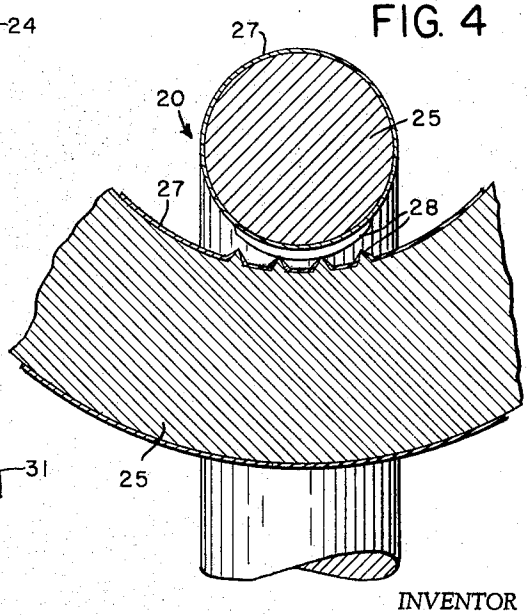
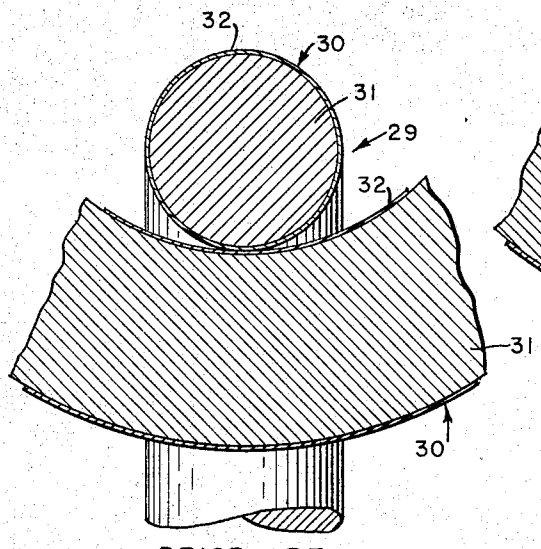


FIG. 4





PRIOR ART

FIG. 5

INVENTOR

THOMAS ROSENBERG

BY Herman Levy ATTORNEY

United States Patent Office 3,267,203 Patented August 16, 1966

3,267,203

LINK CHAIN HAVING ELECTRICAL CONDUCTING LACQUER PIERCING RIDGES

Thomas Rosenberg, Mount Vernon, N.Y., assignor to Eastern Chain Works, Inc., New York, N.Y.

Filed Aug. 23, 1965, Ser. No. 481,547
1 Claim. (Cl. 174—68)

The present invention relates to a chain construction, and particularly to a chain that is electrically conductive and normally grounded.

A primary object of the present invention is to provide a chain for lamps and the like which will conduct electricity so that the chain will conform to and be in compliance with various regulations, such as those promulgated by the Underwriters Laboratories, Inc.

Another object is to provide such an electrically conducting chain which includes links that each have one or more ridges or sharp pointed portions on their inner end portions whereby these sharp pointed portions or ridges will penetrate through the lacquer or coating on the chain links to thereby make the links electrically conductive and hence automatically provides a means for grounding the chain.

Another object is to provide such a chain construction that is adapted to minimize errors productive of wasted labor and material in the formation thereof.

Further objects and advantages are to provide improved elements and arrangements thereof in a device that is economical to produce, durable in form, and conducive to the most economical use of materials and uniformity of members formed therefrom.

Still further objects and advantages will become apparent in the subsequent description in the specification.

In the drawings:

FIG. 1 is a perspective view illustrating the chain of the present invention in use.

FIG. 2 is a perspective view of the chain per se.

FIG. 3 is a further enlarged fragmentary sectional view illustrating the present invention.

FIG. 4 is an enlarged sectional view taken on line 4—4 of FIG. 3.

FIG. 5 is a view generally similar to FIG. 4 but showing the prior art type of chain.

Referring in detail to the drawings, the numeral **20** indicates the chain constructed according to the present invention, as shown in FIG. 1, and the chain **20** can be used for any desired purpose and for a fixture such as a lamp **21** suspended or connected to the lower end of the chain **20**. The upper end of the chain can be connected to any type of supporting structure **22** which may be a ceiling or the like. As shown in FIG. 2 for example, the chain **20** includes or comprises a plurality of similar links **23** which are interfitted or interconnected together, and links **23** are adapted to be made of a suitable material, such as a suitable metal that conducts electricity.

Each of the links **23** include spaced apart side portions **24** as well as diametrically disposed end portions **25**. The links **23** have a generally oval formation or construction.

The numeral **27** indicates a coating of material such as lacquer which encloses or surrounds the metal links **23**, as for example, to protect the finish of the links. This lacquer or coating **27** makes the links of an insulating nature, but due to recent changes in the pertinent regulations or laws, such as those set out by the Underwriters Laboratories, Inc., it is necessary in certain instances that such chains be grounded and electrically conductive. According to the present invention, this is accomplished in a highly economical and novel manner by providing on the inner surfaces of the end portion **25** a plurality of

sharp tapered ridges or pointed portions **28** which are arranged and shaped so that they will penetrate the lacquer **27** and therefore establish electrical communication between the links so that the chain will be in conformity and compliance with the pertinent regulations of the Underwriters Laboratories, Inc. In addition these ridges or pointed portions **28** are only arranged on the inner surfaces of the interfitting portions **25** so that these ridges are not normally visible to the eye whereby there will be nothing to detract from the aesthetic appearance of the chain. The pointed ridges **28** will penetrate through the insulating lacquer **27** whenever a sufficient weight is suspended from the chain **20** as, for example, when a weighted member, such as the fixture **21** is suspended from the chain. In addition, the normal slightly swinging movement of the fixture and chain will help insure that the pointed prongs or ridges **28** will penetrate through the insulated lacquer **27** to cause the entire chain to be grounded and electrically conductive.

Attention is directed to FIG. 5 of the drawings wherein the numeral **29** indicates a portion of a prior art type of chain which does not have the means of the present invention for penetrating through the lacquer. Thus, in FIG. 5 the chain **29** has links **30** having the adjacent end portions **31** that correspond to the end portions **25** and the links **30** also have the lacquer **32** thereon which corresponds to the previously described lacquer **27**. However, it will be noted that in FIG. 5 there are no pointed edges or ridges **28**, and hence the lacquer **32** serves to provide a barrier or layer of insulation between adjacent links so that the chain is not automatically conductive or self-grounded as is the case with the chain **20** constructed in accordance with the present invention.

From the foregoing, it will be seen that there has been provided an improved link chain construction which will accomplish the purposes desired.

It will now be clear that there is provided a device which accomplishes the objectives heretofore set forth. While the invention has been disclosed in its preferred form, it is to be understood that the specific embodiment thereof as described and illustrated herein is not to be considered in a limited sense as there may be other forms or modifications of the invention which should also be construed to come within the scope of the appended claim.

I claim:

A vertically disposed conducting chain that normally does not transmit current except when a fixture would create a dangerous condition due to a fraying of an electrical wire which would come in contact with the device to give a shock, embodying a plurality of similar metal links interconnected together, each of said links having a full coating of hardened lacquer finish thereon so that the entire chain has a full coating of lacquer finish as insulation and normally insulating the chain, said chain being adapted to be suspended from a structure and adapted to have a fixture on the lower end thereof, each of the links having diametrically arcuate end portions, the inner surfaces only of the arcuate end portions being provided with a plurality of sharp tapered pointed ridges wherein the lacquer in the vicinity of the ridges is penetrated and pierced by the ridges so that the same is electrically conductive throughout its length, the remaining portion of the links having the lacquer thereon except where the ridges engage each other, said ridges being arranged in spaced apart relation with respect to each other, and whereby movement of the chain increases the electrical contact between the ridges, said ridges increasing the strength of the chain, and being arranged so that the ridges are only on the inner surfaces of the diametrically

arcuate end portions with the remainder of the links being free of ridges, said ridges being arranged in spaced parallel relation to each other, and said ridges having a longitudinal axis extending transversely to the plane of the links, and said adjacent links being arranged at angles with respect to each other, whereby the ridges of one link engage and are at right angles with respect to the ridges of the adjacent link.

References Cited by the Examiner

UNITED STATES PATENTS

2,250,280	7/1941	Starbird.	
2,580,321	12/1951	Rees	174—35 X

FOREIGN PATENTS

599,432	6/1960	Canada.

LARAMIE E. ASKIN, *Primary Examiner.*