A. F. HARLAN.

CHAIN.

APPLICATION FILED OCT. 25, 1909.

1,037,001.

Patented Aug. 27, 1912.

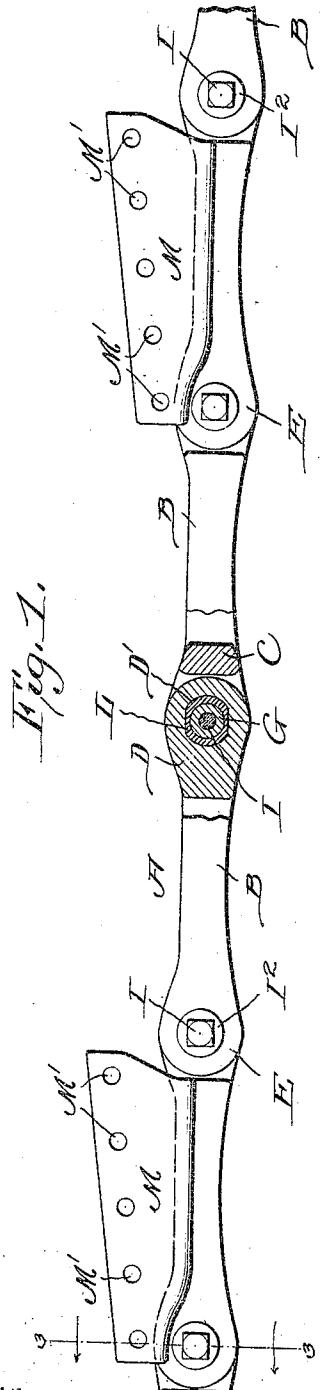

Fig. 1.

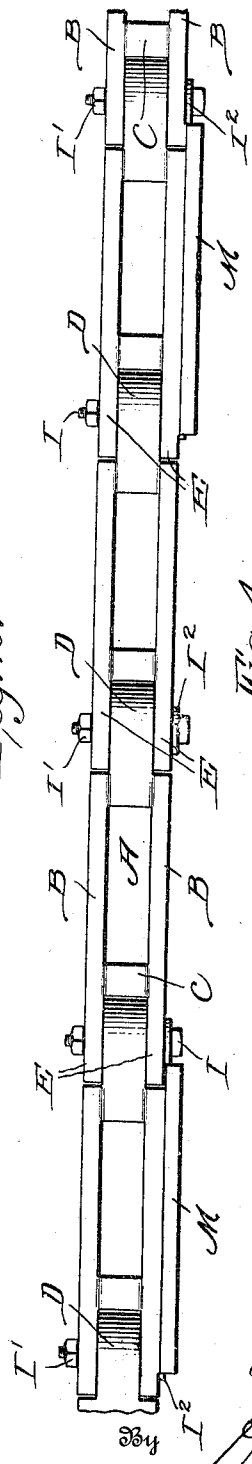

Fig. 2.

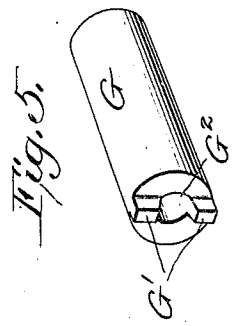

Fig. 5.

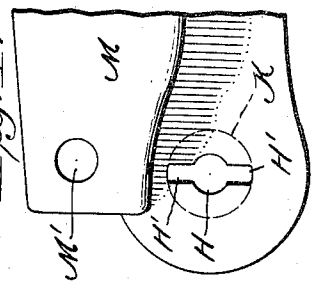

Fig. 4.

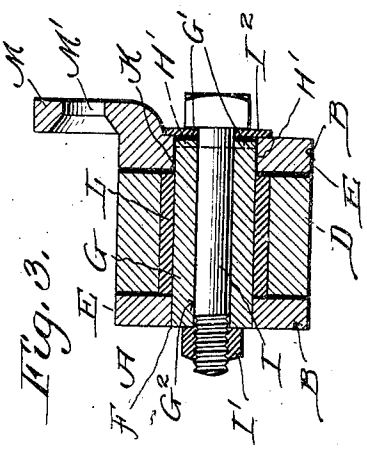

Fig. 3.

Witnesses

Oliver W. Holmes

E. B. McBath

Inventor

Ashlan F. Harlan

By Meara & Brock

Attorneys

UNITED STATES PATENT OFFICE.

ASHLAN F. HARLAN, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR TO L. E. SMOOT, OF WASHINGTON, DISTRICT OF COLUMBIA.

CHAIN.

1,037,001. Specification of Letters Patent. Patented Aug. 27, 1912.

Application filed October 25, 1909. Serial No. 524,502.

To all whom it may concern:

Be it known that I, ASHLAN F. HARLAN, a citizen of the United States, residing in Washington, in the District of Columbia, have invented a new and useful Improvement in Chains, of which the following is a specification.

This invention relates to a novel construction of chain and more particularly to an improved construction of chain intended for use in connection with dredging buckets, the object of the invention being to provide a strong and durable chain to which the dredging buckets can be attached and a still further object is to provide a chain in which the bearing parts can be quickly and easily removed and either reversed or new bearing parts substituted thereby enabling the links of the chain to be used indefinitely.

Heretofore, chains employed in connection with dredging buckets have been of such a character that when the bearing parts became appreciably worn it was necessary to discard the entire link and the object of my invention therefore is to avoid this objection by providing reversible and removable bearing portions so that the link proper can be used again and again with new bearing portions.

With these and various other objects as will appear hereinafter, my invention consists of the novel features of construction, combination and arrangement of parts all of which will be fully described hereinafter and pointed out in the claims.

In the drawing forming part of this specification, Figure 1 is a side elevation partly in section, showing a part of the chain constructed in accordance with my invention. Fig. 2 is a top plan view of the same. Fig. 3 is a section on the line 3—3 of Fig. 1. Fig. 4 is an enlarged detail view of one end of one of the links to which the bucket attaching plate is connected. Fig. 5 is a detail perspective view of the bushing.

In the practical embodiment of my invention I employ a link A which comprises the side members B arranged parallel as shown connected adjacent one end by means of the connecting cross-piece C and at the opposite end by means of a tongue D, said tongue projecting a short distance beyond the ends of the side members B and having an opening D′ produced therein. The opposite ends of the side members B are enlarged as shown and provide pivot ears E. One of these ears has an opening F sufficiently large to permit the entrance of the bushing G while the other ear has an opening H large enough to receive the bolt I but not as large as the opening F and this opening H is preferably arranged at the center of a socket K produced in the inner face of the ear and communicating with said opening H are the notches or recesses H′, the purpose of which will appear hereinafter.

It will of course be understood that two chains are employed arranged side by side and the dredging buckets are connected thereto and for the purpose of connecting the said dredging buckets to the chains at the proper points I provide certain links with integral plates M having a plurality of counter-sunk apertures M′ through which the adjacent bolts can be passed. These plates M extend substantially from end to end of the link and are made considerably deeper at one end than at the other as shown.

In assembling the chains a sleeve L is inserted in the opening in each tongue and then the tongue with the sleeve therein is inserted within the ears. The bushing G is then inserted being passed through the opening F and the lugs or bosses G′ enter the notches or recesses H′ of the socket K and the bolt I is then passed through the bore G^2 of the bushing and a nut I′ screwed upon the threaded end thereof, a washer I^2 being preferably arranged beneath the head of the bolt for the purpose of protecting the opening H against the entrance of dirt. When the parts are assembled as just described it is obvious that the links in passing over the sprocket will turn upon the sleeve L and bushing G and all of the wear or friction will be exerted upon these points, and as the bushing is held stationary it will become worn upon one side and the sleeve will of course become worn upon one side also, but as soon as these parts become worn sufficiently to need repair the sleeve can be reversed and the bushing G can also be reversed and the opposite sides of said parts presented for wear and when these new surfaces have been worn the sleeves and bushings can be removed and new bushings and pins inserted without distributing the links proper.

While I have shown each link as having ears E at one end and the tongue D at the opposite end it is obvious that one link may have a tongue at each end and the other link ears at each end without departing from the broad principle of my invention which resides mainly in the bearing portions and also in the integral plate to which the buckets are attached.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a chain, a link provided with ears, a bushing having lugs at one end, one of said ears having an opening adapted to receive the bushing and the other ear having a pin opening and notches, the latter being adapted to receive the lugs of the bushing, a retaining pin passing through said bushing and through said pin opening, and a second coöperating link.

2. The combination with links, one of which is provided with ears and the other of which has a tongue adapted to extend betwen said ears, one of said ears having a circular opening and the other ear being provided with a hole having radial notches, a bushing adapted to pass freely through the tongue, one end of said bushing resting in the opening of one of the ears, and the other end of the bushing having lugs adapted to engage said notches, and a sleeve adapted to surround that portion of the bushing passing through the tongue.

ASHLAN F. HARLAN.

Witnesses:
E. B. McBath,
Rea P. Wright.