No. 836,943. PATENTED NOV. 27, 1906.

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LINK BELT.

APPLICATION FILED FEB. 27, 1906.

Fig. 1.

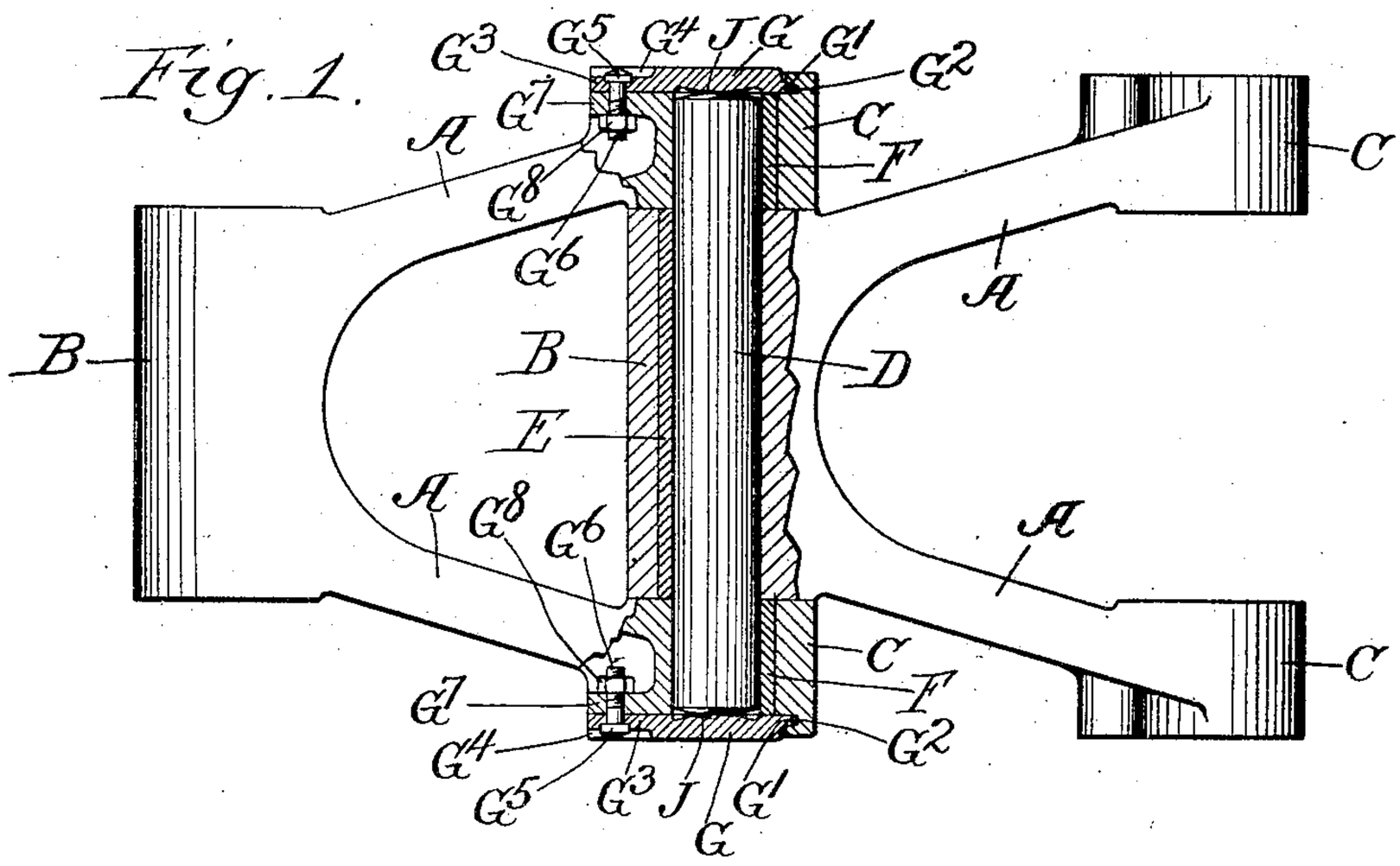


Fig. 2.

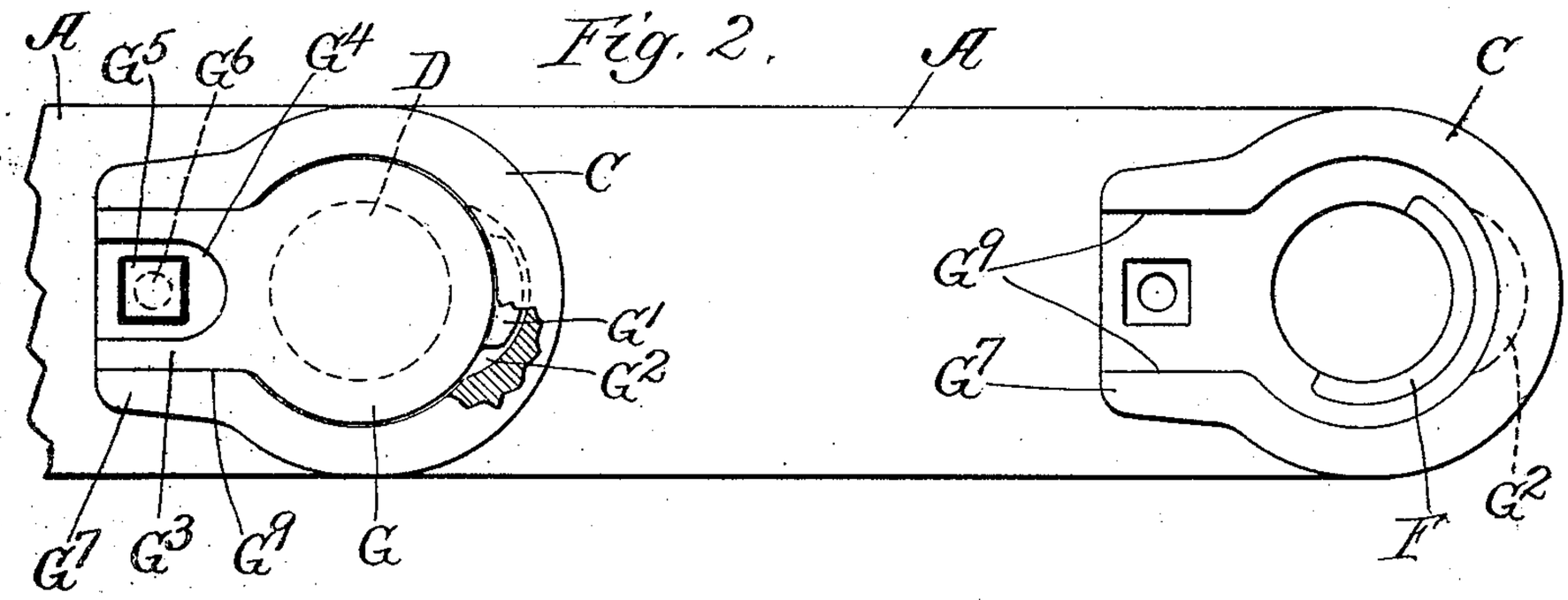


Fig. 3.

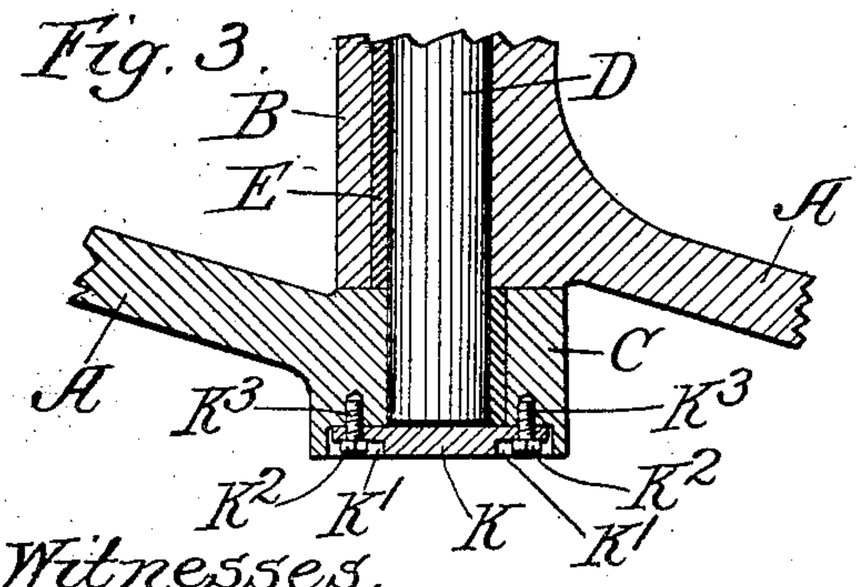
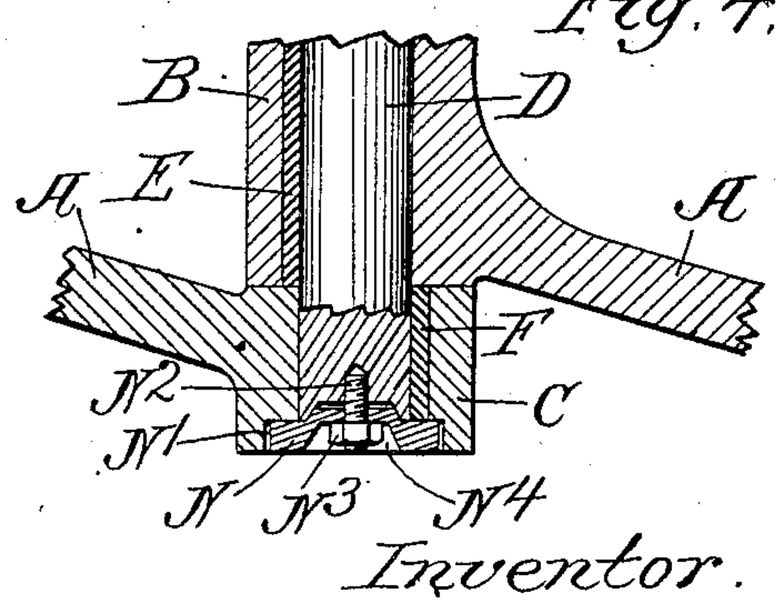


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

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LINK BELT.

No. 836,943. Specification of Letters Patent. Patented Nov. 27, 1906.

Application filed February 27, 1905. Serial No. 247,403.

To all whom it may concern:

Be it known that I, STAUNTON B. PECK, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Link Belts, of which the following is a specification.

My invention relates to link belts, and particularly to the articulation or connection of the successive links.

It is illustrated in the accompanying drawings, wherein—

Figure 1 is a plan view of two connected links with parts broken away and others shown in section. Fig. 2 is an end elevation of the connecting part with portions shown in dotted lines. Figs. 3 and 4 are details of modifications.

Like parts are indicated by the same letter in all the figures.

The links shown are of the so-called "open-link" pattern; but it will be understood that my invention is applicable to any type of link.

A A are the arms of the links. Each link has at its closed end the tubular portion B and at the ends of its arms the eyes C C. The tubular portion or tube of one link is placed between the eyes of the next link so that a continuous tubular aperture is formed and serves as a pin-socket. In this socket lies the loose or floating pin D. A removable wearing-bushing E, preferably of hard metal, is placed in the tube and like hard-metal wearing-bushings F F are placed in the eyes.

G is a cap for the end of the socket, provided at one end with a lip G′, which takes into a recess G^2 prepared for that purpose in the outer portion or end piece of the eye C. The other end or wing G^3 of the cap G is provided with a depression at G^4 to receive the head G^5 of a bolt G^6, which passes through an aperture in the wing and in the extension G^7 of the eye or end piece. This bolt is drawn securely into position by the nut G^8. The cap is preferably shaped on its side next to the socket so as to present a relatively small bearing-surface at J, and, as indicated, this shape may be that of a segment of a sphere. The extension G^7 is grooved, as indicated at G^9, to receive the wing G^3, whereby the cap is prevented from lateral or rotary movement. When these caps are in position, the floating pin is securely inclosed in its socket and the heads of the securing-bolts G^6 are protected.

In the modification shown in Fig. 3 a cap K is provided at each end, is recessed at K′ K′ to receive the head K^2 of a screw-bolt K^3, which is let into the metal portion of the end piece of the eye.

In the modification shown in Fig. 4 the cap N is let into a recess N′ about the end of the socket and is secured to the pin by the screw-bolt N^2, whose head N^3 lies in the recess N^4 in the cap.

It will be understood that the particular forms, arrangements, sizes, and proportions of the several parts used can any or all of them be greatly altered without departing from the spirit of my invention. My purpose is here simply to show in a diagrammatic manner, as it were, means for accomplishing the desired result according to my invention.

A floating pin is desirable for many reasons and among others because it wears evenly and lasts for a long time. This is due to the fact that its actual bearing-surface is constantly shifting. The difficulty with such pins is that they are likely to escape from their sockets.

The device of this application is designed particularly to be used in a chain-and-bucket dredge or such like apparatus. When used upon a dredger, the service which the chain renders is unusually difficult and exacting. The dredging device is plunged down into materials which are often closely compacted and difficult to disturb, and in addition the successive buckets on the chains travel about their guiding parts under great strain. The links and buckets are subjected to a very severe pressure which tends to displace them and any projecting part—like a socket, cap, or the head of a bolt or a nut—is liable to be sheared away at frequent intervals.

I have endeavored to produce a very simple form of articulation in which the socket shall be preferably inclosed and its caps be permanently though removably secured in position. I have also provided such an articulation as is but little liable to have its parts torn away by the shearing action above referred to. I have also provided means whereby the cap itself is prevented from rotating or turning, since it is, in effect, let into an enlarged depression which prevents such

movement or resists such tendency or protects it from any influence so to rotate at least in the case of the devices shown in Figs. 1, 2, and 3. The cap is dropped into a depression in the outer portion of the end piece around, associated with, or opening into the socket.

I claim—

1. In a link belt the combination of two perforated links associated so that their perforations make a transverse socket, with a pin in the socket, means for retaining the pin in such socket comprising an end piece on one link about its perforation, having an undercut recess and an outwardly-grooved and perforated extension, a cap provided with a body to close the end of the socket, there being a projection like the segment of a sphere on such body within the socket in opposition to the end of the pin, a lip to engage the recess, a perforated wing having on its outer surface a depression and adapted to be received into the groove, and a bolt which passes through the perforations in extension and wing and whose head lies in the depression.

2. In a link belt the combination of two perforated links associated so that their perforations make a transverse socket, with a pin in the socket, means for retaining the pin in such socket comprising an end piece on one link about its perforation, having an undercut recess and an outwardly-grooved and perforated extension, a cap provided with a body to close the end of the socket, a lip to engage the recess, a perforated wing having on its outer surface a depression and adapted to be received into the groove, and a bolt which passes through the perforations in extension and wing and whose head lies in the depression.

3. In a link belt the combination of two perforated links associated so that their perforations make a transverse socket, with a pin in the socket, means for retaining the pin in such socket comprising a cap provided with a body to close the end of the socket, a projection like the segment of a sphere on the socket side of the cap and in opposition to the end of the pin, and means for securing the cap in position to permanently close the socket end.

4. In a link belt the combination of two perforated links associated so that their perforations make a transverse socket, with a pin in the socket, means for retaining the pin in such socket comprising an end piece on one link about its perforation, having an undercut recess and a cap provided with a body to close the end of the socket, and a lip to engage the recess, and means for securing the cap to the end piece at a point opposite such lip and recess.

5. In a link belt the combination of two perforated links associated so that their perforations make a transverse socket, with a pin in the socket, means for retaining the pin in such socket comprising an end piece on one link about its perforation, having a depression in its outer surface opening into such socket, and a cap adapted to fit into such depression and close the end of the socket, and means for securing the cap removably in position.

6. In a link belt the combination of two perforated links associated so that their perforations make a transverse socket, with a pin in the socket, means for retaining the pin in such socket comprising a cap provided with a body to close the end of the socket, at least one of the opposed surfaces on the pin and cap being convex so as to give a small area of contact between said pin and cap, and means for securing the cap in position to close the socket.

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Witnesses:
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