O. J. McGOWAN.

DRIVE CHAIN.

APPLICATION FILED MAY 17, 1918.

1,293,835.

Patented Feb. 11, 1919.

Fig. 1.

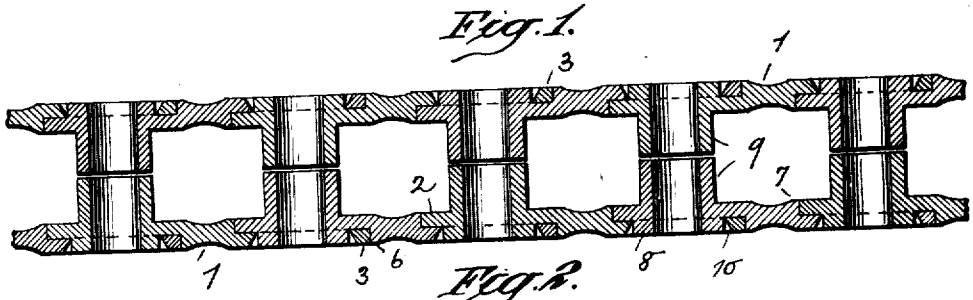


Fig. 2.

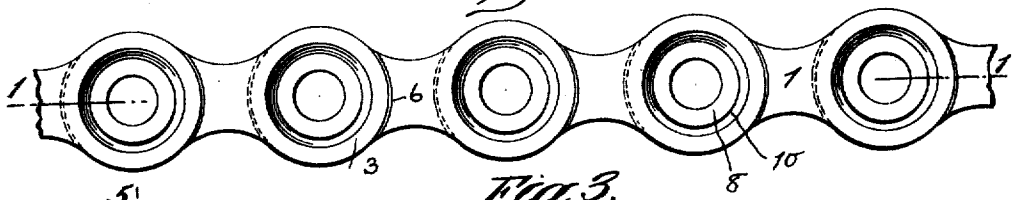


Fig. 3.

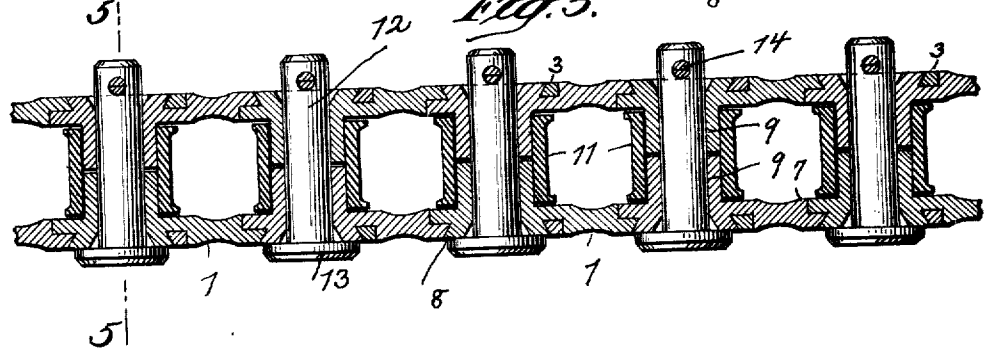


Fig. 4.

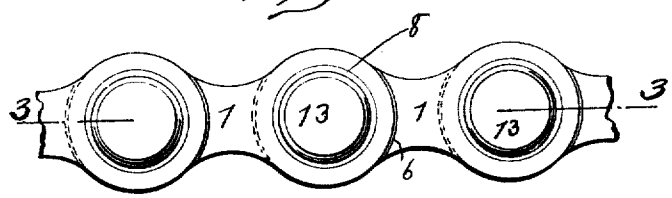


Fig. 5.

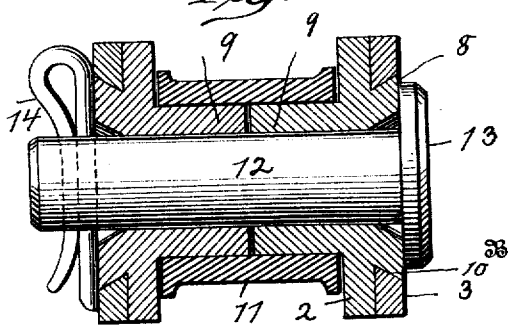
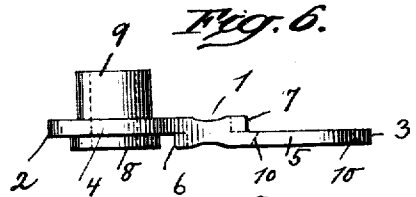


Fig. 6.



Inventor

Owen J. McGowan

By his Attorney

Frank V. Briesen

UNITED STATES PATENT OFFICE.

OWEN J. McGOWAN, OF BROOKLYN, NEW YORK.

DRIVE-CHAIN.

1,293,835. Specification of Letters Patent. Patented Feb. 11, 1919.

Application filed May 17, 1918. Serial No. 235,177.

To all whom it may concern:

Be it known that I, OWEN J. McGOWAN, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Drive-Chains, of which the following is a specification.

This invention relates to a drive chain of novel construction, in which the working strain is taken off those parts of the chain that serve to engage the sprockets, and is transferred to additional parts that pivotally connect the chain links to each other. The chain is of great strength, is quickly assembled, and may be readily tightened up when worn.

The invention consists in the various features of novelty more fully pointed out in the specification and appended claims.

In the accompanying drawing:

Figure 1 is a longitudinal section on line 1—1 Fig. 2, through a drive chain embodying my invention, showing the parts disjointed and the thimbles omitted;

Fig. 2, a side view of Fig. 1;

Fig. 3, a longitudinal section of the chain on line 3—3, Fig. 4 with the pivots in view;

Fig. 4, a side view of Fig. 3;

Fig. 5, a cross section on line 5—5 Fig. 3, and

Fig. 6, a side view of one of the links showing the gudgeons before being upset.

The chain is composed of two parallel sets or rows of links 1, all of which are preferably of like construction. The two ends of each link are rabbeted at opposite sides, to form a pair of lugs 2, 3 that project from opposite faces of the link. These lugs are provided respectively with eyes 4, 5 of which the eye 4 of lug 2 is of smaller diameter than eye 5 of lug 3. The lugs are further provided with rounded ends, and with rounded shoulders 6 and 7, adapted to be engaged by the rounded ends of the adjoining links. From lug 2, having the smaller eye 4, there extends outwardly a tubular gudgeon or hub 8, while there extends inwardly from said eye, a tubular sleeve 9, coaxial with the gudgeon. The correlation of the parts is such that each gudgeon is adapted to be snugly encompassed by the larger eye 5 of the adjoining link, said larger eye having a beveled or receding wall 10.

The links of each row are so assembled, that the lugs 2, 3 of adjoining links are placed into facewise contact, with gudgeons 8, projecting outward into eyes 5. The gudgeons are then expanded and flared or deflected (by a tapering solid punch or otherwise) toward the tapering walls 10 of eyes 5, to become interlocked therewith in such a manner that the links become permanently pivoted to each other. The two rows of links assembled as described are arranged in parallelism so that the inner ends of opposed sleeves 9, face each other. Over these opposed sleeves are fitted rotatable thimbles 11, which are of course slipped into position prior to the assemblage of the parts. The two rows are connected by pivot pins or bolts 12, passing through opposite sleeves together with their eyes and gudgeons, said pins being headed at one of their ends as at 13, while their other ends are apertured for the reception of cotter pins 14, or similar fastening means.

It will be seen that in the drive chain constructed as described, the entire working strain will be borne by the expanded gudgeons, while the thimble sleeves will have for their sole function, to transmit or receive motion to or from the sprocket wheels.

In this way, great strength is obtained, while furthermore, the parts may be readily tightened up whenever worn.

I claim:

1. A drive chain comprising two parallel rows of chain links, the links of each row having interlocking beveled eyes and gudgeons, sleeves extending inwardly from said rows, and pivots encompassed by said sleeves.

2. A drive chain comprising two parallel rows of chain links, the links of each row having interlocking beveled eyes and flared expanded gudgeons, sleeves extending inwardly from said rows, pivots encompassed by the sleeves, and thimbles surrounding the sleeves.

3. A drive chain comprising two parallel rows of chain links, the links of each row having comparatively large beveled eyes at one end, and comparatively small eyes at the other end, expanded gudgeons projecting outwardly from the smaller eyes and interlocking with said larger eyes, tubular sleeves extending inwardly from the smaller eyes, and pivots encompassed by said sleeves.

4. A drive chain comprising two parallel

rows of chain links, the links of each row having comparatively large beveled eyes at one end, and comparatively small eyes at the other end, expanded gudgeons projecting outwardly from the smaller eyes and interlocking with said larger eyes, tubular sleeves extending inwardly from the smaller eyes, pivots encompassed by said sleeves, and thimbles surrounding the sleeves.

5. A drive chain link having an eye at one of its ends, an expanded and flared gudgeon extending outwardly from said eye, and a sleeve extending inwardly from said eye.

6. A drive chain link having a beveled relatively large eye at one end, a relatively small eye at the other end, an expanded gudgeon extending outwardly from the last named eye, and a tubular sleeve extending inwardly from said eye, said tubular sleeve being in axial alinement with said gudgeon.

OWEN J. McGOWAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."