

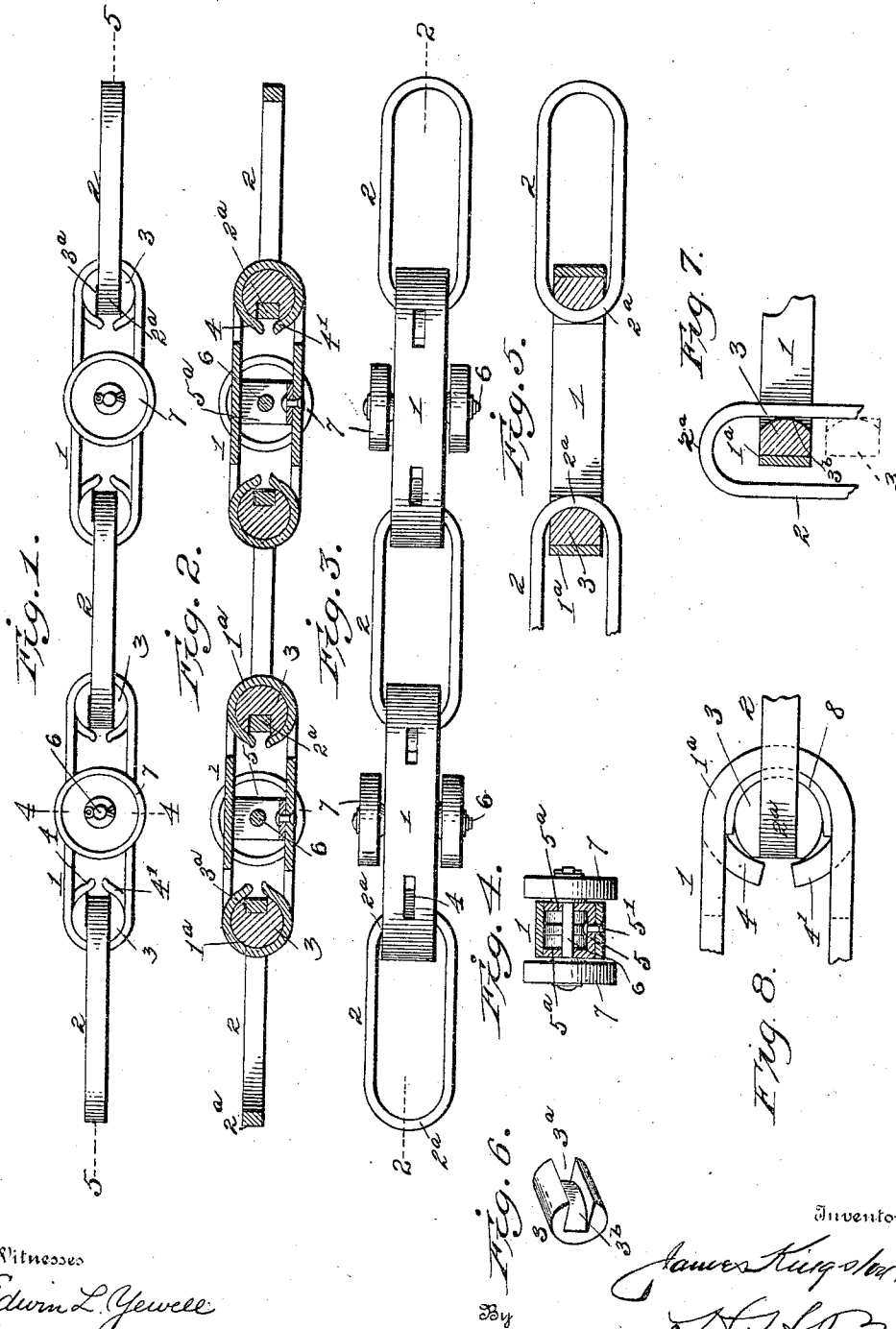
No. 856,350.

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J. KINGSTON.

CHAIN.

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CHAIN.

No. 856,350.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES KINGSTON, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Chains, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to an improvement in chains, it being particularly adapted for use in drive-chains or conveyer chains in which wearing plates or blocks are interposed between the adjoining links.

Figure 1 is a side elevation of a section of chain embodying my improvement. Fig. 2 is a central, vertical, longitudinal section of the same. Fig. 3 is a plan view of the same. Fig. 4 is a section on the line 4—4, Fig. 1. Fig. 5 is a section on the line 5—5, Fig. 1. Fig. 6 is a perspective view of a wearing block detached. Fig. 7 shows the manner of detaching said block. Fig. 8 is an elevation of the adjacent ends of two chain links showing a modification of my invention applied thereto.

In the drawings 1 represents the relatively elongated loop-shaped flat links and 2 the relatively elongated loop-shaped links of metal rectangular in cross section which join the aforesaid flat links together to form the chain, the links of both shapes preferably being of wrought iron.

3 are wearing blocks cylindrical in general contour and adapted to fit into and rock within the looped ends 1^a of the said flat links. These wearing blocks are longitudinally grooved or recessed at 3^a the wall 3^b of the said recess being curvilinear in shape to conform with the looped ends 2^a of the links 2 which are adapted to be seated in said recess and engage with its walls. One of these wearing blocks is interposed between the looped end of each link and the adjacent end of the adjoining link.

4, 4' indicate tongues or fingers stamped or cut out of the metal of the side bars of the flat links adjacent to the looped ends thereof. These tongues are bent inwardly toward the central longitudinal lines of the links and are adapted to position the wearing plates 3 at either end of the link and to keep them from moving longitudinally thereof.

In the drawings I have shown one means of supporting the chain during its travel from

one part of the conveying system or power-transmitting system to another. It consists of a U-shaped block 5 fitted into the flat link 1 near its center and secured to one of the side walls of the said link by rivets 5' or in any other suitable manner. The vertically extending walls 5^a, 5^a of this block bear at the open end of the block against the adjacent side bar of the link. These walls serve as bearings for the transversely mounted shaft 6 which extends through them. 7, 7, are rollers arranged on the said shaft, one at either side of the link and adapted to support the same during its travel.

Preferably the links 2 are made of bars of iron rectangular in cross section so that when fitted into the wearing blocks 3^a they will cause the same to turn with the link, distributing the wear over the surface of the block which serves substantially as a pintle of large surface area so as to prolong the life of the chain over what it would be if the links were of relatively the same proportion as herein shown and their adjoining ends were immediately in engagement with each other.

The chain, as I have heretofore indicated, is adapted both for power-transmitting and for conveying purposes. In the latter case any desired style of attachment may be supplied to the flat links to fit them for the purpose for which the chain is intended to be used.

In Fig. 7 I have indicated the manner in which the wearing blocks may be taken out and replaced when desired. This is accomplished by turning the link 2, which is associated with the block desired to be removed, at right angles to the flat link into which the said block is fitted. The block may then be slid along either side of the link 2 until detached. This ready detachability of the wearing block is not only a useful feature when it is desired to replace a worn block, but also makes the assembling of the chain a very simple matter.

In dotted lines in Fig. 7 I have shown the block as moved longitudinally of the link 2 and out of contact with the link 1 after the manner in which the said block is either withdrawn or inserted.

In Fig. 8 I have shown a modification of the chain in which a semicylindrical washer or bushing is inserted between each bearing block 3 and the adjacent loop end of a link 1.

This washer is adapted to take the wear between the said parts. It may be quickly and readily removed and a new one inserted after the same manner which has just been described for the removal of one of the wearing blocks 3.

It will be observed that the wearing block 3 is of such length that it is situated entirely within or between the planes that include the opposite edges of the broad, flat link, 1, and that its exterior surface is shaped to fit the inner surface of the end loop of such link. Such a wearing block contains no superfluous metal whatever, is of a shape easily made and finished, and when in working position is practically concealed by the links.

What I claim is:

1. A chain comprising a series of loop-shaped links, the adjacent ends of adjoining links being looped through each other, detachable wearing pieces arranged to be freely interposed between and freely removable from the looped ends of the links, and means for preventing the said wearing pieces from displacement longitudinally relative to the links when the latter are in working positions.

2. A chain comprising alternate links of flat metal loop-shaped in form connected together by loop-shaped links, wearing blocks interposed between the adjacent ends of adjoining links there being inward projections carried by each flat link adapted to prevent the longitudinal movement of its wearing blocks relative thereto.

3. A chain comprising alternate loop-shaped links of flat metal connected together by loop-shaped links and wearing blocks interposed between the adjacent ends of adjoining links, the side bars of said flat links

having tongues 4 which serve to prevent the longitudinal movement of said wearing blocks relative to said links.

4. A chain comprising alternate loop-shaped links of flat bar metal connected together by loop-shaped links rectangular in cross section and wearing blocks interposed between the ends of adjoining links with recesses therein rectangular in cross section and adapted to receive the looped ends of said last described links.

5. A chain comprising a series of loop-shaped links, the adjacent ends of adjoining links being looped through each other, and detachable wearing pieces, 3, each interposed between and directly engaged by the looped ends of two links, the wearing pieces being cylindrical in shape and of a length to be situated entirely between the planes that include the opposite edges of one of the links with which it engages, and being longitudinally grooved to receive and fit the end of the other link with which it engages.

6. A chain comprising alternate loop-shaped links of flat bar metal connected together by other loop-shaped links and wearing blocks interposed between the ends of adjoining links, the said wearing blocks being of such length as to be situated entirely between the planes that include the opposite edges of the said flat links and being provided with recesses shaped to receive the links that are united with the said flat links, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES KINGSTON.

Witnesses:

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H. E. BUELL.