V. K. HORN.

COMBINED LINK AND BLOCK FOR CONVEYERS.

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1,087,905. Patented Feb. 17, 1914.

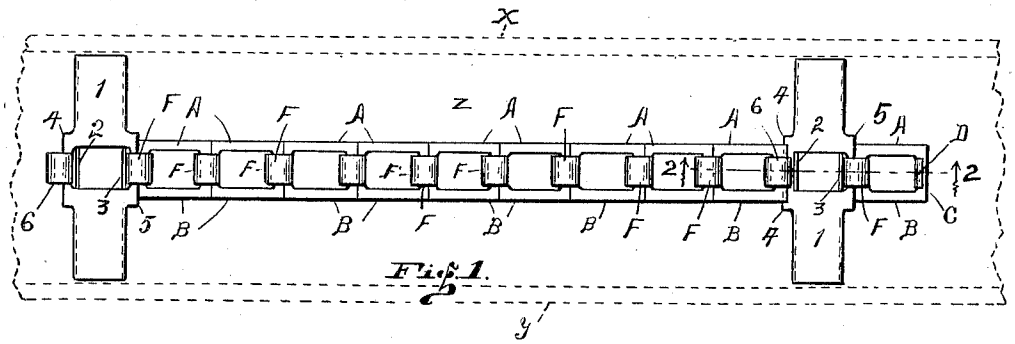


Fig. 1.

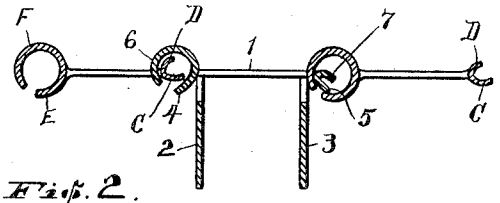


Fig. 2.

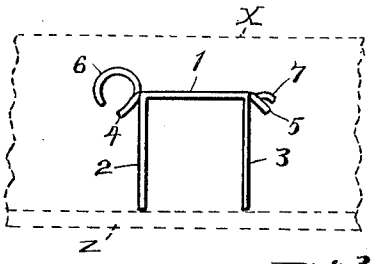


Fig. 3.

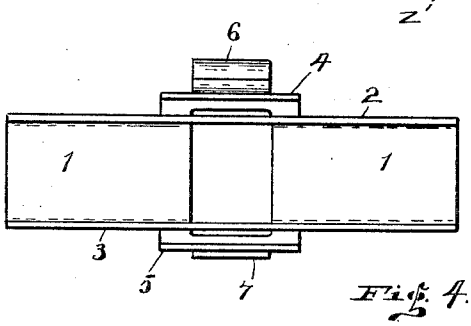


Fig. 4.

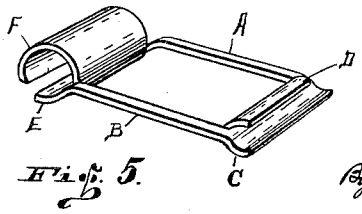


Fig. 5.

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UNITED STATES PATENT OFFICE.

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COMBINED LINK AND BLOCK FOR CONVEYERS.

1,087,905. Specification of Letters Patent. Patented Feb. 17, 1914.

Application filed April 26, 1913. Serial No. 763,695.

To all whom it may concern:

Be it known that I, VALENTINE K. HORN, a citizen of the United States, residing in Richmond, in the county of Wayne and State of Indiana, have invented a new and useful Construction in a Combined Link and Block for Conveyers, of which the following is a full, clear, and comprehensive specification, being such as will enable others to make the same with exactitude.

In conveyers or elevators, especially those employed for conveying or elevating grain, or other material, from a lower to a higher level, usually at an incline, it is customary to employ a chute in which travel upwardly a series of blocks or cleats which engage the bottom of the chute, the blocks being spaced apart and connected by a chain, or the like, whereby they may turn over a pulley at the top and at the bottom of the chute, one of which pulleys is adapted to drive the flexible conveyer or elevator. In the conveyer-belts thus formed the link at each block, which I term the fixed link, is of a construction different from the intermediate links,—this being in order to provide means for securing the fixed links to their respective blocks. Also the blocks are usually formed of wood, and the fixed links are secured thereto by means of screws or bolts.

The object of my present invention is to dispense with the fixed links; to provide the blocks of sheet metal in place of wood, and to provide means integral with each block whereby the intermediate links may be attached thereto and disconnected therefrom, thereby providing a construction which will dispense with a great amount of hand labor, at the same time providing a construction which will be more durable, will give better results in practice, and which can be manufactured and sold at a comparatively low price.

Other minor objects and particular advantages of my invention will be brought out and will suggest themselves in the course of the following description.

The preferred manner for accomplishing the objects of my invention, in a practical manner, is shown in the accompanying drawings, in which—

Figure 1 is an upper plan view of a section of a conveyer or elevator belt, showing two of my blocks and the intermediate links. Fig. 2 is a sectional view as taken on line 2—2 of Fig. 1. Fig. 3 is an end elevation of one of the blocks. Fig. 4 is a lower plan view of one of the blocks. And Fig. 5 is an isometrical view of one of the intermediate links alone.

Similar indices denote like parts throughout the several views.

In order that the construction and the advantages of my invention may be better understood and appreciated I will now take up a detailed description thereof, in which I will set forth the invention as briefly and as comprehensively as I may.

Referring now to the drawings in detail: Each of the several blocks required in a conveyer belt is formed of a single piece of sheet metal bent into substantially the form shown, and comprising the middle portion 1, which may be termed the top, and the two side portions 2 and 3, all of which are substantially of the same width. In the central portion of each block, and in each side thereof, that is in the sides 2 and 3, a lip is formed, same being denoted by numerals 4 and 5. Said lips are formed by making a cut in the sides 2 and 3 parallel with the length of the block and below the middle or top portion 1, then directing said cuts upward at right-angles to their central portions, extending same up to the corners, that is to the top 1, and then bending tongues thus formed outward at an angle with relation to their respective sides 2 and 3, as shown. I next form the curved tongue 6 and the lug 7 centrally of the block, same being located opposite to each other, same being of equal length with relation to each other, and they are of less length than the lips 4 and 5, over which they are centrally located with relation thereto. Said tongue and lug are formed by making two cuts parallel with each other and a short distance apart, extending across and through the top 1 of the block, said cuts being extended at their ends to the corners of the block, that is to the sides 2 and 3. The metal between the two last mentioned cuts is then divided by a cut therethrough parallel with the block, and to one side of the center thereof, whereby the tongue 6 is formed longer than is the lug 7. The tongue 6 is then bent circular or segmental with its free end approaching near to but spaced

from the free edge of the lip 4. The lug 7 is then bent outward and downward above the lip 5 from which it is spaced as shown.

With the above mentioned operations completed the block will appear as shown in the drawings thereby providing the main link in connection with the block, to which main link intermediate links are adapted to be connected.

Each of the intermediate links consists of the parallel sides A and B. Connecting the members A and B, at one end, is the downwardly curved lip C, from which extends upward and outward the lug D. And at the other end the members A and B are connected by the downwardly curved lip E, from which extends upwardly and downwardly the curved tongue F. The tongue F and the lug D are formed from the material cut from between the members A and B, in same manner in which the tongue 6 and the lug 7 are formed from the material of the block.

In connecting the left-hand link with the block, the link is brought parallel with the block, or nearly so, that is with the lug D uppermost, and the link is then moved along parallel with the side 2, allowing the member A, or member B, to pass through the slot between the tongue 6 and the lip 4, thereby locating the lip C and the lug D within the curvature of the tongue 6, then when the link is brought up to its normal position, that is parallel or level with the top 1, it will be locked, as the tongue 6 will be located between the members A and B. Another link may be connected to the right-hand side of the block in a similar manner, but in this instance the reverse end of the link is used,—that is the link is first turned down parallel with the side 3, and then moved along parallel therewith, causing the lip 5 and the lug 7 to enter the slot between the tongue F and the lip E, thereby bringing the lug 7, and the central portion of the lip 5 entirely within the curvature of the tongue F, and then when the link is turned up to its normal position the link will be locked in operative position.

When the several links and the blocks are all connected together into an endless carrier or conveyer they are adapted to pass over pulleys in the usual manner.

Letters *x* and *y* denote the sides of a chute, and *z* denotes the bottom of a chute, said parts being indicated by broken lines.

In practice the lower edges of the sides 2 and 3 of the blocks travel along sidewise on the bottom *z*, with the ends of the blocks near the sides *x* and *y*.

The word "block" is used herein for convenience of description, but my invention is not to be limited thereby, as the block portion may be in the nature of a bucket or a pocket and it may be of various shapes, depending on the work to be accomplished; neither are the members of the fixed link to be limited to the position shown, but may be located to meet various conditions.

I desire that it be understood that changes and variations may be made in the size and the proportions and in the several details of the parts without departing from the spirit of my invention and without sacrificing any of the advantages thereof.

Having now fully shown and described my invention and the manner of its utilization, what I claim and desire to secure by Letters Patent of the United States, is—

A combined link and block for conveyers consisting of an integral construction formed of sheet metal and comprising a block proper and means formed from the material of which the block is composed for detachably connecting links thereto and forming a main link, said means consisting of a lip formed on each side of the block and each bent out at an angle to the block and located opposite to each other near the longitudinal center of the block, a curved tongue extending out over and spaced from one of said lips, a lug bent out over and spaced from the other lip, and intermediate links one end of each being adapted to engage one end of the main link and the other end being adapted to engage the other end of the main link, all substantially as shown and described.

In testimony whereof I have hereunto subscribed my name to this specification in the presence of two subscribing witnesses.

VALENTINE K. HORN.

Witnesses:
ROBT. W. RANDLE,
R. E. RANDLE.

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