(Model.)

G. GOWAN.

CARRIER CHAIN.

No. 268,883. Patented Dec. 12, 1882.

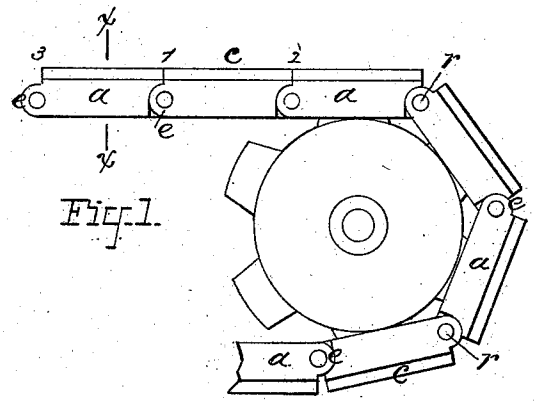
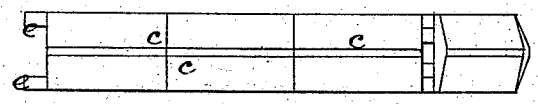


Fig. 1.

Fig. 2.



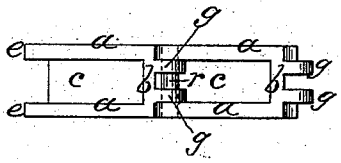


Fig. 3.

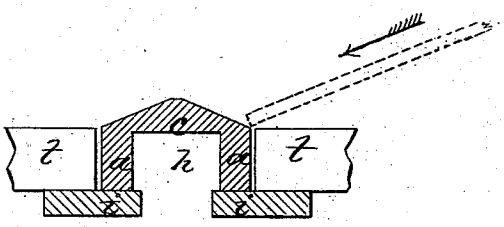


Fig. 4.

ATTEST:

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UNITED STATES PATENT OFFICE.

GEORGE GOWAN, OF ROCK ISLAND, ILLINOIS.

CARRIER-CHAIN.

SPECIFICATION forming part of Letters Patent No. 268,883, dated December 12, 1882.

Application filed September 11, 1882. (Model.)

To all whom it may concern:

Be it known that I, GEORGE GOWAN, of Rock Island, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Carrier-Chains; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this application.

My invention relates to a novel construction of carrier-chain, adapted most especially for use in saw-mills for the purpose of transferring the boards laterally along on what is called the "transfer," by which boards requiring trimming are transported to the "trimmer."

Previous to my invention the carrier-chain employed on transfers has been of such construction that the board to be carried along sidewise rested more or less on the table-like surface of the transfer, (thereby creating considerable friction to be overcome by the carrier devices,) and were moved by the chain through the agency of fingers or projections of some sort on the chain, adapted to take hold of the board positively, or press positively against the edge of the board, all in a manner well known to those skilled in the art to which my invention relates. I propose to provide for use a kind of chain which shall be capable, when properly mounted in a transfer, of supporting the board to be transferred, in such manner as to avoid all frictional opposition to its movement, and also capable of carrying the board without the use of any engaging projections or fingers, (to positively act on the board,) and adapted to permit the easy sliding onto and along over it of the board when the latter may be projected endwise, either obliquely or otherwise, onto the transfer; and to these ends and objects my invention consists in a carrier-chain constructed, as will be hereinafter explained, so as to present a continuous convex or ridge-like carrying-surface, and adapted, when properly mounted, to present a rigid carrying-surface in the direction of the length of the chain for the purpose of supporting the stock to be carried clear of the table-like portion or surface of the transfer, all as will be hereinafter more fully described, and more particularly pointed out in the claims of this specification.

To enable those skilled in the art to make and use my invention, I will now proceed to more fully explain the construction and operation of my improved chain, referring by letters to the accompanying drawings, which form part of this specification, and in which I have shown my invention carried out in the manner in which I have so far practiced it successfully.

In the said drawings, Figure 1 is a side or edge view. Fig. 2 is a top view. Fig. 3 is a bottom view. Fig. 4 is a cross-sectional view (at the line *x x* of Fig. 1) of a chain made according to my invention.

In the several figures the same part will be found designated by the same letter of reference.

The chain shown is composed, it will be seen, of duplicate links or parts, and hence a description of one link and its mode of attachment to an adjacent link will suffice to explain the nature of the whole chain. Each link is formed somewhat after the fashion of a rectangular box, with one end wanting, the portions *a a* forming the two sides, the portion *b* one end, and the part *c* the bottom of the box-like device, the side pieces, *a a*, each projecting beyond the portion *c*, (at one end of the latter,) and being rounded, as seen, (at *e e*,) and said projecting portions carrying the pintle *r*, by which these projecting portions of the link are hinged or articulated to the next adjacent link. From the end portion, *b*, project outwardly two tongue-like portions, *g g*, (about similar in size and shape to the parts *e e*,) which are perforated, and all hinged about the pintle *r*, as shown.

The construction of the links shown is such, it will be perceived, that when a series of them are hinged together, as seen, the chain will possess perfect flexibility in one direction, (so as to run over wheels after the fashion of other chains or endless bands,) but will be incapable of bending in an opposite direction beyond a straight line or plane, the portions *c* of the several links coming to abutments against each other at the lines 1, 2, 3, &c., (see Fig. 1,) so as to render the chain perfectly rigid so far as any capacity to bend out of a straight line in one direction may be concerned. The recesses or receptacle-like portions at *h* afford

an opportunity for a proper engagement with one side of the chain of the sprockets or teeth of the wheels over which the chain has to be run, and by which it has to be driven, (the said sprockets bearing against either the inner surfaces of the portions *b* or the outer ends of the parts *g g*.)

In the use of the chain in transfers I have found it desirable to support the weight of the chain and that of the boards carried on the chain by longitudinal ways or supporting-ledges formed in the transfer-table, as seen at *i*, for instance. Such supports, while relieving the joints of the chain of any severe weight tending to bend it in the direction in which it is incapable of bending, will not in practice materially impede the proper run of the chain when located, and they will not, it will be perceived, interfere at all with the working of the chain and the wheels together, since the sprockets *m* of the wheel all come within the two parallel portions *a a* of the links that rest and slide on the said ways *i*. The portions *c* of the links are, it will be seen, frustuminal in cross-section, (see Fig. 4,) so that the upper board-supporting surface of the chain presents an angular ridge for the boards to rest on. While this shape renders the link strong and increases the capacity of the chain to maintain its rigidity under pressure, it also lends to the chain this important capacity and great advantage—viz., the capacity to allow the ready sliding of a board endwise of the latter up onto the chain from the table-like surface of the transfer. This will be best understood by reference to Fig. 4, in which I have shown at *t* portion of the table of the transfer, and in dotted lines the lower end of a board supposed to be traveling in the direction indicated by the arrow. It will be seen that a board being thus discharged (from the "edger" or other source) onto the transfer will ride easily up onto and along on top of the back or portion *c* of the chain, which it could not certainly do were the chain provided with finger-like upward projections, or were it made without a convex and continuous top surface, such as shown.

Of course the degree of convexity, so to speak, may be varied, and in some cases it may be found expedient to have the top surface of the chain curved instead of composed of two inclined planes, as shown; or it may be deemed expedient to have one of the inclined planes longer than the other, so as to throw the ridge-like back edge of the chain to one side of the center. This might facilitate still further the easy riding up onto the chain of the obliquely-projected boards before mentioned, and might well be done in a case where such boards were to be always fed in to the transfer from one particular side of the machine.

I do not wish to be understood as considering my invention to be restricted to the particular details of construction shown, nor to any given size in proportions of the parts, so long as the links be made according to the plan of construction I have shown and described, and be put together so as to form a chain possessing the attributes explained.

What I claim as new, and desire to secure by Letters Patent, is—

1. A carrier-chain composed of links, each constructed, substantially as set forth, with closed top portions, and adapted to be pivoted together to form a chain which will present a continuous bearing-surface on top.

2. A carrier-chain link having an unbroken or continuous surface at *c*, which is also convex or higher near the center line than at the edges of the link's sides, as and for the purposes set forth.

3. A carrier-chain composed of links with covered top portions and arranged to engage with the sprockets of a chain-wheel, and also provided with side bars, the under edges of which are practically continuous, in the made-up chain, and adapted to rest and run on flat ways at either side of and beneath the chain.

In witness whereof I have hereunto set my hand this 31st day of August, 1882.

GEORGE GOWAN.

In presence of—

LORENZO PARMENTER,
FREDERIC KROEGER.