

(Model.)

E. L. HOWE.

DRIVE CHAIN.

No. 273,845.

Patented Mar. 13, 1883.

Fig. 1.

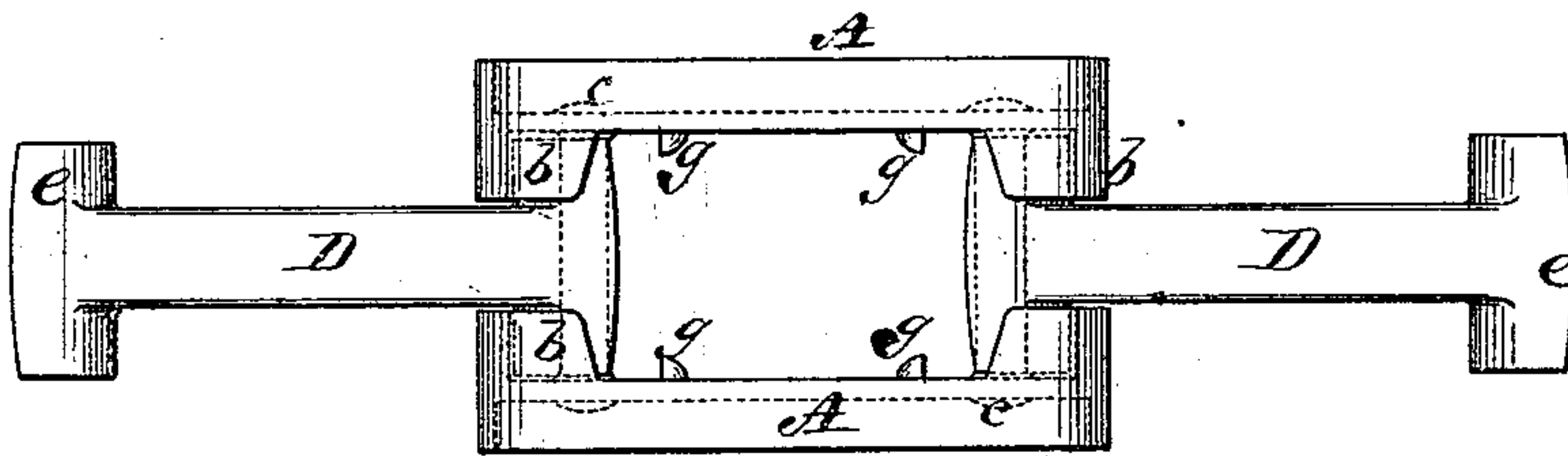


Fig. 2.

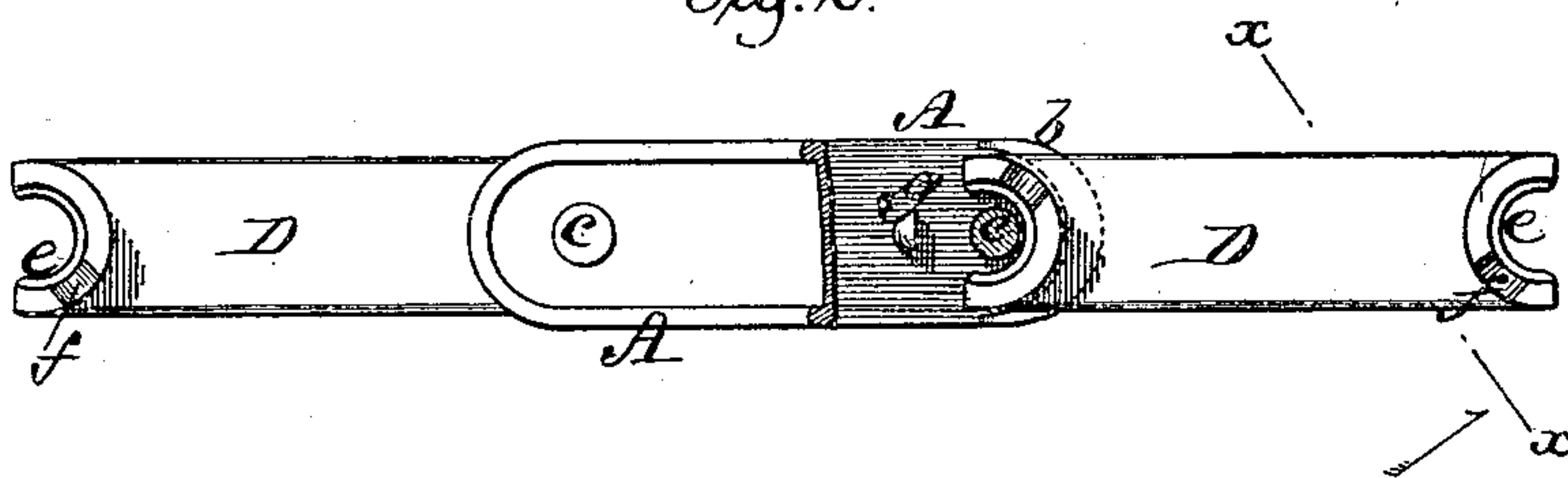


Fig. 3.

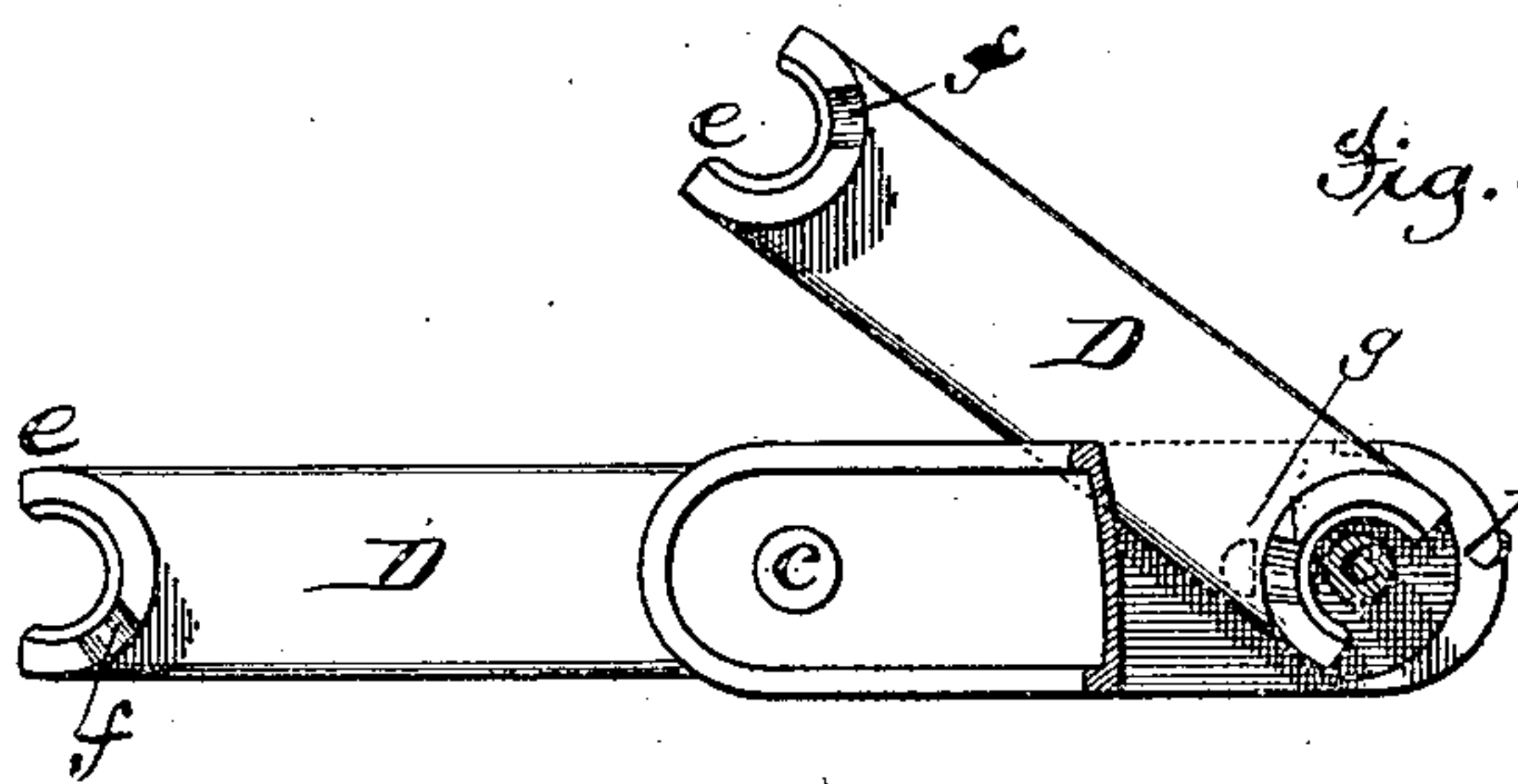
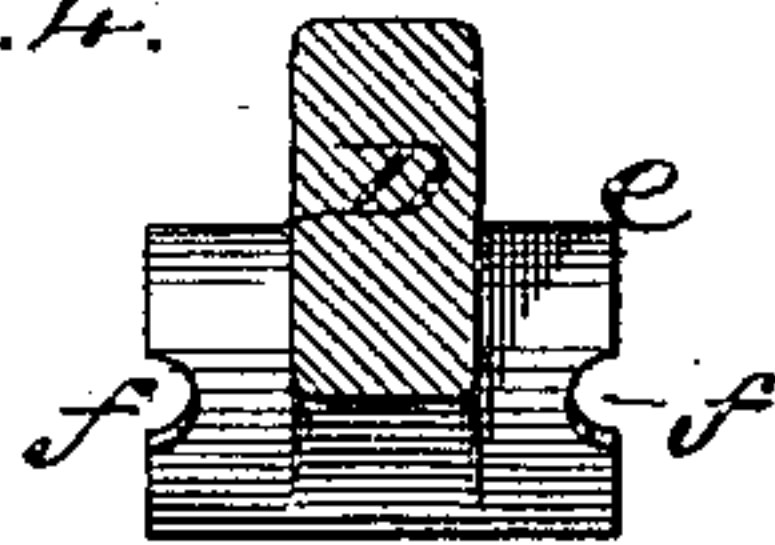


Fig. 4.



Attest:

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UNITED STATES PATENT OFFICE.

EUGENE L. HOWE, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE EWART MANUFACTURING COMPANY, OF SAME PLACE.

DRIVE-CHAIN.

SPECIFICATION forming part of Letters Patent No. 273,845, dated March 13, 1883.

Application filed January 8, 1883. (Model.)

To all whom it may concern:

Be it known that I, EUGENE L. HOWE, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful
5 Improvements in Drive-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.

10 My invention relates to an improvement in that kind of drive-chains which is composed of alternate double and single bar links, each of the double-bar links having its portions united at the ends by pintle-like rods, and each
15 of the single-bar links being formed with semi-cylindrical end portions, the interior surfaces of which bear against concave projections of the bars of the double link, and the interior semi-cylindrical surfaces of which work against
20 or around pintle-like devices of said double-bar links. A good example of this kind of chain is seen in Letters Patent granted to J. M. Dodge, No. 234,548.

In this kind of chain as heretofore constructed a serious difficulty has existed in the
25 practical use of the chain on account of the too easy separation of the parts, or an accidental uncoupling of the male and female portions in the event of the parts of the chains getting out of their usual working relative positions. This kind of chain is used mostly in
30 large sizes and very extensively for log haul-ups in saw-mills, and it has been found in practice that whenever any accidental breakage of a link occurs, so as to let the chain
35 apart, there is great liability of many of the portions of the chain becoming detached from each other and falling into the water, which not only occasions considerable loss and trouble
40 in the recovery of the sunken parts, but, as all of them cannot be sometimes recovered, necessitates considerable delay in replacing the missing parts of a chain with new ones before the log haul-up can again be set into successful
45 operation.

My invention has for its main object to overcome this objection in the use of this kind of chain by applying a preventive against the too ready separation or uncoupling of the parts;

and to this main end and object my invention 50 consists, in combination with the interior faces of the side bars of the double links, of projections or lugs which operate as stops to prevent the extrication from their working positions of the semi-cylindrical hub-like projections of 55 the single-bar links, with recesses or cut-outs in their ends, so arranged as to permit the passage by said projections or stops of the said ends of the hub-like portions of the single-bar links only when the latter and the double- 60 bar links are placed in one particular or precise and very unusual relative position.

To enable those skilled in the art to which my invention relates to make and use drive-chains embodying the same, I will now proceed to more fully describe the construction 65 and operation of the chain made according to my said invention, referring by letters to the accompanying drawings, forming part of this specification, and in which—

70 Figure 1 is a top view; Fig. 2, a side view with one part of the double link broken away; Fig. 3, a view similar to Fig. 2, except that one of the single-bar links shown is represented as being turned into the particular relative position to permit its disengagement from the 75 double-bar link. Fig. 4 is a cross-section taken at the line *x x* of Fig. 2.

In the several figures the same parts will be found designated by the same letters of reference. 80

Each of the double-bar links of my improved chain is composed of two side bars, *A A*, each of which is formed at each end with an inwardly-projecting socket-like portion, *b*, the 85 said two bars *A A* being united by the transverse pintle-like bars or rods *c c*, in about the usual manner of construction of the double-bar links of the kind of chain to which my improvement relates. 90

Each of the single-bar links is made, as seen, of a body portion, *D*, and end hub-like portions, *e e*, all in about the usual manner, except that each of the hub-like devices or portions *e e* is 95 formed or provided, as shown at *f f*, with recesses or cut-outs about similar in size and shape to the projecting lugs or stop devices *g*, that project, as shown, from the adjacent or

interior faces of the bars A A of the double-bar link. The arrangement or location of these projections *g* is such, as shown, that when any one of the single-bar links shall be turned up at about right angles to the plane of the double-bar link, with which it is coupled, two of said projections will operate (one on each of the said bars A A) as a stop against the exterior end portions of the hub-like devices *e e* of the single-bar link, and will prevent any displacement of said hub-like device relatively to the pintle about which it turns until said single-bar link shall have been turned into the precise relationship to the double-bar link shown at Fig. 3, in which position the recesses or cut-outs come adjacent to the projections and permit the removal of the single-bar link from the double-bar link by a movement of the former in the direction indicated by the arrow at Fig. 3. By this means, it will be seen, no uncoupling of the parts of a chain of that kind to which my invention relates can occur, except when the single and double bar links assume the precise relative position just explained, and it will be understood that such a relative position of the parts is exceedingly unlikely to occur, even when, in the case of using an endless chain, a breakage occurs, and the different portions of the chain are thus allowed to swing away from their natural positions.

Of course the size and shape of the lugs, as

well as of the cut-outs, may be varied without departing from the principle of my invention, the gist of which rests in the idea of having some sort of the stop-like device combined with the parts of the chain, so as to prevent the removal of the hub-like devices *e e* from their bearings and seats in the ends of the double-bar links, except when the parts of the chain assume one precise and very unusual relative position.

Having now so fully explained my invention that those skilled in the art can make and use a chain of the type referred to with my improvement embraced therein, what I claim as new, and desire to secure by Letters Patent, is—

In combination with the double-bar link provided with pintle-like devices at either end and a single-bar link provided with hub-like portions, projections located on the inner faces of the side pieces of the double-bar link, and recesses or cut-outs at one or both ends of the hub-like portions of the single-bar link, all substantially in the manner and for the purposes described.

In witness whereof I have hereunto set my hand this 4th day of January, 1883.

EUGENE L. HOWE.

In presence of—

G. E. MARSHALL,
GLENN G. HOWE.