(No Model.)

J. B. MILLER.

SHACKLE FOR VESSELS' CHAINS.

No. 466,080. Patented Dec. 29, 1891.

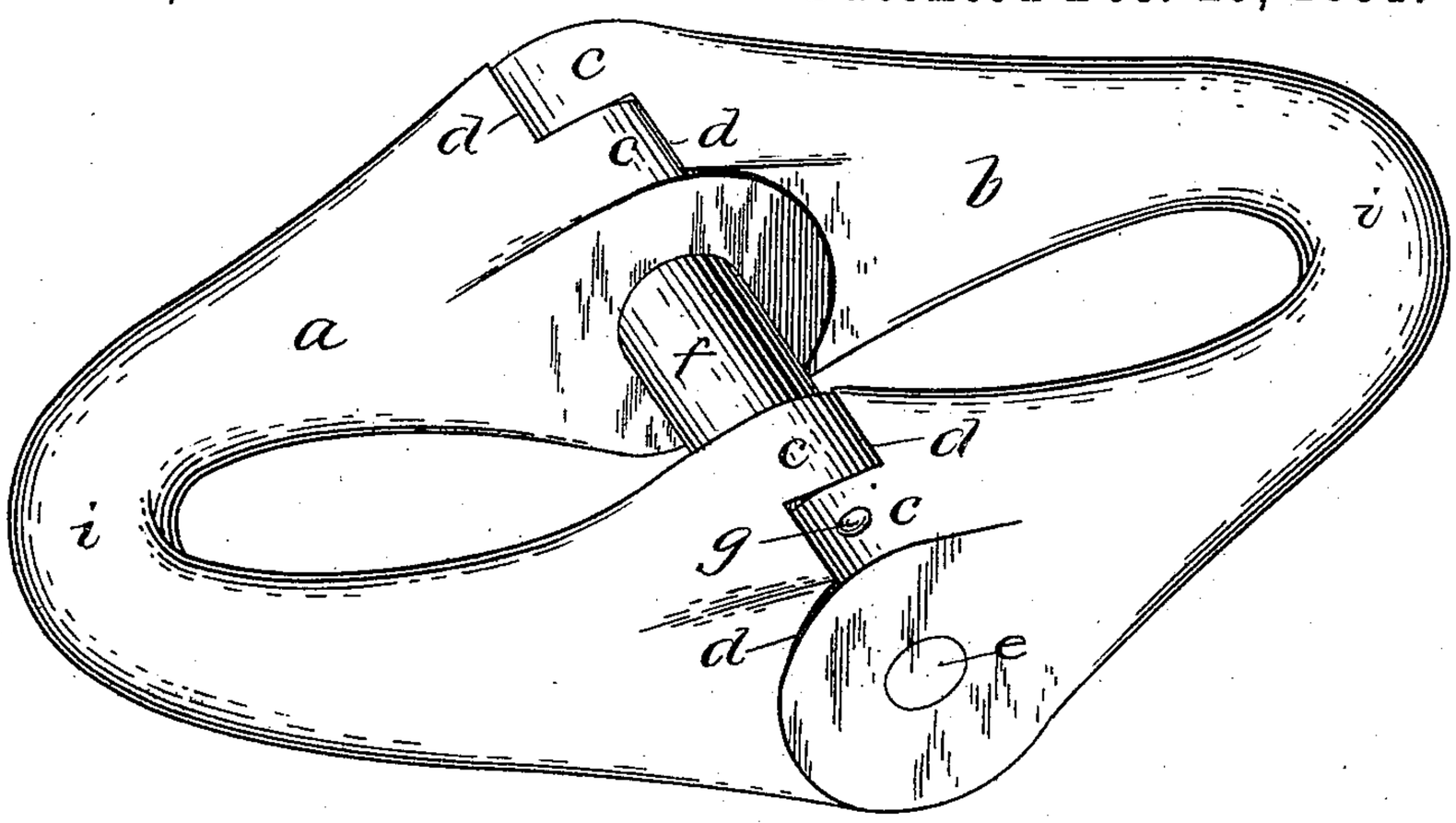


FIG. 1.

FIG. 2.

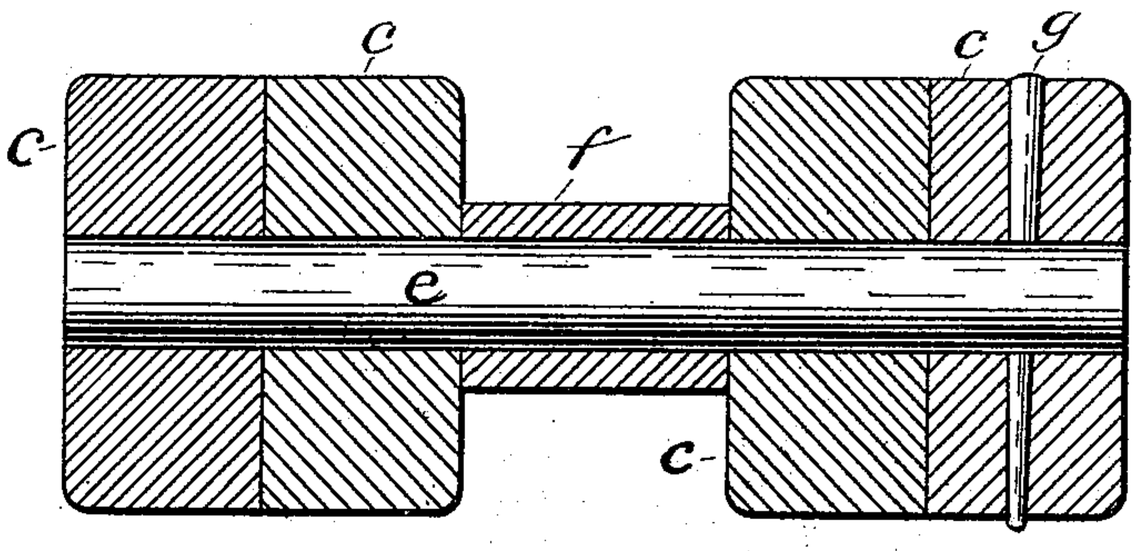
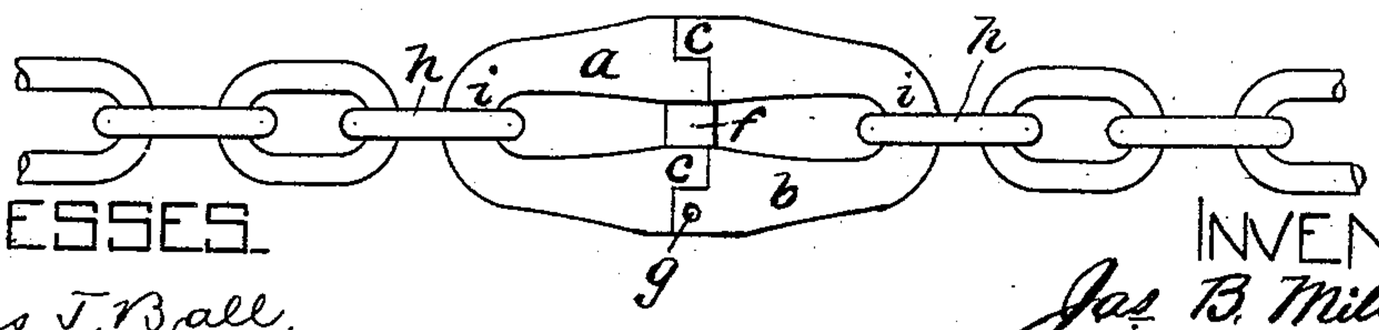


FIG. 3.



WITNESSES.

James T. Ball,
A. D. Harrison.

INVENTOR.

Jas. B. Miller
by
Wright, Brown & Crossley,
his Solicitors.

UNITED STATES PATENT OFFICE.

JAMES B. MILLER, OF ROCKLAND, MAINE, ASSIGNOR OF ONE-HALF TO EDWIN R. ROBINSON, ADDISON OLIVER, DAVID E. CARLETON, AND GALEN F. HIX, OF SAME PLACE.

SHACKLE FOR VESSELS' CHAINS.

SPECIFICATION forming part of Letters Patent No. 466,080, dated December 29, 1891.

Application filed March 31, 1891. Serial No. 387,133. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. MILLER, of Rockland, in the county of Knox and State of Maine, have invented certain new and useful Improvements in Shackles for Vessels' Chains, of which the following is a specification.

The invention has relation to vessels' chains or chain-cables; and it is the object of the improvement which I have wrought in the devices mentioned to provide an improved shackle which will obviate the liability of the latter catching on the hawse-pipe when the chain is being hauled in, as when the anchor is being hoisted or weighed, as well, also, as when the chain is being payed out. Shackles for vessels' chains are employed to connect the chain to the ring of the anchor and to divide the chain into lengths, usually of fifteen fathoms, and are constructed so as to be readily opened. Shackles for the purpose mentioned have heretofore only been made, so far as I am aware, as a clevis in the form of a letter U with a bolt and pin in the open end, the bolt being adapted to be passed through a link of the chain or through the ring connected with the shank of the anchor. This construction has answered the purpose of allowing the chain to be readily detached from the anchor and permitting the chain in the same manner of being divided into lengths or sections; but it has possessed the objection of being liable to be caught by the end of the hawse-pipe, and being thereby broken or breaking parts with which it came into contact. By my improvement the objection mentioned is overcome, the said improvement consisting of a shackle comprising in its construction two loops or U-shaped clevises provided at their open ends with eyes or knuckles and with recesses to receive the knuckles of the opposite clevis, a pin or pintle being provided to pass through the knuckles and pivotally connect the two clevises or members, all as is hereinafter more fully described, and particularly pointed out in the appended claims.

Reference is to be had to the accompanying drawings, and to the letters of reference marked thereon, forming a part of this specification, the same letters designating the same parts or features, as the case may be, wherever they occur.

On the said drawings, Figure 1 is a perspective view of my improved shackle. Fig. 2 is a sectional view taken through the pivot-rod and knuckles. Fig. 3 is a top plan view, drawn to a reduced scale, showing the invention as introduced into a chain-cable.

In carrying out my invention I provide two U-shaped clevises *a b*, each provided at its open rounded ends with eyes or knuckles *c* and with sockets or recesses *d*, suitably formed to receive the knuckles of the opposite clevis, and so that when the knuckles of each clevis are brought to place in the sockets or recesses of the opposite clevis the holes or eyes in the knuckles will "register" or be brought into line in order that the pintle or pivot-rod *e* may be passed therethrough, and thus pivotally connect the two clevises or members.

f designates a thimble or bushing which may be placed on the pintle *e* intermediate of the open ends of the clevises, and so protect the pintle and in some degree serve as a spacing-piece to the clevises. A pin *g* may be passed through a hole in one of the knuckles and the end of the pintle *e* to keep the latter in place in the knuckles. The knuckles or ends of the clevises or members of the shackle being rounded and fitting into similarly-formed recesses of the opposite member, no abrupt or angular projections or projections of any kind occur which in the movement of the chain through the hawse-pipe can catch thereagainst so as to break the chain or part into which it may come into contact. The links *h* of the ends of the chain may engage the loops *i* of the clevises, as shown in Fig. 3.

To disconnect the sections of the chain united by the shackle, it is necessary only to remove the pin *g* and take out the pintle or connecting pivot-rod *e*, substantially as the bolt in the old and commonly-employed shackle is removed to disconnect the lengths of the chain.

In the use of my improved shackle, by reason of the fact that the strain is brought directly and squarely upon the pintle or pivot-rod at points within the knuckles it is, in addition to the advantages already mentioned,

rendered more durable than the old form of shackle, where the strain on the bolt was frequently of a more or less torsional nature and exerted at a point intermediate of the knuckles.

It is obvious that changes may be made in the form and arrangement of parts comprising my improvements without departing from the nature or spirit of the invention.

Having thus explained the nature of my invention and described a way of constructing and using the same, though without attempting to describe all of the forms in which it may be made, I declare that what I claim is—

1. A shackle for vessels' chains, comprising in its construction two loops or U-shaped clevises provided at their open ends with eyes or knuckles and with recesses or sockets to receive the knuckles of the opposite clevis, and a pintle or pin extending through the eyes or knuckles, as set forth.

2. A shackle for vessels' chains, comprising in its construction two loops or U-shaped clevises, each provided at its open end with rounded knuckles having eyes or holes formed therethrough and correspondingly-rounded sockets for the reception of the knuckles of the opposite clevis, and a pintle or pin extended through the said knuckles, as set forth.

3. A shackle for vessels' chains, comprising in its construction two loops or U-shaped clevises provided at their open ends with eyes or knuckles and with recesses or sockets to receive the knuckles of the opposite clevis, a pintle or pin extending through the eyes or knuckles, and a thimble or bushing *f* on the pintle intermediate of the open ends of the clevises.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 26th day of March, A. D. 1891.

JAMES B. MILLER.

Witnesses:
J. W. CROCKER,
A. J. ENGLEY.