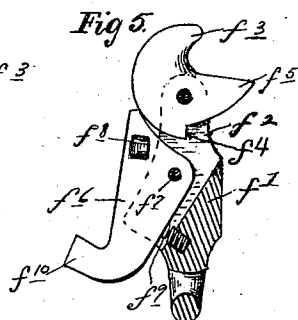
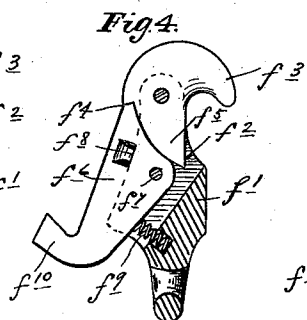
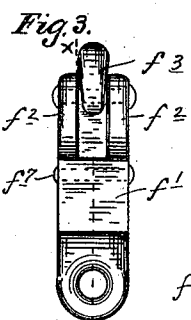
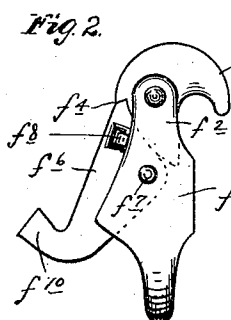
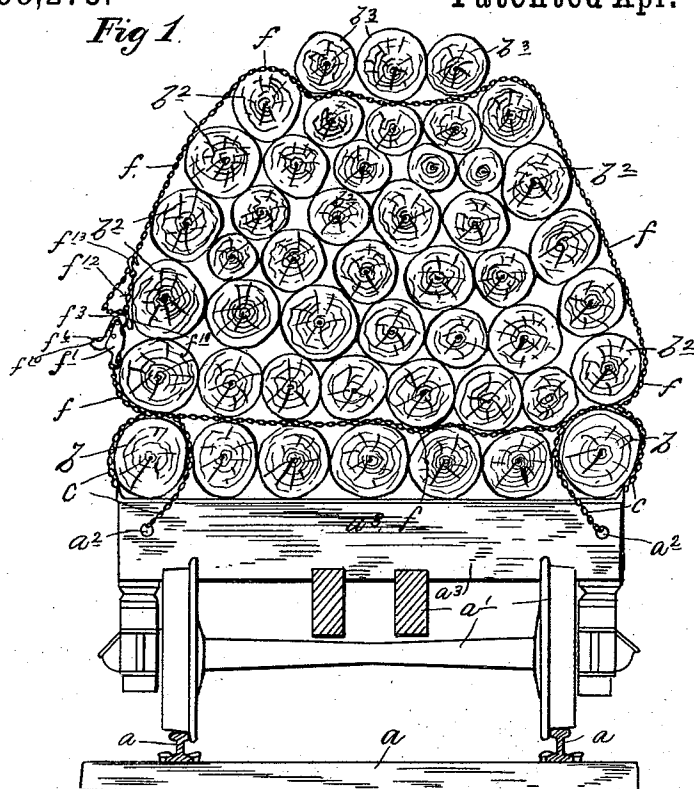


(No Model.)

J. FLEMING.
TRIP HOOK FOR WRAPPING LOG CHAINS.

No. 558,273.

Patented Apr. 14, 1896.



Witnesses.

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UNITED STATES PATENT OFFICE.

JAMES FLEMING, OF MINNEAPOLIS, MINNESOTA.

TRIP-HOOK FOR WRAPPING LOG-CHAINS.

SPECIFICATION forming part of Letters Patent No. 558,273, dated April 14, 1896.

Application filed November 14, 1895. Serial No. 568,916. (No model.)

To all whom it may concern:

Be it known that I, JAMES FLEMING, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Trip-Hooks for Wrapping Log-Chains; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to log-chains of the kind which are used as wrappers for binding together the logs of a load for holding the same from displacement on the car, sled, or other vehicle.

Hitherto it has been the custom to use an ordinary log-chain for this purpose. With this common chain it is often difficult and sometimes impossible to uncouple the ends of the chain, for the reason that the logs will spread and draw the chain so taut that it is difficult or impossible to disengage the hook from the link engaged thereby. It is usually necessary to drive the hook out from the link with the use of an ax or other driving device, and it is sometimes necessary to cut the chain.

My invention has for its object to overcome the above defects and limitations by the provision of a hook which is equally strong when in its closed or coupling position, but which may be readily unlocked and permitted to open for uncoupling the chain whenever desired.

To this end my invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein, like letters referring to like parts throughout—

Figure 1 is a central vertical cross-section through a load on a car with my improved chain applied as a wrapper to the load. Fig. 2 is a side elevation of my improved hook and hook-block detached. Fig. 3 is a front end view of the same. Fig. 4 is a sectional view on the line $x x$ of Fig. 3 with the hook in its locked or closed position, and Fig. 5 is a similar view with the hook unlocked and in its open or uncoupled position.

a represents a railway-track, and a' represents a logging-car thereon.

Having regard to the load, b represents the outside members of the lower tier of logs $b b'$. These outside logs b of the lower tier are anchored to the bunkers of the car-truck by means of ordinary log-chains c , which are passed through transverse holes a^2 in the bunkers or bolsters a^3 , as shown in Fig. 1.

b^2 represents the logs which make up the body of the load and which are encircled by the wrapper or wrapping-chain f . b^3 represents a top tier or set of logs, which are usually placed on the top of the load above the wrapping-chain f , because when the load is properly built up there is usually room for the same, and especially because the said top logs b^3 will serve as tighteners to draw the wrapping-chain f taut about the body of the load made up of the logs b^2 . In putting up the load the wrapping-chain f is, of course, extended across the lower tier of logs $b b'$ before the additional logs b^2 are stacked thereon. The said wrapping-chain f as I construct the same is provided with a hook-block f' , which is suitably cut away to afford a pair of jaws f^2 . A hook f^3 is seated between the outer ends of the jaws f^2 and is pivoted thereto. The said hook f^3 is provided with a shoulder f^4 and an extended tailpiece f^5 . The back of the hook is of curvilinear form both outward and inward of the shoulder f^4 .

Between the jaws f^2 rearward of the hook is seated the locking-dog f^6 , which is pivoted to the said jaws by the pin f^7 . The tip or forward end of the dog f^6 is adapted to engage behind the shoulder f^4 , as shown in Figs. 2 and 4, when the hook is in its closed or coupled position. Inward of its tip the dog f^6 is formed with a curvilinear forward face, shaped to the same curved line as the back of the tailpiece f^5 of the dog. Hence when the hook is in its closed or coupling position the back of the hook and the face of the dog will form a close joint or bear against each other throughout to the rear of the shoulder f^4 . In virtue of this construction the hook f^3 , when locked in its operative position, as shown in Figs. 2 and 4, will be held rigid against pivotal movement in either direction, and when thus locked will be as firm as an or-

dinary single-piece hook. The dog f^6 is provided with a pair of lateral lugs f^8 , adapted to engage with the backs of the jaws f^2 to limit the inward or closing movement of the dog.

5 A spring f^9 is suitably seated in the body of the hook-block f' and reacts against the dog f^6 rearward of the pin f^7 , thereby tending to throw the dog into its closed or locking position. The rear end of the dog f^6 terminates
10 in an angular or hook-like projection f^{10} , which serves as a pulling or striking surface for releasing the dog.

The opposite end of the wrapping-chain f terminates in a comparatively large link f^{11} ,
15 to which is also attached a short chain-section f^{12} with hook f^{13} .

When the wrapping-chain is applied to the load, the large or terminal link f^{11} is engaged by the pivoted hook f^3 . The chain is then
20 drawn taut and the hook f^{13} of the short chain-section f^{12} is made to engage with the proper link of the main chain f to take up the slack, as shown in Fig. 1. When the logs b^2 encircled by the wrapping-chain f have spread under the tightening action of the top logs b^3
25 and the jars and shocks incidental to the movement of the car, sled, or other vehicle, the chain will be drawn taut, as hitherto noted. Hence on reaching the unloading
30 point it will only be necessary to release the dog f^6 from the hook f^3 , which may be readily done by pulling or striking on the lug f^{10} of the dog. The strain on the chain will be sufficient to throw the hook f^3 automatically into
35 its open position and uncouple the ends of the chain.

From the foregoing statement it must be obvious that this improvement will therefore save a considerable amount of time and labor,
40 thereby materially reducing the cost of unloading the logs. It is also a great protection against accidental injury to the workmen.

With the ordinary or common log-chain workmen frequently get caught by the tumbling
45 load when attempting to get away after un-

coupling a tight chain by the use of an ax or driving device or after cutting the chain. It is not an uncommon thing for workmen to be killed from a falling load by being caught in this way.

Although especially designed for the use above described, it will of course be understood that my improved chain and trip-hook would be serviceable in other uses, wherever the chain is subject to continuous strain, when
55 the ends are coupled together.

It will also be understood that minor details of the construction might be changed without departing from the spirit of my invention.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with a head-block, of a hook pivoted to said head-block, having a projecting tailpiece which engages a stop portion
65 carried by said head-block, to limit its closing movement, and a lock-dog mounted on said head-block and engageable with said hook to hold the same in its extreme closed position, whereby said hook may be rigidly locked in its
70 closed position, against movement in both directions, substantially as described.

2. The combination with the head-block f' , of the pivoted hook f^3 having the shoulder f^4 and tailpiece f^5 , and the pivoted dog f^6
75 having the projection coöperating with said shoulder f^4 to lock said hook against opening movement and having its hub portion constructed for coöperation with said tailpiece f^5 , when said hook is in its closed or operative
80 position, whereby said hook may be locked in its closed position rigid against movement in all directions, substantially as described.

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

JAMES FLEMING.

Witnesses:

JAS. F. WILLIAMSON,
E. F. ELMORE.