H. L. FERRIS.

STOP DEVICE FOR CARRIERS.

APPLICATION FILED NOV. 29, 1909.

1,007,934. Patented Nov. 7, 1911.

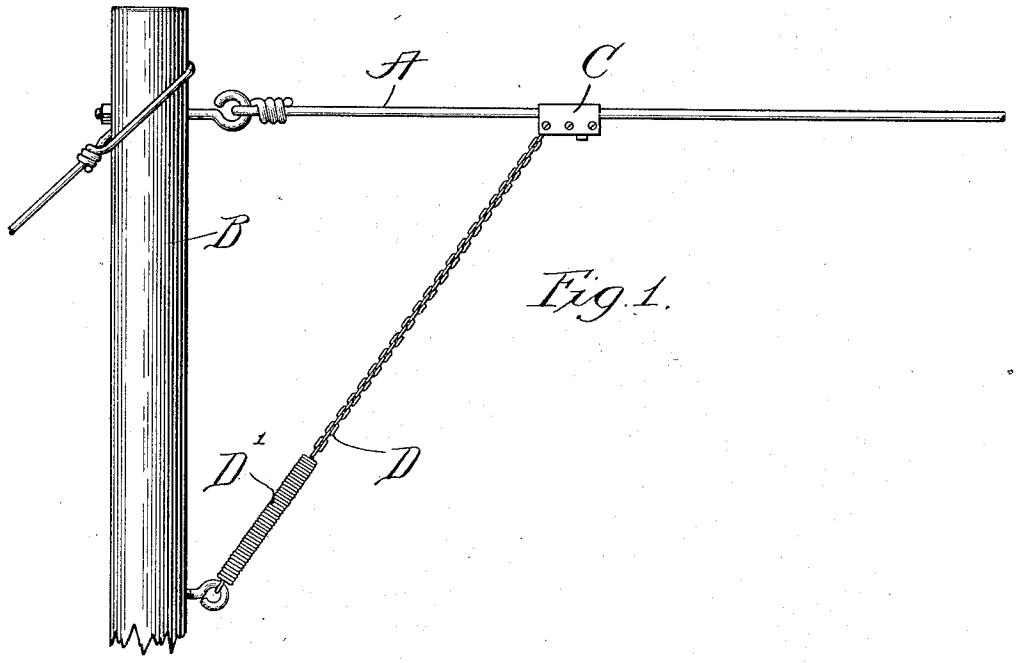

Fig. 1.

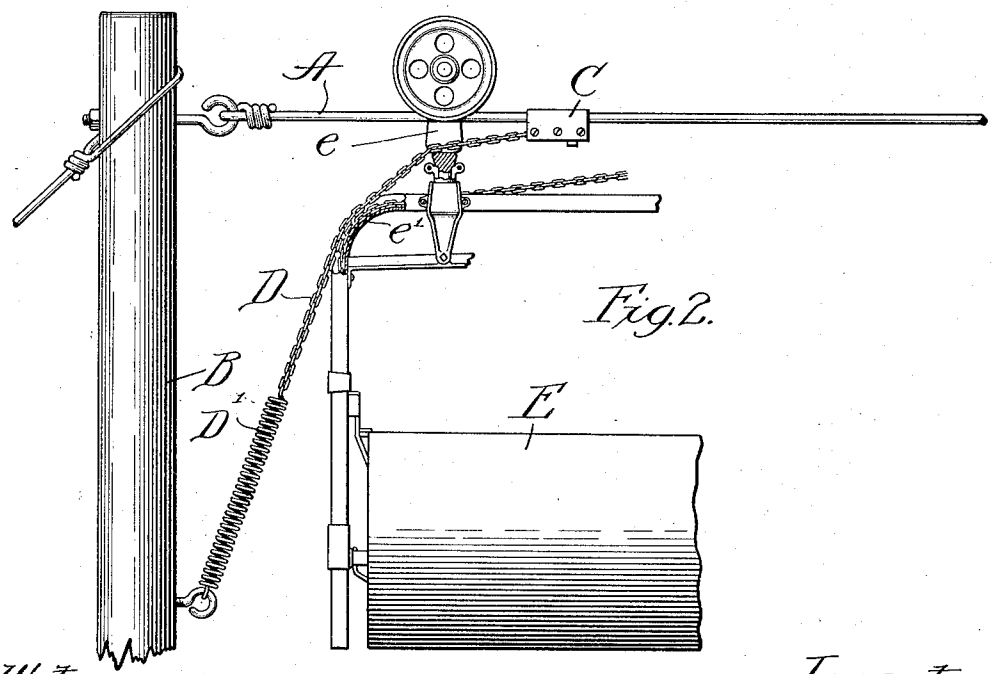

Fig. 2.

Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY L. FERRIS, OF HARVARD, ILLINOIS, ASSIGNOR TO HUNT, HELM, FERRIS & COMPANY, OF HARVARD, ILLINOIS, A CORPORATION OF ILLINOIS.

STOP DEVICE FOR CARRIERS.

1,007,934. Specification of Letters Patent. Patented Nov. 7, 1911.

Application filed November 29, 1909. Serial No. 530,416.

To all whom it may concern:

Be it known that I, HENRY L. FERRIS, a citizen of the United States, residing at Harvard, in the county of McHenry and State of Illinois, have invented a new and useful Improvement in Stop Devices for Carriers, of which the following is a specification.

My invention relates to new and useful improvements in stop devices for carriers, and is fully described and explained in the specification and shown in the accompanying drawing, in which—

Figure 1 is a side elevation of my improved device showing the same in the position which it occupies with reference to a track and a track support when in its normal position, and Fig. 2 is a similar view showing the same in operative position when coöperating with a feed and litter-carrier, the feed and litter carrier being shown in elevation except that certain parts are broken away in longitudinal sections.

Referring to the drawing: A is a track, which may be of any desired form, but is here shown as made in the form of a round bar or rod, such as is commonly used in connection with feed and litter carriers. The track is supported at one end by a post B which may be set in the ground, or otherwise secured in position according to common practice. Upon the track A is rigidly secured a block C from which extends diagonally downward, and toward the post, a chain, or other flexible member, D, which is connected with a stationary point upon the post B by means of a spring D^1.

E indicates, generally, a feed and litter carrier, of which *e* is a hanger, and e^1 the upper corner of the channel iron frame, these being the only parts of the feed and litter carrier which require special mention in connection with this invention, inasmuch as they are the only parts thereof which cooperate therewith.

In the use of feed and litter carriers, particularly those where a flexible track is used, such as that here shown, it is the custom for the operator to push the carrier forcibly from the barn to the point where it is automatically tripped, the elasticity of the track raising the carrier sufficiently when relieved of its contents to return the same to the barn. While this operation is in theory a satisfactory one, it is found in practice that in many instances the carrier will not return automatically, particularly if it has to move a long distance from the barn, and it is therefore desirable that all the power which can be derived from the forward momentum of the carrier be returned to it by some elastic means to aid it in its return journey. Furthermore, it is very desirable that some elastic buffer be provided between the carrier and the post, or other support which forms the end of the track, so that the carrier will thereby be prevented from striking the post or support and being damaged by such contact.

My present device furnishes a completely effective bumper which efficiently protects the carrier from injury, and at the same time conserves the kinetic energy of the carrier, starting it backward upon its return journey with a minimum loss thereof. In operation, when the carrier reaches the block C, the chain passes through the hanger in the manner illustrated and engages with the upper corner of the frame of the device throwing the chain and spring under tension, the carrier being thereby brought to a stop easily and without danger of injury, and immediately upon the stoppage of the carrier the spring will return practically all the energy it contains to the carrier, starting it swiftly upon its return journey.

I am quite aware that spring-bumpers have heretofore been devised for carriers, but in all those devices upon the market at the present time the spring has been applied to the wheel so that the bumper acted as a brake upon the wheel and a very large and totally unnecessary amount of energy was expended in getting the carrier under way in its return direction. With my device it will be seen that the wheel is perfectly free to move at all times, the engagement being entirely between the chain and the non-rotating parts of the carrier, so that the maximum of efficiency is attained.

It will be obvious, of course, that it is not necessary that the spring be attached to the post or support of the outer end of the track, for it could evidently be run to the ground or any other stationary point, and it is also evident that there are other equivalent devices which could, if desired, be substituted for the spring.

I realize that considerable variation is possible in the details of construction of my improved device, without departing from the

spirit of my invention, and I do not intend, therefore, to limit myself to the specific form herein shown and described.

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

1. In combination, a track, a pulley running upon the track, a depending carrier-frame, a flexible member extending diagonally downward from the track and a spring attached to the end of the flexible member, for the purpose set forth.

2. In combination, a track, a pulley running upon the track, a depending carrier-frame, a chain extending diagonally downward from the track in position to be engaged by the frame, and a spring holding said chain under tension.

HENRY L. FERRIS.

In the presence of—
SAM E. MAY,
W. A. DILLEY.