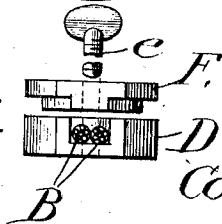
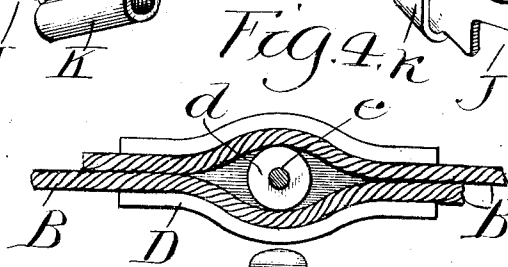
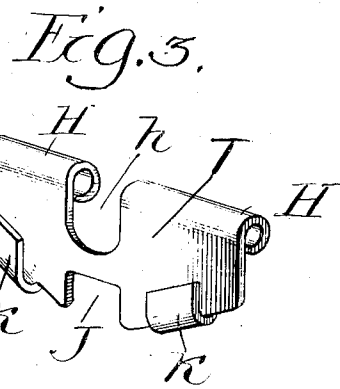
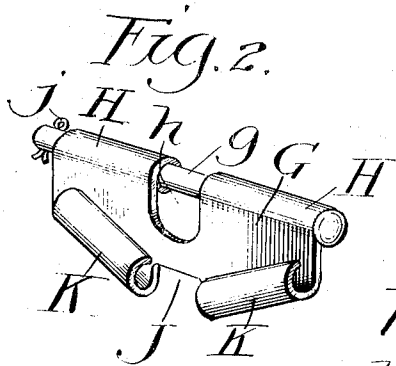
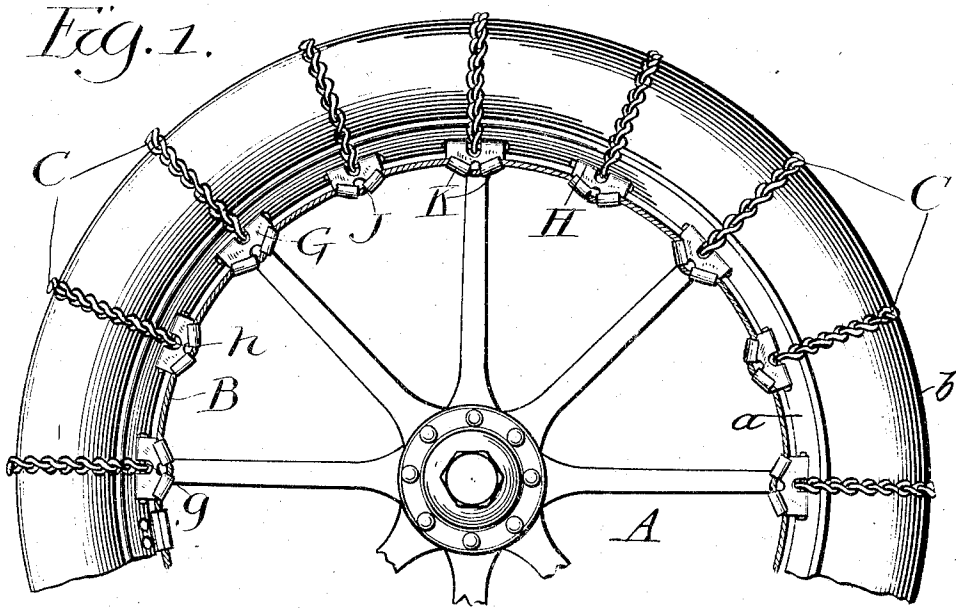


C. T. RAYMOND.
CHAIN GUARD FOR VEHICLE WHEELS.
APPLICATION FILED JAN. 18, 1909.

1,025,159.

Patented May 7, 1912.



Witnesses
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UNITED STATES PATENT OFFICE.

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CHAIN-GUARD FOR VEHICLE-WHEELS.

1,025,159.

Specification of Letters Patent.

Patented May 7, 1912.

Application filed January 18, 1909. Serial No. 472,834.

To all whom it may concern:

Be it known that I, CONNESS T. RAYMOND, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Chain-Guards for Vehicle-Wheels, of which the following is a clear, full, and exact description.

My invention relates to chain-guards for the tires of vehicles, and particularly the pneumatic tires of automobiles.

The object of my invention is to provide a simple and expeditious method of applying said chain-guards by comparatively inexpensive means, that can be quickly threaded on the retaining cable or chain, and, to or from which the cross-chains can be quickly coupled or uncoupled. This I accomplish by the means hereinafter fully described and as particularly pointed out in the claims.

In the drawings:—Figure 1 is a side view of the major part of a pneumatic tired automobile wheel, showing my improvements applied thereto. Fig. 2 is a perspective view of one of the improved coupling plates used in connection therewith. Fig. 3 is a perspective view of a modified form of said plate. Fig. 4 is a detail view showing the clamp for the ends of the retaining cable. Fig. 5 is a vertical end elevation of the clamp showing the parts separated.

In the drawings A represents a suitable wheel; *a* the rim thereof, and *b* the pneumatic tire seated in said rim. It makes no difference, so far as my invention is concerned, how the wheel and its tire are constructed. Heretofore it has been customary to employ parallel endless cables B or chains to hold the cross-chains C in place and the other devices used in connection therewith to the wheel, and, so far as these features of my invention are individually concerned, I claim no novelty in their use. I prefer to use a cable B, although as will hereinafter more fully appear a chain may be substituted therefor, and I secure the ends of this cable B together by means of a clamp consisting of a box D, which is channeled longitudinally from end to end, and has the channel gradually widened as it approaches its center of length, at which point it has an elliptical cam *d* centrally pivoted midway between its sides, the thickness of which corresponds to the depth of

the channel. The ends of the cable are lapped past each other and placed in the channel of this box, one passing between the periphery of said cam and the adjacent side of the channel and the other between the opposite side of the channel and said cam, and the extremities of said cable are extended out of the end of the box opposite that they entered, substantially as shown in the drawings. A cover or plate E whose edges are rabbeted to enable it to fit into said channel, is then secured to the box by a suitable screw *e* the barrel of which serves as a pivot for the cam. By pulling the ends of the cable through this clamp the return thereof is prevented by the action of the cam which clamps said ends against the sides of the channel when there is a withdrawal strain on said ends, but permits their being drawn therethrough.

The cross-chains C, C, have their ends removably secured to coupling-plates G by means of pins *g*, and these coupling-plates G are removably secured to and adjustable longitudinally upon the cables or chains B. The longitudinal edge of each of these plates G nearest the periphery of the wheel has its center of length provided with a recess *h*, and the edges on each side of said recess thereof are rolled back upon themselves to form knuckles H, H, through the bores of which a pin *g* is passed. Now in use the end link of each cross-chain C is inserted in the recess *h* of the coupling-plate and pin *g* pushed longitudinally through said knuckles until the head of said pin bears against one end of the plate and the opposite end of the pin projects beyond the opposite end of said plate, in which position its withdrawal is prevented, preferably, by means of a cotter-pin *j*, substantially as shown in Fig. 2.

The edge of each plate G nearest the center of the wheel is inclined from either end toward its center of length in such manner that said plate is widest at its center of length, and this inner edge is, preferably, likewise provided with a central recess J, and on either side of this recess the edges of the plate are rolled back upon itself, preferably, in the opposite directions to the roll of the knuckles H, and form oppositely inclined knuckles K through which the cable B is threaded. When a sufficient number of these coupling-plates have been threaded each cable B, and the ends of the

cables are clamped together in the box D, said cables will describe a circle of about the same diameter as the inner portion of the rim of the wheel, adjacent to which they are placed in parallel position, one on one side, of the spokes of the wheel, and the other on the other side, and where said cables pass through the inclined knuckles K of plate G, they will be bent inward and such bend will prevent their longitudinal slipping on the cables. The ends of the cross-chains C are then secured to the opposite plates G of each cable, through the medium of the pins *g*, in the manner hereinbefore stated, in which positions said chains will have been passed around the periphery of the wheel, and thereupon my invention is ready for use.

As hereinbefore stated sometimes chains are substituted for the cables B. When this is done I prefer to use a coupling-plate I, which is constructed substantially the same as the coupling-plate G, excepting that instead of its inner edges being provided with knuckles K they are provided with hooks *h*, *h*, which may be made by simply leaving knuckles K open or may be made by providing said edges with projecting portions that are bent backward opposite the plate a sufficient distance, substantially in the manner shown in Fig. 3 of the drawings. These hooks *h* are caught upon the longitudinal portions of connecting-links of said chains, and when the parts of the chain guard are assembled and the chains are drawn taut, their relation and coöperation with said

chains are the same as the knuckles K of the coupling plate G with the cables B. I desire to be understood as considering the chains as the full equivalent of the cables, and the hooks *h* the equivalent of knuckles K.

What I claim as new is:—

1. A chain-guard for the tires of vehicles comprising parallel retaining cables, coupling-plates having knuckles along one side through which said cables are threaded, said knuckles being so arranged that said cables are threaded in a circuitous path, cross-chains, and removable means engaging and adapted to removably secure the ends of said chains to the sides of said plates opposite said knuckles.

2. A chain-guard for the tires of vehicles comprising parallel retaining cables, coupling plates having the edges of one longitudinal side inclined from its end toward its center of length and provided with knuckles on each of said oppositely inclined portions, through which said cable is threaded, cross-chains, and pins engaging and adapted to removably secure the ends of said chains to the sides of said plates opposite said knuckles.

In testimony whereof I have hereunto set my hand and seal this 24th day of December, A. D., 1908.

CONNES T. RAYMOND. [L. s.]

Witnesses:

FRANK D. THOMASON,
E. K. LUNDY.