

(No Model.)

J. G. A. KITCHEN.  
MUD GUARD FOR WHEELS.

No. 593,395.

Patented Nov. 9, 1897.

Fig. 1.

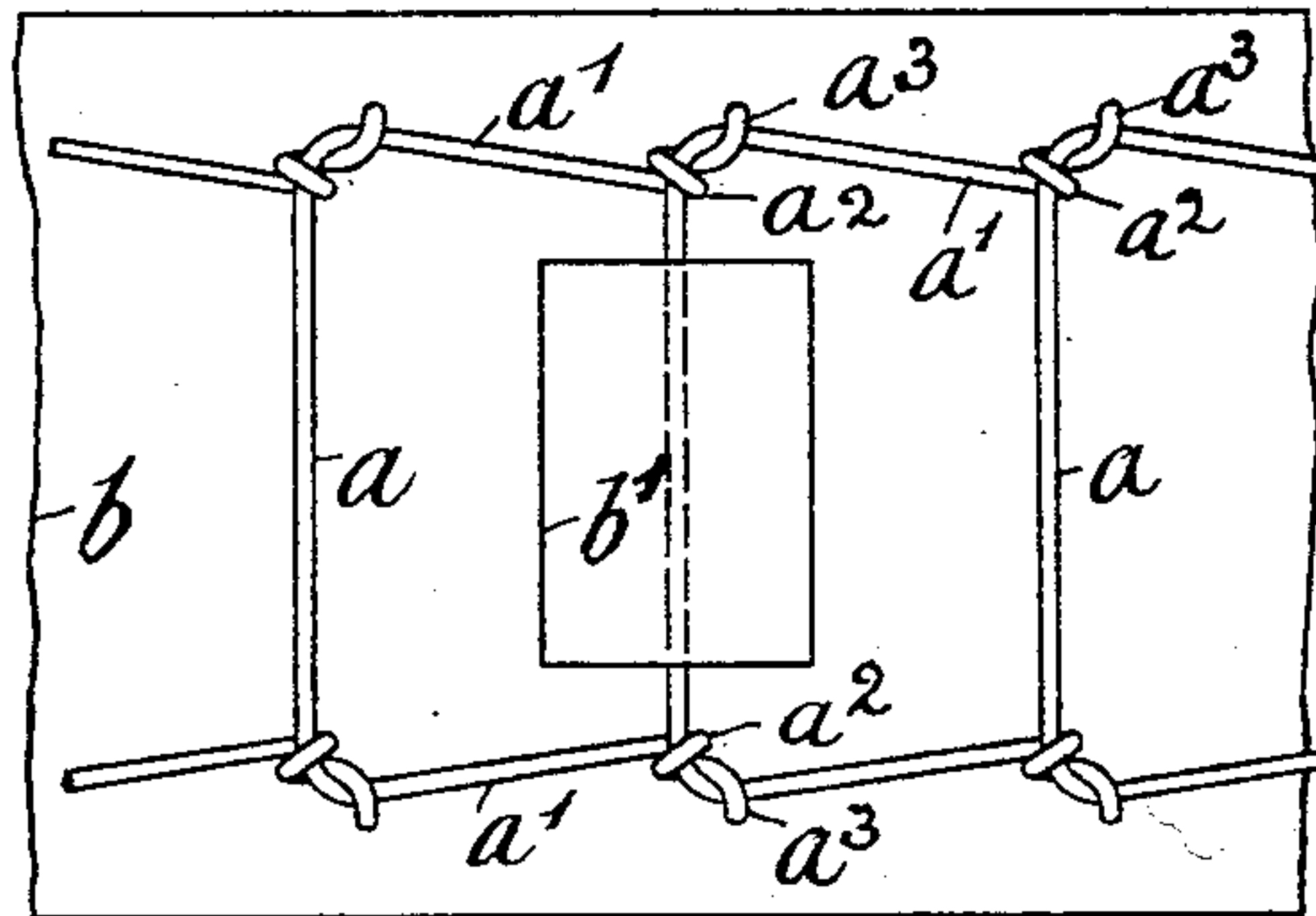


Fig. 2.

Fig. 3.

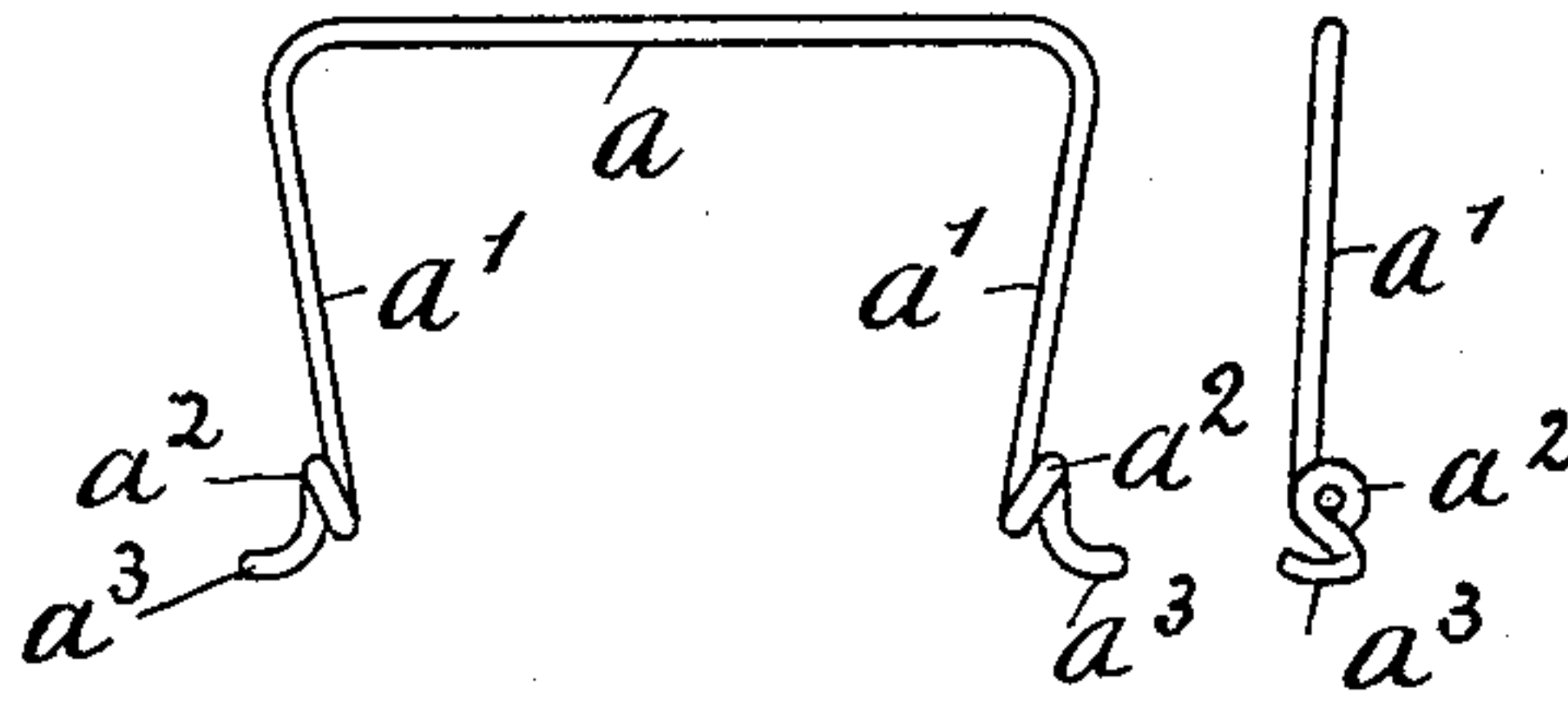
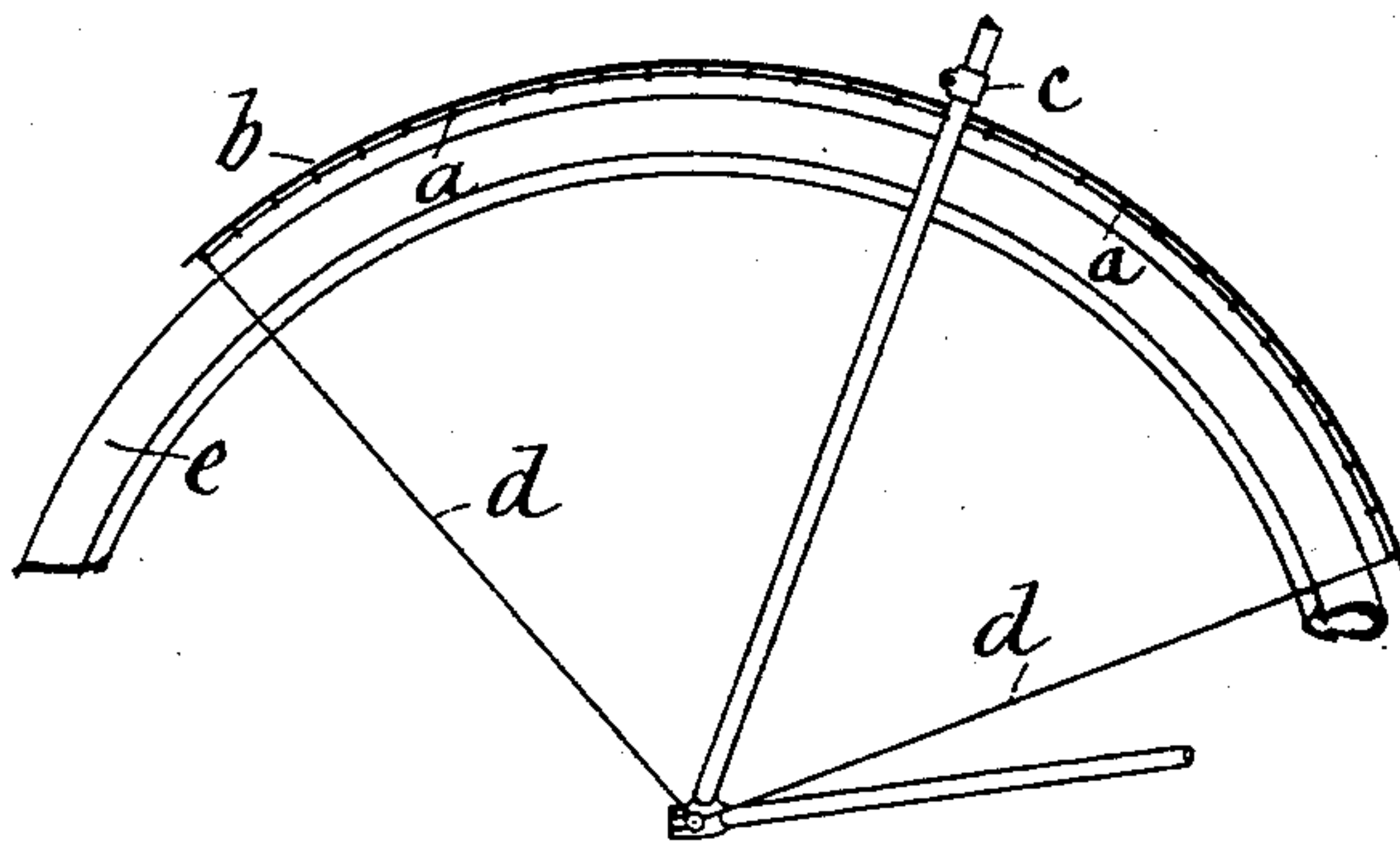


Fig. 4.



Witnesses

H. H. Edwards  
Wm. A. Anthony.

Inventor

John G. A. Kitchen

By his Attorney  
Edward P. Thompson

# UNITED STATES PATENT OFFICE.

JOHN GEORGE AULSEBROOK KITCHEN, OF MANCHESTER, ENGLAND,  
ASSIGNOR TO THE MANCHESTER CYCLE COMPONENTS, LIMITED,  
OF SAME PLACE.

## MUD-GUARD FOR WHEELS.

SPECIFICATION forming part of Letters Patent No. 593,395, dated November 9, 1897.

Application filed March 1, 1897. Serial No. 625,618. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN GEORGE AULSEBROOK KITCHEN, a subject of the Queen of Great Britain, and a resident of Manchester, in the county of Lancaster, England, have invented certain new and useful Improvements in Mud-Guards for Wheels, of which the following is a specification.

This invention relates to light and readily-detachable folding mud-guards for the wheels of velocipedes and other light road-vehicles; and it consists in the improved manner of construction of the framework of the guard, the object of this invention being to reduce the weight and cost of manufacture of such guards and enable them to be readily folded up into a small space.

The folding mud-guards hitherto made have either been composed of long sections and stays, occupying a long space when folded up and inconvenient to stow away in the cyclist's tool-bag and to put on or take off the machine, or where they have been formed of shorter sections hinged together, so that they can be folded or rolled up in one direction and are prevented from folding in the other direction, the sections have been composed of many different parts and expensive to make. These inconveniences are obviated by my improved manner of constructing the guard.

On the drawings appended hereunto, Figure 1 represents a part of the mud-guard as seen from the under side, showing the construction of the framework; Fig. 2, a plan of one of the sections or links detached; Fig. 3, a side view of the same; Fig. 4, an outline of the mud-guard as applied to the rear wheel of a bicycle.

The frame of the guard is composed of links of wire, preferably of tempered steel, of the shape shown, each link consisting of a wire  $a$ , bent at each side at about a right angle, so as to form sides  $a'$ . The ends of each side are curled around the transverse wire of the preceding link nearly twice around, and the second curl  $a^2$  bent or opened out with regard to the first curl  $a^2$ , so as to be at about a right angle thereto and seize under the sides  $a'$  of the preceding link, which is thus prevented

from being folded up the following link in this direction or upward when the chain is in the position shown on Fig. 1, but can be folded in the opposite direction. To the chain is attached by means of strips  $b'$  or other suitable devices a flexible cover  $b$ , rather wider than the chain, made, preferably, of enameled fabric and cut diagonally, so as to curve transversely when stretched. Any other suitable material, such as leather or india-rubber, may be used. The strips  $b'$  are either cemented or stitched to the cover  $b$ . The chain may, however, be attached to the cover by suitable metal clips or by stitching around the cross-bars of the chain. The guard thus formed is attached to suitable clips  $c$ , by means of which it is fixed to the fork of a bicycle or other suitable part of the vehicle, and the free ends of the chain are drawn in by cords  $d$  or light wires or held by stays attached to the stationary axle or other part of the frame of the machine, so that the framework of the guard is sprung around to follow the curvature of the wheel  $e$ , as shown by Fig. 3.

A guard thus formed can be readily detached and rolled up into a small compass in the opposite direction to the curvature when fixed.

I claim—

1. In a mud-guard for wheels of velocipedes and road-carriages the combination of a framework formed of wire links, each link being formed of one piece of wire and having three sides, the two ends thereof being each curled first around the middle side and then bent sidewise to support a side of the next link, and of a cover of flexible material attached to the framework in any suitable way, substantially as described.

2. The combination of a framework consisting of wire links, each link of which is formed of one piece of wire and connected to the next link so that it can be folded upon it in one direction and is prevented from being so folded in the other direction, a cover of flexible material attached to the said framework, clips attached to said framework and adapted for attachment to the frame of a vehicle, and ties attached to the free ends of



the said framework for bending the same to the curvature of a wheel and securing it in this form.

3. A mud-guard for wheels of velocipedes  
5 and other road-carriages composed of a chain consisting of wire links, each link being formed of one piece of wire and having three sides, the two ends thereof being each curved first around the middle side of the next link and  
10 then bent sidewise to support a side of the next link; a flexible cover attached to the said

chain, clips attached to said chain and adapted for attachment to the frame of the vehicle, and ties attached to the free ends of the chain, substantially as described. 15

In testimony whereof I have hereunto set my signature in the presence of two witnesses.

JOHN GEORGE AULSEBROOK KITCHEN.

Witnesses:

CARL BOLLÉ,

R. J. URQUHART.