

(No Model.)

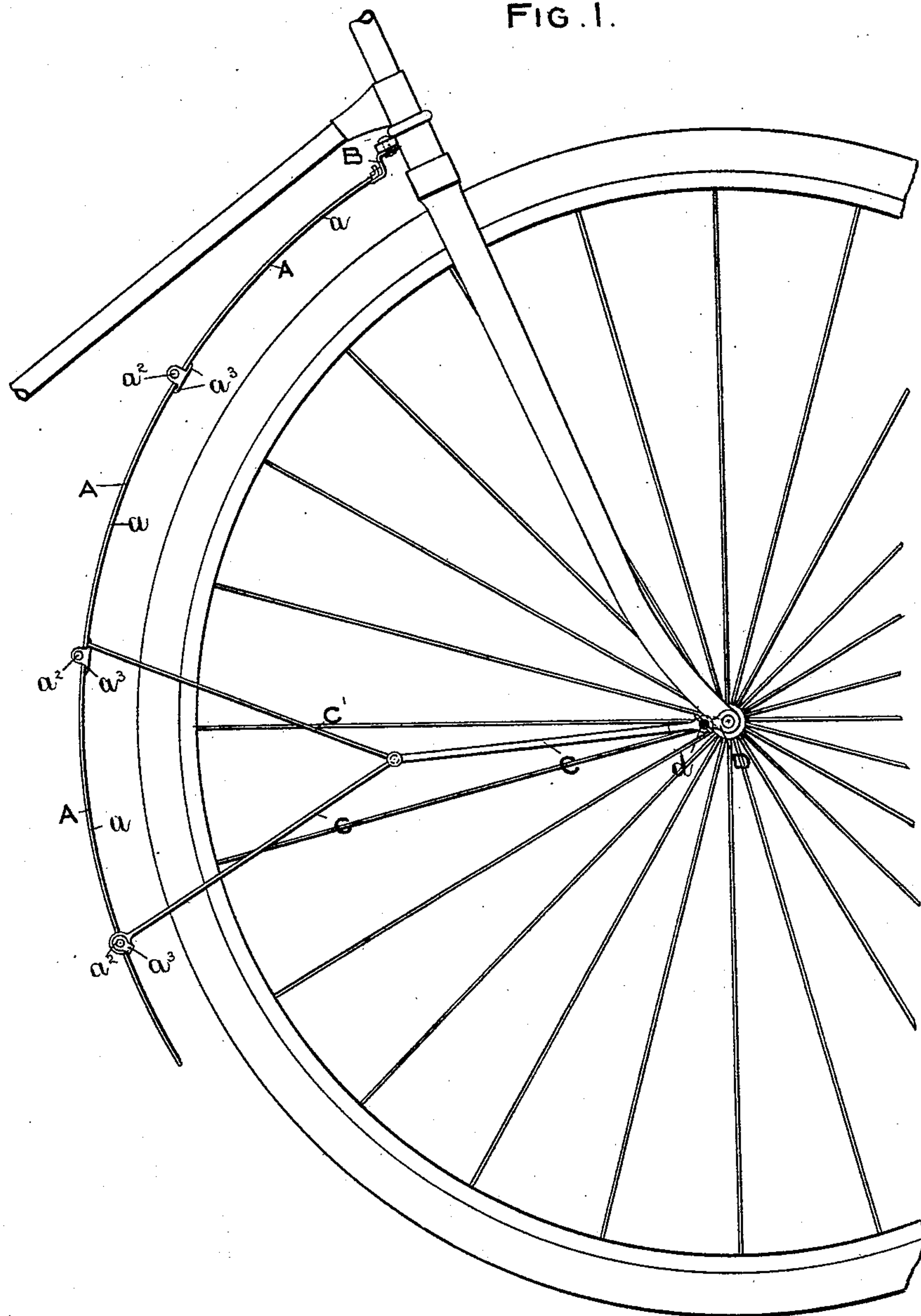
3 Sheets—Sheet 1.

A. GOVAN.
MUD GUARD FOR VELOCIPEDES.

No. 500,384.

Patented June 27, 1893.

FIG. 1.



WITNESSES.

W. H. James.
J. S. Clark.

INVENTOR.

Alexander Govan

per

Thos. Ed. Phillips.

Attorney.

(No Model.)

3 Sheets—Sheet 2.

A. GOVAN.
MUD GUARD FOR VELOCIPEDES.

No. 500,384.

Patented June 27, 1893.

FIG. 2.

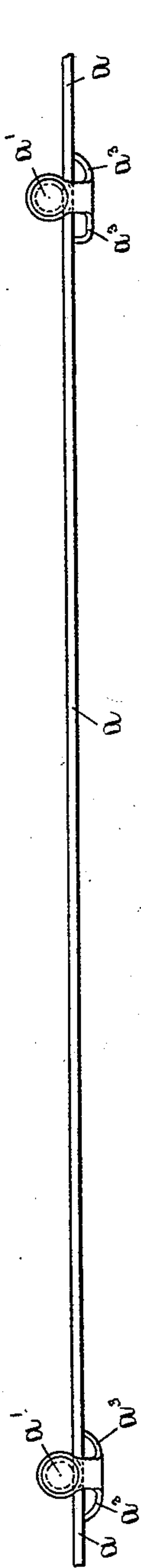
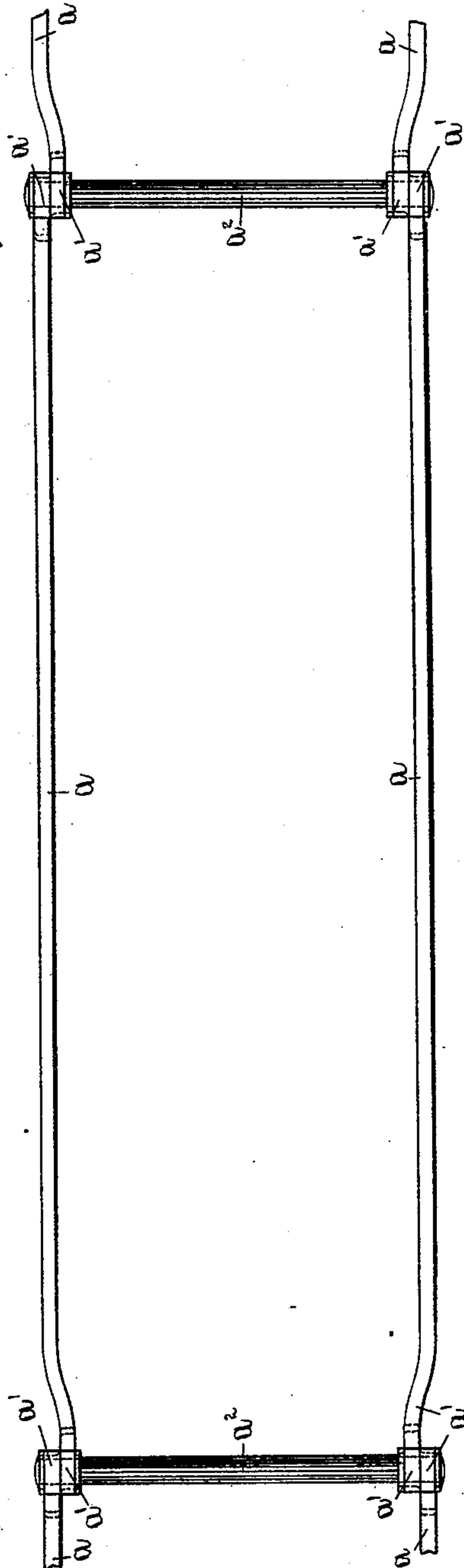


FIG. 3.



WITNESSES.

W. H. James
G. S. Clarke.

INVENTOR.

Alexander Govan.

per

Robert C. Phillips
Attorney.

(No Model.)

3 Sheets—Sheet 3.

A. GOVAN.
MUD GUARD FOR VELOCIPEDES.

No. 500,384.

Patented June 27, 1893.

FIG. 6.

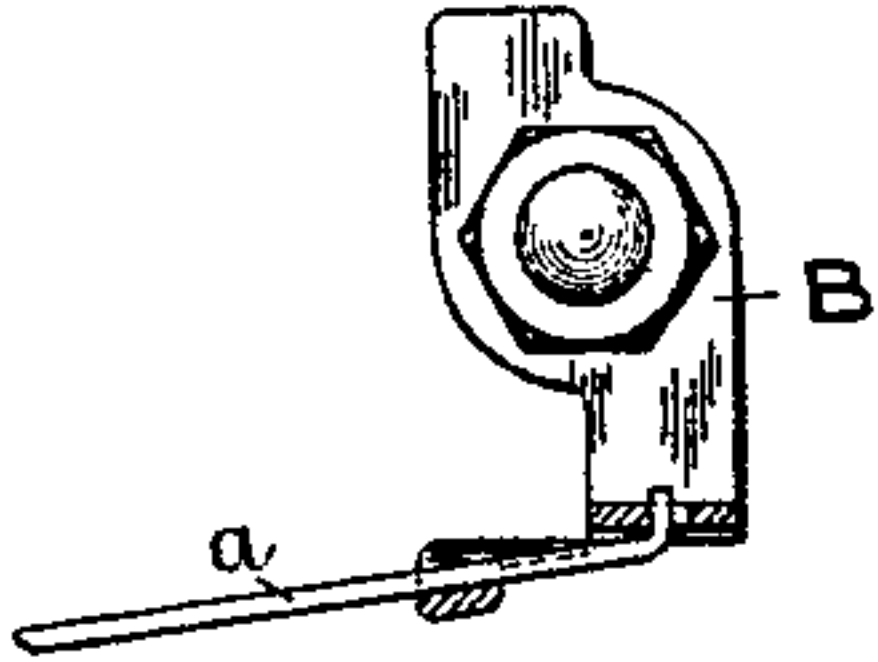


FIG. 4.

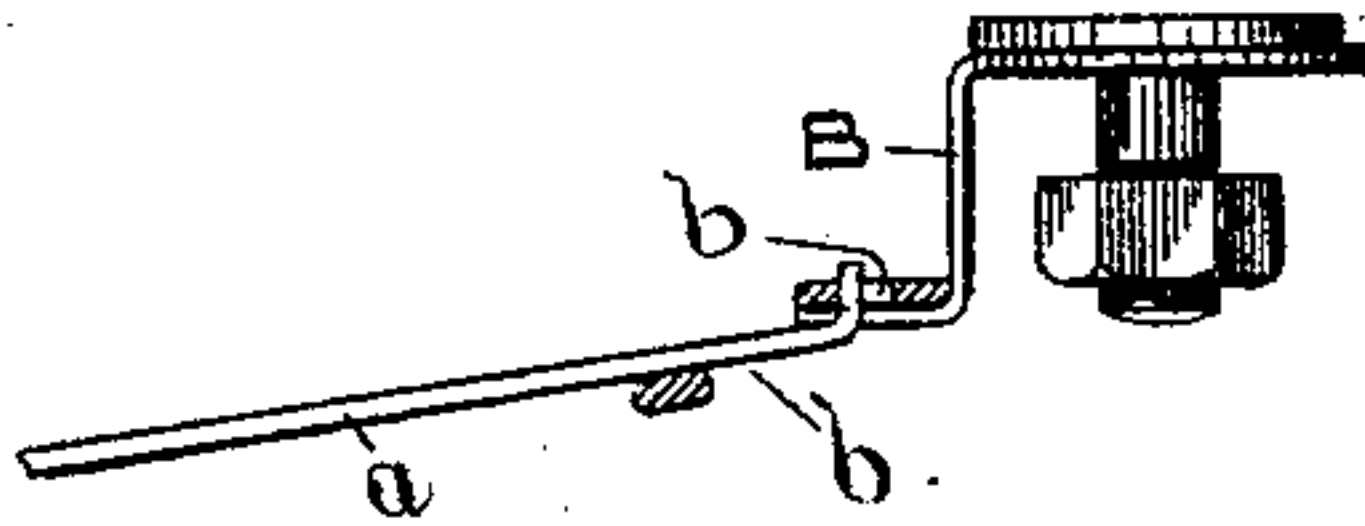


FIG. 7.

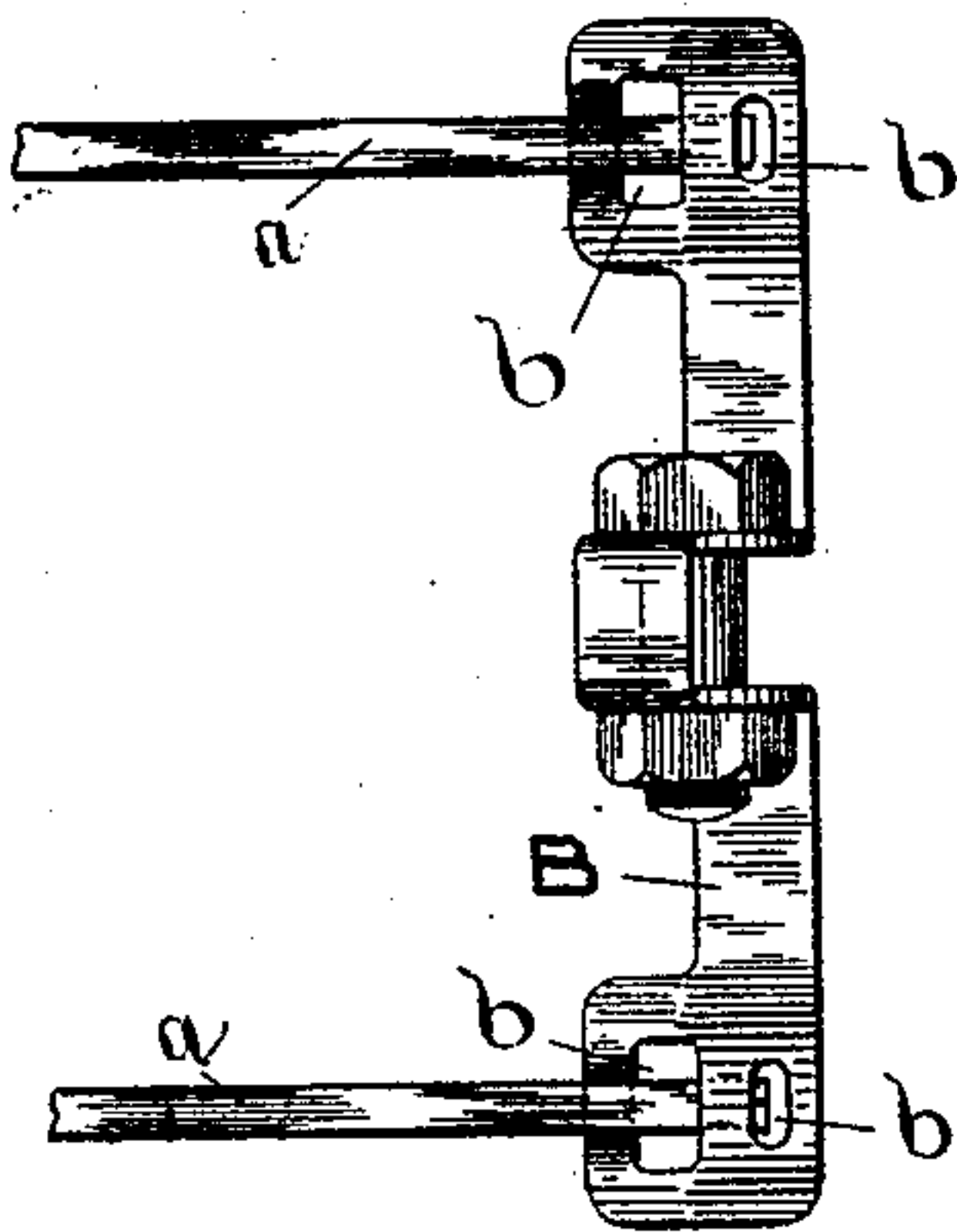


FIG. 5.

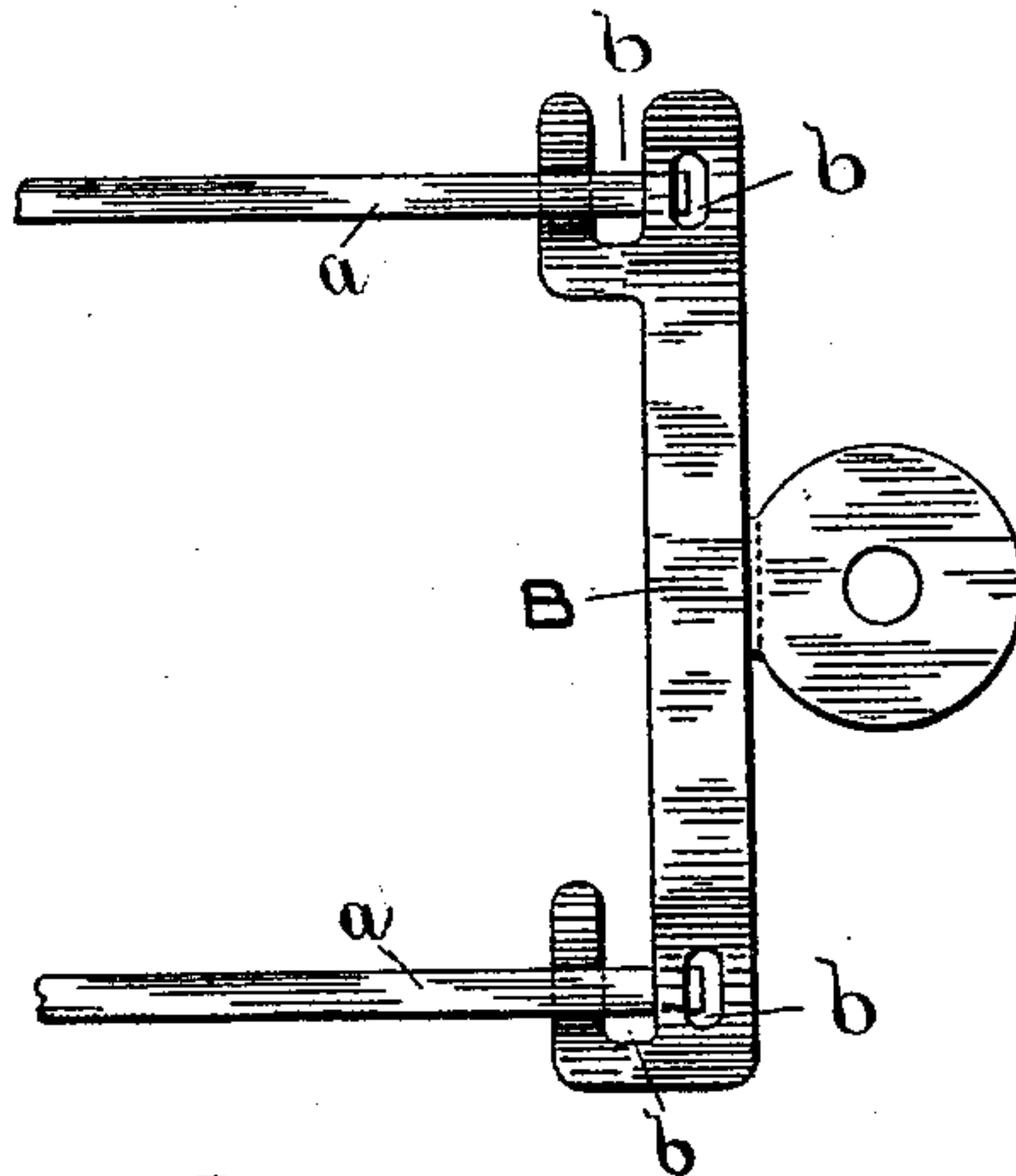


FIG. 8.

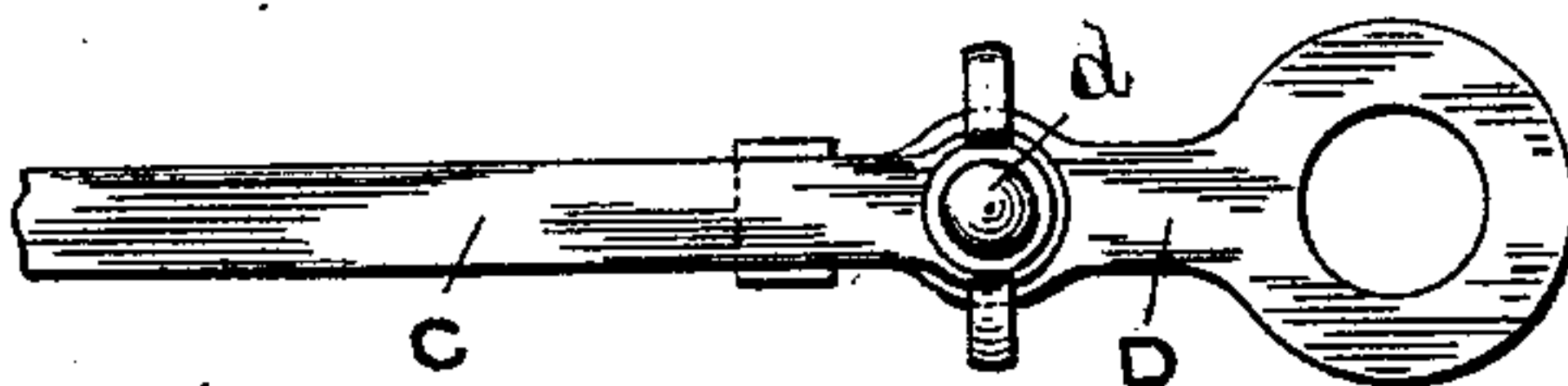


FIG. 9.



FIG. 10.

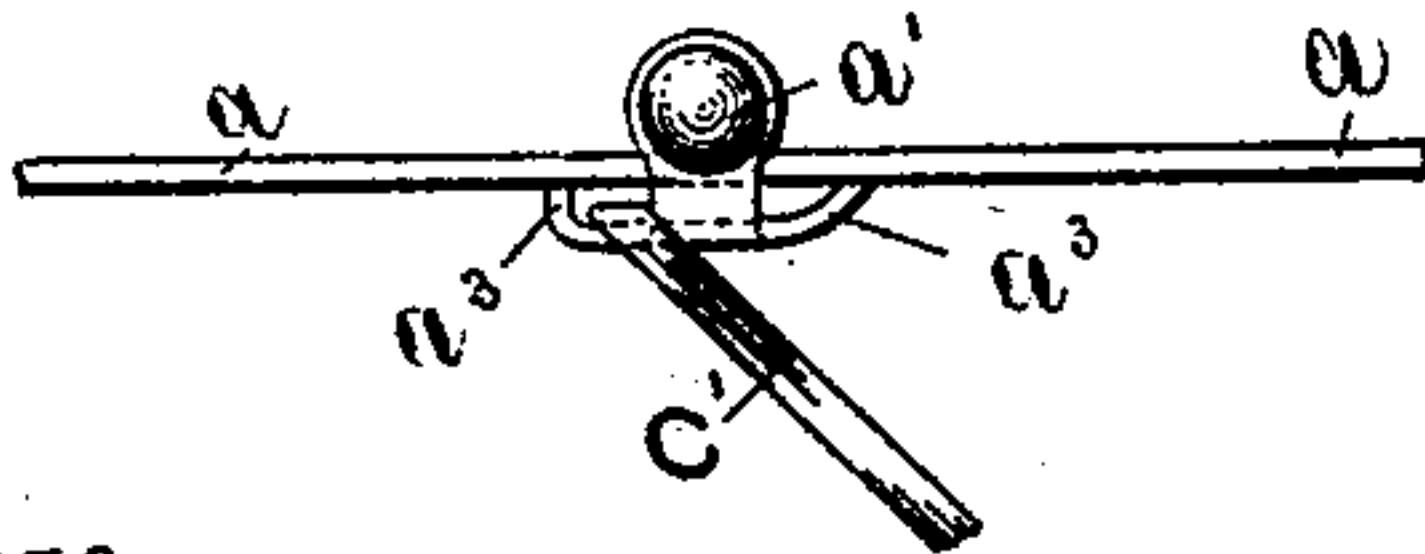
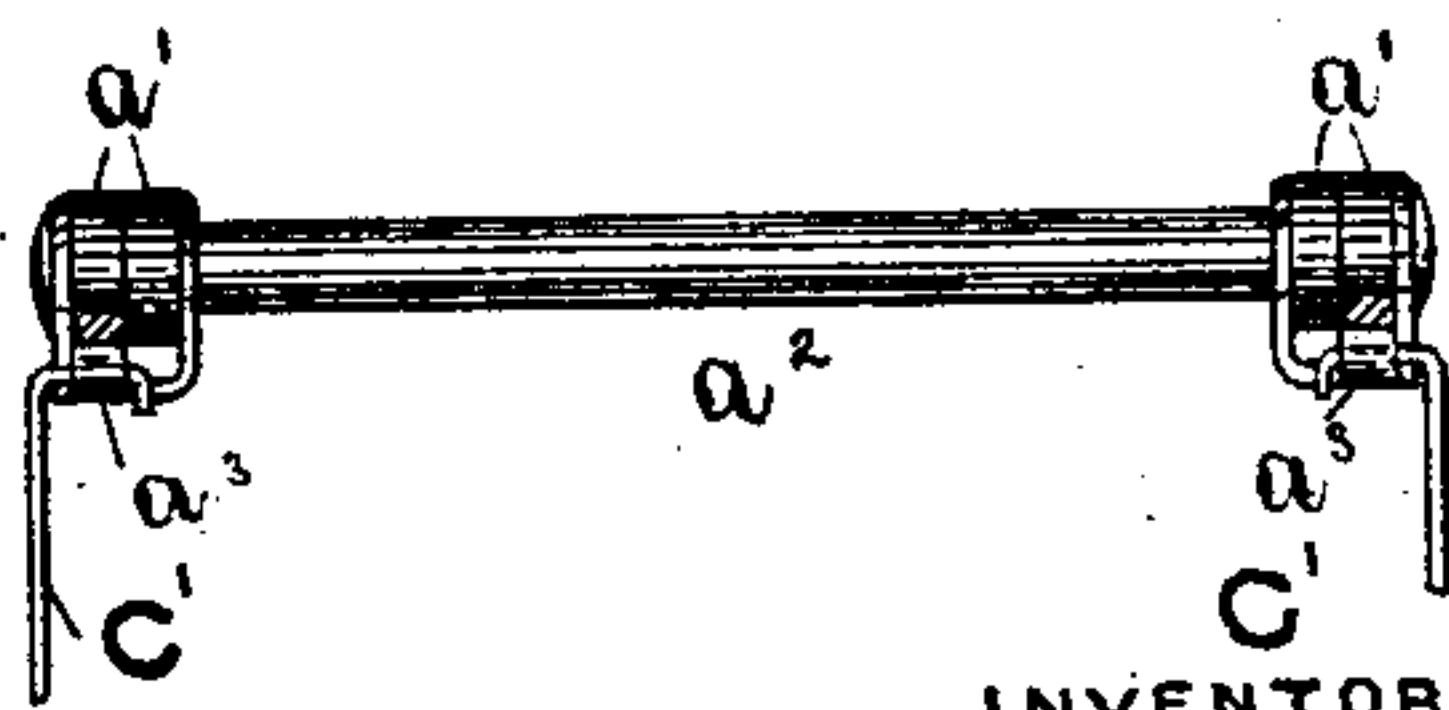


FIG. 11.



WITNESSES.

W. B. James.
J. S. Clark.

INVENTOR.

Alexander Govan.

per Robert C. Phillips
Attorney.

UNITED STATES PATENT OFFICE.

ALEXANDER GOVAN, OF GLASGOW, SCOTLAND.

MUD-GUARD FOR VELOCIPEDES.

SPECIFICATION forming part of Letters Patent No. 500,384, dated June 27, 1893.

Application filed January 31, 1893. Serial No. 460,448. (No model.) Patented in England June 27, 1892, No. 11,931.

To all whom it may concern:

Be it known that I, ALEXANDER GOVAN, a subject of the Queen of Great Britain, residing at Glasgow, in the county of Lanark, Scotland, have invented a new and useful Improvement in Mud-Guards for Velocipedes, (for which I have obtained a patent in Great Britain, No. 11,931, bearing date June 27, 1892,) of which the following is a specification.

My invention relates to improvements in the mud-guards of bicycles and triecycles and other velocipedes, and it consists in constructing them so that they shall be detachable, collapsible and portable, and therefore more convenient and useful than the fixed sheet metal mud-guards heretofore in use.

The improvements essentially consist in constructing the mud-guards in the form of a series of sectional or segmental parts jointed or connected together, so that when not required for use they can be detached from the cycle and folded up into a small compass and be stored or carried in a bag on the velocipede or in pocket of the rider ready for reuse when the necessity for them arises.

In applying these improvements I construct the mud-guards in the form of a series of open rectangular links of steel or other suitable metal. These links are hinged or jointed together by knuckle or stop hinges or joints so that they can only be folded in one direction. When the guard is applied to a cycle these linked parts are sprung or curved to the contour of the wheel at the time of applying them to such. This linked guard frame is covered with waterproof cloth or other suitable material to complete the guard. The one end of the linked mud-guard frame when applied to the front wheel of a velocipede is attached to the front fork, and when applied to the rear wheel, to the stays which connect the saddle pillar with the axle of the rear wheel or to any other convenient part of the main frame, preferably by having the free ends of the end link of the frame inserted through duplex slots in a plate or bracket fixed to the fork stays or other part of the frame, while the other end of the frame is connected by swivel joints to radial links or stays connected together by similar joints and secured by thumb screws or nuts to plates or brackets mounted on the

axle of the wheel or on to the fork or frame adjacent thereto.

In the accompanying drawings which illustrate my invention Figure 1, Sheet No. 1, is a broken view in side elevation showing the application of my improved mud-guard to the front wheel of a cycle. Figs. 2 and 3, Sheet No. 2, are broken views in side elevation and plan respectively showing one method of constructing the open rectangular links forming the frame of the guard. Figs. 4, and 5, Sheet No. 3, are broken views in side elevation and plan respectively showing the bracket for carrying the mud-guard for the front wheel of a velocipede, and Figs. 6 and 7 are similar views of the bracket for carrying the guard for the rear wheel of a velocipede. Figs. 8 and 9, Sheet No. 3, are broken views in side elevation and plan respectively of the plate or bracket for attaching the stays of the guard to the wheel axle, and Figs. 10 and 11, Sheet No. 3, are broken views in side and front elevation respectively showing a method of attaching the auxiliary stays to the framework of the guard.

Throughout the several views similar parts are marked with like letters of reference.

The frame of the guard consists of a series of open rectangular links A of steel or other suitable metal. These links preferably consist of duplex parallel longitudinal rods or wires a , a , jointed at their ends by eyes a' , a' , to transverse rods a^2 , a^2 , the ends of which may either be recessed to receive the said eyes, or they may have collars thereon against which the eyes of the rods or wires bear, the ends of the said transverse rods being riveted up against washers placed thereon, or the joints may be made in any other suitable manner. The transverse rods a^2 , a^2 , are formed with flat projecting parts a^3 adapted to act as knuckle or stop hinges, the object being to prevent the links from being turned with respect to each other in one direction out of a straight line, so that when the frame of the guard is sprung or curved to follow the contour of the wheel the said frame does not give at the hinges but is sprung equally round the rectangular links forming the said frame.

The frame A is covered with waterproof cloth, or other suitable material to complete

the guard, the said covering being omitted in all the views of the drawings for the sake of distinctness.

The frame of the guard is attached at one end to the fork or frame of the machine by means of a bracket B as illustrated in Figs. 4, 5, 6 and 7, Sheet No. 3, of the accompanying drawings. These brackets B are provided with duplex slots b, b , with which the free ends of the rods or wires a, a , forming the sides of the end rectangular link A engage in the manner illustrated by the said views, the said ends being kept firmly engaged with the slots in the bracket when the frame of the guard is bent to follow the contour of the wheel.

To the free end of the rectangular link A forming the other end of the frame are pivotally attached stay rods C, C, which are preferably formed in two parts hinged together at or about the center of their lengths as shown by Fig. 1, Sheet No. 1, of the accompanying drawings to facilitate their being folded into a small space. The free ends of these stays are adapted to be clamped to plates or brackets D, D, fixed to the axle of the wheel by means of fly nuts d, d , or other suitable devices.

To stiffen the guard frame I sometimes use auxiliary stays C', C', preferably fulcrated to the stays C, C, at the joints of the two lengths of each of the said stays. The free ends of these auxiliary stays are hooked to enable them to engage with the projections a^3, a^3 , on one of the links A as illustrated by Figs. 10 and 11, Sheet No. 3, of the accompanying drawings.

The covering of the guard frame may extend any convenient distance beyond the said frame, and when the said extension is applied to a guard for the rear wheel of a velocipede it may be provided with suitable straps or fastenings for its attachment to the frame of the machine forward of the said wheel.

As a modification the rectangular links A may be replaced by flat spring plates thus dispensing with the fabric covering.

It will be seen that as the frame of this guard has to be sprung or curved when applying it to a wheel its elasticity suffices to render it rigid and keep it engaged with the bracket supporting it. To detach the guard all that is necessary is to unscrew the thumb screws or nuts attaching the ends of the stays to the plates or brackets carried by the axle of the wheel, when the top end of the frame of the guard can be immediately released from the bracket carrying it. The auxiliary stays C' are then detached from the projections a^3, a^3 , thus allowing the links A forming the frame to be folded one on to the other, and the stays to be folded along side the links, so

that the guard can be stored in a bag on the cycle or in the pocket of the rider ready for re-use when necessity arises.

I wish it to be particularly understood that I do not limit myself to the precise details of construction as hereinbefore described and shown, but that I hold myself at liberty to make such changes and alterations therein as fairly fall within the spirit and scope of my invention.

I am aware that prior to my invention detachable and folding mud-guards have been used and I do not therefore claim such broadly as my invention, but

What I desire to claim by Letters Patent is—

1. A mud-guard consisting of a series of links or their equivalents hinged or pivoted together so that they can only be folded in one direction, and when applied to a cycle are sprung or curved in the opposite direction to follow the contour of the wheel, of a flexible cover fitted over the said links or their equivalents, and of stays adapted to connect one or more of the links forming the frame of the guard with the frame of the machine at or near the axle of the wheel the guard is intended to cover, and so bend the frame of the guard to follow the contour of the said wheel, as set forth.

2. The combination in a mud-guard for velocipedes, of a frame—adapted to form or support the cover—made in lengths pivoted or hinged together by knuckle or stop hinges, and of stays formed in two or more parts hinged together and adapted to connect the free end of the guard frame with the fork or frame of the velocipede, as and for the purpose set forth.

3. In a mud-guard for the wheels of velocipedes, the combination of the links A or their equivalents hinged or pivoted together by knuckle or stop hinges to form the frame of the guard; of the stays C, C, adapted to connect the frame of the guard with the frame of the machine; of the brackets, B, B, having duplicate slots b, b , adapted to be attached to the frame of the velocipede and support one end of the frame of the guard; and of the plates or brackets D, D, adapted to be fixed to the axle of the wheel and to receive the ends of the stays C, C, all substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ALEXANDER GOVAN.

Witnesses:

FRANK ADAMS,
JOSHUA HUTCHINSON.