

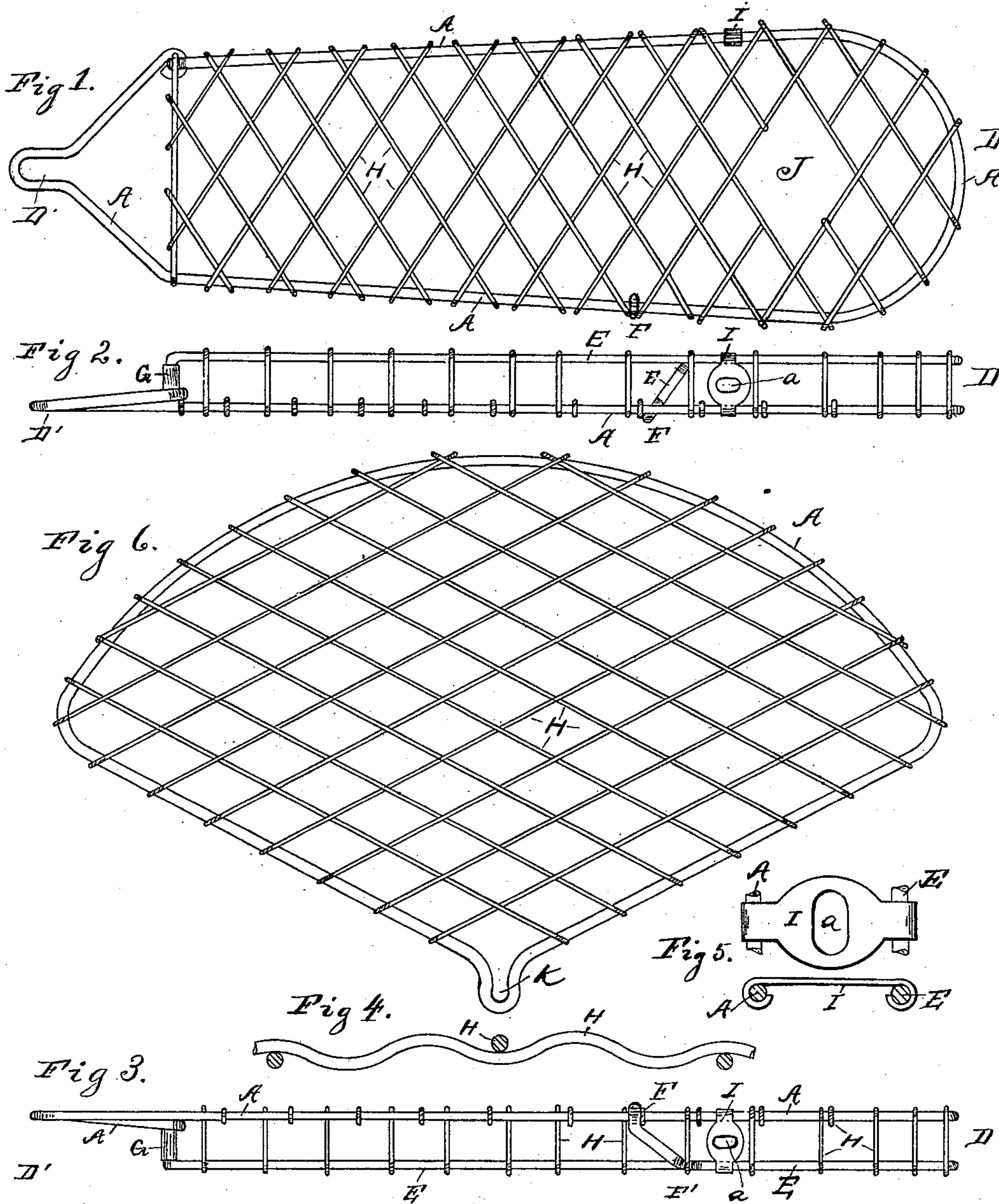
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Patented July 12, 1898.

R. A. DENNIS.
SKIRT GUARD FOR BICYCLES.

(Application filed Sept. 13, 1897.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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SKIRT-GUARD FOR BICYCLES.

SPECIFICATION forming part of Letters Patent No. 607,225, dated July 12, 1898.

Application filed September 13, 1897. Serial No. 651,415. (No model.)

To all whom it may concern:

Be it known that I, ROBERT A. DENNIS, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Skirt-Guards for Bicycles; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to new and useful improvements in skirt-guards for bicycles. The skirt-guards now commonly in use are chiefly constructed of wood and cord and some of aluminium or an alloy called "aluminium." These are chiefly objectionable for the following reasons: In the case of the wood-and-cord guards the wood forming the rim easily splits or becomes broken, owing to its necessarily having to be of light material. The cords catch the mud and dust and hold them and quickly wear out. The cost of replacing them approximates that of the entire guard. Being made of loose fibers, the foot easily catches in them and loosens the cords or entirely demolishes the entire guard. The cords also accumulate grease from the chain, that mixing with the dust forms a thick paste, which soils the clothing of the rider. In the case of the aluminium guards, they are too heavy, and, owing to their weight, cannot be fastened without the danger of becoming loose after being in use a short time, after which they cause a constant rattling noise while the wheel is in motion. Besides this, the so-called "aluminium" guards are expensive as compared with my invention, and, further, the nature of the metal does not permit enameling or plating with other metals. The consequence is the metal soon corrodes and becomes far less bright than when in the new state. The object of the present invention is to provide a skirt-guard that is entirely free from the above well-recognized objections and which is made of steel wire crimped or fluted in such a manner as to allow the wire to be interwoven, leaving the face of the

guard perfectly smooth. Wires woven in this manner are turned and clenched to larger wires forming the frame. This wire frame takes the place of the wood in the other guards, but has the advantages of strength, and lightness, and cheapness. The wires after being crimped, woven, turned over, and clenched cannot be slipped from these crimps through any violent use. The guard being constructed in this manner and of this material, it will readily yield or give under a blow or pressure from the foot of the rider and will spring back to its place without being injured.

In a detailed description of the invention reference is made to the accompanying drawings, of which—

Figure 1 is an elevation of the outer side of the guard that incloses the driving-chain and sprocket-wheels. Fig. 2 is an upper edge view of the same. Fig. 3 is a lower edge view of the same. Fig. 4 is an enlarged sectional view of the mesh-wires, showing the crimps. Fig. 5 is a detached view of one of the clips. Fig. 6 is a side elevation of the guard applicable to the rear wheel.

In the specification similar letters of reference indicate corresponding parts shown in the drawings.

The letter A designates the outer wire forming part of the frame and preferably of No. 14 standard gage. This frame may be constructed of one continuous piece of round wire rounded at one end, as at D, continuing back to form a brace at its rear end as well as a guard at said rear end over the small sprocket-wheel. This rear end of the frame terminates in an eye D', which fits over the axle or hub of the rear wheel of the bicycle. The same bolt that holds the rear wheel in position also holds the guard, thus doing away with all other devices for the purpose of holding the guard in position. Parallel with the upper edge of the frame-wire A and extending around the rounded end D thereof is a wire E of the same gage as wire A and made fast therewith by the mesh-wires. This wire E forms a brace to stiffen the guard and has one of its ends united to the main wire A at F by being clenched thereto and the other end united at the rear end of the frame by

means of a ferrule G. The lower portion of the frame (shown in Fig. 3) therefore consists solely of the wire A, except at the rounded end D—for instance, from points F' to D', Fig. 3.

5 H designates the mesh-wires, which are preferably of No. 18 gage. These wires are first crimped or fluted and are then woven at angles into any desirable designs. The ends thereof are turned over the frame-wires and
10 clenched thereto, a portion of them extending over the outer wire A to the inner wire E, thereby forming a guard or top shield for the chain. The frame is composed of a single wire at the bottom, extending from the rear
15 end forward to the front driving-sprocket. The object of discontinuing the double or inner wire E of the frame at the lower side is to avoid an objection found in the wooden rims for cord guards—namely, the chain, re-
20 laxing, strikes the wood and, as in the case of the so-called "aluminium" guards, makes a continuously-rattling noise. In the present invention there is no part of the guard at this point for the chain to strike against. After
25 uniting the mesh-wires to the frame the article is then dipped in a bath of melted tin, which gives it a tin-plate and at the same time solders every joint where two wires unite or cross each other. This transforms the
30 guard practically into one solid construction substantially lighter than it is possible to construct a guard as they are now made. The tin coat imparts a smooth or polished surface to the wire, so that dust or other substance
35 will not stick thereto. Extending across the edges of the upper and lower parts of the frame I place clips I, punched of sheet-steel and having their ends turned and clamped around the frame-wires A and E, the upper
40 clip being in line with the lower one, or nearly so. These clips have oblong holes *a* punched in them to receive the screws or bolts of the front brace usually found on ladies' wheels. This brace referred to extends from the crank
45 hanger or bearing, and being a common feature it has not been deemed necessary to show it in the drawings. It is essential that the holes *a* and A' be oblong, as thereby any adjustment of the chain to tighten it allows the
50 guard to move back with the wheel, the guard interfering in no manner with the adjustment. The opening J for the crank-boss to project through is provided by the omission of parts of two wires. This opening is suf-
55 ficiently large to slip over the crank-pedal in placing the guard in position. Therefore it is not necessary to remove the pedal or crank to attach the guard.

The guard above described can be readily
60 applied to a bicycle that has previously been fitted with a cord-and-wooden-rim guard without having to remove the rim, thus making the wire guard take the place of the cords. The construction of the guard shown in Fig.

6 is the same as that of the chain-guard, the 65 only difference being in its application to the rear wheel of the bicycle. The eye K fits over the hub of the rear wheel and the guard extends over the periphery of the rear wheel, or it may be used in connection with the 70 wooden-rim or mud guard at that point.

Having fully described my invention, I claim—

1. A skirt-guard for bicycles, comprising a frame-wire A forming the outer side of the 75 frame, and an inner frame-wire E running parallel with the upper horizontal portion and the rounded portion of the outer wire A, and having its rearward end joined to the rearward horizontal terminal of wire A, and its 80 forward end joined to the lower horizontal portion of wire A as at F, a series of cross-wires having their ends clenched to the frame-wires A and E, said wires being soldered at each cross and joint, and means for adjust- 85 ably mounting said guard so that in adjusting the sprocket-chain of the bicycle, the guard will move or yield to the extent of such adjustment, substantially as herein shown and described. 90

2. A skirt-guard for bicycles, comprising the wire frame A and E, the latter running parallel with the rounded and upper horizontal parts of the former whereby open space is provided at the lower side of the guard so 95 that there will be no obstruction in the way of the sprocket-chain, the rear end of said frame terminating in an oblong eye by which said end is secured, and upper and lower transverse clips secured to the forward end 100 of said frame, the said clips having oblong holes therein by which the said forward end is secured, and a series of mesh-wires having their ends clenched to the frame-wires, the said wires having their joints and crossed 105 portions soldered, all constructed and arranged substantially as and for the purpose specified.

3. As a new article of manufacture, a skirt-guard for bicycles, consisting of a wire frame 110 having its rear end terminating in an oblong eye D', and its forward end rounded, the lower horizontal portion of said frame being open by the omission of the inner frame-wire, a series of cross-wires essentially of smaller 115 gage than the frame-wires, said gage cross-wires having their ends clenched to the frame-wires, and the whole united by means of a tin-bath, and means for movably securing said frame to a bicycle, as herein shown and 120 described.

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

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