

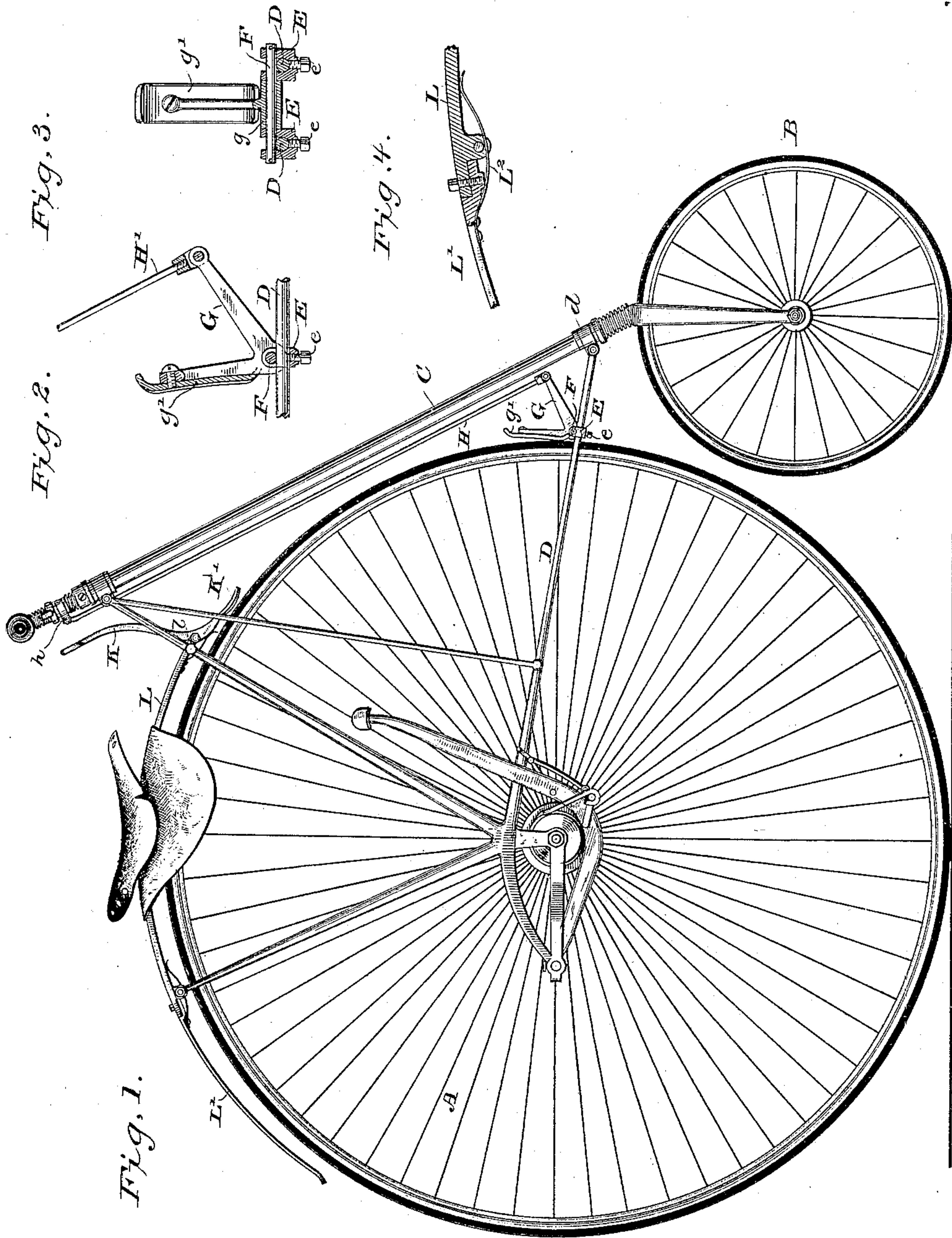
(No Model.)

2 Sheets—Sheet 1.

F. JANNUS.  
BICYCLE.

No. 331,199.

Patented Nov. 24, 1885.



Witnesses  
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Henry A. Lamb.

Inventor  
Frankland Jannus.  
By his Attorneys  
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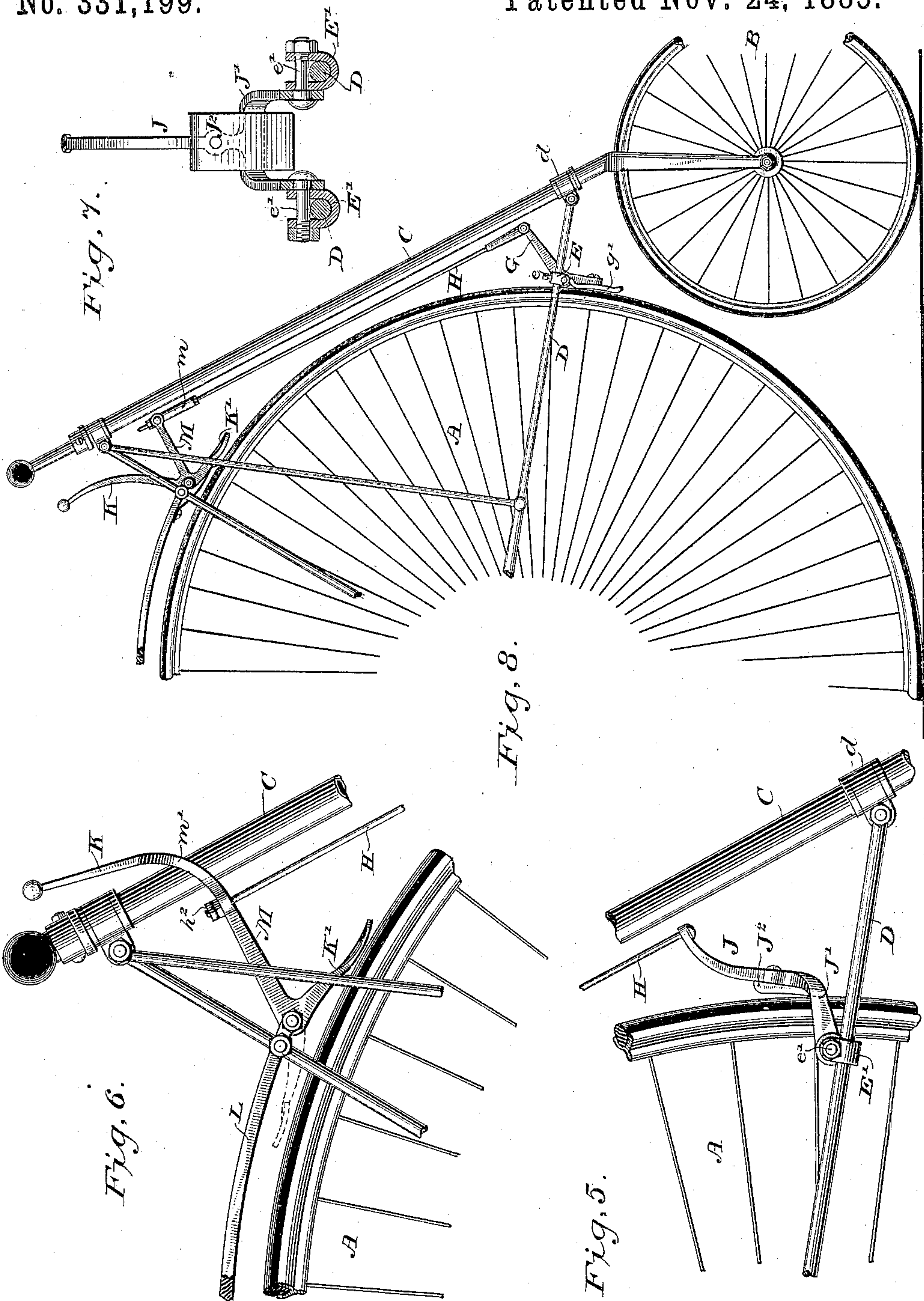
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# UNITED STATES PATENT OFFICE.

FRANKLAND JANNUS, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR  
TO THE H. B. SMITH MACHINE COMPANY, OF SMITHVILLE, N. J.

## BICYCLE.

SPECIFICATION forming part of Letters Patent No. 331,199, dated November 24, 1885.

Application filed April 6, 1885. Serial No. 161,354. (No model.)

*To all whom it may concern:*

Be it known that I, FRANKLAND JANNUS, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Bicycles, of which the following is a specification, reference being had to the accompanying drawings.

The present invention relates to improvements in bicycles, and refers more particularly to the brake mechanism used on that form of bicycle in which the main wheel is fixed within the frame, and commonly known as the "Star;" and it consists, generally, in pivotally supporting a brake-carrying lever upon a portion of the frame remote from the rider, and in such position that when connected by suitable rod or cord to the hand-lever at the head of the machine the brake can be applied to the main wheel with any desired degree of force. A detachable mud-guard is also provided, whereby the back of the rider is protected in wet weather, the various details of construction and arrangement whereof, together with some of the modifications of which the principal feature is capable, being hereinafter fully set forth.

In the accompanying drawings, Figure 1 is an elevation showing a bicycle of the species referred to, and to which my improved brake has been applied. Figs. 2 and 3 are detail views showing the brake-lever and its attaching-clamp. Fig. 4 is a detail showing the method of attaching the mud-guard. Fig. 5 is an elevation of a portion of the machine, showing a modified form of brake-lever. Fig. 6 is a view similar to Fig. 5, and shows the hand-lever by which the brake in Figs. 1 and 5 is operated. Fig. 7 is a detail view of the brake-lever shown in Fig. 5. Fig. 8 is an elevation of the front portion of a bicycle, showing a modified arrangement of the brake mechanism shown in Fig. 1.

Similar letters denote like parts.

In the drawings, A represents the main or carrying wheel, B the front or steering wheel, and C the steering-rod, of a star bicycle, D being the main frame-rods, which extend forward horizontally from a point slightly above the center of the wheel, and are united to a clip, *d*, secured to the steering-rod at a point

just above the small wheel, forming one side of a triangle completed by the rim of the wheel A and the steering-rod C.

E represents U-shaped clamps adapted to fit around the frame-rods D, and provided with suitable set-screws, *e*. These clamps are perforated transversely of the rods D, for the reception of the axle-pin F, which is passed through both clamps, and upon which the brake-lever is to be mounted. The said clamps and the rod F are then secured in position by means of the set-screws *e*, which pass through the body of the clamps and rest against the frame-work. A bell-crank lever, G, provided with suitable hub, *g*, mounted upon the axle F, extends into the triangular space above referred to, and to its free end is connected a draft-rod, H, the other end of which is attached to the hand-lever at the head of the machine. The other arm of the brake-lever extends upward or downward in the line of the wheel A, and is provided with a detachable brake-shoe, *g'*.

Instead of giving the brake-lever the form of a bell-crank, I may construct it as shown at J, Figs. 6 and 7, the one difference being that, as there shown, it is a lever of the first instead of the second order, and is preferably bifurcated at its lower extremity, for the purpose of more perfectly adjusting the fulcral point, although, if desired, the lower portion of it may be straight and provided with a hub, *g*, as already described. As shown, however, the lever J is provided with rearwardly-extending arms J', the extremities of which are supported upon bolts *e'*, passing through clamps E', mounted upon the rods D, and secured in position by means of the said bolts *e'*. The brake-lever J is provided with a detachable shoe, J<sup>2</sup>, which is attached near the intersection of the main portion and the arms J'.

As shown in Fig. 8, the angle of the brake-lever is somewhat less acute than in Fig. 1, and, being inverted, it is applied to the wheel by a downward instead of an upward movement of the draft-rod H.

As shown in Fig. 1, the draft-rod H is connected by a bolt, *h*, to the well-known hand-lever moving with and pivoted to the handle-bar, and by which the brake is applied. It will be obvious that it can be readily adapted to any of the well-known forms of handle-bars;



but in order to dispense with the complication arising from such adaptations I have so modified the simple single lever-brake shown at K K' in Fig. 1 as to render it sufficient for all purposes. The said lever is ordinarily in the form of a curved piece approximating the form of a bell-crank, the upper portion, K, being in position to be readily-reached and pushed forward by the rider, and the lower portion, K', formed into or provided with a brake-shoe. This lever is pivoted between lugs l, formed at the forward extremity of the spring L. In order to preserve similarity of action, and at the same time to provide an auxiliary brake for use in case of injury or derangement of the main device, I form the brake-lever K K' with an additional arm, M, extending forward and upward therefrom between the portions K and K', to the end of which arm I attach by suitable pivots a sleeve, m, into which the draft-rod H is inserted, and where it is provided with suitable check-nuts, by proper adjustment of which I so arrange the mechanism described that the forward thrust of the lever K will apply the main brake G before the auxiliary brake K' touches the wheel. Should the aforesaid main brake become loose or detached, it will be evident that by moving the hand-lever still farther forward the auxiliary brake K' will be brought into operation, and all danger avoided.

As shown in Fig. 8, the auxiliary brake K is as just described; but in order to impart a pull instead of a thrust to the draft-rod H, I combine the lever K with the auxiliary arm M, and, by dividing it at m' or bending it to one side, carry it forward of the steering rod into a convenient position in front of the head of the machine and preferably slightly below the handle-bar, so as not to interfere with the movements thereof. With this construction, when the lever K is pulled toward the rider, the main brake G or J will be applied. In case, however, said brake fails to act, then, by pushing the lever K away from the head of the machine, the auxiliary brake K' will be applied, the draft-rod H being provided with adjustable check-nuts h<sup>2</sup>, and arranged to slip through an opening in the lever M when the reverse movement is desired. In case it should be found desirable to restrict the movements of this lever to one direction only, making the application of the main or auxiliary brake a question of degree, the lever K' can be reversed and located underneath the spring, as indicated in dotted lines in Fig. 6.

My improved mud-guard consists in an extension, L', which covers a sufficient portion of

the lower part of the large wheel to prevent the mud thrown from it by centrifugal action from reaching the back of the rider. The upper end of this extension L' is countersunk or recessed so as to fit the rear end of the spring L, to which it is then secured by suitable bolt passing through both. A spring, L<sup>2</sup>, is attached to the piece L' and projects under the spring L, for the purpose of preventing or retarding the loosening of the parts.

The advantages claimed for my brake, among others, are that, while every other form of hand-brake known to me possesses the disadvantage of throwing dust in dry and mud in wet weather, which, from their position in close proximity to the head of the machine, necessarily alights on the rider, practical use has demonstrated that by placing the brake as far away as possible and in the position shown this difficulty is entirely obviated, the mud being deposited on the forks of the front wheel instead of the clothing of the rider. The addition of the detachable mud-guard completes the needed protection, and will be found very useful.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the frame-rods D and wheel A, of the brake-lever J and the clamps E', adapted to support said brake-lever, and a draft-rod, H, and suitable hand-lever, substantially as described.

2. The combination, with the frame and main wheel of a bicycle, of a brake-lever pivotally mounted upon said frame, a draft-rod, a hand-lever having an arm to which the draft-rod is attached, and an auxiliary arm provided with a brake-shoe adapted to be applied to the wheel by a movement of the hand-lever not affecting the main brake, substantially as described.

3. The combination, with the frame and main wheel of a bicycle, of the brake-lever J, clamps E', and frame-rod D, with the hand-lever K M, auxiliary brake K', and the draft-rod H, substantially as described.

4. In a bicycle, the combination, with suitable spring, L, of the detachable rearwardly-extending mud-guard L', substantially as described.

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

FRANKLAND JANNUS.

Witnesses:

HENRY A. LAMB.

OLIVIA J. ADAMS.