

(No Model.)

5 Sheets—Sheet 1.

J. S. SLATER.
CYCLE STAND.

No. 511,367.

Patented Dec. 26, 1893.

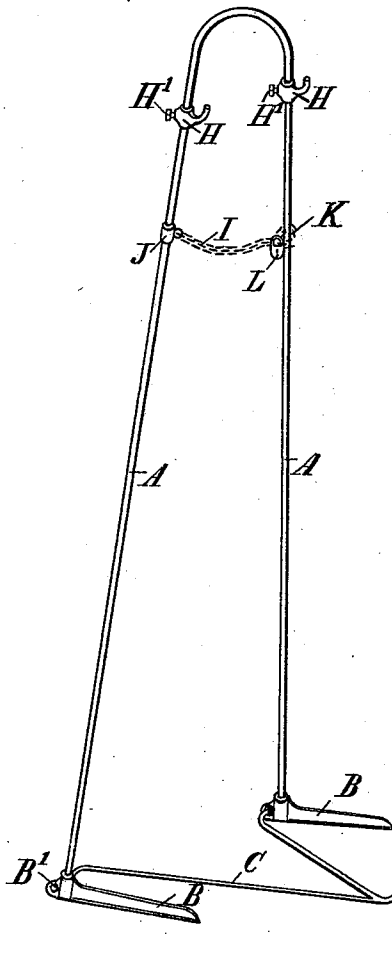


Fig. 1.

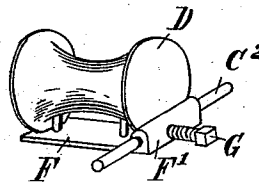
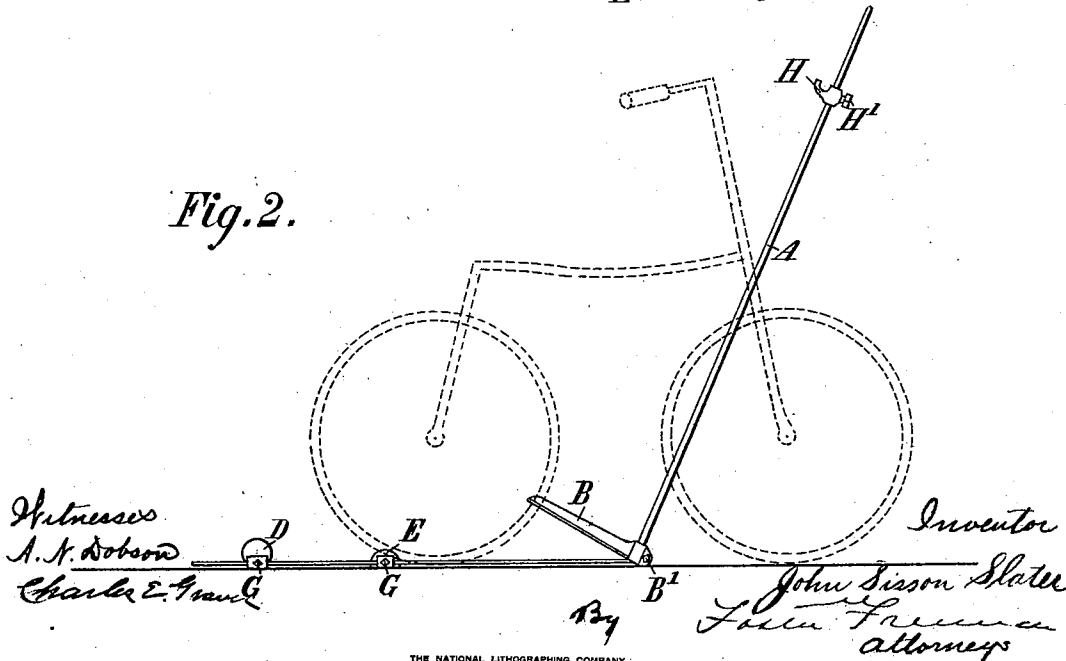


Fig. 4.

Fig. 2.



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Fig. 3.

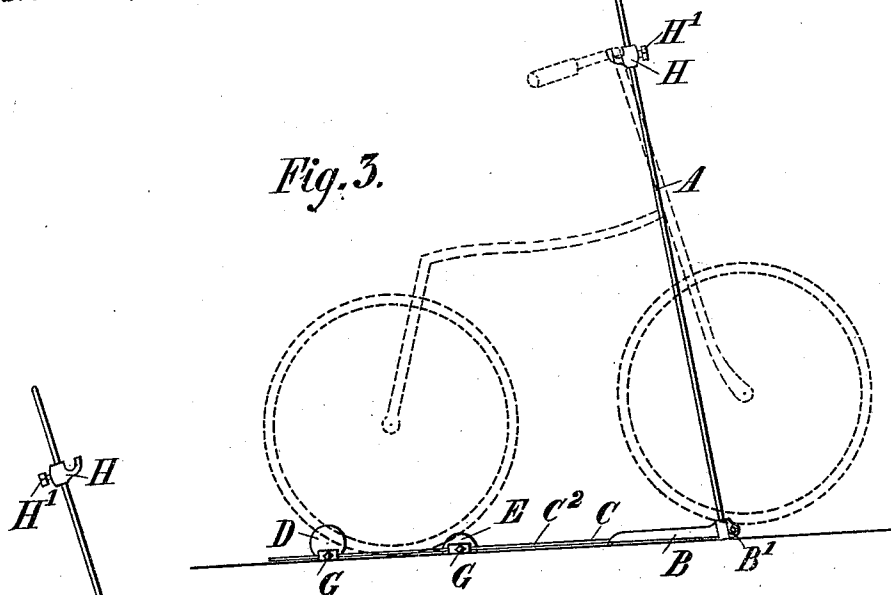


Fig. 5.

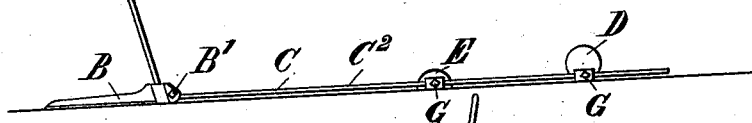
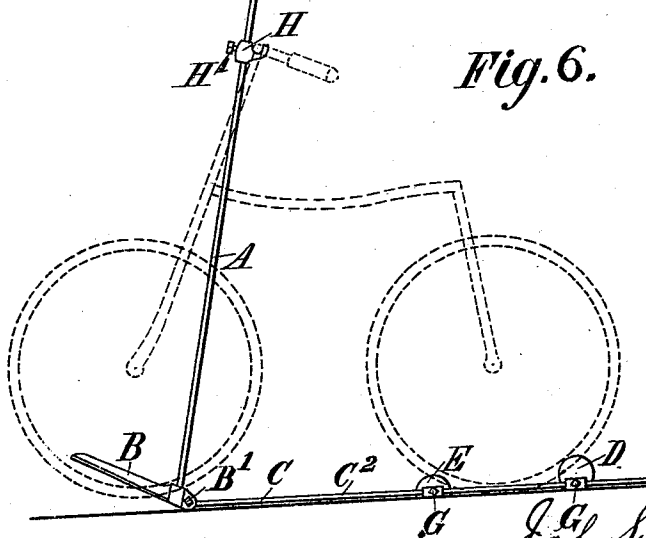


Fig. 6.



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Fig. 7.

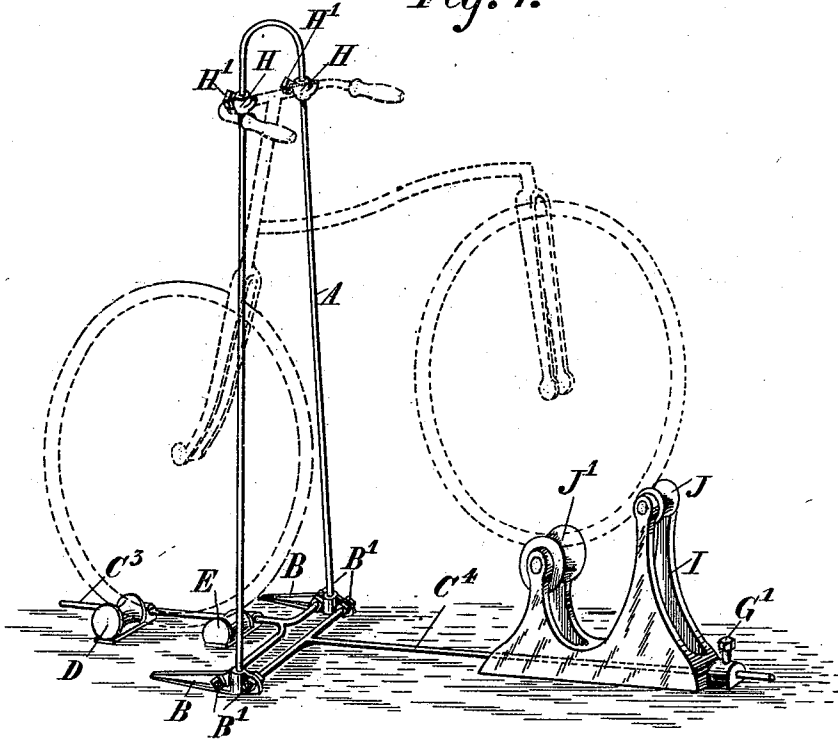
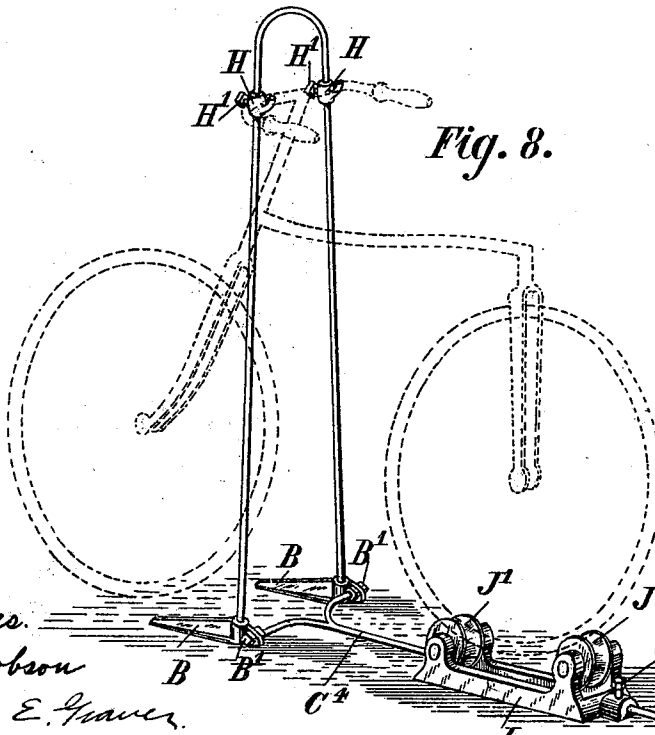


Fig. 8.



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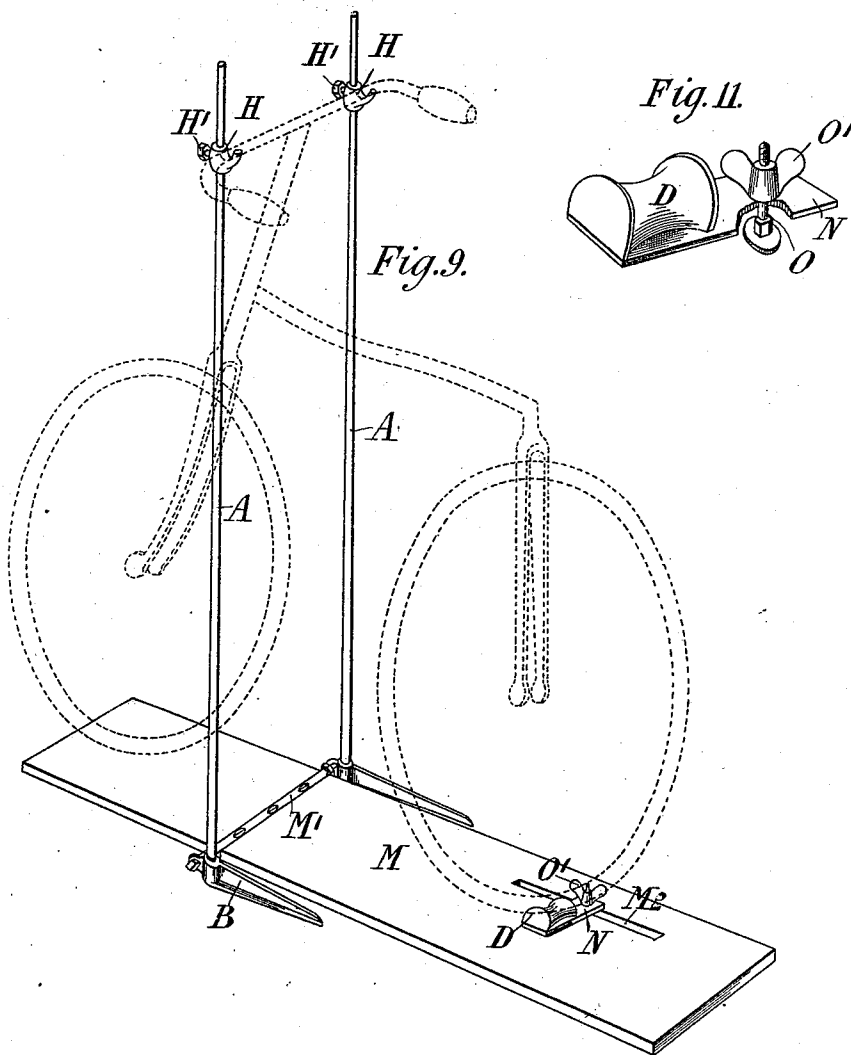
(No Model.)

J. S. SLATER,
CYCLE STAND.

5 Sheets—Sheet 4.

No. 511,367.

Patented Dec. 26, 1893.



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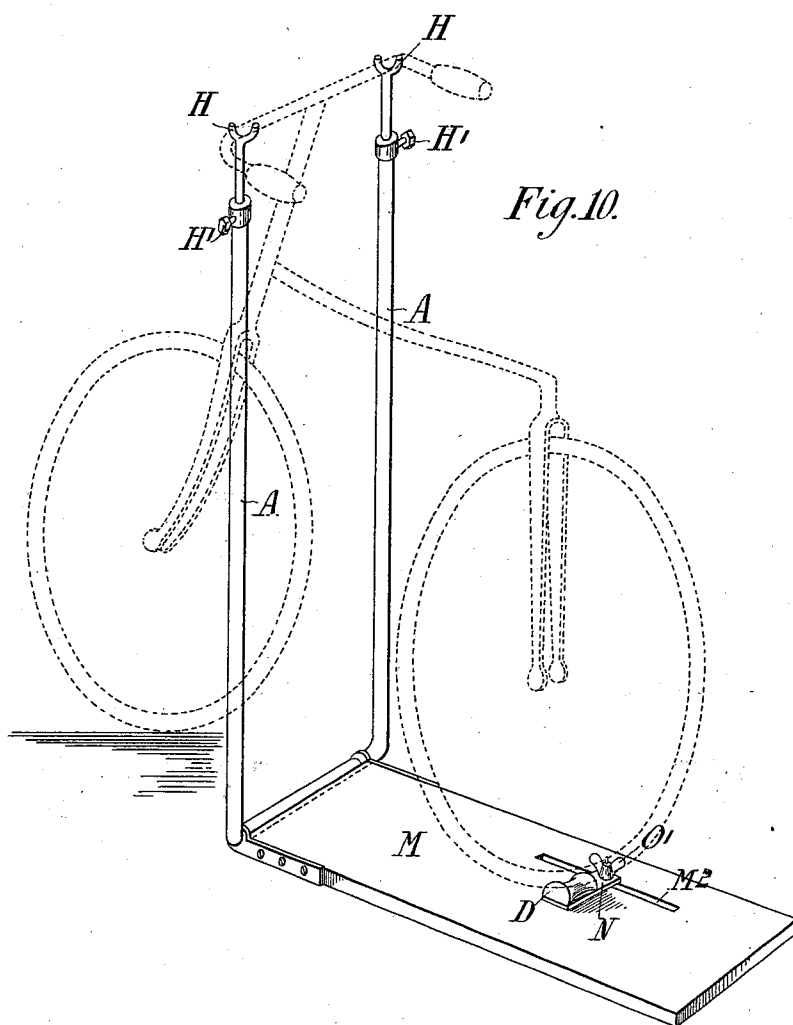
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5 Sheets—Sheet 5.

J. S. SLATER.
CYCLE STAND.

No. 511,367.

Patented Dec. 26, 1893.



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UNITED STATES PATENT OFFICE.

JOHN SISSON SLATER, OF LYTHAM, ENGLAND.

CYCLE-STAND.

SPECIFICATION forming part of Letters Patent No. 511,367, dated December 26, 1893.

Application filed November 16, 1892. Serial No. 452,183. (No model.)

To all whom it may concern:

Be it known that I, JOHN SISSON SLATER, a subject of the Queen of England, residing at Seafeld, Lytham, England, have invented certain new and useful Improvements in Cycle-Stands Applicable for Use as Home-Trainers and Race-Starters, of which the following is a specification.

This invention relates to the construction of an improved stand for bicycles and similar velocipedes the object of the invention being to support the bicycle in a vertical position. The frame is so constructed that the cycle or machine is supported from falling sidewise by the handles with the hind wheel scotched by an attachment connected with the frame which supports the front part of the cycle, so that there is no undue strain upon the machine which can be placed upon the stand without any great effort, and without directly lifting the machine on to the same. When not in use the stand can be easily folded up and put out of the way.

The invention will be best understood by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of one form of the stand ready for use. Fig. 2 is a side elevation showing it in the position adapted for placing the machine in it, the machine being represented in dotted lines. Fig. 3 is a side elevation showing it with the machine in place, and Fig. 4 is a detail of one of the scotches. Figs. 5 and 6 are elevations of an alternative form of the stand shown in Figs. 1 to 3, these figures showing the stand respectively in and out of use. Fig. 7 is a perspective view of a stand constructed for use as a home trainer. Fig. 8 is a perspective view of a modified form of home-trainer. Figs. 9 and 10 are perspective views of stands constructed for use as race-starters and Fig. 11 is a perspective view of the adjustable scotch thereof.

Like letters represent like parts throughout the drawings.

Referring to Figs. 1 to 4 A are the standards conveniently made of a single piece of tubing curved at the top and terminating in feet or sockets B adapted to rest upon the ground and provide sufficient support for the frame and machine. These feet may be made of

any suitable material conveniently malleable cast iron and the standards A may be secured therein by set-screws although it is preferred to merely step them in as then the length can be varied by cutting portions off the standards if required. The feet B are extended at B' in front of the standards A and are there pierced for the reception of the ends of the Y-shaped piece C whose stem C² is cranked at C' partly to get the stem out of the way and partly to allow of the scotches, though connected to the frame C, lying in the central line of the whole apparatus. It is desirable to pivot the rod or frame C C² at the front of the standards A so that when the latter are tilted forward and the feet tilted up as in Fig. 2, the frame C will not be raised from the floor or ground. The piece C C' C² may be made of thin iron rod the ends of C being screwed and placed through the holes in B' and kept in position by nuts upon each side of the bracket. The scotches D and E, as shown in Fig. 4, may be secured upon plates F with enlarged ends F' pierced to allow of their sliding upon the rod C² and adapted to be fixed thereon by set-screws G. The scotch D farthest from the standards A may be conveniently in the form of a complete bobbin while the nearer one E may be in the form of a half bobbin, the object being to raise the farther bobbin D higher than the nearer one E and thus prevent the machine from slipping backward; the precise shape of the bobbins may however be varied to suit circumstances.

Upon each of the standards A is an adjustable arm or hook H preferably covered with leather or felt pierced to slide upon the standard and provided with a set-screw H' by which it may be fixed at the required height thereon. The chain I, Fig. 1, is secured to the link or sleeve J adapted to slide freely upon one of the standards the other end of the chain being when required carried round the other standard so as to form a loop K around the standard the end of the loop being secured to the chain by a padlock L or other convenient means. This chain is useful as it may be curled around the neck or head of the bicycle which it thus secures to the standard preventing it from being illicitly removed and also preventing undue side play.

The operation of the apparatus shown in

Figs. 1 to 4 will be understood by reference more particularly to Figs. 2 and 3. The chain I having been released the standards are tilted forward, as indicated in Fig. 2, turning the feet B upon their heels with the toes lifted as shown; this has the effect of bringing the hooks H temporarily to a lower level than the handle bar when by wheeling the bicycle forward the handle bar M may be brought above the hooks H, and upon then wheeling the machine back again the handle bar is lifted as the standards A assume the vertical position while the back wheel passing over the nearer or lower scotch E is retained between the two scotches, while the front wheel is lifted off the ground, all as shown in Fig. 3.

In Figs. 2 and 3 as in the other figures herein after described the bicycle is merely indicated diagrammatically. The effect of lowering and raising the supports would be the same if instead of the two hooks H a single central hook or equivalent were employed to grip the machine in some part other than the handle bar as for example under the brake, or at the neck, the result as to lifting the machine being the same. This raising effect as will be seen would be applicable to the front portion of rear-driving tricycles.

The stand represented in Figs. 5 and 6 is of substantially similar construction to that shown in Figs. 1 to 3 the only difference being that whereas the standards A in Figs. 1 to 3 slant backward and the arms or hooks H thereon are normally above the level of the cycle handle-bar the standards in Figs. 5 and 6 slant forward and the arms or hooks H are normally below the level of the cycle handle-bar.

In placing a bicycle in the stand shown in Figs. 5 and 6, the bicycle is wheeled forward until its handle bar comes over the arms H and then the standards A are tilted backward the machine moving along with them until the hind wheel passes over the scotch E and rests between it and the scotch D in which position the machine will remain, the front wheel being raised off the ground as shown in Fig. 6.

The apparatus shown in Figs. 7 and 8 are designed to serve both as cycle stands and home-trainers.

In Fig. 7 the standards A are shown supported in shoes B in substantially the same manner as before explained with regard to the foregoing examples but instead of inclining backward or forward they may be more or less vertical. Two T or Y-shaped rods C³ C⁴ are pivoted in the shoes B one at the front and the other at the back of the standards A as shown. On the rod C³ are mounted scotches E D which may in all respects be similar to those before described. The scotches E D serve for blocking the front wheel of the cycle. On the rod C⁴ is adjustably mounted a bracket in which are pivoted two rollers J J' the roller J preferably arranged higher than the roller J'

so that when the cycle is in position on the stand the weight of the hind wheel and the person using the apparatus as a home-trainer will be thrown principally on the roller J' thereby reducing the power necessary for operating the cycle. The rollers J J' may however be arranged at or nearly at the same height from the ground as shown in Fig. 8 in which construction no scotches are necessary for the front wheel since there is no tendency on the part of the machine to run forward as there is when the hind wheel is supported on practically one point and that almost immediately below its axis of rotation, as in Fig. 7. The brackets I, Figs. 7 and 8 are adjustable on the rods C⁴ as before mentioned and may be secured in any desired position thereon by the pinching screws G'.

The manner of using the last described apparatus as a home-trainer is as follows:—The person desiring to use it places the cycle in the position shown in Figs. 7 or 8 and mounts as usual. Then as soon as he pedals in the usual way the back wheel will rotate and through it the rollers J J' also while the machine is prevented from moving backward or forward.

The stands shown in Figs. 9 and 10 are substantially the same as those previously described but can be used for starting purposes in races. A board or sheet of metal or other plate M takes the place of the rod C C' C² and upon this the standards A are pivoted substantially in the same manner as in Fig. 1 a rod or bar M' being screwed or riveted to M to afford bearings upon which the feet B Fig. 9, in which the standards may be carried, can rotate.

In Fig. 11 the scotch D suitable for application to the board or plate M is illustrated. In this case the scotch D is secured by screwing or in any convenient manner to the plate N through which passes the screw O which also passes through the slot M² in the plate M so that the chock can be adjusted upon the plate M and secured by the preferably winged nut O' as will be well understood. The other parts are the same as previously described and in use the machine is placed in position as before and as indicated diagrammatically in dotted lines, and the rider who is going to start in the race mounts upon the machine which is upheld as before; when he wants to start, the machine is urged forward either by himself through the intervention of the pedals and driving wheel in the usual manner of riding, or by another person pushing the machine behind, and as he goes forward the standards A fall down leaving the machine free. As however the feet B might, where a number of persons start in the race together, be in the way of those who started behind, they may be dispensed with as indicated in Fig. 10 where the standards A are shown formed of a single piece of bent tube the junction of the two rims being however at

the bottom instead of, as in Fig. 1 at the top. In this figure the hooks H are placed in the open ends of the standards the handle bar resting upon them as clearly indicated in the figure. In order to present the least possible obstruction to riders following another rider started from a starting stand constructed according to this invention I may construct the standards A of flat iron say one-fourth or three-eighths of an inch in thickness so that when lying on the ground they would project to a very slight extent above its surface and besides this the standards A may be connected to the frame C or board or plate M by a disjunctive joint which as soon as the standards fall to the ground automatically releases them from C or M.

In Fig. 10 the board or plate M is shown as terminating at the standards, but it can be carried farther on as in Fig. 9 if desired. Two scotches or an indentation in the surface of the board or plate M could be employed to hold the back wheel if desired, but as it is important to start away as quickly as possible in a race it is preferable, where this can be managed, not to have any obstruction in front of the wheel.

I claim—

1. In a stand for bicycles and the like, one or more standards adapted to be tilted, supporting feet therefor secured to the standards and moving or tilting therewith, a base or frame pivoted to said feet, and adjustable

scotches carried by said base or frame, substantially as described.

2. In a stand for bicycles and the like the combination of standards A shoes B rod C⁴ adjustable bracket I rollers J J' pinching screw G' and supports H substantially as described and illustrated in the accompanying drawings.

3. The combination of the standards A, the detachable shoes, frame or rod C³, extending forwardly of said standards and bearing scotches which are adjustable thereon, frame or rod C⁴, extending rearwardly of said standards and also bearing scotches which are adjustable thereon, and the supports H, substantially as described.

4. The combination of the standards A, provided with the supports H, the shoes therefor, rod or frame C³, extending forwardly of said standards and having scotches thereon, the outer one of which is elevated above the other, and the rod or frame C⁴, extending rearwardly of said standards and having scotches thereon, the outer one of which is likewise elevated, substantially as described.

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

JOHN SISSON SLATER.

Witnesses:

ALFRED J. BOULT,
HARRY B. BRIDGE.