(No Model.)

A. P. MERRILL.

BICYCLE STAND.

No. 458,974. Patented Sept. 1, 1891.

Fig. 1.

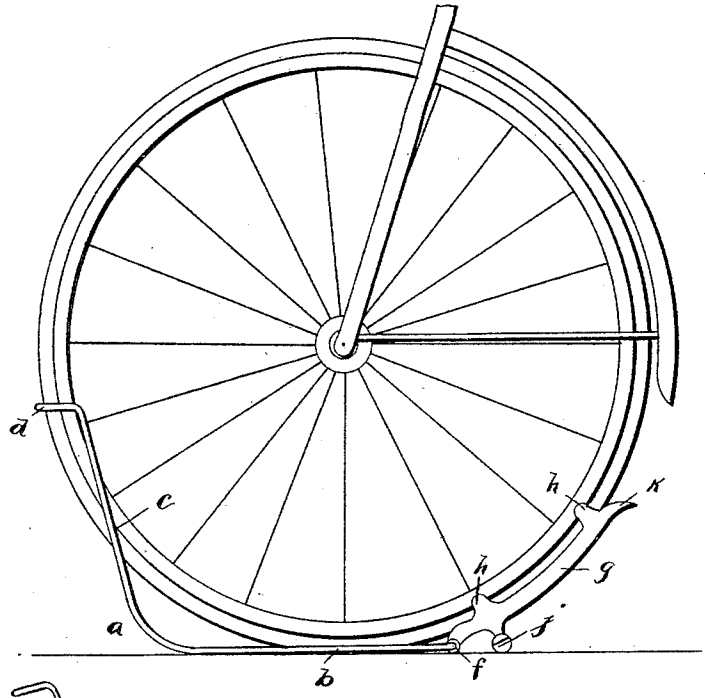


Fig. 2.

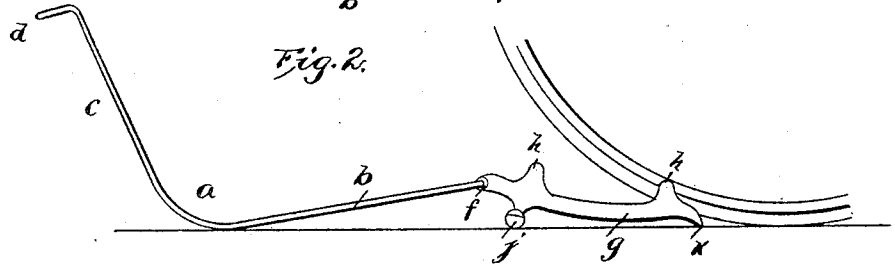


Fig. 3.

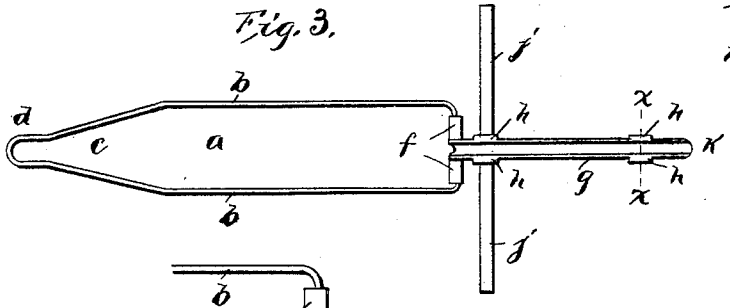


Fig. 4.

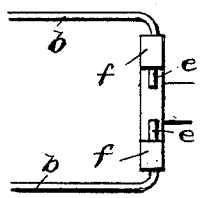


Fig. 5.



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ANSON P. MERRILL, OF FALL RIVER, MASSACHUSETTS.

BICYCLE-STAND.

SPECIFICATION forming part of Letters Patent No. 458,974, dated September 1, 1891.

Application filed May 28, 1891. Serial No. 394,445. (No model.)

To all whom it may concern:

Be it known that I, ANSON P. MERRILL, of Fall River, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Bicycle-Stands; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 part of this specification.

This invention relates to certain improvements in bicycle-stands.

The object of the invention is to provide an improved bicycle-stand exceedingly simple in construction, composed of a minimum number of strong, cheap, and easily-manufactured parts so united as to form a stand superior in operation and which will hold the bicycle in a better and more perfect manner than stands of the same class of general construction heretofore in use. These objects are accomplished by and my invention consists in certain novel features of construction and in combinations of parts, more fully described hereinafter, and particularly pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is an elevation of the stand as in use supporting a bicycle, one wheel of the bicycle being shown. Fig. 2 is an elevation showing the position of the parts of the stand when a bicycle-wheel is entering or leaving the same. Fig. 3 is a top plan view of the stand. Fig. 4 is a detail bottom plan of the joint or hinge between the track-piece and wheel-holding frame. Fig. 5 is a cross-section of the rocking track-piece, taken on the line $x\,x$, Fig. 3.

In the drawings, reference-letter a indicates the wheel-holding frame, consisting, preferably, of a single piece of metal, such as a rod, bent to form the substantially horizontal parallel portions $b\,b$, located a distance apart and arranged to rest upon the floor when the stand is in use, and the upright portion c, curving upwardly from said portions b and at the upper end formed with a bend or loop d to receive the wheel-tire, as shown. The ends of the rod or frame extend inwardly toward each other, preferably at right angles, to form the journals $e\,e$, which extend into the outer ends of bearings or apertures in the two lateral bearing-lugs $f\,f$, integral with and extending laterally from the inner end of the curved track-piece g. The longitudinal axis of this track-piece is located opposite and in the same plane with said tire or wheel receiving loop or bend of the frame. This track-piece is preferably curved up at its end, as shown, and is longitudinally grooved upon its upper side to receive the wheel-tire, and is provided at suitable parts of its length with the upwardly-extending forks or opposite lugs $h\,h$, between which the wheel-tire fits and by which the wheel is held upon the track-piece. The outer end of the track-piece is curved down, as shown at k. Near its inner end the track-piece is provided with and is centrally mounted upon the transverse foot-piece j, extending laterally a suitable distance on each side of the foot-piece so as to rest horizontally upon the floor, and together with the bottom lengths or sides of the wheel-holding frame hold the wheel against lateral tilting or falling. The track-piece is rigid with the transverse foot-piece, these parts being preferably cast integral, so that the foot-piece rocks with the track-piece. The foot-piece is preferably transversely rounded on its under side to form a bearing, and, if desirable, can be provided with a longitudinal rib on its upper side to add strength. When not in use, the weight of the outer end of the track-piece is sufficient to hold the downwardly-curved end k of said piece resting upon the floor, thereby lifting the inner ends of the track-piece and the wheel-holding frame, as clearly shown in Fig. 2, and throwing the upper end of the wheel-holding frame outwardly, as shown. When a bicycle is wheeled into the stand, the wheel engages the outer end k of the track-piece, which is curved down, as before described, thereby allowing the wheel to easily mount said track-piece and move longitudinally the length thereof, so that when the tire of the wheel moves upon the inner end of the track-piece said inner end will be depressed, thereby swinging up the track-piece against the wheel-tire, so as to snugly fit the

same throughout its length and prevent the wheel moving outwardly, and at the same time throwing down the lower sides of the wheel-holding frame and the upper portion thereof toward the wheel, so that the loop or bend thereof snugly receives the wheel and holds the same against lateral movement. When in this position, the parts of the stand occupy the position shown in Fig. 1, with the sides of the wheel-holding frame extending down upon opposite sides of the wheel and with the sides of the lower portion thereof resting upon the floor a distance from and on the opposite sides of the wheel, thereby assisting the foot of the track-piece in holding the bicycle in an upright position. The weight of the wheel on the inner ends of the track-piece and the holding-frame holds the stand in such position that the track-piece prevents the wheel moving back and the frame prevents the wheel moving forward. When the wheel is backed out of the stand, the pressure against the outer upper portion of the track-piece causes said piece to rock on its foot, so as to throw up its inner end and thereby rock the holding-frame and move its upper end outwardly away from the wheel, and the leverage of the track-piece on the foot-piece as a fulcrum throws the inner end of the track-piece up against the wheel, thereby materially assisting the wheel out of the stand and releasing it from the holding-frame. Both sections of this stand are rocked into and out of engagement with the wheel by the entrance or exit of the wheel from the stand.

The simplicity and cheapness of this stand are obvious. It is composed, preferably, of but two parts—viz., the track-piece and its foot and the wheel-holding frame. The track-piece can be cast with the bearing-lugs hollow, or they can be cast solid, and the bearings in said lugs can be drilled. As the wheel-holding frame is preferably bent from a single rod with the inturned ends to form journals, this frame can be easily and quickly attached to or released from the track-piece by spreading the sides of the frame to allow the journals to spring into or out of the bearings of the track-piece. The stand can thereby be taken apart and packed into small compass, and can be readily and easily put together when required for use.

One great disadvantage of the bicycle-stands heretofore used has been that the stand engaged two or more narrow portions only of the rubber tire of the wheel; but in the present stand the wheel has an extended bearing upon the track-piece, which, preferably, throughout its entire length rests against the tire of the wheel. The downwardly-extended outer end of the track-piece materially assists the wheel in entering or leaving the stand.

It is evident that various slight changes might be made and resorted to in the form, construction, and arrangement of the parts described without departing from the spirit and scope of my invention. Hence I do not wish to limit myself to the exact construction herein set forth; but

What I claim is—

1. A bicycle-stand composed of two parts, a rocking wheel-holding frame and the rocking track-piece pivotally united to the inner end of the wheel-holding frame and arranged to operate the same to engage and release the wheel.

2. A bicycle-stand consisting of the wheel-holding frame and the rocking track-piece at its inner end pivotally united to the inner end of the wheel-holding frame, said track-piece having a foot rigid therewith, forming a fulcrum and upholding the device.

3. In a bicycle-stand, the combination of the rocking track-piece having the foot near its inner end and the wheel-holding frame pivotally united to the inner end of said track-piece.

4. In a bicycle-stand, the rocking tire-receiving track-piece rigid with a transverse foot to form its fulcrum and the wheel-holding frame pivotally united to and rocked by said track-piece.

5. In a bicycle-stand, the combination of a track-piece provided with a foot and having the bearings at or near its inner end and the wheel-holding frame having the inturned journals at its inner end mounted in said bearings, substantially as and for the purposes set forth.

6. A bicycle-stand consisting of the track-piece curved up and grooved longitudinally on its upper side and extended down at its outer end to receive the wheel, the transverse rounded foot-piece rigid with said track-piece and located near its inner end, the track-piece provided with opposite bearings at its inner end, and the wire holding-frame consisting of the upwardly-extending portion having the wheel-receiving bend and the bottom side pieces having the inturned ends to enter said bearings, substantially as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ANSON P. MERRILL.

Witnesses:
CHAS. T. GALLAGHER,
MARY R. BANGS.