Sept. 16, 1924. 1,508,621

F. M. SISK ET AL

BICYCLE

Filed Oct. 17, 1921 2 Sheets-Sheet 1

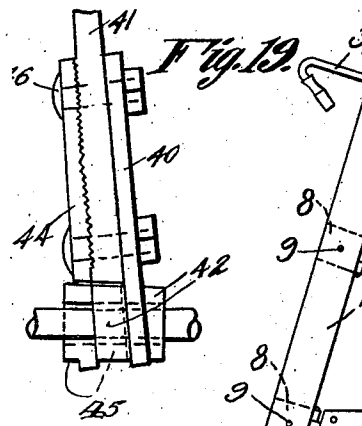


Fig. 1a.

Fig. 1.

Fig. 1b.

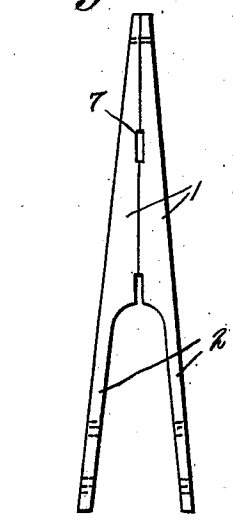


Fig. 2.

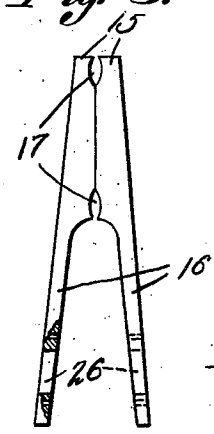


Fig. 3.

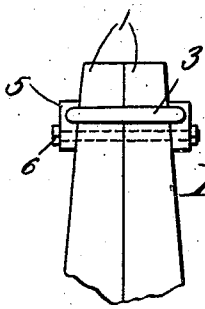


Fig. 4.

F. M. Sisk AND
H. M. Sisk Inventors

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Attorneys

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F. M. SISK ET AL

BICYCLE

Filed Oct. 17, 1921 2 Sheets-Sheet 2

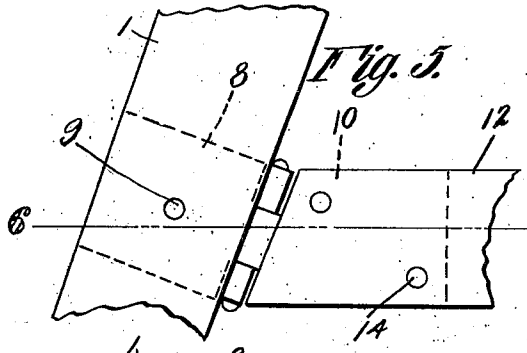


Fig. 5.

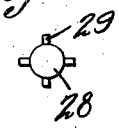


Fig. 9.

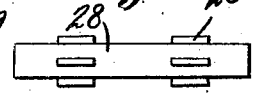


Fig. 8.

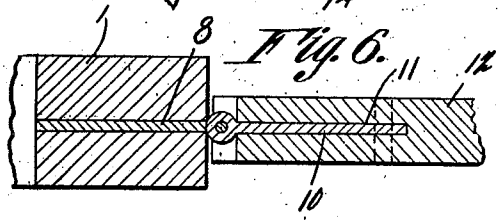


Fig. 6.

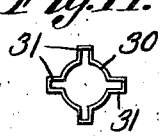


Fig. 11.

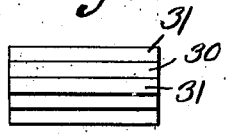


Fig. 10.

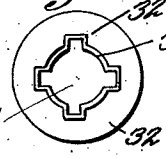


Fig. 13.

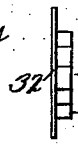


Fig. 12.

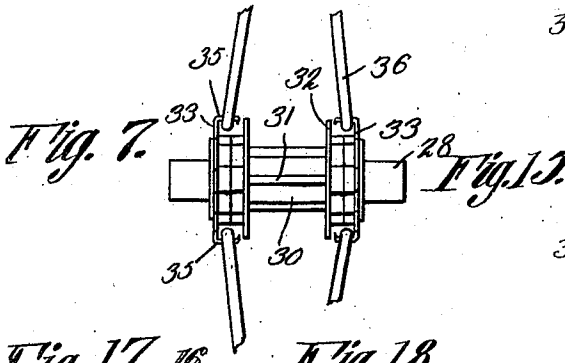


Fig. 7.

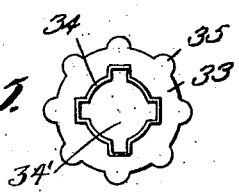


Fig. 15.



Fig. 14.

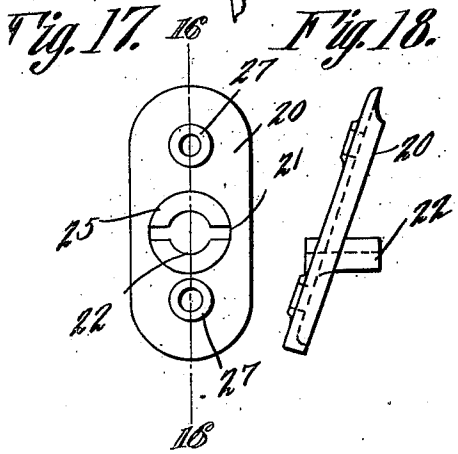


Fig. 17.

Fig. 18.

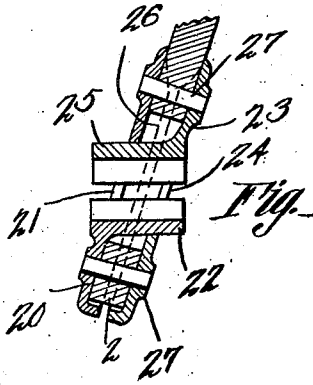


Fig. 16.

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H. M. Sisk

By Cachow & Co.

Attorney

Patented Sept. 16, 1924. 1,508,621

UNITED STATES PATENT OFFICE.

FRANCIS M. SISK AND HUDSON M. SISK, OF ATLANTA, GEORGIA.

BICYCLE.

Application filed October 17, 1921. Serial No. 508,205.

To all whom it may concern:

Be it known that we, FRANCIS M. SISK and HUDSON M. SISK, citizens of the United States, residing at Atlanta, in the county of Fulton, State of Georgia, have invented a new and useful Bicycle, of which the following is a specification.

This invention relates to bicycles especially designed for use by small children, one of its objects being to provide a toy vehicle of this character made up for the most part of wood, there being metal portions only where it is necessary to provide proper bearings between the parts and hold the parts together securely.

Another object is to provide a novel form of construction for the wheels of the vehicle and to provide improved bearings whereby the axles can properly rotate without causing undesirable wear.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that, within the scope of what is claimed, changes in the precise embodiment of the invention shown can be made without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings—

Figure 1 is a side elevation of the bicycle.

Figure 2 is a front elevation of the front fork, the metal portions being removed.

Figure 3 is an elevation of the wooden portion of the rear fork.

Figure 4 is a rear elevation of the upper end of the front fork and showing the manner of connecting the handle bars thereto.

Figure 5 is an enlarged side elevation of one of the connections between the front fork and one of the horizontal bars.

Figure 6 is a section on line 6—6, Figure 5.

Figure 7 is an elevation of one of the wheels hubs and the axle on which it is mounted.

Figure 8 is a side elevation of the axle.

Figure 9 is an end elevation of the axle.

Figure 10 is a side view of the barrel portion of the hub.

Figure 11 is an end view thereof.

Figure 12 is a side view of one of the end disks of the hub.

Figure 13 is a face view thereof in position on the hub.

Figure 14 is a side view of the other end disk of the hub.

Figure 15 is a face view of said disk in position on the hub.

Figure 16 is a vertical section through one of the bearings of the rear axle.

Figure 17 is a side elevation of the complete wheel bearing.

Figure 18 is an edge view of one of the members of the wheel bearing.

Figure 19 is a rear elevation of a modified form of bearing.

Figure 20 is a side elevation thereof.

Referring to the figures by characters of reference 1 designates tapered wood strips provided with extensions or arms 2 at their thick ends formed by cutting away said ends of the strip, these arms diverging as shown in Figure 2 and cooperating to form the front fork of the bicycle. Handle bars indicated at 3 are adapted to straddle the upper ends of these strips and to engage the back faces thereof as shown particularly in Figures 1 and 4, those portions of the handle bars contacting with the sides of the strip being held by clamping blocks 5 through which extend bolts 6 passing transversely through the strips 1. Obviously by tightening these bolts the handle bars can be securely held to the front fork. Mortices 7 are formed in the inner or contacting faces of the strip 1 to receive hinge leaves 8 these leaves being held in place by transverse bolts 9 extending through the strip 1. Hinge leaves 10 are connected in the usual manner to the leaves 8 and are embedded in the slots 11 formed in the upper and lower horizontal bars 12 and 13 respectively of the bicycle. These leaves 10 are held in place by transverse bolts 14 or any other suitable means provided.

The rear fork of the bicycle is formed of opposed strips 15 the lower ends of which are cut away to provide downwardly diverging arms 16. Mortices 17 are formed in the meeting faces of the strips 15 to receive the reduced rear ends of the horizontal bars 12 and 13, these bars being fastened within the mortices by transverse bolts 18 or the like. A seat 19 can be secured upon the upper

horizontal bar 12 and upon the upper ends of the strips 15 as shown in Figure 1.

The lower end portion of each of the arms 2 and 16 of the two forks is provided with a special form of bearing such as illustrated in Figures 16, 17 and 18. Each bearing comprises a plate 20 having an opening 21 on the lower portion of the wall of which is formed the lower axle engaging portion 22 of the bearing, this portion being in the form of a laterally extending wing substantially semicylindrical and disposed at an obtuse angle to the lower portion of the plate 20. Another plate 23 similar to the plate 20 is provided, this also being formed with an opening 24 having an axle engaging portion 25 similar to the portion 22. The plate 23 is disposed oppositely to the plate 20 so that the bearing portion 25 overhangs the bearing portion 22. The two plates are adapted to be placed on opposite faces of the arm of the fork so that the portion 25 will extend through the upper part of the opening 21 in plate 20 while the bearing portion 22 will extend into the lower portion of the opening 24 in plate 23. A slot 26 is provided in the arm so as to receive these bearing portions 22 and 25 as shown in Figure 16. It is to be understood that the plates may be fastened to the arm of the fork by means of rivets 27 or the like extending therethrough as shown in Figure 16.

The bearings described are adapted to receive the end portions of axles 28. Each of these axles is provided with longitudinal fins or keys 29 and each axle is adapted to be inserted longitudinally into a metal barrel or sleeve 30 having longitudinally extending outstanding portions 31 for the reception of the keys or fins 29. This barrel or sleeve constitutes the hub of one of the wheels of the vehicle. On each end of the barrel 30 is mounted a pair of oppositely disposed disks 32 and 33 having openings 34′ at the centers thereof so shaped as to fit snugly upon the ends of the barrel. Each opening is preferably provided with a laterally extending flange 34 and when the disks of one pair are assembled the flanges 34 thereon are extended toward each other and meet as shown particularly in Figure 7. One disk, 33, of each pair has ears 35 at the periphery thereof and these ears are adapted to be bent laterally toward the disk 32 so as to provide means for engagement with the inner end portions of spokes 36 the other end portions of which are connected to the rims 37 of the wheels.

The axle of the front wheel is extended laterally beyond the bearings in the front fork and mounted on each end of this front axle is the eye portion of a pedal crank 38 fastened to the axle in any suitable manner.

Obviously a vehicle such as herein described can be made cheaply and will constitute a satisfactory velocipede for small children.

It is to be understood of course that various changes may be made in the construction of the bearing shown in Figures 16, 17 and 18 and in the construction of the wheels as well as other details of the invention.

As shown in Figures 19 and 20 the bearings can be made somewhat differently from the one illustrated in Figures 16, 17 and 18. This modified form of bearing includes an inner plate 44 adapted to fit snugly against the inner side of arm 41 of the fork and having an outwardly extending arcuate bearing projection 45 extending transversely under the lower end of the forked arm 41, said lower end of the forked arm being preferably concaved or recessed as shown at 43. Mounted on the outer side of the arm 41 of the fork is an outer plate 40 having a laterally extending arcuate bearing portion or member 42 adapted to be supported opposite to and parallel with the bearing member 45 as shown in Figure 20. These plates 40 and 44 can be fastened to the arm 41 by means of upper and lower transverse bolts 46 (see Fig. 20), the lower bolt being preferably extended through a slot 47 in the inner plate 44 so that by loosening the lower bolt said inner plate can be adjusted upon the upper bolt 46 to reduce the distance between the bearing members 42 and 45 and thus take up wear. If desired that face of the plate 44 engaging the arm 41 can be serrated or roughened so as to properly engage the arm without slipping as shown in Fig. 19.

What is claimed is:—

In a bicycle, a fork including connected strips having cut away portions forming the arms of the fork, a frame including horizontal bars, and hinges each having a leaf extending between and clamped by the strips of the front fork, a leaf extending into and secured to one of the horizontal bars, and a handle bar straddling and secured to the strips of the front fork to hold them against separation from the hinge leaves therebetween.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

FRANCIS M. SISK.
HUDSON M. SISK.

Witnesses:
ROBERT L. WELCH,
WM. T. POWELL.