

Aug. 27, 1935.

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2,012,332

VELOCIPEDA

Filed Aug. 13, 1934

2 Sheets-Sheet 1

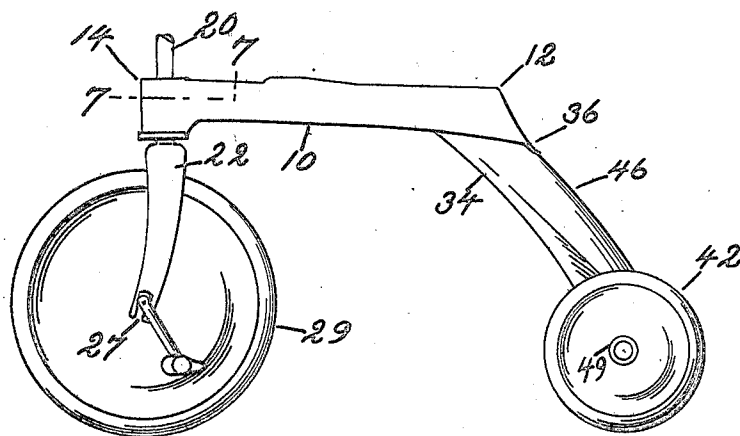


FIG. 1

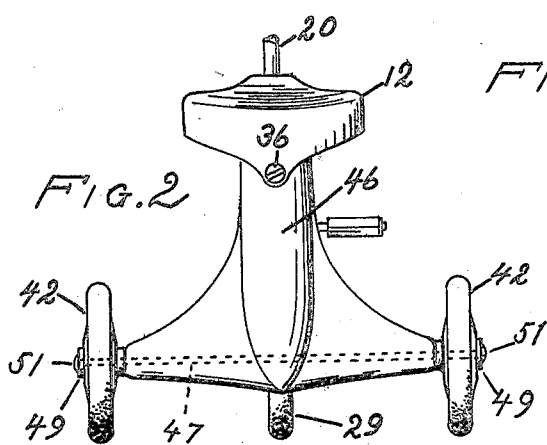


FIG. 2

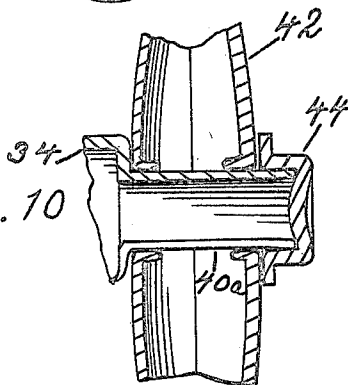


FIG. 10

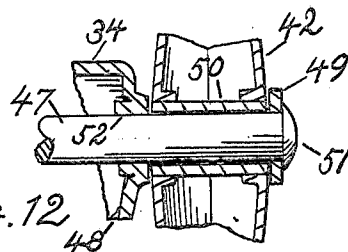


FIG. 12

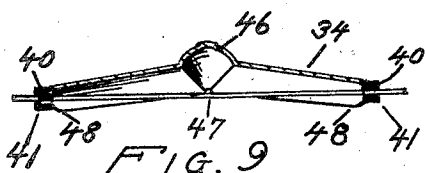


FIG. 9

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2 Sheets-Sheet 2

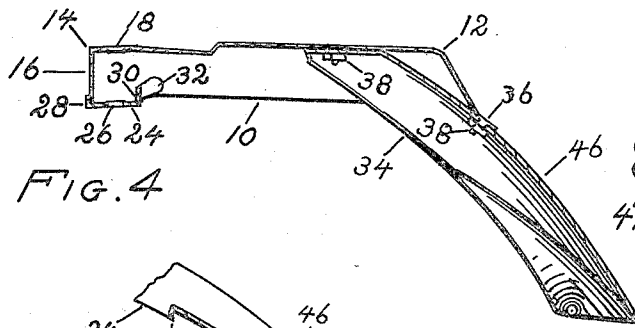


FIG. 4

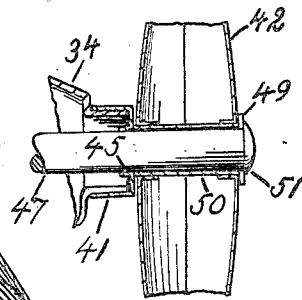


FIG. 3

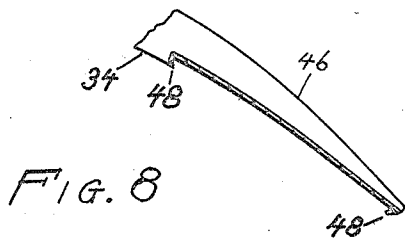


FIG. 8

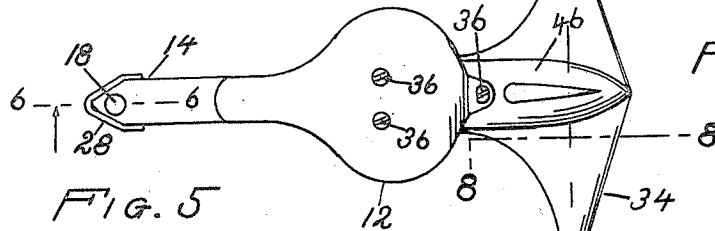


FIG. 5

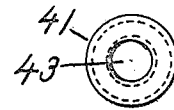


FIG. 11

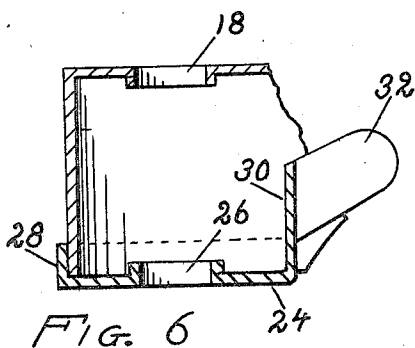


FIG. 6

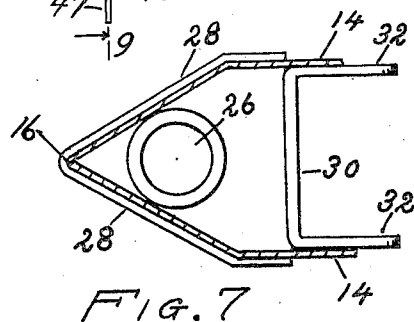


FIG. 7

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# UNITED STATES PATENT OFFICE

2,012,332

## VELOCIPEDE

Bert J. Anderson, Hammond, Ind.

Application August 13, 1934, Serial No. 739,589

13 Claims. (Cl. 208—113)

This invention relates to improvements in children's velocipedes and has for one of its principal objects the construction of a sectional sheet metal frame in such a manner that it may be readily assembled or knocked down without the aid of special tools.

Another important object of this invention resides in the novel means for reenforcing the rear section of the frame against torsional, transverse, and vertical strain.

Another and further important object of the velocipede of this invention is the economy of its manufacture and its simplicity.

Still another and further important object of the invention resides in the fact that a number of the knocked down velocipedes may be packed for shipment in a single carton, thus substantially reducing ordinary transportation costs per vehicle.

A still further important object of this invention is the fact that the device may be readily assembled by persons not skilled in the art.

Another and still further important object of this invention resides in the fact that as the saddle is an integral part of the frame, wear of that part is reduced to a minimum, and moreover, the part cannot become loosened, out of line, or lost.

A further important object of the velocipede of this invention is the provision of means for reenforcing the head with a single stamping which is secured to both the inner and the outer surface of the frame.

Still another and further important object of the invention resides in the novel manner of removably securing the two sections of the frame together to produce a sturdy and rigid unit, and of allowing a relatively wide span between the securing members, without appreciably increasing its weight.

Other and further important objects of the invention will become apparent from the following disclosures in the accompanying drawings and following specification.

The invention, in a preferred form, is illustrated in the drawings and hereinafter more fully described.

In the drawings:

Figure 1 is a side elevation of a preferred embodiment of the velocipede of this invention.

Figure 2 is a rear elevation thereof.

Figure 3 is a view of an enlarged section of a portion of a rear wheel and parts of the wheel supporting members.

Figure 4 is a view of a longitudinal section of the assembled frame.

Figure 5 is a top plan view of the assembled frame.

Figure 6 is an enlarged section of the assembled head with parts broken away, taken on the line 6—6 of Figure 5 looking in the direction indicated by the arrows.

Figure 7 is an enlarged plan view of the head taken on the line 7—7 of Figure 1.

Figure 8 is a sectional view of the rear member taken on the line 8—8 of Figure 5.

Figure 9 is a sectional view of the rear member taken on the line 9—9 of Figure 5 looking in the direction indicated by the arrows, and shows the axle and axle supporting members.

Figure 10 is an enlarged sectional view of a modification of the wheel supporting and securing members, with parts broken away.

Figure 11 is a front elevation of an axle supporting member.

Figure 12 is an enlarged sectional view of a modification of the axle supporting and securing member, with parts broken away.

As shown in the drawings:

The reference numeral 10 indicates in a general way the upper section of the velocipede frame of this invention which is a substantially flat stamping having a wide rear portion forming a saddle 12, and a restricted forward extending portion forming a head 14. The edges of the entire stamping 10, are turned downwardly and inwardly to improve its appearance when assembled and also to give the part greater strength.

The forward edges 16, of the head 14, after being turned down and pressed together, are welded or otherwise permanently secured together, and in the preferred embodiment form a V-shaped head, as is best shown in Figures 5 and 7. However, the construction may be varied to produce any desired shape of head.

The head 14, is apertured at 18, as is best shown in Figure 5, to receive and rotatably secure the steering post portion 20, of the fork 22. The steering post may be secured in position by any conventional means.

The lower ends of the fork are slotted 27, to receive and rotatably secure the axle supporting the front wheel, 29. The center part of the slot is bent outwardly at right angles to the fork to serve as a bearing surface for the axle. After the axle is in position in the slot, the lower opening of said slot is closed slightly to retain the axle in rotatable position.

Secured to the bottom of the head 14, prefer-

ably by welding, is a stamping 24, having an aperture 26, in alignment with the aperture 18, in the head 14. This stamping 24 has an upwardly turned front and side edge 28, which contacts and is secured to the exterior surface of the head 14. The rear portion 30 of the stamping 24 is turned upwardly, as is best shown in Figure 6, and is positioned inside of the head 14.

Wings 32, on each side of the portion 30, are turned at right angles thereto and contact and are secured to the interior surface of the head 14, as is clearly shown in Figure 7. This novel construction and assembly which, while exceedingly light in weight, produces a sturdy and practically indestructible head. The aligned apertures 18 and 26 have inwardly turned edges to increase their bearing surfaces.

The lower section of the frame, comprising a stamping 34, substantially flat in cross section as is best shown in Figures 8 and 9, is removably secured to the upper stamping 10, preferably by means of three bolts 36, and co-acting nuts 38, although any other suitable fastening means may be used. These bolts 36 are spaced in triangular formation to give the greatest resistance to both vertical and torsional strain.

The stamping 34, which is approximately of diamond shape, has, in the preferred construction, each side point restricted at 40 to receive an axle supporting member 41. The axle supporting member 41 is pierced at 43 and has the edges of the hole turned inwardly at 45 to increase its bearing surface.

The members 41 positioned with pierced holes 43 in alignment on each side of the stamping, support the axle 47. The members 41 are frictionally secured to the restricted members 40 and prevent rotation of the axle 47. The axle thus secured forms a truss rod brace for the stamping 34 and greatly stiffens and reinforces the member. The wheel 42, when positioned on the axle 47, is preferably secured in position by placing a washer 49 over the end of said axle, which is then headed, as is best shown by the reference numeral 51 in Figure 3. However, any conventional means may be used for securing the wheels in position. In the modified construction as shown in Figure 10, the wheel 42 is positioned on the member 40a and is rotatably secured thereto by a hub cap 44 which, when pressed onto the member 40a, expands said member and is thus frictionally held against rotation or removal. The preferred construction of the wheel is with a bushing 50, as shown in Figure 3. This construction may be varied to omit the bushing, as shown in Figure 10.

The stamping 34 has a slightly raised center rib 46, which improves its appearance and also reinforces the part against vertical strain. Injury to the stamping 34, from torsion or transverse strain is prevented by the turned-in edges 48. These turned-in edges extend diagonally from points adjacent the members 40, to points near the upper end of the stamping and also extend from the members 40, to the center of the rear point of the stamping as is best shown in Figures 8 and 9. In other words, the reinforcing element 48 extends entirely around the perimeter of the diamond shaped stamping.

A further modification which is especially desirable because of its economical manufacture is shown in Figure 12. The ends of the outwardly extending portions of the stamping 34, are pierced and then turned downwardly to abut and be secured to the ends of the turned in edges 48,

to form a rigid and substantial axle support. The edges of the pierced holes are turned inwardly, as shown by the reference numeral 52, to form a wide supporting surface for the axle 47.

In this modification also the axle 47 is secured adjacent the ends thereof and serves as a wheel supporting member and also as a truss rod to stiffen and reinforce the stamping 34.

It will be apparent from the foregoing that herein is provided a sturdy and practically indestructible velocipede frame. The novel head construction, particularly the reinforcing means, produces a light and economically manufactured unit that is approximately as rigid as if made from solid metal.

Furthermore, the diamond shaped construction of the rear member with its diagonal edge bracing and axle truss bracing prevents warping or bending of that member even when subjected to harsh use.

It will be further apparent that the portion of the upper part of the frame which carries the load is substantially reinforced by the overlapping part of the lower frame.

I am aware that many changes may be made and numerous details of construction varied throughout a wide range without departing from the principles of this invention as herein set forth and claimed and I, therefore, do not purpose limiting the patent granted hereon otherwise than as necessitated by the prior art.

I claim as my invention:

1. In an axle supporting member having outwardly disposed side portions, cylindrical members formed on the ends of said portions of said supporting member, a perforated cup shaped member secured to each cylindrical member in alignment to receive an axle, the edges of said perforations being turned inwardly, and an axle secured against rotation in said perforations, the ends of said axle extending outwardly beyond the supporting members.

2. A sheet metal axle supporting member including a reinforcing raised portion on the central part of the member, a portion extending outwardly from each side of the central part terminating in a restricted downturned apertured end, said apertures having inwardly turned edges, and an axle secured in said apertures and extending across the member beneath said central part and projecting beyond said apertured ends.

3. A velocipede having a sheet metal frame comprising an upper and a lower section joined together to form an integral frame, an axle positioned beneath said lower portion and secured thereto, said upper portion comprising an expanded saddle portion and a restricted apertured head portion, the sides of said head portion being turned downwardly and spaced apart, and an apertured stamping secured to the spaced apart sides beneath said head with said apertures in alignment.

4. A velocipede having a sheet metal frame comprising an upper and a lower section joined together, said upper section comprising an expanded saddle portion and a restricted apertured head portion, the sides of said head portion being turned downwardly and inwardly to form a V-shaped head, and a single apertured stamping secured to both interior and exterior surfaces of the V-shaped head, said apertures being in alignment to receive the steering post of a fork.

5. A sheet metal velocipede frame including a stamped plate with downwardly turned edges, a saddle formed of the rear part of said stamping,

the forward edges of said stamping being secured together to form a V-shaped head, and a V-shaped member with upwardly turned edges positioned on the bottom of said head, said member being secured to the outer surface of the head.

6. A sheet metal velocipede frame including a stamped plate with downwardly turned edges, a saddle formed of the rear part of said stamping, the forward edges of said stamping being secured together to form a V-shaped head, and a V-shaped bottom member secured to the inner surface of the head.

7. In a velocipede, a bottom head member comprising a perforated stamping substantially V-shaped in plan formation, a restricted portion extending upwardly at the rear of said stamping, and a securing wing on each side of said upwardly extending portion.

8. In a sheet metal velocipede frame, a stamped plate having downwardly turned edges, wheel supporting members on opposed sides of said plate, an upwardly and forwardly extending portion terminating in an apertured substantially V-shaped head, and an apertured plate secured to the bottom of said V-shaped head.

9. A sectional velocipede frame including a stamped plate, hollow wheel supporting members on opposed sides of said plate and means for rotatably securing wheels on said members, said means comprising hub caps adapted to expand the ends of the members.

10. In a velocipede frame, a perforated bottom plate head member, a portion of said member being shaped to contact and be secured to the

outer surface of the frame, and a portion of said member being turned to contact and be secured to the inner surface of the frame.

11. In a velocipede frame, a perforated bottom plate head member, certain edges of said member being turned upwardly to fit and be secured to the exterior surface of the head portion of the frame, and a portion of the member being turned upwardly with contacting surfaces at right angles thereto to fit and be secured to the interior surface of the head portion of the frame.

12. A velocipede having a sheet metal frame comprising an upper front and a lower rear portion, an axle positioned beneath said lower rear portion and secured thereto, said upper portion terminating in an apertured head, a seat formed of the metal of the frame itself intermediate the ends, the sides of said head portion being turned downwardly and an apertured stamping secured to the bottom of said head with said apertures in alignment.

13. A velocipede frame including an apertured horizontal portion and a downwardly extending portion, said horizontal portion having downwardly turned spaced apart sides, an apertured stamping secured to the edges of said downwardly turned sides beneath said first named aperture, said first and second named apertures being in alignment, the downwardly extending portion of said frame being at an angle to the horizontal portion thereof, and a seat formed of the frame itself intermediate the ends.

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