TOY STEERING WHEEL

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

INVENTOR

ANDREW KRUCZEK

ATTORNEY
This invention relates to toy steering wheels, and it especially relates to toy steering wheels which are adapted to be used in an automobile or the like.

Hereinafter, there have been various types of toy steering wheels on the market. However, in addition to various other disadvantages, one of the main defects which they had in common was that they had to be attached to the dashboard. However, many makes of cars today have so many instruments, indicators, cigar lighters, ashtrays, and the like, on the dashboard that there is little room left for an extra attachment.

Another defect of many of the toy steering wheels used today is the fact that they are either so flimsy in construction that they were easily broken or else are so expensive that their price is prohibitively high.

It is, therefore, the object of the present invention to provide a toy steering wheel which may be secured within an automobile in a position adjacent to the real steering wheel without the necessity of connecting it to the dashboard.

Another object of the present invention is to provide a toy steering wheel which is simple to attach and easy to remove.

Other objects of the present invention are to provide an improved toy steering wheel, of the character described, that is easily and economically produced, which is sturdy in construction, and which is highly efficient in operation.

With the above and related objects in view, this invention consists in the details of construction and combination of parts, as will be more fully understood from the following description, when read in conjunction with the accompanying drawings in which:

Fig. 1 is a side elevational view of a device embodying the present invention, the device being shown in operative position.

Fig. 2 is a view taken on line 2—2 of Fig. 1.

Fig. 3 is a cross-sectional view of the hub portion of the wheel.

Fig. 4 is a view taken on line 4—4 of Fig. 1.

Fig. 5 is a view taken on line 5—5 of Fig. 4.

Fig. 6 is a view taken on line 6—6 of Fig. 4.

Referring now in greater detail to the drawing wherein similar reference characters refer to similar parts, there is shown a steering wheel assembly 10 for an automobile or similar vehicle, this steering wheel assembly comprising a steering column 12 and a wheel 14.

Laterally connected to the steering column 12 is a toy steering wheel assembly, generally designated 16. This assembly 16 comprises a steering column 18, of tubular construction, which is connected to a support or bracket arm 26 by means of a metal strap 22. This strap 22 is provided with opposite flanges 24 which are connected to the end of the support 20 by means of bolts 26, a hexagonal nut 28 on one of the bolts and a wing-nut 30 on the other of the bolts. The nut 28 is provided for relatively permanent connection of one end of the strap to the support while wing-nut 30 permits easy release or insertion or adjustment of the steering column 18 without the necessity of using any tools, to thus position the toy steering wheel to the size of the child. The strap 22 is preferably made of spring metal such as spring steel and the bolt 26 acts as a sort of pivot or fulcrum to permit flexing of the strap when the steering column is being inserted, removed, or adjusted.

The support or bracket arm 26 comprises at least two separate sections, shown as 32 and 34. Each of these sections is provided with a plurality of holes, as at 36 and 38, which are adapted to mate with each other upon relative longitudinal movement of the sections. Bolts 40 and wing-nuts 42 connect the sections together by means of the bolts extending through mating holes on the superimposed sections. The extra holes on each section permit longitudinal adjustment of the support 20 and, therefore, lateral adjustment of the toy steering wheel relative to the real steering wheel.

The support or bracket arm 26, itself, is connected to the steering column 12 by means of a metal, fabric or leather strap 44 connected, at one end, to the support by means of a ringed strap 46 to which is connected the loop end 48 of the strap 44. A rivet or the like 50 holds the loop 48 closed. The opposite end of the strap 44, 51, is provided with a buckle 52, a link 54 and a cammed lever 56 and operating handle 58 for tightening and loosening of the strap to retain or release the support or bracket arm from its connection to the steering column 12.

Attached to one end of the toy steering column 18 is a hub 60 comprising a pair of oppositely disposed discs 62 and 64, preferably of wood, but which can also be formed of various other materials such as metal or plastic. The disc 62 is provided with a central opening 66 in which is positioned a cylindrical block 68. The block 68 is split in two halves and between these halves is clamped a steel washer 70 extending radially out from the periphery of the block. The washer is clamped in place by a stud bolt 72 threadedly engaged with an internally threaded bore in one half 69 of the block 68.

The half 69 of the block 68 is frictionally engaged within the end of the tubular column 18 while the other half 71 of the block 68 fits within opening 66 in disc 62. The washer 70 is positioned between the end of the column 18 and disc 62 and overlies the area of the disc around the opening 66. This washer acts as a bearing member for brackets 74 which are connected at their outer ends to disc 62 by screws 76. The brackets have inner offset portions 80 overlying the washer 70. These offset portions not only turn relative to the washer but hold the hub thereagainst so that the washer 70 acts as the support for the rotatable wheel mounted on the hub 60. The freeness of rotation is regulated by screwing in or out the screws 76.

Clamped between discs 62 and 64, as by screws 82, are a plurality of wires 84, preferably chrome-plated. The opposite ends of these wires are connected to the wheel 86 by means of connectors 88. Each of these connectors comprises a metal strip 90 underlining the wire ends and curled over the wheel to overlie the wires with its overlying portion 92. The strip is also provided with lateral flanges 94 which overlap the top overlying portion 92, as best shown in Fig. 5, to clamp the wire ends in place.

The wheel 86, itself, is preferably constructed of relatively inexpensive plastic or rubber tubing which is filled with a self-hardening material 96 such as a composition of cork granules intermixed with either a thermoplastic or thermosetting synthetic resin. It is also possible to use one of the various silicone resins. In this manner, the tubing can be easily filled with the inexpensive mixture during construction, and then the composition is permitted to set. The final product is a
rigid, sturdy, tubular ring having most of the characteristics of much more expensive solid rings.

Another manner of connecting the wires 84 to the ring 86 is by simply looping the ends of the wires around the ring and twisting them together. However, this manner of fastening, although less expensive, does not provide as good a connection as that illustrated.

Although this invention has been described in considerable detail, such description is intended as being illustrative rather than limiting, since the invention may be variously embodied, and the scope of the invention is to be determined as claimed.

Having thus set forth and disclosed the nature of this invention, what is claimed is:

1. A toy steering wheel assembly comprising a tubular steering column, a block frictionally mounted within one end of said column, a portion of said block extending out from said column and into a central recess in a hub member, a radially extending flange projecting outwardly from said block between said column and said hub member and overlying at least a portion of said hub member, flange means on said hub member overlying said radially extending flange, a wheel circumferentially connected to said hub member, said flange means being connected to said hub member by screw-threaded connections, said screw-threaded connections being adapted to vary the ease of rotation between said flange means and said radially extending flange upon being threaded in one direction or the other.

2. The assembly of claim 1 wherein said hub member comprises a pair of separate discs in face-to-face relationship, a plurality of wires extending between said discs, means to clamp said discs together to clamp said wires therebetween, and means to connect the ends of said wires to a ring circumferentially surrounding said hub member.

3. The assembly of claim 1 wherein said wheel comprises a plurality of wires extending in opposite directions from said hub and a ring surrounding said hub member and having the ends of said wires connected thereto.

References Cited in the file of this patent

UNITED STATES PATENTS

1,220,878 Morgan ........................ Mar. 27, 1917
1,446,243 Brown .......................... Feb. 20, 1923
1,492,363 Edson ............................ Apr. 29, 1924
1,556,076 Chambers ........................ Oct. 6, 1925
1,826,278 Flaman ........................... Oct. 6, 1931
1,878,355 White ............................ Sept. 20, 1932
2,128,435 Shippoe et al. ..................... Aug. 30, 1938
2,193,639 Mueller .......................... Mar. 12, 1940
2,203,791 Lange ............................ June 11, 1940
2,322,403 Van Der Kieft ..................... June 22, 1943
2,459,271 Fantz .............................. Jan. 18, 1949
2,522,205 Anderson .......................... Sept. 12, 1950
2,733,543 Knight ............................ Feb. 7, 1956

FOREIGN PATENTS

690,886 Germany ........................... 1940