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Spoke wheel

Abstract

A spoke wheel for a straddle-type vehicle includes a rim having an outer peripheral surface on which a tire is mounted and an annular shape, a hub supported by an axle on an inner side of the rim and having a tubular shape, and a plurality of wire spokes connecting the rim to the hub. The rim is formed with a plurality of spoke holes through which the plurality of wire spokes pass and support surfaces receiving head portions of the plurality of wire spokes on one end sides of the plurality of spoke holes. Each of the support surfaces has a groove shape extending in a wheel rotation direction.

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Background/Summary

CROSS-REFERENCE TO RELATED APPLICATIONS
(1) The disclosure of Japanese Patent Application No. 2021-153507 filed on Sep. 21, 2021, including specification, drawings and claims is incorporated herein by reference in its entirety.
BACKGROUND
(2) The present invention relates to a spoke wheel.
(3) In an off-road type straddle-type vehicle, a spoke wheel is often used to absorb an impact during traveling. Spoke holes through which a large number of wire spokes pass are formed on a rim of the spoke wheel. As such a type of spoke wheel, a type in which spoke holes are formed on inner peripheral protruding portions protruding radially inward from a rim bottom surface, and a

type in which spoke holes are formed on a flange protruding radially outward from a rim outer edge are known (for example, see Patent Literature 1). At the time of forming the spoke holes of the rim, counterboring is performed in order to accommodate head portions of the wire spokes.
Patent Literature 1: JP-A-S60-012314
SUMMARY
(4) The present invention provides a spoke wheel fora straddle-ride type vehicle, the spoke wheel including: a rim having an outer peripheral surface on which a tire is mounted and an annular shape, a hub supported by an axle on an inner side of the rim and having a tubular shape; and a plurality of wire spokes connecting the rim to the hub, in which the rim is formed with a plurality of spoke holes through which the plurality of wire spokes pass and support surfaces receiving head portions of the plurality of wire spokes on one end sides of the plurality of spoke holes, and each of the support surfaces has a groove shape extending in a wheel rotation direction.

Description

BRIEF DESCRIPTION OF DRAWINGS
(1) FIG. **1** is a perspective view of a spoke wheel according to the present embodiment.
(2) FIG. **2** is a side view of the spoke wheel according to the present embodiment.
(3) FIG. **3** is a cross-sectional view of the spoke wheel of FIG. **2** taken along a line A-A.
(4) FIG. **4** is a cross-sectional view of the spoke wheel of FIG. **2** taken along a line B-B.
(5) FIG. **5** is a schematic cross-sectional view of a spoke wheel according to a first modification.
(6) FIG. **6** is a schematic cross-sectional view of a spoke wheel according to a second modification.
(7) FIG. **7** is a perspective view of a spoke wheel according to a third modification.
DESCRIPTION OF EMBODIMENTS
(8) In the rim described in Patent Literature 1, counterboring must be performed on each spoke hole using a dedicated tool, and there is a problem that working man-hours increase and a manufacturing cost of the spoke wheel increases.
(9) The present invention has been made in view of the above circumstances, and an object thereof is to provide a spoke wheel capable of reducing working man-hours and a manufacturing cost.
(10) According to the spoke wheel of one aspect of the present invention, the head portions of the plurality of wire spokes are accommodated in the groove-shaped support surfaces. Since the support surface is formed in the groove shape, there is no need to perform counterboring on each of the plurality of spoke holes formed on the rim by using a dedicated tool. Therefore, working man-hours at the time of molding the rim and the cost can be reduced.
(11) A spoke wheel according to an aspect of the present invention is used in a straddle-ride type vehicle and includes an annular rim having an outer peripheral surface on which a tire is mounted, a tubular hub supported by an axle on an inner side of the rim, and a plurality of wire spokes connecting the rim to the hub. The rim is formed with a plurality of spoke holes through which the plurality of wire spokes pass, and support surfaces that receive head portions of the plurality of wire spokes on one end sides of the plurality of spoke holes are each formed in a groove shape extending in a wheel rotation direction. According to the configuration, the head portions of the plurality of wire spokes are accommodated in the groove-shaped support surfaces. Since the support surface is formed in the groove shape, there is no need to perform counterboring on each of the plurality of spoke holes formed on the rim by using a dedicated tool. Therefore, working man-hours at the time of molding the rim and the cost can be reduced.
EMBODIMENT
(12) Hereinafter, an embodiment will be described in detail with reference to the accompanying drawings. FIG. **1** is a perspective view of a spoke wheel according to the present embodiment. In the following drawings, an arrow FR indicates a forward direction, an arrow RE indicates a

rearward direction, an arrow L indicates a left direction, and an arrow R indicates a right direction.
(13) As illustrated in FIG. **1**, a spoke wheel **10** of the present embodiment is a spoke wheel for a tubeless tire of a straddle-ride type vehicle. The spoke wheel **10** includes an annular rim **13** having an outer peripheral surface on which a tire **11** is mounted, a tubular hub **14** supported by an axle **12** on an inner side of the rim **13**, and a plurality of wire spokes **15** connecting the rim **13** to the hub **14**. The plurality of wire spokes **15** extend substantially radially from the hub **14** toward the rim **13**, and a load acting on the spoke wheel **10** is supported by a tension of the plurality of wire spokes **15**. The spoke wheel **10** absorbs an impact during traveling and reduces a weight of wheels.
(14) A pair of inner peripheral protruding portions **23** protruding radially inward from an inner peripheral surface of the rim **13**, and spoke holes **26** (see FIG. **3**) through which the plurality of wire spokes **15** pass are formed on the pair of inner peripheral protruding portions **23**. A pair of flanges **41** protrude radially outward from both end portions, in an axle direction, of the hub **14**, and a plurality of spoke nipples **43** for holding the plurality of wire spokes **15** are attached to the pair of flanges **41**. Head portions **51** of the plurality of wire spokes **15** are hooked to the pair of inner peripheral protruding portions **23**, and tip end portions of the plurality of wire spokes **15** are screwed to the plurality of wire spokes **15** of the pair of flanges **41**.
(15) The rim **13** of the spoke wheel **10** is molded by extrusion. In order to form a counterbore hole on one end sides of the spoke holes **26** of the rim **13**, counterboring must be performed on each spoke hole **26**. Further, in order to chamfer the other end sides of the spoke holes **26** of the rim **13**, chamfering must be performed on each spoke hole **26**. Therefore, in the spoke wheel **10** of the present embodiment, the groove shape in the wheel rotation direction is formed at the time of molding the rim **13** by extrusion. This groove shape is used in place of the counterbore hole formed by counterboring and the chamfered surface formed by chamfering, thereby reducing the working man-hours.
(16) A detailed configuration of the spoke wheel will be described with reference to FIGS. **2** to **4**. FIG. **2** is a side view of the spoke wheel according to the present embodiment. FIG. **3** is a cross-sectional view of the spoke wheel of FIG. **2** taken along a line A-A. FIG. **4** is a cross-sectional view of the spoke wheel of FIG. **2** taken along a line B-B.
(17) As illustrated in FIGS. **2** and **3**, a bottom wall **21** of the rim **13** is formed in a stepped shape in which a center thereof in the axle direction is recessed. A pair of outer peripheral protruding portions **22** protrude radially outward from both ends of the bottom wall **21** in the axle direction, and beads of the tire **11** are fitted inside the pair of outer peripheral protruding portions **22**. The pair of inner peripheral protruding portions **23** are separated from each other across the center of the bottom wall **21**, and the pair of inner peripheral protrusions **23** protrude in a rail shape from the inner peripheral surface of the bottom wall **21**. The plurality of spoke holes **26** are formed with the pair of inner peripheral protruding portions **23**, and the plurality of wire spokes **15** are passed through the plurality of spoke holes **26** from outer side surfaces **24** of the pair of inner peripheral protruding portions **23** on an outer side in the axle direction to inner side surfaces **25** of the pair of inner peripheral protruding portions **23** on an inner side in the axle direction.
(18) The head portion **51** of the wire spoke **15** abuts against the outer side surface **24** of the inner peripheral protruding portion **23**, and a neck portion **52** of the wire spoke **15** enters the spoke hole **26**. The wire spoke **15** is bent in the vicinity of the inner side surface **25** of the inner peripheral protruding portion **23**, and a tip end side of the wire spoke **15** extends linearly and radially inward. A portion from the head portion **51** to a bent portion **54** of the wire spoke **15** is shallowly inclined toward a hub **14** side, and a portion of the wire spoke **15** closer to the tip end side than the bent portion **54** is deeply inclined toward the hub **14**. The wire spoke **15** obliquely crosses a center line C in the axle direction of the rim **13** from the inner peripheral protruding portion **23** on one side in the axle direction of the rim **13** toward the flange **41** on the other side in the axle direction of the hub **14**.
(19) In a cross-sectional view, the pair of flanges **41** of the hub **14** are formed such that the pair of

flanges **41** is orthogonal to an extending direction of the tip end side of the wire spoke **15**. A plurality of nipple holes **42** are formed on the pair of flanges **41** of the hub **14**, and a plurality of spoke nipples **43** are attached to the plurality of nipple holes **42**. A screw hole is formed on the spoke nipple **43**, and a male screw at a tip end of the wire spoke **15** is screwed into the screw hole of the spoke nipple **43**. A slit is formed on the head portion of the spoke nipple **43**, and tension of the wire spoke **15** is adjusted by tightening the spoke nipple **43** to the tip end of the wire spoke **15**.

(20) As illustrated in FIGS. **2** and **4**, support surfaces **31** that receive the head portions **51** of the plurality of wire spokes **15** on one end sides of the plurality of spoke holes **26** are formed on the outer side surfaces **24** of the pair of inner peripheral protruding portions **23**, respectively. The support surfaces **31** each have a groove shape formed on the outer side surface **24** of the inner peripheral protruding portion **23** during the extrusion molding of the rim **13**. The support surface **31** extends in the wheel rotation direction along a circular shape around the axle **12**, and the head portions **51** of the plurality of wire spokes **15** arranged in the wheel rotation direction are hooked to the support surface **31**. The head portion **51** of the wire spoke **15** is accommodated in the groove-shaped support surface **31**, and a protruding amount of the head portion **51** of the wire spoke **15** is suppressed.

(21) In a cross-sectional view, a groove width of the support surface **31** is formed to be larger than a diameter of the spoke hole **26**, and the support surface **31** is inclined such that the groove width is narrowed toward a groove bottom. In the present embodiment, the support surface **31** is formed in an arc groove shape in the cross-sectional view, and one end of the spoke hole **26** is opened closer to an inner edge **33** side of the support surface **31** than to an outer edge **32** side of the support surface **31**. Bottom surfaces **53** of the head portions **51** of the plurality of wire spokes **15** are each formed in a tapered shape. Accordingly, even when an error occurs in a taper angle of the bottom surface **53** of the head portion **51** of the wire spoke **15**, the tapered bottom surface **53** of the head portion **51** is easily and stably supported by the support surface **31** having the arc groove shape.

(22) Chamfered surfaces **34** are formed on the inner side surfaces **25** of the pair of inner peripheral protruding portions **23**, and are continuous with opening edges of the plurality of spoke holes **26** on the other end sides of the plurality of spoke holes **26**, respectively. The chamfered surface **34** has a groove shape formed on the inner side surface **25** of the inner peripheral protruding portion **23** during the extrusion molding of the rim **13**. The chamfered surface **34** extends in the wheel rotation direction along a circular shape centered on the axle **12**, and sharp edges of the opening edges of the plurality of spoke holes **26** arranged in the wheel rotation direction are eliminated by the chamfered surface **34**. The sharp edge of the opening edge of the spoke hole **26** does not come into contact with the wire spoke **15**, and stress concentration on the wire spoke **15** is alleviated.

(23) In the cross-sectional view, a groove width of the chamfered surface **34** is formed to be larger than the diameter of the spoke hole **26**, and the chamfered surface **34** is inclined such that the groove width is narrowed toward the groove bottom. In the present embodiment, the chamfered surface **34** is formed in a trapezoidal groove shape in the cross-sectional view, and the other end of the spoke hole **26** is opened at a center of an outer edge **35** and an inner edge **36** of the chamfered surface **34**. The opening edge of the spoke hole **26** is continuous with an inclined surface of the chamfered surface **34**, so that a periphery of the spoke hole **26** is formed in a chamfered shape. Note that the periphery of the spoke hole **26** may be formed in a rounded shape by changing the groove shape of the chamfered surface **34**.

(24) An inlet to the spoke hole **26** is widened by the support surface **31**, and an outlet from the spoke hole **26** is widened by the chamfered surface **34**. Since the wire spoke **15** is easily inserted into the spoke hole **26**, a degree of freedom of a spoke shape of the wire spoke **15** is improved by increasing a bending angle of the bent portion **54** of the wire spoke **15** or increasing a bending radius of the bent portion **54** of the wire spoke **15**. Further, a strength of the pair of inner peripheral protruding portions **23** can be improved by increasing a thickness of the pair of inner peripheral protruding portions **23**, and a decrease in the strength of the inner peripheral protruding portions **23**

due to the groove shapes of the support surface **31** and the chamfered surface **34** can be suppressed.
(25) During the extrusion molding of the rim **13**, the groove-shaped support surfaces **31** are formed on the outer side surfaces **24** of the pair of inner peripheral protruding portions **23** respectively, and the groove-shaped chamfered surfaces **34** are formed on the inner side surfaces **25** of the pair of inner peripheral protruding portions **23** respectively. Then, drilling is performed from the outer side surface **24** side of the inner peripheral protruding portion **23**, and the plurality of spoke holes **26** are formed from the support surface **31** toward the chamfered surface **34**. Counterboring and chamfering on each spoke hole **26** become unnecessary, and working man-hours are reduced. In particular, in the chamfering, when a tool is brought into contact with the inner side surface **25** of one inner peripheral protruding portion **23**, the other inner peripheral protruding portion **23** becomes an obstacle, but the chamfered surface **34** is formed by extrusion molding, so that workability is not deteriorated.
(26) As described above, according to the present embodiment, the head portions **51** of the plurality of wire spokes **15** are accommodated in the groove-shaped support surfaces **31**. Since the support surface **31** is formed in the groove shape, there is no need to perform counterboring on each of the plurality of spoke holes **26** formed on the rim **13** by using a dedicated tool. The chamfered surface **34** eliminates the sharp edge of the opening edge of the spoke hole **26**, and stress concentration on the plurality of wire spokes **15** is alleviated. Further, since the chamfered surface **34** is formed in the groove shape, there is no need to perform chamfering on each of the plurality of spoke holes **26** formed on the rim **13**. Therefore, working man-hours at the time of molding the rim **13** and the cost can be reduced.
(27) In the present embodiment, the plurality of spoke holes are formed on the pair of inner peripheral protruding portions provided on the inner peripheral surface of the rim, but the pair of inner peripheral protruding portions may not be provided on the rim. For example, as illustrated in a first modification of FIG. **5**, a pair of outer peripheral protruding portions **62** may protrude radially outward from both ends of a rim **61** in the axle direction, and a plurality of spoke holes **63** may be formed on the pair of outer peripheral protruding portions **62**. In this case, the pair of outer peripheral protruding portions **62** are formed to be wide, and the plurality of spoke holes **63** penetrate the pair of outer peripheral protruding portions **62** in a radial direction. A support surface **66** is formed on an outer peripheral surface of the outer peripheral protruding portion **62**, and a chamfered surface **67** is formed on an inner peripheral surface of the outer peripheral protruding portion **62**.
(28) The support surface **66** and the chamfered surface **67** are each formed in a groove shape formed during extrusion molding of the rim **61** as in the present embodiment. A head portion **69** of a wire spoke **68** is hooked on one end side of the spoke hole **63** by the support surface **66**, and a sharp edge of an opening edge of the spoke hole **63** on the other end side of the spoke hole **63** is eliminated by the chamfered surface **67**. Even in the configuration illustrated in the modification, since the support surface **66** and the chamfered surface **67** are formed during the extrusion molding of the rim **61**, counterboring and chamfering on each of the plurality of spoke holes **63** become unnecessary. Therefore, working man-hours at the time of molding the rim **61** and the cost can be reduced.
(29) Further, in the present embodiment, the pair of inner peripheral protruding portions are provided on the inner peripheral surface of the rim, but a single inner peripheral protruding portion may be provided on the inner peripheral surface of the rim. For example, as illustrated in a second modification of FIG. **6**, a single inner peripheral protruding portion **72** may protrude radially inward from a center of an inner peripheral surface of a rim **71** in the axle direction, and a plurality of spoke holes **73** may be formed on the inner peripheral protruding portion **72**. In this case, the inner peripheral protruding portion **72** is formed to be wide, and a plurality of spoke holes **73** penetrate the inner peripheral protruding portion **72** in the axle direction. A pair of support surfaces **75** are formed on both side surfaces **74** of the inner peripheral protruding portion **72**, and the pair of

support surfaces **75** also function as chamfered surfaces.
(30) The pair of support surfaces **75** are each formed in a groove shape formed at the time of extrusion molding of the rim **71** as in the present embodiment. Ahead portion **77** of a wire spoke **76** is hooked on one end side of the spoke hole **73** by one support surface **75**, and a sharp edge of an opening edge of the spoke hole **73** on the other end side of the spoke hole **73** is eliminated by the other support surface **75**. Even in the configuration illustrated in the modification, since the pair of support surfaces **75** are formed at the time of extrusion molding of the rim **71**, counterboring and chamfering on each of the plurality of spoke holes **73** become unnecessary. Therefore, working man-hours at the time of molding the rim **71** and the cost can be reduced.
(31) Further, in the present embodiment, the inner peripheral protruding portion is provided on the inner peripheral surface of the rim over the entire periphery, but the inner peripheral protruding portion may be partially provided on the inner peripheral surface of the rim. For example, as illustrated in a third modification of FIG. **7**, a large number of inner peripheral protruding portions **82** may be arranged along an inner peripheral surface of the rim **81**. In this case, spoke holes **83** are formed on the respective inner peripheral protruding portions **82**, and the plurality of spoke holes **83** penetrate the inner peripheral protruding portions **82** in the axle direction. Further, as in the present embodiment, a support surface **85** that receives the head portion **51** of the wire spoke **15** on one end side of the spoke hole **83** is formed on an outer side surface **84** of the inner peripheral protruding portion **82**. Alternatively, although not illustrated, as in the second modification, a pair of support surfaces may be formed on both side surfaces of a large number of inner peripheral protruding portions arranged in a row along an inner peripheral surface of a rim, and the pair of support surfaces also function as chamfered surfaces.
(32) Although the spoke wheel for a tubeless tire is exemplified in the present embodiment, the spoke wheel may be a spoke wheel for a tube tire. In this case, the spoke holes may be formed on the bottom wall of the rim, and the inner peripheral protruding portions may not be formed on the rim.
(33) Further, in the present embodiment, the groove-shaped support surfaces and chamfered surfaces are formed at the time of extrusion molding of the rim, but a method of forming the groove-shaped support surfaces and chamfered surfaces is not limited. For example, the groove-shaped support surfaces and chamfered surfaces may be formed by cutting after extrusion molding of the rim.
(34) Further, in the present embodiment, the groove-shaped support surfaces and chamfered surfaces are formed on the rim, but at least the groove-shaped support surfaces may be formed on the rim.
(35) Further, in the present embodiment, the support surface is formed in an arc groove shape in the cross-sectional view, but the support surface may be formed in a groove shape that receives the head portion of the wire spoke. For example, the support surface may be formed in a square groove shape in the cross-sectional view.
(36) The spoke wheel is not limited to the straddle-type vehicle, and may be adopted in other vehicles. The straddle-type vehicle is not limited to a motorcycle, and also includes a bicycle.
(37) As described above, a spoke wheel (**10**) of the present embodiment is a spoke wheel used in a straddle-ride type vehicle, the spoke wheel (**10**) including: an annular rim (**13**) having an outer peripheral surface on which a tire (**11**) is mounted, a tubular hub (**14**) supported by an axle (**12**) on an inner side of the rim; and a plurality of wire spokes (**15**) connecting the rim to the hub, in which the rim is formed with a plurality of spoke holes (**26**) through which the plurality of wire spokes pass, and support surfaces (**31**) that receive head portions of the plurality of wire spokes on one end sides of the plurality of spoke holes, and the support surfaces are each formed in a groove shape extending in a wheel rotation direction. According to the configuration, the head portions of the plurality of wire spokes are accommodated in the groove-shaped support surfaces. Since the support surface is formed in the groove shape, there is no need to perform counterboring on each of

the plurality of spoke holes formed on the rim by using a dedicated tool. Therefore, working man-hours at the time of molding the rim and a cost can be reduced.

(38) In the spoke wheel of the present embodiment, in a cross-sectional view, the support surface is inclined such that a groove width is narrowed toward a groove bottom, and bottom surfaces (**53**) of the head portions of the plurality of wire spokes are each formed in a tapered shape. According to this configuration, the tapered bottom surface of the head portion of the wire spoke is stably supported by an inclined surface of the support surface.

(39) In the spoke wheel of the present embodiment, the support surface is formed in an arc groove shape in the cross-sectional view. According to this configuration, even when an error occurs in a taper angle of the bottom surface of the head portion of the wire spoke, the tapered bottom surface of the head portion of the wire spoke is easily and stably supported by the support surface.

(40) In the spoke wheel of the present embodiment, the rim has chamfered surfaces (**34**) connected to opening edges of the plurality of spoke holes on the other end side of the plurality of spoke holes, and the chamfered surfaces are each formed in a groove shape extending in the wheel rotation direction. According to this configuration, sharp edges of the opening edges of the spoke holes are eliminated, and stress concentration on the plurality of wire spokes is alleviated. Further, since the chamfered surface is formed in the groove shape, there is no need to perform chamfering on each of the plurality of spoke holes formed on the rim. Therefore, the working man-hours at the time of molding the rim and the cost can be reduced.

(41) In the spoke wheel of the present embodiment, an inner peripheral protruding portion (**23**) protrudes radially inward from an inner peripheral surface of the rim, and the plurality of spoke holes and support surface are formed on the inner peripheral protruding portion. According to this configuration, the inner peripheral protruding portion of the rim and the hub are connected to each other by the wire spoke of which a head portion side is bent.

(42) In the spoke wheel of the present embodiment, the inner peripheral protruding portions are a pair of inner peripheral protruding portions separated from each other in an axle direction, the plurality of spoke holes through which the plurality of wire spokes pass are formed on the pair of inner peripheral protruding portions from outer side surfaces on an outer side in the axle direction to inner side surfaces on an inner side in the axle direction, the support surfaces that receive the head portions of the plurality of wire spokes on one end sides of the plurality of spoke holes are formed on outer side surfaces (**24**) of the pair of inner peripheral protruding portions respectively, and the chamfered surfaces that are continuous with opening edges of the plurality of spoke holes on the other end sides of the plurality of spoke holes are formed on inner side surfaces (**25**) of the pair of inner peripheral protruding portions. According to this configuration, counterboring on each spoke hole in the outer side surface of the pair of inner peripheral protruding portions is unnecessary, and chamfering on each spoke hole in the inner side surface of the pair of inner peripheral protruding portions becomes unnecessary. In particular, since the chamfered surface is formed at the time of extrusion molding of the rim, unlike general chamfering, when the chamfered surface is formed on the inner side surface of one inner peripheral protruding portion, the other inner peripheral protruding portion does not become an obstacle.

(43) Although the present embodiment has been described, a part or all of the above-described embodiment and modifications may be combined as another embodiment.

(44) The technique of the present invention is not limited to the above-described embodiment, and various changes, substitutions and modifications may be made without departing from the spirit of the technical idea of the present invention. The present invention may be implemented by other methods as long as the technical idea can be implemented by the methods through advance of the technique or other derivative techniques. Accordingly, the claims cover all embodiments that may be included within the scope of the technical idea.

Claims

1. A spoke wheel for a straddle-type vehicle, comprising: a rim having an outer peripheral surface on which a tire is mounted and an annular shape; a hub supported by an axle on an inner side of the rim and having a tubular shape; and a plurality of wire spokes connecting the rim to the hub, wherein the rim is formed with a plurality of spoke holes through which the plurality of wire spokes pass and a plurality of support surfaces each receiving head portions of the plurality of wire spokes on one end sides of the plurality of spoke holes, wherein each of the plurality of support surfaces has a groove extending in a wheel rotation direction, there being a plurality of grooves, wherein two or more of the plurality of spoke holes are formed in a common groove among the plurality of grooves, and wherein two or more of the head portions of the plurality of wire spokes are accommodated in a common groove support surface having the common groove.
2. The spoke wheel according to claim 1, wherein in a cross-sectional view, each of the support surfaces is inclined such that a groove width is narrowed toward a groove bottom, and wherein each of bottom surfaces of the head portions of the plurality of wire spokes has a tapered shape.
3. The spoke wheel according to claim 2, wherein in the cross-sectional view, each of the support surfaces has an arc groove shape.
4. The spoke wheel according to claim 1, wherein the rim has chamfered surfaces being continuous with opening edges of the plurality of spoke holes on the other end sides of the plurality of spoke holes, and wherein each of the chamfered surfaces has a groove shape-extending in a wheel rotation direction.
5. The spoke wheel according to claim 4, wherein an inner peripheral protruding portion protrudes radially inward from an inner peripheral surface of the rim, and wherein the plurality of spoke holes and the support surfaces are formed with the inner peripheral protruding portion.
6. The spoke wheel according to claim 5, wherein the inner peripheral protruding portion includes a pair of inner peripheral protruding portions separated from each other in an axle direction, wherein the plurality of spoke holes, through which the plurality of wire spokes pass from outer side surfaces on an outer side in the axle direction to inner side surfaces on an inner side in the axle direction, are formed with the pair of inner peripheral protruding portions, wherein the support surfaces, receiving the head portions of the plurality of wire spokes on one end sides of the plurality of spoke holes, are formed with outer side surfaces of the pair of inner peripheral protruding portions, and wherein the chamfered surfaces, being continuous with the opening edges of the plurality of spoke holes on the other end sides of the plurality of spoke holes, are formed with inner side surfaces of the pair of inner peripheral protruding portions.
7. The spoke wheel according to claim 1, wherein the plurality of spoke holes and the plurality of support surfaces are molded by extrusion.