

# FreshPatents.com: Resilient tires and wheels - USPTO Class 152 Patent Applications Update

USPTO Class 152 - Resilient tires and wheels

## 20090283185 - Tension-based non-pneumatic tire

A non-pneumatic tire for supporting a load by working in tension comprising a generally annular inner surface, a generally annular outer ring, and an interconnected web having a plurality of web elements and comprising a plurality of generally polygonal openings. Web elements are sized, oriented and comprised of a material that facilitates buckling when subjected to a compressive load. By buckling, those elements in a deformed portion of the tire between a hub and a footprint region where the tire contacts a surface may assume a significantly reduced portion of the load, if any. This causes web elements in other portions of the interconnected web to operate in tension to support the load. Since the tire is non-pneumatic, it may be easier to maintain and may have a longer life than standard pneumatic tires since it eliminates the possibility of blowouts, flat tires, or tires operating with low air pressure. By virtue of the portion of the tire in the...

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## 20090283187 - Functionalized elastomers

C) mixing the intermediate elastomer with a dienophile comprising a filler-active functional group to form a functionalized elastomer. B) mixing the diene-based elastomer with a halogenating agent to form an intermediate elastomer; and A) obtaining a diene-based elastomer; The present invention is directed to a method of preparing a functionalized elastomer, comprising the steps of...

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## 20090283186 - Rubber composition and pneumatic tire

There is further disclosed a rubber composition made by the foregoing method, and a pneumatic tire comprising the rubber composition. C) mixing the intermediate elastomer with a carbon black. B) mixing the diene-based elastomer with a halogenating agent to form an intermediate elastomer; and A) obtaining a diene-based elastomer selected from the group consisting of natural rubber, synthetic polyisoprene, polybutadiene, solution polymerized styrene-butadiene rubber (SSBR), and emulsion polymerized styrene-butadiene rubber (ESBR); The present invention is directed to a method of making a rubber composition, comprising the steps of...

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## 20090283188 - Pneumatic tire

A pneumatic tire includes a tread portion; a plurality of main grooves extending in a tire circumferential direction on the tread portion; at least four ribs sectioned by the main grooves on the tread portion; a plurality of open sipes, each formed across both edge portions of the rib, the open sipes being formed on each of the ribs; and a plurality of multisipes, each formed on one of the edge portions of the rib. The multisipes are formed on only each of the ribs between which an outer main groove is positioned, and are aligned along the edge portion of the rib. The outer main groove is a main groove in an outermost position in a tire width direction out of the main grooves....

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#### **20090283189 - Snow tire**

The present invention discloses a snow tire for improving steering performance and braking performance while running on a general road surface. The snow tire of the present invention comprises a plurality of tread blocks 30 subdivided by a plurality of longitudinal grooves 10 which are longitudinally formed on a tread rubber layer consisting of the tread, and a plurality of transverse grooves 20 which are formed widthwise of the tire in cross relation with the longitudinal grooves 10; a plurality of sipes 35 which are formed in the plurality of tread blocks 30 in parallel each other in one direction to subdivide the tread blocks into a plurality of subblocks 31; and at least one protruded portion 33 which is formed on the side surface of the subblock 31 subdivided by the plurality of sipes 35 of the tread blocks 30. The present invention can improve steering performance and braking performance when running on a road surface besides a snowy...

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#### **20090283190 - Integrated rotary union and hub cap**

A rotary union is integrated into the interior of a heavy-duty vehicle hub cap. The hub cap includes a cylindrical sidewall, and an outboard wall that is integrally formed with an outboard end of the sidewall, and which extends generally perpendicular to the sidewall. The hub cap also includes a radially-extending flange that is formed on an inboard end of the sidewall, which receives fasteners to mount the hub cap on a wheel hub. The sidewall and the outboard wall form an interior compartment in the hub cap, and a rotary union is mounted to the hub cap in the interior compartment. The rotary union is mounted on the inboard surface of the outboard wall of the hub cap and is in general axial alignment with an axial centerline of a wheel end assembly, providing fluid communication from a tire inflation system to the tires of the vehicle....

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#### **20090283191 - Device for generating tire air pressure**

A tire-air-pressure-generating apparatus includes an air pump, a pressure control valve, and an adjustment device, which are disposed coaxially in a shaft portion of an axle hub. The air pump includes a pump chamber located in the interior of the axle hub. The pressure control valve and the adjustment device are assembled into a cylinder head, which is assembled airtightly and removably to the axle hub. The cylinder head includes a suction-discharge path, discharge paths, pressure lead paths, and a suction path....

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#### **20090283192 - Pneumatic tire**

Provided is a pneumatic tire capable of suppressing a flow of a sealant in a sealant layer due to a centrifugal force generated during the running of the tire. A pneumatic tire of the present invention is a pneumatic tire provided with a sealant layer on an inner surface of the tire in a region corresponding to a tread portion of the tire. The pneumatic tire includes a cover sheet disposed on an inner side of the sealant layer in a radial direction of the tire so as to cover the sealant layer. In the pneumatic tire, a mass per unit area of a center portion of the cover sheet is made larger than a mass per unit area of outer portions of the cover sheet. A width of the cover sheet may be made smaller than a width of the sealant layer....

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#### **20090283194 - Pneumatic tire and method of manufacturing the same**

Provided are a pneumatic tire with a durability which is improved by preventing oxygen deterioration of coating rubber of a reinforcement layer, and a method of manufacturing the pneumatic tire. The pneumatic tire according to the present invention is a pneumatic tire including a reinforcement layer having reinforcement cords. In the pneumatic tire, the reinforcement layer is covered with thin films each made of a thermoplastic resin or a thermoplastic elastomer composition obtained by blending a thermoplastic resin with an elastomer in a way that the reinforcement is wrapped with the thin films. A method of manufacturing the pneumatic tire includes: arranging a thin film made of a thermoplastic resin or a thermoplastic elastomer composition on an outer periphery of a making drum, the thermoplastic elastomer composition being obtained by blending a thermoplastic resin with an elastomer; arranging a reinforcement layer including reinforcement cords on an outer periphery of the thin film; arranging another thin film on an outer periphery...

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#### **20090283195 - Reinforcement layer of hybrid cords for elastomeric products, particularly for the belt bandage of pneumatic vehicle tires**

A reinforcement layer for elastomeric products, in particular for the belt bandage of pneumatic vehicle tires, are hybrid cords which are arranged generally parallel to one another inside the layer and are composed of a first twisted textile yarn made of a first material and a second twisted textile yarn made of a second material. The ends of both yarns are twisted with each other and the first twisted textile yarn is a polyketone yarn. The reinforcement layer of hybrid cords for elastomeric products, in particular for the belt bandage of pneumatic vehicle tires, has a force-extension behavior that, when using the reinforcement layer as a belt bandage in pneumatic vehicle tires, ensures the simple production of tires, including vulcanization, and a great suitability to high speeds. To this end, the second twisted textile yarn is an aramid yarn....

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#### **20090283193 - Steel cord for reinforcing rubber article and pneumatic radial tire**

There is provided a steel cord for reinforcing rubber article having superior durability, and a pneumatic radial tire improved in steering stability and durability by using it. There is also provided a pneumatic radial tire satisfactorily combining steering stability, durability, and good cost performance required for a high performance radial tire intended for the application to a high performance passenger car. The steel cord for reinforcing rubber article has a 1×n structure composed of a plurality of steel filaments stranded in the same direction at the same stranding pitch, wherein the number of the steel filaments is 6 to 12 and the diameter of the steel filaments is 0.08 to 0.21 mm. In the pneumatic radial tire having a carcass (1), as a framework, extending toroidally between a pair of bead parts (11), with a crown part of the carcass being reinforced with a belt layer (2), the above-described steel cord for reinforcing rubber article is applied to a cord...

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