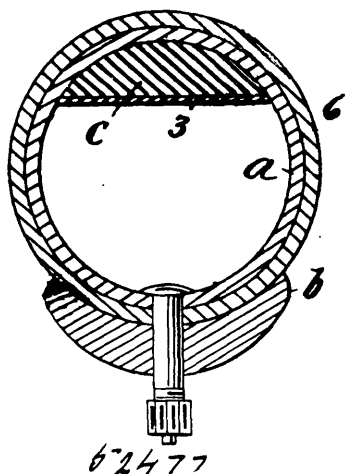


bination with a driven-shaft, of a crank-arm having a movable member slidably mounted upon said shaft, an annular track or rim arranged eccentrically with relation to the driven-shaft, and anti-friction rolls carried by the crank-arm and engaging the inner and outer edges of the track or rim, one of said rolls being spring-actuated to hold it in contact with the track or rim, substantially as specified. 4th. The combination with driven-shaft, and a crank-arm having a head or guide fixed to the shaft, and a movable member slidably mounted upon the head or guide, of an eccentrically disposed track or rim comprising an annular core of wood provided in its inner and outer edges with V-shaped grooves, annular side or facing plates secured to the opposite sides of said core with their edges flush with the edges of the same, and anti-friction rolls carried by the crank-arm and provided with V-shaped peripheries to engage the V-shaped grooves of the track or rim, whereby said rolls are held out of contact with the side or facing plates of such track or rim, substantially as specified. 5th. The combination with a driven-shaft, of a crank-arm having one member fixed to said shaft, an interlocking sliding connection between the members of the crank-arm, a guide or track arranged eccentrically with the driven-shaft, and anti-friction rolls mounted on the slidable-member of the crank-arm and engaging the track or guide, said rolls having an interlocking bearing on the track or guide to prevent lateral deflection either toward or from the track or guide, substantially as specified.

No. 52,477. Pneumatic Tire. (*Bandage pneumatique.*)



The Self Healing Pneumatic Tire Company, New York, assignee of George Hostel Chimcock, Brooklyn, both in New York, U.S.A., 1st June, 1896; 6 years. (Filed 1st May, 1896.)

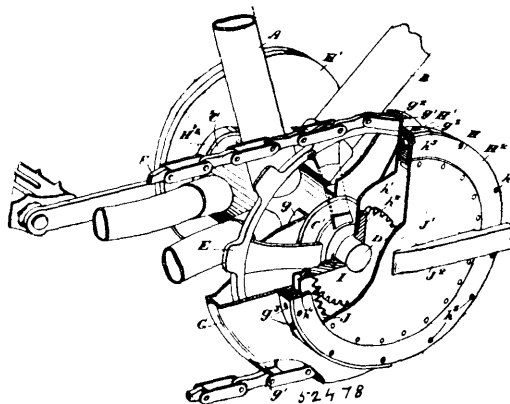
Claim.—1st. A pneumatic tire, consisting of a tube provided with a non-elastic portion and a band of self healing material. 2nd. A pneumatic tire, consisting of a tube of vulcanized rubber provided with a non-elastic portion, a band of self healing compound, and a suitable elastic tread. 3rd. In a pneumatic tire a vulcanized rubber tube provided with suitable thickened or re-enforced portion, a non-elastic portion located between said thickened portions, a band of self healing material between said thickened portions and upon said non-elastic portions, and a suitable elastic tread to complete the circular contour of the tire. 4th. In a pneumatic tire the combination of a tube provided with a non-elastic portion and a band of self healing material and also provided with suitable ribs or projections, with an outer cover provided with suitable recesses to fit said ribs or projections, and held in position by the pressure of the air within the tube.

No. 52,478. Drive Gear for Bicycles. (*Engrenage de bicycles.*)

John George Sydney Clark and Susan Fleming, both of Toronto, Ontario, Canada, 1st June, 1896; 6 years. (Filed 30th April, 1896.)

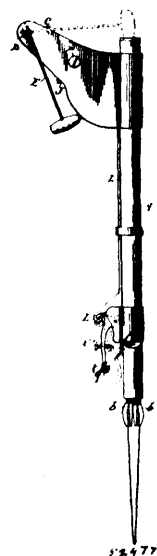
Claim.—1st. In combination the main driving wheel, the journal box, the gearing connecting the main driving wheel to the main driving gear externally journaled in a suitable casing forming part of the journal box, and the pedal cranks secured to the face of the main driving gear as and for the purpose specified. 2nd. In combination the main driving wheel and sprocket secured to its axle, sprocket-wheel on the pedal crank, sprocket-chain connecting both sprocket-wheels, the journal for supporting the pedal axle, the pinions on the end of the axle and the internal gear ring meshing therewith and supported in suitable bearings attached to or forming part of the journal box as and for the purpose specified. 3rd. In combination the pedal axle journal box, pedal axle, sprocket-wheel secured on the axle, sprocket-chain, the casing for the sprocket-wheel with openings for the chain, the inner flange on the casing secured to the journal box, the outer arc-shaped flange, the divided ring with inner shroud h^1 forming part of the inner portion, the pinion to the

outside of the shroud secured on the pedal axle, the toothed ring, meshing with the pinion and having ball bearings at its periphery



between it and the divided ring, the disc secured to the toothed ring within the divided ring and having its outer surface flush therewith and the pedal cranks secured to such disc as and for the purpose specified. 4th. In combination the pedal axle journal box, pedal axle, sprocket-wheel secured on the axle, sprocket-chain, the casing for the sprocket-wheel with openings for the chain, the inner flange on the casing secured to the journal box, the outer arc-shaped flange, the divided ring with inner shroud h^1 forming part of the inner portion, the pinion to the outside of the shroud secured in the pedal axle, the toothed ring meshing with the pinion and having ball bearings at its periphery between it and the divided ring, the disc secured to the toothed ring within the divided ring and having its outer surface flush therewith, the pedal cranks secured to such disc, the opposite part H^1 provided with inwardly extending flange h^2 to the journal box, the part H^2 secured thereto and the corresponding toothed ring, pinions, disc and crank all arranged as and for the purpose specified. 5th. In combination the journal box C, the sprocket-wheel E, the casing H, having an inner flange g^1 secured to the journal box and the outer arc-shaped flange G^2 , the divided ring H consisting of the parts H^1 and H^2 , the toothed ring I, having external bearings in the divided ring, the disc J¹ and crank J², and the screws h^3 , all arranged as and for the purpose specified.

No. 52,479. Dental Plugger. (*Bouchon dentaire.*)



Joseph Russel Jones and John F. O'Connor, both of Ontonagon, Michigan, U.S.A., 1st June, 1896; 6 years. (Filed 4th April, 1896.)

Claim.—1st. The combination in a dental plugger, of the mallet, the arc lever, the connection between said lever and the mallet, the intermediate lever connected with the arc lever, the finger lever, and connections between the finger lever and the intermediate lever substantially as set forth. 2nd. In a dental plugger, the combination of the mallet, the arc lever, the flexible connection extending over the arc surface of the lever and connecting the latter with the mallet and devices by which to operate the arc lever, substantially as set forth. 3rd. In a dental plugger, the combination with the mallet and its shaft having a sprocket-wheel of the chain engaging