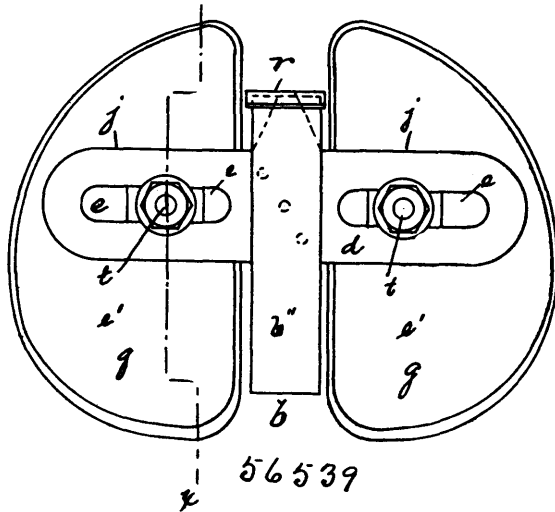
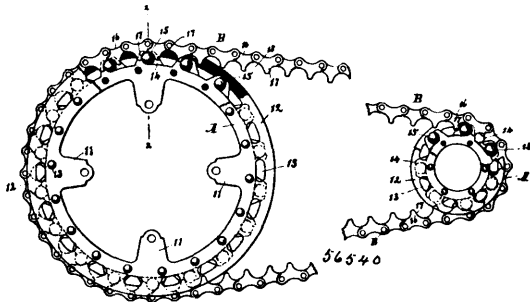


having slots at or near its opposite ends and seat sections having bolts extending down in said slots and means for holding said bolts



in place, the seat sections being both pivotally adjustable and adjustable bodily to and from one another on the transverse plate, substantially as set forth. 2nd. The combination of the seat and a doubled supporting spring, the upper part of which supports the seat and extends forward from said seat, and the lower part is curved to admit a change in inclination of the seat and is adapted to engage the upper part to limit vibration, substantially as set forth.

No. 56,540. Sprocket-Wheel and Chain Therefor.
(*Roue dentée et chaîne.*)

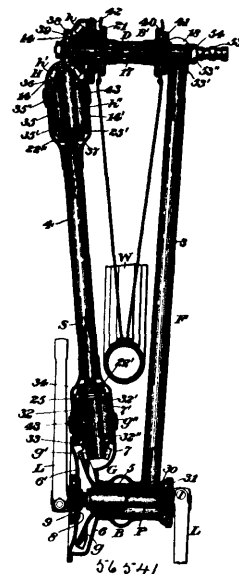


John Cornelius Cottie, New York, and Charles Jackson Marks, Brooklyn, both in the State of New York, U.S.A., 8th July, 1897; 6 years. (Filed 25th May, 1897.)

Claim.—1st. A sprocket-wheel, constructed of a series of rings secured together, a flange formed at each side of the peripheral portion of the wheel, bearings located in the space between the flanges of the wheel, and rolling surfaces mounted to turn in the said bearings, substantially as shown and described. 2nd. A sprocket-wheel, constructed of a series of rings secured together, the centre ring being provided with inwardly-extended lugs, a flange formed at each side of the peripheral portion of the wheel, the said flanges being continuations of the outer rings and provided with openings, and rolling surfaces located between the said flanges, as and for the purpose specified. 3rd. A sprocket-wheel, provided with peripheral flanges, cleats arranged in groups upon the periphery of the wheel between the flanges, and a ball held to revolve within each group of cleats, as and for the purpose set forth. 4th. A sprocket-chain, the links whereof are provided with teeth, the said teeth having their centres at one side of the centre of the links, of which they form a part, as and for the purpose specified. 5th. A sprocket-chain, consisting of a series of links, each alternate link being double and the connecting links single, each of said links being provided with a tooth formed upon its inner face and having its side edges concaved, the said teeth having their centres at one side of the centre of the link to which they respectively belong, as and for the purpose specified. 6th. The combination, with a sprocket-wheel, having balls mounted to revolve on its periphery, and flanges extending beyond the periphery of the wheel at its sides, the said balls being located between said flanges, of a chain, the links whereof are provided with teeth at their inner edges, the said teeth having their side edges concaved, and the centre of said teeth being at one side of the centre of the links to which the teeth belong, as and for the purpose set forth. 7th. The combination, with a sprocket-wheel having spherical surfaces mounted to revolve on its periphery,

of a chain, the links whereof are provided with teeth at their inner edges, the centre of the said teeth being at one side of the centre of the links to which the teeth belong, whereby alternating pockets of different dimensions are formed, the said pockets being adapted for the reception of the spherical rotating surfaces of the wheel, as and for the purpose set forth. 8th. The combination, with a sprocket-wheel having spherical objects mounted to turn upon its periphery, and flanges extending beyond the periphery of the wheel at its sides, between which flanges the said spherical objects are located, the said flanges being provided with openings, of a chain, the links whereof are provided with teeth at their inner edges, the centre of the said teeth being at one side of the centre of the links to which the teeth belong, whereby alternating pockets of different dimensions are formed, the said pockets being adapted for the reception of the spherical rotating surfaces of the wheel, as and for the purpose specified. 9th. A sprocket-wheel, having bearings formed upon the periphery, and balls mounted to revolve freely in the bearings, the said bearings permitting of the exposure of a major portion of the balls for engagement with the teeth of a sprocket-chain, whereby the balls are freely revolved, as and for the purpose specified. 10th. The combination with a sprocket-wheel, having bearings formed upon its periphery, and balls mounted to revolve freely in the bearings, of a sprocket-chain consisting of a series of links, each provided with a tooth upon its inner face, the said teeth having their centres at one side of the centre of the link to which they respectively belong, the major portion of the said balls being exposed for engagement with the teeth of said chain, whereby the said balls revolve freely when the chain is moved, as and for the purpose set forth. 11th. A sprocket-wheel, provided with cleats arranged in groups upon the periphery of the wheel, and a ball held to revolve within each group of cleats, the said cleats being arranged to permit of the exposure of the major portion of the said balls for engagement with a sprocket-chain, as and for the purpose set forth.

No. 56,541. Bicycle. (Bicycle.)



Francis Henry Richards, Hartford, Connecticut, U.S.A., 8th July, 1897; 6 years. (Filed 25th May, 1897.)

Claim.—1st. In a bicycle, the combination of a casing, a transverse gear shaft, two intermeshing gears, a carrier for one of said gears, and having screw-threads on its exterior face adapted to engage similar screw-threads on the interior of the casing and adjustable relatively to said casing, and with its gear, toward and from the other gear, and a shaft connected with said carrier-gear, and laterally movable relatively thereto. 2nd. In a bicycle, the combination of a pedal-shaft and a driving wheel, two sets of gears, one set in connection with the pedal-shaft, and the other set in connection with the driving-wheel, a casing for each set of gears, a carrier for one gear of each set, and having screw-threads on its exterior face adapted to engage similar threads on the interior of its respective casing, and adjustable relatively to said casing, one gear of each set of gears being journaled in its respective carrier, and a rigid driving-shaft between and connecting said gears, and laterally movable relatively thereto. 3rd. In a bicycle, the combination of a casing, a transverse shaft therein carrying a gear, a carrier within said casing, having screw-threads on its exterior face and engaging screw-threads on the interior of the casing, and longitudinally adjustable relatively to said casing, a side-shaft gear having a hub extending entirely through said adjustable carrier and longitudinally adjustable therewith, and having a cup-shaped end, antifriction-bearings intermedi-