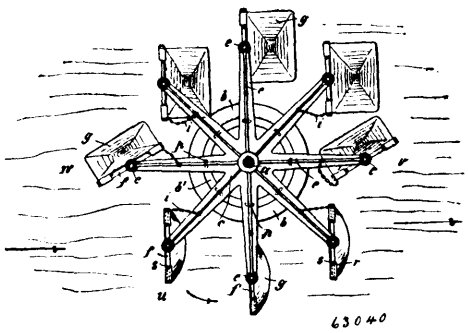
seat and having oppositely disposed operative and balancing wings, fixed stops arranged in the path of the balancing wing to limit the oscillatory movement of the abutment, a hollow feed valve fitted for reciprocatory movement in the said inlet-port and provided with a closed inner end or head and lateral feed ports adapted to be enclosed within the inlet port when the valve is retracted, and connections between the abutment and the feed valve, substantially as specified.

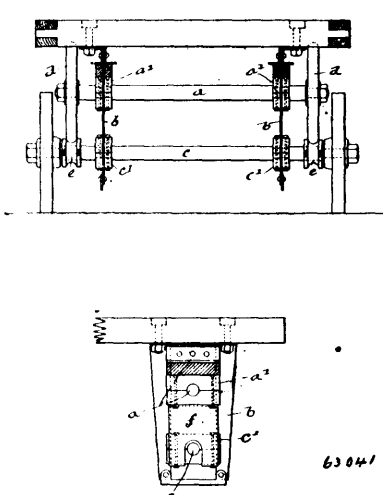
No. 63,040. Water Wheel. *(Roue d'eau.)*



Carl Heinrich Julius Wiese, 601 Neuer Steinweg, Hamburg, Germany, 9th May, 1899; 6 years. (Filed 11th March, 1898.)

Claim.—1st. A wheel for utilizing the power of flowing water without the use of natural or artificial dams, comprising moveable blades located at all times entirely beneath and pendent from radial arms, and each rotatable on a vertical axis, the said blades being adapted to intercept the force of the stream on one side, and to yield thereto on the other, as the wheel rotates, constructed and arranged substantially as hereinbefore described. 2nd. A wheel as above described, having the chains *i* leading from the inner top edge of the blades to the arms *c*, for the purpose of preventing the said blades from turning round too far on their vertical pivots *e*, constructed and arranged substantially as hereinbefore described.

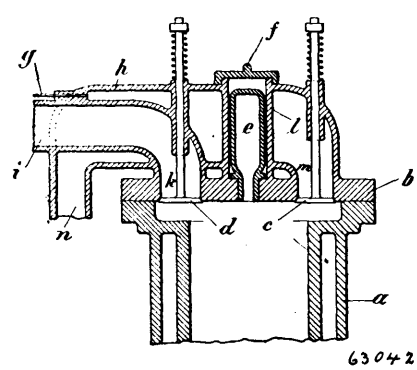
No. 63,041. Auto-Motor Vehicle. *(Automobile.)*



William John Brewer, 15 Denbigh Place, Belgrave Road, Pimlico, London, and John Edward Cooper, of Gladstone Villas, Withernsea, York, England, 9th May, 1899; 6 years. (Filed 7th June, 1898.)

Claim.—1st. In an auto-motor car, the combination of a car body horn plates directly secured thereto, journal boxes mounted in said horn plates, a main axle having wheels secured thereto mounted in the lower pair of journals and having collars thereon, an anti-friction axle mounted in the upper pair of journals and discs mounted on said anti-friction axle engaging the collars on the main axle, substantially as described. 2nd. In an auto-motor car, the combination of a car body horn plates provided with slots secured thereto, two journal boxes mounted in each of said horn plates and secured together and adapted to slide in said slots, a main axle having wheels secured thereto mounted in the lower pair of journals and having collars thereon, an anti-friction axle mounted in the upper pair of journals, and discs mounted on said anti-friction axle adapted to revolve thereon and engaging the collars on the main axle, substantially as described. 3rd. In auto-motor cars the combination with the main axle, of wheels fixed thereon, collars each composed of two sections diagonally jointed on the barrel and fastened together by bolts, and a layer of insulating material between each of said collars and said axle, substantially as described. 4th. In auto-motor car, the combination of a car-body, horn plates fixed thereto, journals mounted in said horn plates, a main axle mounted in the lower pair of journals, wheels and cushions attached to said main axle, an anti-friction axle mounted on the upper pair of journals, discs loosely mounted on said anti-friction axle and engaging said collars, an electric motor mounted on said anti-friction axle, and gearing on said axles, substantially as described. 5th. In an auto-motor car, the combination with a car body, main horn plates attached thereto, secondary horn plates also attached thereto, journals mounted in said horn plates, a main axle mounted in the lower pair of said journals, and provided with wheels and collars fastened thereto, a sectional anti-friction axle mounted in the upper sets of journals, and discs loosely mounted on said anti-friction axle and engaging the collars on the main axle, substantially as described. 6th. In an auto-motor car, the combination of a car body, horn plates fixed thereto, journal boxes mounted in said horn plates, a main axle mounted in the lower pair of journals and provided with cushions and wheels fixed thereto, a main anti-friction axle mounted above said main axle in the upper set of journals, discs on the said anti-friction axle engaging with the collars on said main axle, secondary anti-friction axles mounted on a line with the main anti-friction axle and anti-friction wheels mounted on said secondary axle and engaging said main anti-friction axle, substantially as described. 7th. In an auto-motor car, the combination of a wheel provided with an inside portion of less diameter than the main portion of the wheel, means for preventing said wheel from running off a track, consisting of a guard rotatably mounted on the axle of said wheel and means for throwing said guard down into operative position and fastening it there, substantially as described. 8th. In an auto-motor car, the combination of the main axle, wheels supported thereon, each wheel being provided with an interior portion of less diameter than the main portion of the wheel, an arm revolubly mounted in said axle, a wheel mounted on said arm parallel to the main axle, and means for bringing said wheel down to an operative position for preventing said main wheel from running off a track, and means for fastening it in that position, substantially as described. 9th. In an auto-motor car, the combination or a car body and steering mechanism therefor, consisting of a main steering wheel, supports therefor, an anti-friction axle mounted above the axle of the steering wheel, friction discs mounted on said axle and engaging with the axle of the steering wheel, an operating spur gear and pinion meshing therewith, substantially as described.

No. 63,042. Petroleum Motor. *(Moteur à pétrole.)*



Ernest E. F. Fagerström, 22nd Pipersgatan, Stockholm, Sweden, 9th May, 1899; 6 years. (Filed 8th October, 1898.)

Claim.—A petroleum motor wherein the ignition tube is enclosed in a tube or casing located in the vaporizer, for the purpose of maintaining the temperature of the ignition tube constant and at the same time using a portion of its heat for the heating of the vaporizer.

No. 63,043. Road Grader. *(Nivelleur de chemin.)*

John V. Maxey, Mount Vernon, Illinois, U.S.A., 9th May, 1899; 6 years. (Filed 14th December, 1898.)

Claim.—1st. In a road grading machine, the combination with the curved blade or share, of the tongue, adapted to be adjusted at an inclination to the share, and rear projecting guide plates hinged to the share and provided with means for adjusting them to parallelism with the tongue, substantially as described. 2nd. In a road grading machine, the combination with the frame of the machine and the tongue pivoted thereto, of a curved rack, a spring impelled slide bolt, supported below the tongue in line therewith and having a grooved head to embrace the rear edge of the curved rack, substantially as described. 3rd. In a road grading machine, the combination with the floor of the machine, the tongue pivoted thereto, a curved rack rigidly secured thereto beneath the tongue, having notches in its front edge, a hand lever pivotally mounted on the tongue, tooth bars secured to the forward end of said lever to engage