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Vol. XXVII.--No. 4.
APRIL 3Oth, 1899.

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## INVENTIONS PATENTED.

NOTE.-Patents are granted for 18 years. The term of years for which the fee has been paid, is given after the date of the patent.

## vo. 6\%,942. Acetylene Gas Generator.

(Génératcur de gaz acétyline.)


The Reynolds Acetylene Gas Generator Company, Winnebago City, Minnesota, assignees of I. J. Reynolds of Winnebago aforesaid, 11th April, 1898; 6 years. (Filed 27 th November, 1894.)

Claim.-1st. An expansible gas holder whose movable element decreases in interior cross section toward the top. 2nd. An expansible gas holder, whose movable element has an interior hollow tapering projection constituting a water displacer within the holder and an exterior pecket for weighing material. 3rd. In comlination with an expansible gas holder, a gas generator having water and gas communication with the holder, and a displacer which is intruded into the water by t.ie collapse of the holder. 4th. In combination, an expansible holder, a generator having water and gas communications with the holder, the water passage having the highest point above the low water level of the holder, and a displacer which is intruded into the water by the colapse of the holder, whereby the amount of water displaced by such intrusion, after the water level reaches said highest point, is caused to pass into the generator. 5th. In combination with a gas holder and a generator from which it is supplied with ris, a water passage between the two, and a displacer in the holder which is intruded into the water by the collapse of the holder, and a valve in the water passage
which is normally closed and which is opened by the collapse of the holder. (ith. In combination with a gas holder and a generator which supplies it with gas, the water passage between the two, a valve which controls said water passage, a displacer in the holder which is intruded in the water by the collapse of the holder and raises the water level and which simultaneously opens said valve. 7 th. In combination, a gas holder and a generator which supplies it with gas, a water passage between the two, a stand-pipe communicating with the holder having an overflow at a level adapted to maintain the water in the holder immediately below the highest point of the water passage, and means for supplying water to the stand pipe, a displace which is intruded into the water of the holder by the collapse of the latter, and a check-valve in the stand-pipe preventing outflow therethrough from the holder. 8th. In combination, a gas holder and a generator which supplies it with gas, a water passage between the two, a dipper having communication with said water passage, and mechanism by which the moving element of the holder causes said dipper to turn water into the water passage as the holder collapses. 9th. In combination with an expansible gas holder, a generator which supplies it with gas, a dipper movable into and out of a body of liquid by the movement of the gas holder and a liquid conduit from the dipper to the generator. 10th. In combination, a gas holder and a generator which supplies it with gas, a liquid passage between the two, a dipper movable into and out of liquid in the holder having a holder stem by which it is pivotally connected to the liquid passage, and mechanism by which the movement of the holder oscillates the dipper to cause it to take liquid from the holder and turn it into the liquid passage leading to the generator, 11 th. In combination, a gas holder and a generator which supplies it with gas, a liquid passage between the two, a dipper having a hollow stem pivotally connected to the liquid passage and having a lever arm adapted to be encountered by the moving element of the latter whereby the movement of the latter oscillates the dipper to cause it to turn liquid into the passage to the generator. 12th. In combination, a gas holder and a generator which supplies it, a water passagebetween the two, a displacer which is intruded into the water in the holder, by the collapse of the latter to cause water to pass into the generator, and a dipper communicating with such water passage and adapted to be elevated above the highest point in the latter by the collapse of the holder beyond a predetermined point, whereby such dipper causes water to pass into the generator after the water level has been to far lowered for the displacer to do so. 13th. In combination with a gas generator, a gas holder which receives the gas from the generator, and a second holder which receives it from the first, the second holder being normally restrained to less pressure than the first and supplemental restraint arranged to be encountered by the second holder as it expands. 14th. In combination with a gas generator and a primary and a secondary gas holder, the second holder being normally restrained to less pressure than the first and being provided with a weight which constitutes a supplemental restraint, which, when operative, restrains the secondary holder in excess of the primary, said weight being connected to the moving element by a chain adapted to be deposited at its lower end when the weight lodges. 15 th. In combination with the gas generator, a primary and a secondary holder communicating in order therewith, the secondary holder being normally restrained to less pressure than the first and a supplemental restraint arranged to be encountered as the holder expands, to increase its pressure beyond that of the first, and an alarm adapted to be actuated as said secondary holder descends. 16th. In combination with a gas generator, a primary and a secondary holder communicating in order therewith, the second holder being normally restrained to less pressure than the first, and a sup plemental restraint which the second holder encounters as it expands
past a predetermined limit, and which restrains it to a pressure greater than the first holder, and an alarm adapted to be sounded by the second holder as it expands after encountering said supplemental restraint.

No. 62,943. Lawn Nower. (Tondeuse de pelouses.)


Perry G. White and Charles W. Perkins, both of Cedar Rapids, Iowa, U.S.A., 11 th April, 1899 ; 6 years. (Filed 16th February, 1899.)

Chim.-1st. In a lawn-mower, the combination with an axle, ground-wheels loosely mounted on the axle, gear-casings connected together and rigidly mounted on the ends of the axle, and a cutting. mechanism carried by said casings, of a handle loosely mounted on the axle, a rack secured to the axle, a spring-pressed bolt carried by the handle and engaging the rack, a crank-shaft mounted in the outer end of the handle and connected with the lolt, and means for locking said crank-shaft, substantially as described. 2nd. In a lawn-mower, the combination with the axle, ground-wheels loosely mounted upon the axle, having internal teeth, casings secured to said axle, one at each end, a cutter-shaft journalled in said casings, and gear connections between the ends of the cutter-shaft and the toothed portions of the ground-wheels, of a handle loosely mounted on said axle, having an angular plate secured thereto, a crank-shaft passed through said plate and through said handle, a rack secured upon the axle, a spring-controlled bolt arranged for engagement with said rack, and a connection between the bolt and the crankarm and the crank-shaft, the said crank-arm of the crank-shaft being arranged for engagement with a portion of the plate attached to the handle, for the purpose set forth. 3rd. In a lawn-mower, the combination with the axle, a handle loosely mounted on the axle, a rack secured to the axle, and a spring-bolt on the handle for engaging the rack to lock the handle in position, of a shaft mounted in the handle and provided with a crank-arm at one end and a handle on the other, a connection between the crank-arm and bolt, and a plate eecured to the handle and provided with a flange with which the crank-arm is adapted to engage, substantially as described.

## No. 62,944. Actinometer. (Atinometre)

John Albert Cheape, Charlottesville, Virginia, U.S.A., 11th April, 1899 ; 6 years. (Filod 20th May, 1898.)
Claim. --1st. An actinometer consisting of an exposure box, means for regulating the amount of light to be admitted thereto and movable reflector, substantially as described. 2nd. In an actinometer, an exposure box provided with means for regulating the quantity of light admitted thereto, in combination with a stencil, and a paper holder movable toward and away from the stencil, ubstantially as described. 3rd. In an actinometer, an exposure box provided with a reflector in combination with a stencil, and a paper holder movable toward and away from the stencil, suhstantially as described. 4th. In an actinometer, an elongated body portion having an exposure box at one end, a stencil device, and a slide on the borly portion provided with graduated stops arranged to be passed over the open end of the box to graduate the light, substantially as described. 5th. In an actinometer, a tubular body portion provided with slides hearing registering indicia, in combination with an exposure box, a stencil, and a hinged paper holder arranged to open and close, substantially as described. 6th. In an actinometer, an exposure box provided with a bellows, in combination with a stencil device, said box and stencil constructed and arranged to open away from each
other, substantially as described. 7th. In an actinometer, an elongated, tubular body portion provided with longitudinally

movable slides bearing registering indicia, in combination with an exposure box and a stencil device, the two adapted to open away from each other, substantially as described. 8th. In actinometer, the combination with a rectangular tube arranged and adapted to contain strips of sensitized paper, of a stencil plate at one end of the tube, said tube being provided with an opening through which the paper is extended to a point beneath the stencil, and a holder on which said extended end is beld to the action of the stencil, and means for clasping the paperon the holder, substantially as described. 9th. In an actinometer, a cubic exposure box provided with a stencil, in combination with a paper holder, one being adapted to open a way from the other, sulsstantially as described. 10th. In an actinometer, consisting of an exposure box, a plate having different sized holes therein adapted to be moved over the box for regulating the amount of light thereto, and a reflector co-operating with the exposure box, substantially as described. 11th. In an actinometer comprising a tubular body having a stencil, a cubical exposure box, and a paper holder located at one end, substantially as described. 12th. In an actinometer, an exposure box provided with a bellows and stops, in combination, with a stencil, said box and stencil constructed and adapted to open away from each other, substantially as described.

No. 62,945. Vehicle Bodies. (Boîte de voutures.)


Freeman M. Young and Francis E. Thompson, both of Arlington, Mass., U.S.A., 11 th April, 1899 ; 6 years. (Filed 15th September, 1898.)
Claim.-1st. A vehicle body in the form of a cylindrical bottle, a water tank conforming in shape to and occupying the neck of the bottle, a basin below the tank to which a pipe from the tank leads, and an escape pipe from the basin, substantially as described. 2nd. A vehicle body in the from of a cylindrical bottle, a water tank conforming in shape to and occupying the neck of the bottle, passages being left around the tank for ventilation, a basin below the tank to which a pipe from the tank leads and an escape pipe from the basin, substantially as described.

No. 62,946. Size Manufacturing Apparatus.
(Procédé pour la fabrication de la colle)


August Stephen, Breitenbach, Alsatia, 11th April, 1899; 6 years(Filed 19th September, 1898.)
Claim.-1st. An apparatus for manufacturing size, comprising a cylinder into which the mass is adapted to be pressed, means for heating said cylinder, a stirring device arranged in the cylinder and adapted to move the mass axially through the cylinder, and means forming a passage for the mass at the exit end of the cylinder, whereby the mass leaves the exit end of the cylinder in a finished oondition and a continuous production of the size is thereby obtained. 2nd. An apparatus for manufacturing size, comprising a cylinder, a stirring device arranged in said cylinder and embodying an axle, and one or more discs mounted on said axle and arranged in the cylinder so that a space exists between the disc and the wall of the cylinder, whereby the mass is passed from one compartment of the cylinder through the space between the disc and the wall of the cylinder into the compartment at the other side of the disc.

No. 62,947. Steam Eoller. (Chaudière à vapcur.)


Percy Avery, Mount Forest, Ontario, Canada, 11th April, 1899; 6 years. (Filed 11th November, 1898.)
Claim.-1st. A boiler comprising an outer lwiler, an inner boiler, a valved port between said boilers, and means for introducing air to said boilers when condensation of the contents has set in, substantially as described. 2nd. A boiler comprising an outer boiler, an inner boiler, a valved port between said boilers, and means automatically operated for introducing air to said boilers when condensation of the contents has set in, substantially as described. 3rd. A boiler comprising an outer boiler, an inner boiler, a valved port between said boilers, and a valve connected to said boilers for introducing air to said boilers when condensation of the contents of said boilers has set in, substantially as described. 4th. A valve for aiding condensation in boilers, comprising a casing, guides located therein, stops formed on said guides, a valved seat located at one end of said casing, and a valve having an open chamber, located in said casing and adapted to be moved along said guides, substantially as described, 5th. A boiler comprising an outer boiler, an inner
boiler located within said outer bonler, a flange located on said inner boiler, adapted to fit the space between said inner boiler and said outer boiler, and a valved port, adapted to be actuated in one direction, located in said flange, substantially as described. 6th, A boiler comprising an outer briler, an inner boiler, a valved communicating port between said boilers, and means for detaching a portion of said boiler when the pressure in said boiler is suddenly reduced, substantially as described. 7th. A boiler comprising an outer boiler, an inner boiler, a valved communicating port between said boilers, and means for automatically detaching a portion of said boiler when the pressure in said boiler is suddenly reduced, substantially as described. 8th. A boiler comprising an outer boiler, an inner boiler, a valved communicating port between said boilers, and means for detaching a portion of said boiler, said means being operated by the sudden reduction of pressure in the contents of said boiler, substantially as described. 9th. A boiler comprising an outer boiler having a dome, an inner boiler mounted in said outer boiler, a flanged extension from said inner to said outer boiler closing communication between said boilers, a valved port located in said flange, a top removably connected to said dome, means for removably securing said top to said dome, and means operated by the sudden reduction of pressure in the contents of said boiler for releasing said top securing means, substantially as described. 10th. A boiler comprising an outer boiler having a aome, an inner boiler mounted in said outer boiler, a flange extension from said inner to said outer boiler, closing communication between said boilers, a valved port located in said flange, a top removably connected to said dome, bolts connecting said top to said dome, said bolts being arranged to allow of the passage of said top therefrom, levers pivotally mounted on said dome for holding said top in contact with said dome, a plate pivotally mounted on said dome and adapted to normally hold said levers in their operative position, a trippling mechanism adapted to hold said plate in an operative position, and means operated by the sudden reduction of pressure in the contents of said boiler for releasing said mechanism, substantially as described. 11th. A boiler comprising an outer boiler having a dome, an inner boiler mounted in said outer boiler, a flanged extension from said inner to said outer boiler, closing communications between said boilers, a valved port located in said flange, a top removably connected to said dome, bolts connecting said top to said dome, said bolts being arranged to allow of the passage of said top therefrom, levers pivotally mounted on said dome for holding said top in contact with said dome, a plate pivotally mounted on said dome and adapted to normally hold said levers in their operative position, a tripping mechanism adapted to hold said plate in an operative position, a lever pivotally mounted on said top and adapted to hold said plate in its operative position, a tube leading from said outer boiler to said top, a piston mounted in said tube, and connections between said piston and said lever whereby sudden reduction of pressure in the contents of said boiler will serve to operate said piston, substantially as described. 12th. A boiler comprising an outer boiler having a dome, an inner boiler mounted in said outer boiler, a flanged extension from said inner to said outer boiler, closing communication between said boilers, a valved port located in said flange, a top removably connected to said dome, bolts connecting said top to said dome, said bolts being arranged to allow of the passage of said top therefrom, levers pivotally mounted on said dome, a plate pivotally mounted on said dome and adapted to normally hold said levers in their operative position, a tripping mechanism adapted to hold said plate in an operative position, a lever pivotally mounted on said top and adapted to normally hold said plate in its operative position, a tube leading from said outer boiler to said top piston mounted in said tube, connections between said piston and said lever whereby sudden reduction of pressure in the contents of said boiler will serve to operate said piston, for antomatically releasing a portion of said tube, substantially as described. 13th. A boiler comprising an outer boiler having a dome, an inner boiler mounted in said outer boiler, a flanged extension from said inner to said outer boiler, closing communication between said boilers, a valved port located in said flange a top removably connected to said dome, bolts connecting said top to said dome, said bolts being arranged to allow of the passage of said top therefrom, levers"pivotally mounted on said dome, for holding said top in contact with said dome, a plate pivotally mounted on said dome and adapted to normally hold said levers in their operative position, a tripping mechanism adapted to hold said plate in an operative position, a lever pivotally mounted on said top and adapted to normally hold said plate in its operative position, a tube leading from said outer boiler to said top a piston mounted in said tube, connectis between said piston and said lever wherely sudden rejuction of pressure in the contents of said boiler will serve to operate said piston, clamping jaws for normally connecting the portions of said tube, and means operated by the movement of said piston for detaining said clamping jaws, whereby the upper portion of said tube will be automatically released, substantially as described.

## No. 62,948. Support for Electric Lamps.

(Support pour lanıpes électriques.)
Otıs C. White, Worcester, Massachusetts, U.S. A., 11th April, 1899 ; 6 years. (Filed 3rd February, 1899.)
Claim.-1st. The combination of a support, a pipe pivotally con nected thereto, a ball secured to the end of said pipe, an electric
lamp fixture, a ball connected thereto, yoke-pieces, and a single clamping device for adjustably clamping said pieces into engage-

ment with the balls, substantially as described. 2nd. The combination of a support, a pipe pivotally connected thereto, a ball secured on the end of said pipe, an electric-lamp fixture, a ball connected to said fixture, two yoke pieces, and a clamping screw for adjustably clamping the yoke pieces into engagement with the balls, said clamping screw being located a shorter distance from the ball carried by the pipe than from the ball connected to the lamp, fixture so as to exert greater pressure upon the first-named than upon the second-named ball, substantially as described. 3rd. In a support for electric lamps, the combination of ${ }^{\circ}$ a pedestal or base plate 10 , a support 11, a pipe pivotally mounted therein and adapted to receive electric light wires, two ball-and-socket joints for connecting the pipe with an electric lanp, fixture, one ball-and-socket joint being formed by the yoke-pieces 24 and a ball 21 carried by the pipe 12, the second joint being formed by yoke-pieces 24 and a ball 21 connected to a lamp fixture, a clamping-screw 23 , the clamping nut 24 , and rubber bushings for preventing the electric wires from becoming abraded, substantially as deseribed. 4th. The combination of a pipe 12, a cylindrical piece 17 secured thereon, and a support 11 comprising a disc or plate 13 , an integral securing-stud 14 having a recess 16 in its rear face, a serew 18 secured in said support, and a clamping-screw 19 for adjustably clamping the support into engagement with the cylindrical piece 17 , substantially as described. 5th. The combination of a support, a ball-and-socket joint, a rod or pipe section extending through the ball of said joint, a friction device carried by said ball, and means for adjustably clamping the friction device into engagement with the rod or pipe section, substantially as described. 6th. The combination of a ball, a rod or pipe section extending through said ball, spring-arms carried by the ball, and means for adjustably clamping said springarms into engagement with the rod or pipe section, substantially as described. 7 th. The combination of a ball, a rod or pipe section extending through said ball, spring-arms carried by the ball, and a movable ring for adjustably clamping said spring-arms into engagement with the rod or pipe section, substantially as described. 8th. The combination of a base-plate or pedestal 10, a support or bracket 11 secured therein, a pipe 12 pivotally mounted in said support, a ball secured on the end of said pipe, a ball 21 , yoke-pieces 24 for adjustably connecting said balls, a pipe-section 26 extencing through the ball 21, spring arms 28 carried by the ball, and a ring 29 for adjustably clamping said spring arms into engagement with the pipe section, substantially as described.

## No. 62,949. Tire. (Bandayc.)

Jere Marble Hall, assignee of Osborne Boylston Hall, both of Malden, Massachusetts, U.S.A., 13th April, 1899; 6 years. (Filed 23rd January, 1899.)
Cluim.-1st. A tire comprising a channel piece directly connected with the rim, a tread portion of resilient material supported in said channel piece, a metallic fastening strip or inner steel tire extending longitudinally through the said tread portion and provided at its ends with rigid shoulders to co-operate with engaging portions of the channel piece to hold the said strip longitudinally, rigid horizontal shoulders at the end of said strip, and a clamping device cooperating with said shoulders to hold the strip in engagement with said engaging portions, substantially as described. 2nd. A tire comprising the channel portion $b$, provided with the olening $b^{2}$, the
tread portion $a$, a fastening strip $a^{2}$, extending longitudinally through said tread portion and provided with the rigid vertical

shoulders $a^{3}$, to engrage the channel piece at the edges of the opening $b^{2}$, the rigid horizontal shoulders $a^{4}$, and the locking bolt $d$, co-operating with said shoulders $a^{+}$, substantially as described.

## No. 62,950. Garment Cutting Nquare.

(Equerre pour derouper les tètements)


David Irénée Bruncau, Sherbrook Fast, Quebec, Canada, 13th April, 1899 ; 6 years. (Filed 2nd July, 1898.)
Claim.-1st. A garment cutting square, comprising an angular portion having a phrality of arnıs extending radially therefrom, a slidable angular portion, having an arm, said slidable portion being movable on either one of said plurality of arms, each of said arms extending in the same plane, and a tape measure protally secured to said angular portion, at the intersection of two of said arms, substantially as described. 2nd. A garment cutting square, comprising an angular portion having a plurality of arms extending radially therefrom, a slidable angular portion, having an arm, said slidable portion being movable on either one of said plurality of arm, each of said arms extending in the same plane, a taps measure pivotally secured to said angular portion, at the intersection of two of said arms, and a spirit level mounted in said angular portion, whereby the position of said square may be accurately adjusted, substantially as described,


John Wright, Brussels, Ontario, Canda, 13th April, 1899 ; 6 years. (Filed 13th March, 1899.)
Claim. - 1st. In a lawn mower, the combination with the drivingwheels and the gear covering frame discs therefor, of the ground roller extending between the wheels and journalled in said discs, and pinions on the shaft of said roller in mesh with the teeth of said driving wheels. 2nd. In a lawn mower, the combination with the driving-wheels and the gear covering frame dises therefor, of the interposed ground roller journalled in said dises, and pinions on the shaft of said roller in mesh with the teeth of said driving wheels and having each a pawl and ratchet connection with the shaft of the roller, for the purpose and substantially as described. 3rd. In a lawn mower, the combination with the ground wheels, the frame dises covering the gearing of said wheels provided with rearwardly extending rigid arms or bars, a thrust frame pivoted to said dises, a rock shaft journalled in said thrust frame and provided with an arm connected by a link to said rearwardly extending frame bars, a pendant arm on said rock shaft, a connecting rod between said pendent arm and an arin on a second rock-shaft journalled in brackets on the thrust bar, and means for adjusting said second rock shaft for effecting the adjustment of the cutting apparatus and ground roller relative to the ground, substantially as described. 4th. The combination in a lawn mower of the internally cogged carrying wheels 3 , the frame plate cover discs 1 on which said wheels are journalled, arms 25 rigid on said dises, the thrust frame bars 4 pivoted to said discs, a rock-shaft 2, journalled in said frame bars and provided with forwardly extending arms 24 linged to the rigid frame dise arms 2 , a pendent arm 25 on said rock-shaft, a rock-shaft 29 journalled in a two-armed bracket 30 on the thrust of the handlebar, a crank arm 28 on said second rock shaft, a connecting rod 27 connecting the arms 26 and 28 , stops on a two armed bracket for limiting the throw of the arm 28 arranged to hold the said arm locked in either position of adjustment, and means for actuating the crank arm 28 for effecting the relative adjustment of the thrust frame and the frame dises on which the carrying wheels are mounted, substantially as described.

No. 62,952. Holler Bearing. (Cousinct anti-frottant.)

(ierrge J. S. Collins, Chicago, Ilinois, U.S.A., 13th April, $1899 ; 6$ years. (Filed 5th Jamuary, 1×9x.)
Claim.--1st. A roller bearing comprising : jommal box, an annular roller race therein, main roller supporting elements within the race, and roller separating devices each embracing one or more smaller roller elements interposed between the adjacent pairs of main sup-
porting roller elements, and supported free from contact with the journal and opposing wall of the housing. 2nd. A roller bearing consisting of a journal box, an annular roller race therein, main supporting elements within the race, and roller separating devices each embracing one or more smaller roller elements, interposed between adjacent pairs of main support roller elements, one or more guide rollers arranged to support said ball separating elements free from contact with the journal and housing. 3rd. A roller-bearing conprising a journal box, an annular roller race therein, main supporting roller elements and roller separating devices each embracing three smaller roller elements arranged and confiued in triangular relation to each other within the space between the pairs of adjacent main supportin rollers and one of the bearing surfaces of the bearing. 4th. A roller-bearing comprising a journal box on anmular roller race therein, main supporting roller elements within the race, and roller separating devices each embracing three smaller roller elements arranged in triangular relation to each other, two of which are of axially elongated form and beld in tixed relation by means of a caging device, and a third of which is arranged to rest in rolling contact with the other two. ith. A roller-bearing comprising a journal box, an annular roller race therein, nain supporting roller elements within the race and roller separating devices arranged between each pair of adjacent supporting rollers, said devices each comprising three smaller roller elements arranged in triangular relation to each other two of which are provided at each end with axially arranged trumnions, beld in parallel relation with rach other by means of a caging device consisting of parallel side phates secured at a fixed distance apart by means of distance studs, and provided with bearing apertures with which the trumnions of stid roller elements are engaged. 6th A roller-bearing comprising a journal box, an annular roller race therein, main supporting roller clements within the race, and roller separating devicesarranged between cach pair of adjacent main supporting rollers, said devices each comprising three smaller moller elements arranged in triangular relation to each other two of which are provided at each end with axially arranged trunnions, held in parallel relation with each other by means of a caging device consisting of parallel side phates secured at a fixed distance apart by means of distance studs, and provided with bearing apertures wath which the trunnions of said roller elements are engaged, sadd tronnions heing extended through and heyond the side plates of the caging devices to form bearing plates which engage the sides of the ball race and hold the caging devices from contact therewiti. 7th. A ball-bearing comprising a journal box, an anmular roller race therein, a plurality of roller elements withiu the race, each of a diameter equal the radial depth of said race, whereby the bearing pressure is transmitted directly from the journal box to the journal, and roller separating devices, each embracing one or more smaller roller elements interposed between adjacent pairs of main supporting roller elements and supported free from contact with the journal and the housing by means of guide rollers.

## No. 62,953. Process for Fermenting Amylaceous Substances. (Procédé pour la fermentıtion de substances amylacers.)

Jean Effront, Brussels, Belgium, 13th A 1 ril, 1899; 6 years. (Filed 28th July, 1898.)
Claim.--1st. An improved process for fermenting dextrinated wort by means of a yeast acclimatized to the dextrine, consisting in fermenting the yeast in a wort prepared from a surar solution containing yeast dregs and mineral salts such as nitrate of potash with the addition of aldehyde after sterilization, in then fermenting the collected yeast in a wort of the same composition and in repeating frequently this operation but with increasing propertions of nitrate and aldehyde for each cultivation, in then fermenting the yeast of the last culture in a wort of dextrine mixed with a solution of sugar, yeast dregs and nitrate of potash with the addition of aldehyde after neutralisation and in fermenting the results of this culture in wort of the same composition but having a proportion of sugar decreasing up to entire suppression, in order to afterwards ferment, by means of the wort obtained dextrinated worts in large quantities, substantially as hereinbefore described. 2nd. In the process for the fermentation of dextrinated worts hereinbefore described, the use of nitrate of potash and aldehyde in any suitable stage of the manufacture or in its preparatory operations, substantially as described.

No. 62,951. Anti-Friction Bearing. (Cousinctanti-frottent.)
Walter Charlev Baker, Cleveland, Ohio, U.S.A., 13th April, $^{\text {P }} 899$; (i years. (Filed 30th July, 1s!R.)
Claim.-1st. In an anti-friction bearing, the combination with an axle or journal, of a sleeve or casing provided at its ends with ammiar chambers, adjustable bearing rings arranged on the axle or jourmal within each of said chambers, one of said rings in each chamber having opposite cone sufaces, balls bearing against said cont surfaces, means for securing the lalls in position, and ineans for simultaneonsly adjusting the sleeve, bearing rings and balls, by a single mechanical action. 2nd. An anti-friction bearing comprising an axle or journal provided at its front end with an internal screw-threaded orifice, and sutable cones and balls for forming antifriction bearings, and a securing and adjusting serew engaging the internal screw-threaded orifice in the end of the axle or journal, said
screw having a recessed head, and washers located therein, all operating, substantially as shown and described. 3rd. In an anti-

friction bearing, the combination with an axle or journal, of a sleeve or casing surrounding the axle and provided at its ends with annular chambers, a plurality of bearing rings adjustably secured upon the axle, within each of said chambers, one bearing ring in each chamber having opposite cone surfaces, balls bearing against said rings, and an adjusting device at the outer end of the axle for simultaneously adjusting said sleeve and all of said bearing rings and balls. 4th. In an anti-friction bearing, the combination with an axle or journal, of a sleeve or casing surrounding the axle, and provided at each of its ends with annular bearing chambers, bearing rings arranged within each of said chambers, adjustable on said axle and provided on each side with an annular flange or extension, balls in contact with the oppositesurfaces of the rings having said flange, and means for adjusting said sleeve, bearing rings, and balls, by a single mechanical action. 5th. In an anti-friction bearing, the combination with an axle or journal, of a sleeve provided on its peripheral surface with a longitudinal key-seat or groove, and a screw-key adapted to enter said groove to prevent rotation of the sleeve independently of the hub, the threads of said screw-key adapted to engage the wood of the hub. 6th. In an anti-friction bearing, the combination with an axle or journal, provided at its outer end with a threaded recess, of a sleeve or casing, adjustable cone rings antifriction balls, an adjusting screw entering the recessed ends of the axle and provided with a flanged head, and yielding washers interposed between the screw-head and the outer end of the axle. 7 th. In an anti-friction bearing, the combination with the axle and twopart sleeve or casing, provided with a bearing chamber at each end, of a plurality of adjustable cone rings on the axle within each of said chambers, anti-friction balls bearing against said rings, one of said rings at each end of the sleeve having annular extensions which support the balls and prevent their dropping out when the wheel is removed from the axle. 8th. In an anti-friction bearing, the combination with an axle, a casing or sleeve surrounding the same, bearing rings and balls, of an adjusting screw for adjusting said sleeve, bearing rings, and balls, by a single mechanical action, and means interposed between the outer end of the axle and said adjusting screw for obtaining a variable adjustment, and at the same time locking the adjusting screw.

## No. 62,955. Treatment of Precious Ores.

(Tratement de minerais.)
James Anderson Gilmour and Henry Stow Young, both of Santa Francesca Mines, Leon, Nicaragua, Central Ainerica, 13th April, 1899; 6 years. (Filed 26th August, 1898.)
Claim. - 1st. In the treatment of ores containing precions metal (gold or silver, or both) for the obtainment of precious metal therefrom, treating a charge of ore, especially slmy ore, or slimes, which has cr have been subjected to the action of a cyanide solvent, or of inercury and a cyanide solvent, with an amalgam of metal or mixtures of amalgams so as to cause the precipitation and amalgamaof the precipitated precious metal witnout separation of the solution from the charge, substantially as described. 2nd. In the treatment of ores containing precious metals (gold or silver, or both) for the obtainment of the precious metal therefrom, first treating the charge with cyanide of potassium, cyanide of sodium, cyanide of calcium or wther cyanide compound, or with inercury and cyanide of potassium, cyanide of sodium, cyanide of calcium, or other cyanide compound and then with an amalgam of \%inc, copper, tin, lead, or aluminium (or two, or more of them), substantially as hereinbefore described.
No. 62,956. Wheel. (Roue.)
Joseph Theophile Gagnon, Alberni, British Columbia, Canada, 13th A pril, 1899; 6 years. (Filed 3rd October, 1898.)
Claim.-1st. A hub for wheels, comprising an axle, a spoke supporting ring mounted loosely on said axle, said ring having a vertical movement thereon, a series of preumatic cushions interposed between said axle and said ring, said cushions being adapted to compensate for the movement of said ring, and means for preventing a lateral movement of said ring, substantially as described. 2nd. A hub for wheels, comprising an axle, a spoke supporting ring
mounted loosely on said axle, said ring having a vertical movement, a series of pneumatic cushions interposed between said axle and

said ring, said cushions being adapted to compensate for the movement of said ring, and means for supporting said cushions, sand means serving also to prevent a lateral movement of said ring, substantially as described. 3rd. A hub for wheels, comprising an axle, a series of radiating flanges mounted thereon, a spoke supporting ring, having a web, extending between said flanges, said ring having a vertical movement, pneum atic means for holding said ring in its normal position, and anti-frictional devices located between said flanges and said web, substantially as described. 4th. A hub for wheels, comprising an axle, a series of radiating flanges mounted thereon, a spoke supporting ring, having a web, extending between said flanges, said ring having a vertical movement, pneumatic means for holding said ring in its normal position, a raceway formed within said flanges, and balls located within said raceway and contacting with the face of said web, substantially as described.

No. 62,957. Smokeless Powder. (Poudre sans fuméc.)
Francis Arlington Halsey, Sian Rafael, California, U.S.A., 13th April, 1899; 6 years. (Filed 9th December, 1898.)
Clazm.-The herein described powder, consisting of the combination of the above named substances in about the proportions specified.

No. 62,958. Bread and Vegetable Cutter.
(Coupc-pain et légumes.)


Herman Stayley, Galt, Ontario, Canada, 13th April, 1899 ; 6 years. (Filed 28th December, 1898.)
Claim. - -1 st. A machine for cutting or slicing bread or vegetables consisting of a stationary bread-board, guides carried by the breadboard, a movable frame held by the guides, a knife carried by the frame opposed to the end of the bread-board, substantially as specified. 2nd. A machine for cutting or slicing bread or vegetables consisting of a statıonary bread-koard, guides carried by the bread-board, a movable frame held by the guides, a knife carried by the frame opposed to the end of the bread-board, and an adjustable gaugeboard carried by the frame to regulate the thickness of the slice to be cut, substantially as specified. 3rd. A machine for cutting or slicing bread or vegetables consisting of a stationary bread-board, claws projecting from the underside of the bottom and the top of the side serving as guides, in combination with a knife-board consisting of a substantially rectangular open frame, a knife diagonally secured to the tol and bottom of the frame opposed to the adjacent end of the bread-looard, battens secured to the frame, thumb-screw's projecting through the battens, and a movable gauge-board adjusted by the thumb-screws, substantially as specitied.

No. 62,959. Roller Bearing. (Cousinct anti-frottant.)


Frank Mossberg, Providence, Rhode Island, U.S.A., 13th April, 1899 ; 6 years. (Filed 6th October, 1898.)
Claim.-1st. A roller bearing comprising a cage having a series of slots formed therein, said slots having concave walls and rounded ends, and rollers having rounded ends fitted to said slots, substantially as described. 2nd. A roller bearing comprising a cage having a series of slots with intervening walls extending throughout the length of the same, rollers fitted to said slots and adapted to be retained by hammering down the edges of the walls of said slots, substantially as described. 3rd. A roller bearing comprising a cage, a series of slots made therein and a series of rollers, said rollers being made in sections, the end sections of each roller having spherical ends engaging spherical sockets at the ends of the slots and means for retaining the sections in place, substantially as described.

No. 62,960. Bicycle. (Bicycle.)


Enoch Haines and Robert Monahan, both of Lakewood, Ohio,
U.S.A., 17 th April, 1899 ; 6 years. (Filed 11th May, 1898.)

Claim.-The combination with the frame and hub of the driving wheel of a bicycle, of the pinion $A$, mounted on the hub, the internal geared sprocket-wheel B, connected by chain with the tradle sprocket, and mounted in the frame having the support therefor, consisting of the sub-fork $D$, the inner branch having the bends $d$, $d^{1}$ and $d^{11}$, and sub-fork $E^{1}$ on the brace $F$, the inner branch having the bends $c, e^{1}$ and $e^{11}$, said bent inner branches joined at their ends and forming the bearing for the axle of the hub, and also joined by the curved brace $F$, the two outer branches of said sub-forks, $D^{1}$ and $F^{1}$, joined at $F^{11}$ and forming the outer bearing for the axle of sprocket $B$, all constructed and combined to operate, as and for the purpose set forth.
No. 62,961. Sleigh Runner. (Patin d.: traincau.)
John Edward Hobbs, North Berwick, and Barton Morrill Wentworth, Berwick, both in Maine, U.S.A., 17th April, $1899 ; 6$ years. (Filed 20th December, 1898.)
Claim.-1st. An attachable sleigh-runner constructed with the cap bar depressed to the base bar immediately in front of the hub
or axle attachment and continued along said base bar and over the nose of said base bar, substantially as shown and described. 2nd.


In an attachable sleigh-runner, the combnation of a cup-shaped axle rest with a stalk or stem having a vertical slot to receive a bolt, as described, and the cross-bar $P$, and a bolt with nut, passing through both the cross bar and the stem of the axle rest, and means for tightening same, substantially as set forth. 3rd. As a new article of manufacture the combined standard and brace $\mathbf{M}$, composed of the four steel bars $1,2,3,4$, bolted together, the outer pair being bent and bolted to $P$, and the inner pair bent and bolted to truss $T, T^{\mathbf{1}}$, substantially as set forth. 4th. The combination of sectional hub-hoops, formed in two sections, with lugs or ears fitted to engage the cap-bars, cross-bars and tie-bars of attachable runners, at the ends of the sections, and the hubs to which they are fitted, substantially as set forth. 5th. In an attachable sleigh-runner, the combination of the adjustable loose-jointed, connecting-rod ( $\mathcal{A}$, eye I , cap-bar C , tie bar F , double truss $\mathrm{T}, \mathrm{T}^{1}$, combined standard and brace M, cross-bar P, and recessed hub $\mathbf{H}$, substantially as described. Gth. In an attachable sleigh-runner, the combination of the adjustable, loose jointed, connecting-rod G. eye $I$, cap-bar $C$, tie bar $\underset{\mathbf{F}}{ }$, double truss $T, T^{1}$, combined standard and brace $\mathbf{M}$, cross bar $\mathbf{P}$, recessed nub H , with the sectional hub hoops $o$, $o^{1}$, substantially as described. 7 th . In an attachable sleigh-runner, the combination of the recessed hub $H$, cross bar $P$, combined standard and brace $M$, double truss $T, T^{1}$, tie bar $\mathbf{F}$, cap-bar C , elongated, ellipt c , bast-bar B, adjustable connecting rod G, and eye I, substantially as described. 8th. In an attachable sleigh-runner, the combination of the recessed hub $H$, the sectional hub-hoops $o, o^{1}$, cross-bar P , combined standard and brace $M$, double truss $T, T^{1}$, tie bar $F$, cap bar B, elongated, elliptic, base bar B, adjustable connecting-rod G, and eye I, substantially as described. 9th. In an attachable sleighrunner having a hub mounted thereon to receive the spindle of an axle, the conbination with said hub, of a tie-bar secured at its upper end to said hub, said tie bar abruptly depressed from the point where secured to said hub to said runner and secured thereto, at a point forward of the means for supporting said hub, substantially as shown and described. 10th. In an attachable sleighrunner, the combination with said runner of a hub to receive the spindle of an axle, said hub mounted longitudinally on a cross bar supported by standards and braces secured to said runner, said hub provided with a latch pivotally secured at one of its ends to the inner end af said hub to engage with an axle, the free end of said latch provided with a slot, a bolt secured in said hub to receive the slotted end of said latch thereon and rigidly hold said latch in contact with said axle and said hub, substantially as shown and describer. 11th. In an attachable slcigh-runner, the combination with a hub mounted longitudinally on a cross bar supported by standards and braces secured to said runner to receive the spindle of an axle, of a circular rest secured to said cross bar near its inner end to receive an axle, the inner end of said hub provided with an upwardly curved latch to engage with said axle, said latch pivotally secured at one of its ends to said hub, the opposite end of said latch provided with a slot to engage with a bolt in the end of said hub to secure said lateh in rigid contact with the end of said hub, substantially as shown and described. 12th. In an attachable sleigh-runner provided with means to receive the spindle of an axle, said means secured to a cross bar supported on the apex of a truss consisting of converging standards attached to said runner, of a standard rising vertically from said runner to the point of convergence of said standards forming said truss and secured to the inner side of each of said standards, said vertical standard having armssecured to each side thereof and projecting outwardly and upwardly and secured on opposite sides of said cross bar end thereto at a point intermediate of the middle and the outer end of said cross-bar, substantially as shown and described. 14th. An attachable sleigh-runner having means mounted and supported on converging standards secured to the base of said runner for reeeiving and supporting the spindle of an axle, a tie bar secured to said spindle support, said tie-bar depressed from its point of attachment to said spindle-support to the base-bar of the runner and secured thereto at a point back of the beginning of the upward curve of the forward end of said standards, substantially as shown and described. 147h. An attachable sleigh' runner provided with means for receiving the spindle of an axlesaid means supported longitudinally on a cross-bar secured near its
immer end between the upper ends of two standards attached to said rumner at a distance thereon from each other and converging to the sides of said cross bar. the outer end of said cross bar supported by braces secured on each side thereof, said braces diverging laterally from said cross bar and traverselv and downwarnly in the direction of said runner and secured to said coverging standards, substantially as shown and described. 15th. An attachable sleigh-rumer having means to receive the spindle of an axle, said means supported longitudinally on a cross bar secured near its inner end between the upper ends of the outer plates of a truss formed of converging standards attached at their lower ends to said rumner, said crosisbar resting on the crown or apex of the inner plates of said truss, said inner plates being secured to the outer plates forming said truss, the outer end of said cross bar, supported betwaen arms rising laterally from the sides of a vertical standard resting on the base bar of said runner and secured thereon and the upper end of said vertical standard secured to said truss under the apex thereof, substantially as shown and described. 16th. An attachable sleigh-rumer having a hub to receive the spindle of an axle mounted on a cross-bar supported above sitid runner by converging standards secured to said rumner and to the inner end of said bar, a combined standard and brace rising vertically from said rumner to the inner apex of said converging standards and secured thereto, said standard having braces projecting outwardly and secured to the outer end of said cross bar, a tie bar secured to the inner end of said hub and to said runner back of the beginning of the upward curve thereof, a guard brace attached to the outer end of said hub and carried down and transversely to said tie-bar and secured thereto, sulstantially as shown and described. 17th. In an attachable sleigh-rumner having a hub mounted thereon to receive the spindle of an axle, the combination witn said hub, of a tie-bar secured to said hub at the inner end thereof, said tie bar depressed from its point of attachment with said hub to said runner at a point back of the begimning of the upward curve of the forward end of said runner and rigidly secured thereon, said tie bar provided with an eye at a distancs from said hub to receive the end of an adjustable extension rod to hold said runner parallel with a complemental rummer of like construction to which the opposite end of said rod is attached when said rumers are secured to the spindles of an axle, substantially as shown and described. 18th. In attachable sleighrunners, the combination with a sleigh-runner having a low, curved front end, of means for receiving and supporting the spindle of an axle supported alove said rumer hy standards secured at their lower ends to said rumer, and e nverging at their upper ends and supporting a cross bar on which said spindle support is nounted, a combined standard and brace secured at its lowerend to said rumner and rising vertically therefrom attacherl at its upher end to the immer side of each of said standards at their apex, braces projecting from said vertical standard and secured at their outer ends to said cross-har, a tie-har attached to said spindle support and carried downward and. secureal to said rumer at a point back of the legerming of the curved front end thereof, substantially as shown and described.

No. 62,962. Welghing and calculating Scoop.
(Pclle it peser et mesurer.)


George H. Watkins, Ridgeway, and Hylton C. Clanton, Spence both in Virginia, (i.S.A., 1 ith April, $1899 ; 6$ years. (Flied 27 th July, 189*.)
Clri,n.-1st. In a weighing senop, the combination with a hollow handle and a scoop movable relatively to said handle, of a compression sping within the handle, an endwise movable link connee ad to the scoop and extending into the handle to connect with the compression spring therein, the weight-indicating cylinder monnted hetwren the handle on the seoop on one side of said link, a cost-indicating eylinder also between the handle and scoop and on the other side of the link, and a pointer carried by said link to travel adjacent to both cylinders, substantially as described. 2nd. In a weighing scoop, the combination with a hollow handle, and a scopp, movable relatively thereto, of an endwise movable link attached to said scoop, a compression spring seated in the handle and connected to the link, a cost-indicating cylinder revolubly mounted on the handle and parallel to the link, a weight-indicating cylinder fixed to the handle on the opposite side of the link from the first-named cylinder, and a pointer attached to the limk to travel adjacent to both eylinders, substantially as described. 3rd. In a weighing scoop, a chambered handle, and a transverse bridge attached to one end of said handle, combined with an arm fixed to the bandle, a scoop movably comnected to said arm, a slidable link pivoted to the scool, the cylinders mounted on the bridge plate and arranged between the scoop and handle, and a pointer attached to
the link and arranged to travel over both cylinders, substantially as described. 4th. The combination of a handle provided with a transverse bridge plate, a spring seated within said handle, a movable scoop, a link pivoted to the scoop and connected to the spring, a revoluble cost cylinder mounted on the bridge-plate on one side of the link, a weight indicating cylinder fastened to the bridge plate on the opposite side of the link, and an indicator attached to the link and having its terminals adjacent to the cost and weightindicating cylinders, as and for the purposes described. 5th. The combination of a handle, a movable scoop, a torsion-spring operatively connected with the scoop, a weight-cylinder, a revoluble costcylinder provided with colmmns of figures indicative of the total costs at different rates, and a pointer controlled by connections between the scoop, and spring and adapited to traverse the weight and cost cylinders, substantially as described.

No. 62,963. Method of Transmitting Electrical Im. pulses. (Méthode de transmettre les impu'sions électrigues.)


The Wireless Telegraph and Signal Co., 82 Mark Lane, assignee of Gugrielm and Marconi, 67 Talbot Road, all of London, Eng. land, 17 th April, $1844 ;(6$ years. (Filed 28 th September, 1897.)
Claim.-1st. In a receiver for electrival oscillations the combination of an imperfect electrical contact, a circuit through the contact and means actuated by the circuit for shaking the contact. Ind. In a receiver for electrical oscillations the combination of an imperfect electrical contact, metallic plates connected to it, a circuit through the contact and means actuated by the cincuit for shaking the contact. 3rd. In a receiver for electrical oscillations the erm. bination of an imperfect electrical contact. metallic plates connected to the contact, chcking coils connected to the contact, a circuit through the coils, and contact and means actuated by the circuit for whaktng the contact. 4th. In a receiver for electrical oscillations the combination of a tube containing metallic powder, a circuit through the powder and means actuated by the circuit for shaking the powder. 5th. In a receiver for el-ctrical oscillations the combination of a tube centaining metallic powder, metallic plates conneeted to the powder, a circuit through the powder and means actuated by the circuit for shaking the powder. 6th. In a receiver for electrical oscillations the combination of a tube containing metallic powder, metallic plates connected to the powder, a circuit through the coils and powder and means actuated by the circuit for shaking the fowder. 7 th. Ina receiver for electricai oscillations the combination of a tube containing a mixture of metallic powders, a circuit through the powder, and means actuated by the circuit for thaking the powder. 8th. In a receiver for electrical oscillations the combination of a tube containing a mixture of metallic powders, metallic plates connocted to the powder, a circuit through the powder and means actuated by the circuit for shaking the powder. !th. In a receiver for electrical oscillations the combination of a tube containing a mixture of metallic powders, metallic plates connected to the powder, choking coils connected to the powder, a circuit through the coils, and powder and means actuated by the circuit for shaking the powder. 10th. In a receiver for electrical oscillations the combination of a tube containing a mixture of metallic 1 owder and mercury, a circuit through the powder and means actuated by the circuit for shaking the powder. 11th. In a receiver for electrical oscillations the combination of a tube containing a mixture of metallic powder, and mercury metallic plates connected to the powder, a circuit through the powder and means actuated by the circuit for shaking the powder. 12 th. In a receiver for electrical oscillations the combination of a tube containing a mixturt of metallic powder and mercury, metallic plates connected to the powder, choking coils connected to the powder, a circuit through the coils and powder and means actuated by the circuit for shaking the powder. 13th. In a receiver for electrical oscillations the combination of a tube, metallic plugs in the tube, metallic powder between the phugs. a circuit throngh tue plugs and powdon and means actuated by circuit for shaking the powler. 14th. In a receiver for electrical oscillations the combination of a tube, metallic plags in the tulee, metallic powder between the plugs, metallic plates connected to them, a circuit through the plugs and powder and means actuated by the circuit for shaking the powder. 15th. In a receiver for electrical oscillations the combination of a tube, metallic plugs in the
tube, metallic powder between the plugs, metallic plates connected to the plugs, chocking-coils connected to the plugs, a circuit through the coils and plugs and means actuated by the circuit for shaking the powder. 16 th . In a receiver for electrical oscillations the combination of a tube, metallic plugs in the tube, a mixture of metallic powders between the plugs, a circuit through the plugs and powder and means actuated by the circuit for shaking the powder. 17 th. In a receiver for electrical oscillations the combination of a tube, metallic plugs in the tube, a mixture of metallic powders between the plugs, metallic plates connected to the plugs, a circuit through the plugs and powder and means actuated by the circuit for shaking the powder. 18th. In a receiver for electrical oscillations the combination of a tube, metallic plugs in the tube, a mixture of netallic powders between the plugs, metallic plates connected to the plugs, choking-coils connected to the plugs, a circuit through the coils, plugs and powder and means actuated by the circuit for shaking the powder. 19th. In a receiver for electrical oscillations the combination of a tube, metallic plugs in the tube, a mixture of metallic powder and mercury between the plugs, a circuit through the plugs and powder and means actuated by the circuit for shaking the powder. 20 th. In a receiver for electrical oscillations the combination of a tube, metallic plugs in the tube, a mixture of metallic powder and mercury between the plugs, metallic plates connected to the plugs, a circuit through the plugs and powder and means actuated by the circuit for shaking the powder. 21st. In a receiver for electrical oscillations the combination of a tube, metallic plugs in the tube, a mixture of metallic powder and mercury between the plugs, metallic plates connected to the plugs, choking-coils connected to the plugs, a circuit through the coils, plugs and powder and means actuated by the circuit for shaking the powder. 22nd. In a receiver for electrical oscillations the combination of an imperfect electrical contact, a circuit through the contact a relay actuated by the circuit and means actuated by the relay for shaking the contact. $23 r d$. In a receiver for electrical oscillations the combination of an imperfect electrical contast, motallic plates connected to it, a circuit through the contact, a relay actuated by the circuit and means actuated by the relay for shaking the contact. 24 th. In a receiver for electrical oscillations the combination of an imperfect electrical contact, metallic plates connected to the contact, choking-coils connected to the contact, a circuit through the coils and contact, a relay actuated by the circuit and means actuated by the relay for shaking the contact. 25 th. In a receiver for electrical oscillations the combination of a tube containing metallic powder, a circuit through the powder, a relay actuated by the circuit and means actuated by the relay for shaking the powder. 26 th. In a receiver for electrical oscillations the combination of a tube containing metallic powder, metallic plates connected to the powder, a circuit through the powder, a relay actuated by the circuit and means actuated by the relay for shaking the powder. 27 th . In a receiver for electrical oscillations the combination of a tube containing metallic powder, metallic plates connected to the powder, chocking-coils connected to the powder a circuit through the coils and powder, a relay actuated by the circuit and means actuated by the relay for shaking the powder. 28th. In a receiver for electrical oscillations the combination of a tube containing a mixture of metallic powders, a circuit through the powder, a relay actuated by the circuit and means actuated by the relay for shaking the powder. 29th. In a receiver for electrical oscillations the combination of a tube containing a mixture of metallic powders, metallic plates connected to the powder, a circuit through the powder, a relay actuated by the circuit and means actuated by the relay for shaking the powder. 30th. In a receiver for electrical oscillations the conbination of a tube containing a mixture of metallic powders, metallic plates connected to the powder, chocking-coils connected to the powder, a circuit through the coils and powder, a relay actuated by the circuit and means actuated by the relay for shaking the powder. 31st. In a receiver for electrical oscillations the combination of a tube containing a mixture of metallic powder and mercury, a circuit through the powder, a relay actuated by the circuit and means actuated by the relay for shaking the powder. 32 nd . In a receiver for electrical oscillations the combination of a tube containing a mixture of metallic powder and mercury, metallic plates connected to the powder, a circuit through the powder, a relay actuated by the circuit and means actuated by the relay for shaking the powder. 33rd. In a receiver for elfetrical oscillations the combination of a tube containing a mixture of metallic powder and mercury, metallic plates connecter to the jowder, chocking-coils connected to the powder, a circuit through the coils and powder, a relay actuated by the circuit and means actuated by the relay for shaking the powder tube, metallic plugs in the tube, metanlic powder between the plugs, a circuit through the pluge :nd powder, a relay actuated by the circuit and means actuated by the relay for shaking the powder. 35th. In a receiver for electrical oscillations the combination of a tube, metallic plugs in the tube, metallic powder between the plugs, metallic plates connected to the plugs, a circuit through the plugs and yowner, a relay actuated by the circuit and means actuated by the relay for shaking the powder. 36th. In a receiver for electrical oscillations the combination of a tube, metallic plugs in the tube, plugs, choking-coils connected to the plugs, a circuit through the coils, plugs and yowder, a relay actuated by the circuit and means
for electrical oscillations the combination of a tube, metallic plugs in the tube, a mixture of metallic jowders between the plugs, a circuit through the plugs and powder, a relay actuated by the circuit, and means actuated by the relay for shaking the powder. 38th. In a receiver for electrical oscillations the combination of a tube, metallic plugs in the tube, a mixture of metallic powders between the plugs, metallic plates connected to the plugs, a circuit through the plugs and powder, a relay actuated by the circuit, and means actuated by the relay for shaking the powder. 39th. In a receiver for electrical oscillations the combination of a tube, metallic plugs in the tube, a mixture of metallic powders between the plugs, metallic plates connected to the plugs, chocking-coils connected to the plugs, a circuit through the coils, plugs and powder, a relay actuated by the circuit and means actuated by the relay for shaking the powder. 40 th . In a receiver for electrical oscillations the combination of a tube, metallic plugs in the tube, a mixture of metallic powder and mercury between the plugs, a circuit through the plugs and powder, a relay actuated by the circuit, and mecns actuated by the circuit and means actuated by the relay for shaking the powder. 41st. In a receiver for electrical oscillations the combination of a tube, metallic plugs in the tube, a mixture of metallic powder and mercury between the plugs, metallic plates connected to the plugs, a circuit through the plugs and powder, a relay actuated by the relay for shaking the powder. 4nd. In a receiver for electrical oscillations the combination of a tube, metallic plugs in the tube, a mixture of metallic powder and mercury between the plugs, metallic plates connected to the plugs, choking-coils connectedtothe plugs, a circuit through the coils plugs and powder, a relay actuated by the circuitand means actuated by the relay for shakingthe powder. 43rd. The combination of a spark-producer at the transmitt ing station, an earth connection to one end of the spark-producer, an insulated conductor connected to the other end, an imperfect electrical contact at the receiving station, an earth connection to one end of the contact an insulated conductor connected to the other end and a circuit through the contact. 44th. The combination of a spark-producer at the transmitting station, an earth connection to one end of the spark-producer, an insulated conductor connected to the other end, an imperfect electrical contact at the receiving station, an earth connection to one end of the contact, an insulated conductor connected to the other end, a circuit through the contact and means actuated by the circuit for shaking the contact. 45th The combination of a spark-producter at the transmitting station, an earth connection to one end of the spark-producer, an insulated conductor connected to the other end, an imperfect electrical contact at the receiving station, choking-coils connected to each end of the contact, an earth connection to one end of the imperfect contact, an insulated conductor connected to the other end and a circuit through the coils and contact. 46th. The combination of a spark producer at the transmitting station, an earth connection to one end of the spark-producer, an insulated conductor connected to the other end, an imperfect electrical contact at the receiving station, choking-coils connected to each end of the contact, an earth connec tion to one end of the imperfect contact, an insulated conductor connected to the other end, a circuit through the coils and contact and means actuated by the circuit for shaking the contact. 47 th . The combination of a spark-producer at the transmitting-station, an earth connection to one end of the spark-producer, an insulated conductor connected to the other end, a tube containing metallic powder at the receiving station, an earth connection to one end of the powder, an insulated conductor connected to the other end and a circuit through the powder. 48th. The combination of a sparkproducer at the transmitting station, an earth conncction to one end of the spark-producer, ar insulated conductor connected to the other end, a tube containing metallic powder at the receiving. station, an earth connection to one end of the powder, an insulated conductor connected to the other end, a circuit through the powder The means actuated by the circuit for shaking the powder. 49th. The combination of a spark-producer at the transmitting station, an earth connection to one end of the spark-producer, an insulated conductor connected to the other end, a tube containing metallic powder at the receiving station, choking-coils connected to each end of the jowder, an insulated conductor connected to the other end and a circuit through the coils and powder. 50th. The combination of a spark-producer at the transmitting-station, an earth connection to one end of the spark-producer, an insulsted conductor connected to the other end, a tube containing metallic powder at the receiving station, choking coils connected to each end of the powder, an earth connection to one end of the powder, an earth connection to one end of the powder, an insulated conductor connected to the other end, a circuit through the coils and powder and means actuated by the circuit for shaking the powder. 51st. The combination of a spark-producer at the transmitting station, an earth connection to one end of the spark-producer, an insulated conductor connected to the other end, a tube containing metallic powder at the receiving station, choking coils and earth connection through condensers connected to each end of the powder, a circuit through the coils and powder and means actuated by the circuit for shaking the powder. $\tilde{5} 2 \mathrm{nd}$. In a receiver for electrical oscillations, the combination of an imperfect electrical contact, a circuit through the contact, an electric trembler shaking the contact, and means for preventing the self-induction of the trembler from affecting the contact. 53rd. A
receiver for electrical oscillatory impulses having a medium
electrical resistance is altered by the received electrical oscillations, a trembler or shaker for acting upon the variable-resistance medium to restore it to its normal condition of electrical resistance, and means for controlling such trembler to cause it to act upon the vari-able-resistance medium to restore it to its normal condition after each reception of such oscillatory impulses. 54th. A reseiver for electrical oscillatory impulses having a medium whose electrical resistance is altered by the received electrical oscillations, a trembler or shaker for acting upon the variable-resistance medium to restore it to its normal condition of electrical resistance, means controlling such trembler to cause it to act upon the variable-resistance medium to restore it to its normal condition after each reception of such oscillatory impulses, and means for rendering manifest said electrical oscillatory impulses consecutively received, whereby defined signals may be given out by the receiver. 55th. The combination of a transmitter capable of producing at will of the operator electric oscillatory impulses or rays, and a receiver responsive thereto having a variable-resistance medium whose resistance is altered by such received oscillatory impulses, means controlled by the received oscillations for restoring such medium to its normal condition after each reception of such oscillations, and means for rendering manifest the received oscillations, whereby signals sent from the transmitter may be received upon the receiver. 56th. The combination of a transmitter capable of producing electrical oscillations or rays at the will of the operator, and a receiver located at a distance and having a conductor tuned to respond to such oscillations, a variableresistance medium, in circuit with the conductor, whose resistance is altered by the received oscillations, means controlled by the received oscillations for restoring the resistance medium to its normal condition after each reception of such oscillations, and means for rendering the received oscillations manifest.

No. 62,964. Bicycle Wheel Rim. (Juntc de roue de bicycle.


The Clarksburg Wood Rim Company, limited, of Clarksburg, assignee of George Beacock, Brockville, both in Ontario Canada, 17 th April, 1899 ; 6 years. (Filed 14th January, 1899.)
Claim.-1st. A laminated wheel-rim, consisting of two or more hoop sections of wood and an interposed strip or strips of rawhide, prepared, hardened and waterproofed as set forth, all cemented together. 2nd. A laminated wheel-rim, composed of hoop sections of wood crescent-shaped in cross section, and an interposed strip of rawhide, hardened and waterprofed as set forth, said strip having folded edges and a wire I), inserted therein, as set forth, and all cemented together.

No. 62,965. Computing Scale Beam. (Balance de calculc.)
Alexander Armstrong and Herman Moore, both of Moundsville, Virginia, U.S.A., 17 th April, 1899 ; 6 years. (Filed 21st December, 1898.)
Cluim.-A scale comprising a rotating computing-barrel 9, substantially as shown and described, and mounted on the shaft 11, a pointer 12, fixed on said shaft so as to rotate simultaneously with said barrel, a scale-dial 14, fixed intermediate said pointer and the contiguous end of said barrel, a duplex scale-beam 1 comprising the horizontal arms 2 and 3 , the former divided off to represent ounces and the latter to represent pounds, the poise 7 adjustably mounted
on the arm 2 and provided with the finger $7^{1}$ and the poise 8 similarly mounted on the arm 3 and provided with the finger $8^{1}$, said fingers


62465
$7^{1}$ and $8^{1}$, being arranged to independently traverse said barrel, as and for the purpose set forth.

No. 62,966. Dynamo. (D!иamo.)


The Nagara Falls Power Company, New York City, New York, assignee of Coleman Sellers, Philadelphia, Pennsylvania, U.S.A., 17 th April, 1899 ; 18 years. (Filed 26th January, 1898.)

Claim.-1st. In a dynamo having a vertical shaft, a frame or armature stand cylindrical in form having its upper and lower surfaces dressed parallel to a plane at right angles to its axis and its inner cylindrical surtace bored conically, top and bottom, spider frames carrying the shaft bearings having their exterior surfaces dressed conically to fit to the conical borings of the frame and concentric with the shaft, a coupling frame uniting the upper and lower spider frames, and means for drawing sand spider frames to place within the frame, substantially as and for the purposes set forth. 2nd. In a dynamo having a vertical shaft, a frame or armature stand cylindrical in form having its upper and lower surfaces dressed parallel to a plane at right angles to its axis and its innercylindrical surface bored conically, top and bottom, spider frames carrying the shaft bearings having their exterior surfaces dressed conically to fit to the conical borings of the frame and concentric with the shaft, a coupling frame uniting the upper and lower spider frames, a flange upon the upper frame having its bearing surface dressed to a plane at right angles to the axis of the spider frame, and lolts taking through said spider frame and through the frame or armature stand
for the purpose of drawing said spider frames to place and said flange to place upon the upper surface of the frame or armature stand, substantially as and for the purposes set forth. 3rd. In a dynamo having a vertical shaft, the combination of a cylindrical frame having its upper and lower surfaces dressed parallel and at right angles to the axis and bored conically internally, top and bottom, spider frames dressed conically exteriorly to fit said conical horings, a coupling frame uniting said spider frames, a flange upon the upper surface of the upper spider having its bearing surface dressed to a plane at right angles to the axis of the spider frame and bolts taking through said upper spider and said frame to draw said spiders to blace, with cylindro-conical bearings concentric with said conical sur faces of said spider frames and fitting into concentric conical borings in thehubs of said spider frames, substantially as and for the purposes set forth. 4th. In a dynano electric machine having a vertical shaft, a cylindrical frame bored conically top and bottom, and dressed top and bottom to a plane at right angles to its axis, spider frames having corresponding conical surfaces and united by a coupling frame, a flange upon the upper spider dressed to a plane at right angles to its axis, bolts taking through said spider and said frame, with spider hubs having conical concentric borings and cylindro-conical concentric shaft bearings concentric with said spider frames and fitting into said conical borings in said spider hubs and bolts for drawing said bearings to place, subctantially as and for the purposes set forth. 5th. In a dynamo, a water cooling system consisting of a cylindrical frame provided with hollow longitudinal columns, which are connected in series, and an induction and eduction pipe connecting therewith, and means for maintaining a forced circulation of water, substantially as and for the purposes set forth. 6th. In a dynamo, the combination of a cooling and ventilating system, consisting of a cylindrical frame provided with hollow longitudinal columns connected in series, and provided with induction and eduction pipes, and means for maintaining a forced circulation of water, with a system of air circulation consisting of air spaces from point to point in the lamiua tions of the armature, longitudinal air spaces between the columns of the frame of the machine, and means for maintaining a forced circulation of air through the armature and frame of the machine, substantially as and for the purposes set forth. 7th. In a dynamo, the combination of a cooling and ventilating system for the armature consisting of a forced circulation of water within the armature stand by means of a series of hollow longitudinal columns connected in series and provided with induction and eduction pipes, and a forced circulation of air maintained through air spaces in the laminations of the armature and spaces in said longitudinal columns of the frame of the machine by means of inverted hoods over qpertures in the bell cap, with a forced circulation of oil over the bearings consisting of induction pipes which cariy oil under the pressure centrally to each bearing, and induction pipes connecting with annular spaces about said bearings for the purpose of carrying away the oil, substantially as and for the purposes set forth. 8th. In a dynamo, the combination of a cooling and ventilating system for the armature consisting of a forced circusation water within the frame of the armature by means of a series of hollow longitudinal columns connected in series and provided with induction and eduction pipes and a forced circulation of air maintained through air spaces within the laminations of the armature and intervening spaces in said longitudinal columns of the frame of the machine, by means of inverted hoods over apertures in the bell-cap of the machine, with a forced circula tion of oil over the bearings consisting of induction pipes which carry oil under pressure centrally to each bearing, and eduction pipes connecting with annular spaces about said bearings, and a forced circulation of water about said bearings by means of annular or spiral openings within the hubs and surrounding said bearings and induction and eduction pipes by which a forced circulation of water is maintained within said openings, substantially as and for the purposes set forth.

No. 62,967. Tricycle. (Tricycle.)


Frank Arnold, Tampa, Florida, U.S.A., 17 th April, 1899 ; 6 years. (Filed 1st December, 1898.)
Claim. - In a hand and chain-operated tricycle, the combination, construction and arrangement of the followirg instrumentalities :a supporting frame $B$ consisting of a main or rear portion formed of
a pair of opposite parallel sides $c c$, a transverse tie-piece $d$ which unites their rear ends, a pair of curved pieces ee which are secured to the front of said sides, and approach at their forward ends, a pair of centrally arranged, parallel, longitudinal stringers $h h$ separated from each other, and to which the forward ends of the sides $c c$ are secured, a front portion of the frame consisting of a curved trace $l$ secured to the front of the stringers $h h$, a pilot wheel $G$ whose shaft turns in the forward end of said trace, a pair of driving wheels AA, a centrally-located sprocket wheel $P$ and their common axle a which is located above the rear portion of the frame, a major sprocket wheel $N$, a minor sprocket wheel E and their common shaft $i$, the wheels $\mathrm{P}, \mathrm{D}, \mathrm{E}$ rotating in the space between the stringers $h h$, a main sprocket wheel $R$, located above, in front of and substantially in the same vertical plane as the minor sprocket wheel E , a pair of ratchet wheels ss between which the wheel $R$ is interposed, the shaft to which they are secured, a pair of hand levers TT with their pawls $u u$ and endless chains for turning the sprocket wheels, all operating substantially as describer.

No. 62,968. Vehicle Runner. (Patin de voitures.)


Jacob Thunborg, Ceur d'Alene, Idaho, U.S.A., 17th April, 1899 ; 6 years. (Filed 5th November, 1898.)
Clainu.-A runner having a smooth under side and side flanges extending continuously and uninterruptedly from the rear end of the runner to approximately its forward end to form guides to receive and embrace both wheels at the side of a vehicle, said flanges at their rear ends having their inner sides bevelled outwardly to form flaring wheel entrance for the purpose of affording the wheels easy admission to the runners, and bolts for locking the wheels to the runners, substantially as described.

No. 62,969. Horse Detacher. (Dételage instantané.)


Louis P. Moore, Statesville, North Carolina, U.S.A., 17th April, 1899 ; 6 years. (Filed 21st December, 1898.)
Claim.-1st. In combination with a detaching device, two housings one attached to each shaft, a block fitted within each of the housings, a brake rod carried by the block, a shoe formed upon the end of the
rod, means for drawing the block rearward so as to bring the shoe into contact with the wheel-rim, and means for holding said block in its rearward postion, as specified. 2nd. The herein described combination of the casings A , attached to the shaft of a vehicle, spring-clips arranged within said casings, rods connected thereto, coil-springs for holding the rods in their normal positions, buckles carried by the harness, bars carried by said buckles adapted to enter into engagement with the casings and be there held by the clips, a a cross-rod having arms $U$ to which the first named rods are attached, a means for revolving said cross-rod upon its axis, housings attached to the shafts, blocks fitted to slide therem, means for connecting said blocks to the cross-rod, brake-rods carried by the blocks, shoes formed upon the ends of the brake-rods casings N hinged to the buckles, means for swinging said casings upward, and spring-actuated draw-rods fitted within the casings N , substantially as and for the purpose set forth. 3rd. In combination, a housing secured on each shaft, a block slidably fitted in each housing rods depending from said block, brake-shoes on the lower ends of the rods, a spring latch secured in each housing to engage notches in the block, con-necting-rods extending rearwardly on the blocks and a cross-rod connecting said rods, as and for the purpose described.

No. 62,970. Preserving Compound or Process.
(Procédé ou composé de préservation.)


Louis Buchold, Haberlstrasse, 17 Munich, Bavaria, German
Empire, 21st April, 1899; 6 years. (Filed 4th November, 1898.)

Claim.--The process for preserving animal and vegetable preparations or objects, consisting in hermetically enclosing the preparation or object, either dry or in a suitable preservative fluid, between two directly closing glasses, one concave and the other flat, or both concave, substantially as and for the purposes hereinbefore set forth.

No. 62,971. Tender for Trolley Operating Ropes.
(Defcnse pour cordes de trollées.)


Charles Franklin Wilson, New York City, New York, U.S.A., 21st April, 1899; 6 years. (Filed 10th January, 1899.)
Claim. -1 st. The automatic tender, comprising a suitable support, a spring actuated reel mounted on the support, a dog carried by the reel and mounted to swing outwardly into engagement with the support and a dog regulating spring consisting of a bar or plate spring carried by the dog and means for adjusting the free end of the spring in a lateral direction to increase or diminish its retarding effect upon the dog, substantially as set forth. 2nd. In a trolley
tender, comprising a reel for receiving the trolley arm operating rope, means for regulating the rotary movement of the reel and a coil spring for actuating the reel, the said spring having one of its ends fixed to the hub of the reel and its opposite end engaged with the axle from which the reel rotates, the connection betwren the spring and the axle being such that the end will be held fast when the spring is drawn in one direction and set free when the spring is drawn in the opposite direction, substantially as set forth.

No. 62,972. Waggon Top. (Capote de voiturcs.)


William C. Ashwell, New York City, New York, U.S.A., 21st April, 1899; 6 years. (Filed 11th October, 1898.)
Claim.-1st. In a waggon top, an umbrella-like structure, comprising a foldable, jointed standard, ribs, braces, slide, and flexible covering, in combination with two catches at different heights on the upper portion of the standard arranged to hold the slide in position to partially and to wholly distend the umbrella, and with curtains attached to the edges of the latter and to the waggon kody, all arranged to serve substantially as and for the purposes herein specified. 2nd. The standard B, B1 jointed at $b$ and having the sleeve $\mathrm{B}^{2}$, the lateral pin projecting from the lower portion of the standard near the joint to support the sleeve, the ribs $\mathrm{C}^{2}$, braces $\mathrm{C}^{3}$, covering $\mathrm{C}^{1}$ and slide $\mathrm{C}^{ \pm}$, in combination with the catches $\mathrm{B}^{3}$ and $\mathrm{B}^{4}$ at different heights on the upper portion of the standard and arranged to hold the ribs either wholly or partially distended, and with the curtain $D$ attached to the edges of said covering, and means for attaching said curtain to a waggon body, all arranged to serve with the latter, substantially as and for the purposes herein specified. 3rd. The standard B having the lower portion $\mathrm{B}^{1}$ squared and jointed thereto, in combination with the seat $A^{1}$ having the squared opening $a$, and the socket $\mathrm{A}^{3}$ adapted to receive said lower portion, and a socket $\mathrm{A}^{2}$ on the under side of said seat, an umbrellalike structure C supported by said standard, and the curtains I attached to the edges of said structure and to a waggon body, all adapted to serve with the latter, substantially as and for the purposes herein specified.
No. 62,973. Journal Box. (Boîte à graisse.)


Nathan M. Farmer, Empire, Colorado, U.S.A., 21st April, $1899 ; 6$ years. (Filed 10th October, 1898.)
Claim.-A journal-box comprising a base-piece having a groove in its upper surface, a lug upon the upper side thereof adjacent to one
end and located in line with the transverse centre thereof and a pair of parallel lugs at the opposite end thereof integral with the basepiece, and a lid or cover having a socket in its under surface in which the centrally-located lug on said base-piece fits, to which lug said lid is pivoted, and having a tongue or tenon at its opposite end integral with the lid which fits between the parallel lugs on the base-piere, the said tongue or tenon being formed by recesses upon opposite sides thereof in which said parallel lugs fit, and eaid lid or cover being further provided with a croove upon its under surface which registers with the groove in the base-piece, as and for the purpose set forth.

## No. 62,974. Boiler Flue Scraper.

(Nettoyeur de tubes de chaudières.)


Ninian Bell, Hamilton, San Antonio, Texas, U.S.A., 21st April, 1899 ; 6 years. (Filed 17th September, 1898.)
Clain.-1st. A boiler-flue scraper provided at opposite ends with expansible scraper-blades, yielding arms for supporting the members of said blades, a central longitudinal guide by which said arms are supported, an operating rod extending for reciprncation through said guide, and spreaders adjustably fitted upon the operating rod upon opposite sides of the blane of the guide, for controling the relative position of the yielding arms and adapted for contact with opposite ends of the guide to limit the reciprocatory movement of the rod, the adjustment of the spreaders upon the operating rod being adapted to vary theextent of movement thereof, substantially as specified. 2nd. A boiler flue scraper provided at opposite ends with expansible scraping-blades, supporting arms respectively carry ing the members of said blades a-d provided with cam-iaced inner sides, said supporting arins having a normal tendency toward each other, a central guide interposed between the arms, an operating-rod mounted to slide in said guide and provided with opposite screw threadel portions, and spreaders respectively fitted upon said pposite screw-threaded portions of the operating rod and adapted to co-operate with the cam-faces of the supporting arms, the throw of the operating-rod and the extent of lateral motion of the mem bers of the scraping-blades being controlled by the relative positions of the spreaders upon said rod, substantially as specified. 3rd. A boiler-flue scraper having a tubular guide provided with a circumferential groove, bars extending longitudinally in opposite directions from said guide and provided at their centres with off-set portions of the bars in the groove of the guide, scraping blade members carried respectively by the extremities of said bars, an operating rod mounted for reciproeatory movement in the guid and spreaders carried by said rod for expanding the scraping blades, substantially as specified.

No. 62,975. Opening and Closing Device for Fire Box Doors. (Apptreil it ouvrir et fermer pour portes de boites à feu.)


Michael J. Griffin and Peter W. Hogan, both of Island PondVermont, U.S.A., 21st April, 1899; 6 years. (Filed 28th Sep, tember, 1898.)
Claim.-1st. A device for opening and closing doors, comprising a lever connected with the door, a bar mounted to slide toward and
from the door, a foot-piece rigidly connected with said bar and parallel to the main portion thereof, and separate guides for the said bar and foot-piece. 2nd. A device for opening and closing doors, comprising a lever connected with the door, a bar mounted to slide toward and from the door and provided with a transverse end or arm, a foot-piece rigidly connected with said bar and approximately parallel to the main portion thereof, and a spring for normally keeping the door closed.

No. 62,976. Belt Guide. ( (iuide courroic.)


Louis Anderson, Hillsborough, North Dakota, U.S.A., 21st April, 18996 years. (Filed 24 th December, 1898.)
Claim.-A belt-guide comprising a bracket, a body-bar connected to the bracket and carrying a rack, rollers carried by said body and adapted to rest at one side of a belt, a lever fulcrumed at an intermediate point at its length at one end of the body-bar and having a detent adapted to seat in the notclies of the rack on said body-bar, and a roller carried by said lever and adapted to rest at the opposite side of a belt with respect to the first-named rollers, substantially as specified.

No. 62,977. Revolving Chain Cover and Gear Case.
(Boitc pour chuincs et cmyrainuyes.)


William Edmond Gilbert, New York City, New York, U.S.A., 21st April, 1899; 6 years. (Filed 18th August, 1898.)
Claim.-1st. A revolving chain cover and gear case consisting of an elastic band having an elastic tube attached at each edge thereof for the purpose described. 2nd. A chain cover comprising a band of elastic and flexible material, having pneumatic tubes at its edges and fastening means at its ends. 3rd. A cover for cycle chains consisting of a flat rubber band, pneumatic edge tubes and fastening means for its ends, said fastening means consisting of end nipples on the tubes and a projecting tab on the band, substantially as described. 4th. An elastic and flexible chain cover provided with tubular edges and one plain end, the opposite end of the band having a tab covered with fabric, the tubes being reduced in size at the sides of the tab to form nipples, and covered with textile fabric, sand nipples to be cemented into the opposite ends of the tubes and the tab to be united to the opposite end of the hand, substantially as described. 5th. A chain cover comprising a plain flat elastic band reinforced with tubular edges and fastening means at its ends, said cover designed to be stretched over the ahain to revolve therewith over the sprockets, substantially as described.
No. 62,978. Metal Wheel. (Roue en métal.)
Daniel J. C. Arnold, New London, Ohio, U.S.A., 21st April, 1899 ; 6 years. (Filed 2nd September, 1898.)
Cluim. $\quad 1$ st. In a metal wheel, the combination with a cylindrical hub, of circular pressed plates encircling the same in pairs and
adapted to secure the inner ends of metal spokes between them, one plate in each pair being flanged to obtain a bearing upon the hub,

substantially as described. 2nd. In a metal wheel provided with a cylindrical hub, pressed steel plates in pairs encircling the hub and securing the spokes between each pair, in combmation with a sleeve separating each pair of plates, flanged and tapered inner extremities of the outer plates upon which said sleeve bears, and means for clamping the plates against the sleeve, substantially as described. 3rd. In a metal wheel, the combination with a taper hub, of metal plates encircling the same in pairs between which the inner extremities of the spokes are secured, a metal sleeve having its bearing upon flanged and tapered inner extremities of the plates, a taper split ring upon said hub underneath one of said flanges, and means for clamping the parts securely together, consisting of a flange upon the hub and a threaded and flanged sleeve bearing upon said ring and outer pair of plates, substantially as described. 4th. In a metal wheel, the combination with an inner hub portion, tapered within and without, of an outer portion adapted to be screwed over, the same, outer and inner clamping flanges arranged in pairs and adapted to inclose the metal spokes, an extension of one of said inner flanges adapted to encircle the tapered hub, and means for securing the flanges to the hub and for pressing the parts securely together, consisting of inclined flanges upon the bub portions, and a wedge ring upon the taper hub abutting against the outer hub portion, substantially as described. 5th. In a metal wheel, hub portions provided with inwardly inclined flanges, shect-metal flanges sicured between said hub flanges and separated by means of the sleeved extension of one of said metal flanges, spokes composed of doubled sheet metal secured between the pairs of flanges by means of elongated rivets, and provided with flattened extremities for attachment to the rim, and means for preventing the flanges from turning on the hub, consisting of notches upon the hub flanges, and bolts adapted to pass through the notches and clamping-flanges, substantially as described. 6th. In a metal wheel, the combination with a sheet metal spoke, bent into a U-shaped section, and flattened at the onter extremity, of a metal tire and metal angles rivetted to either side of the said spoke extremity and to the rim, substantially as described.

## No. 62,979, Water Supply Pipe.

(Tuyau pour l'approvisionnement de l'eau.)

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Francis M. F. Cazin, Hoboken, New Jersey, U.S.A., 21st April, 1899 ; 6 years. (Filed 11th July 1898.)

Claim.-1st. A penstack or supply-pipe, the interior of which, in the direction of its length, presents approximately the curve or taper representing the natural contraction of a column of water, which has the same head and the same area of section at the top, of the column. 2nd. A penstock or supply-pipe, the interior of which, in the direction of its length, presents approxinately the curve or taper representing the natural contraction of a column of falling water which has a certain head and definite area of entrance or ejection-apertures. 3rd. A penstock or supply-pipe, the interior of which, in the direction of its length, presents approximately the urve or taper representing the natural contraction of a column of falling water, which has the same head and the same area at the top of the column, a space being left, however, between the inner walls of the pipe and the area representing the true curve or tajer. 4th. A penstock or supply-pipe, the interior of which, in the direction of its length, presents approximately the curve or taper repesenting the natural contraction of a column of falling water, which has the same head and the same area at the top of the column, the inner wall of the said penstock or pipe being shouldered, as shown, so as $t_{1}$ ) cause outer sheets or films of the water to be beld comparatively motionless and so to form a lubricator for that part of the water, having the natural fall or descent. 5th. An inclined supply or head-pipe, having descending and ascending portions, all below the main head, the interior of the said pipe, from end to end, presenting approximately, in its descending portion or portions, the curve or taper representing the natural contraction of a column of falling water, and, in its ascending portion or portions a broadening curve or tapers representing the larger transverse section of falling water nearer the main head. 6th. In a stand-pipe apparatus, a flume or sluice-way terminating at the top of the said stand-pipe, in a suitable headbox, a frame or shed extending from the front of said headbox into the path of the entering liquid, an opening in the said shed or frame, the said opening being covered by a suitable screen as and for the purpose set forth. 7th. In a supply-pipe apparatus, a sluiceway, terminating at the top of the said stand-pipe, in a suitable headbox, and a screen standing in the path of the liquid, as it enters the box. 8th. In a supply-pipe apparatus, a sluiceway terminating at the top of the said pipe in a suitable headbox, a screen entering the said sluiceway in the path of the water, and a solid cross-piece at the bottom of the sluiceway, for stopping the heavy material, as and for the purpose set forth. 9th. A penstock, head-pipe or supplypipe, the interior of which, in the direction of its length, presents approximately the curve or taper representing the natural contraction of a body of falling water under gravity, the said penstock, head-pipe or supply-pipe having a suitable ejection aperture or apertures, leading to one or more water-wheels. and one or more antomatic safety-valves on the said pipe, as set forth. 10th. An inclined supply-pipe having descending and ascending portions, all below the main head, the interirr of the said pipe, from end to end. presenting approximately, in its descending portion or portions, the curve or taper, representing the natural contraction of a column of falling water, and in its ascending portion or portions a broadening curve or taper, representing the larger tranverse section of falling water nearer the main head and automatic safety-valves being suitably placed on said pipe, as set forth.

No. 62,980. Screw Wrench. (Clé í écrou.)


John Lewis Wiles and John George Brewer, both of Croydon, Surrey, England, 21st April, 1899; 6 years. (Filed 4th April, 1898.)

Claim.-1st. In screw wrenches or spanners, the combination and structural arrangement of frame pieces A A, having jaws a a and $a^{1},^{1}$, plates $p p$ and sliding bar $b$ and $b^{1}$, operated by roller nut $d$ working on screw-threaded bar $c$, substantially as and for the purpose set forth and illustrated in the accompanying drawings. 2nd. The modified form of screw-wrench or spanner, consisting of a fixed
right angled jaw $a^{1}$ at one end of the hollow frame $A$ and continuous right angled jaw $a^{1}$ at one end of the hollow frame A and comen ation with a travelling bar actuated by milled roller-nut $d$ and having at one end a right angled piece $d^{1}$, all substantially as described with reference to the accompanying drawings.

## No. 62,981. Method of Securing Knife Bladesto Knives.

(Méthode d'assujetir les lemes de coutcuux.)


Edwin Roblin and John C. McCarthy, both of Belleville, Ontario, Canada, 24th April, 1899 ; 6 years. (Filed 21st January, 1899.) Claim.-In a reaper mower knife, the back provided with countresunk holes with key slots to receive the key headed bolt, knife sections with half circles on adjacent sides for the passage of the fastening bolt which has a key head at one end and a nut at the other, and the adjustable horizontal bar of sterd which is placed at the back of the nuts, substantially as set forth.

No. 62,982. Means for Controlling Electric Motors.
(Moỳn de contrôler les moteurs électriques.)


Otis Brothers and Company, New York City, New York, assignee of John D. Thlder, Yonkers, New York, U.S.A., 24th April, 1899; 6 year. (Filed 2nd December, 1898.)
Claim. -1st. In a starting and stopping device for electric motors, the combination with the motor, of resistances included in the circuit of the motor, and a series of electro-magnets automatically operated according to the varying potential of the motor armature arranged to control said resistance, substantially as described. 2nd. In a starting and stopping device for electric motors, the combination with the motor, of a resistance included in the circuit of the motor, a series of electromagnets automatically operated according to the varying potential of the motor armature arranged to contro the resistance, and a switch controlling the electro-magnets, substantially as described. 3rd. In a starting and stopping device for electric motors, the combination with the motor, of a resistance connected with the motor, a series of electro-magnets controlling the resistance, a switch controlling a portion of said electro-magnets, and a portion of the electro-magnets arranged in the circuit to be automatically controlled by variations of potential in the circuit, substantially as descriced. 4th. In a starting and stopping device for electric motors, the combination with the motor, of resistances connected in the circuit of the motor, two series of electro-magnets controlling the resistances, one series for use in starting the motor and the other for stopping the motor, and $m$ ans for controlling the electro-magnets, substantially as deseribed. 5th. In a starting and stopping device for electric motors, the combination with the motor. of resistances connected in the circuit of the motor, two series of electro-magnets controlling the resistances, one series for use in starting the motor and the other for stopping the motor, a switch for controlling part of the magnets of each series, and connections
for automatically controlling the other magnets according to variatlons of potential in the circuit, substantially as described. 6th. In a starting and stopping device for electric motors, the combination with the motor, of resistances included in the armature circuit of motor, electro-magnets controlling said armature resistances, and means for controlling the electro-magnets, automatically operated according to the varying potential of the motor armature, substantially as described. 7th. In a starting and stopping device for electric motors, the combination with the motor and circuits therefor, including a parallel circuit, magnets controlling said resistances, and means for controlling the magnets, substantially as described. 8th. In a starting and stopping device for electric motors, the combination with the motor and circuits therefor, including a parallel circuit, to the armature, of resistance devices included in said parallel circuit, two sets of electro-magnets controlling the resistance one for starting and theotherfor stopping, and means for controlling said elec-tro-magnets, substantially as described. 9th. In a starting and stopping device for electric motors, the combination with the motor and circuits therefor, including a parallel circuit to the armature, of resistance devices included in said parallel circuit, two sets of electro-magnets controlling the resistance one for starting and the other for stopping, and a switch controlling portion of said magnets, the remaining magnets being automatically controlled by variations of potential in said circuit, substantially as described. 10th. In a starting and stopping device for electric motors, the combination with the motor and circuits therefor, including a parallel circuit to the armature, of resistance in said parallel circuit including an extra field coil, magnets controlling said resistance, and means for controlling the magnets, substantially as described. 11th. In a starting and stopping device for electric motors, the combination with the motor and circuits therefor, a circuit-breaking switch, an armature reversing switch, a parallel circuit to the armature resistance included in said parallel circuit, electro-magnets controlling said resistances, a switch controlling a portion of said electromagnets, and circuits connected with the other electro-magnets for controlling them by variations of potential in said circuit, substantially as described. 12th. In a starting and stopping device for electric motors, the combination with a conpound wound motor, of a resistance included in the shunt field-magnet coils, a circuitbreaking switch, an armature reversing switch, a circuit parallel to the armature, resistance devices including an extra field-magnet coil in said circuit, two sets of electro-magnets controlling said resistances, and means for controlling said electro-magnets, substantially as described. 13th. In a starting and stopping device for electric motors, the combination with the motor and circuits therefor, including a parallel circuit to the armature, of resistance devices included in said circuit and electro-magnets controlling said resistance devices, one of the electro-magnets being provided with a high resistance winding and controlling a portion of the resistance in the parallel circuit to the armature and controlled by the potential of the current flowing through said resistance, substantially as described.

No. 62,983. Lawn Sprinkler. (Arrosoir de pelouses.)


George Henry Meakins, Hamilton, and Charles William Meakins, Montreal, both in Canada, 24th April, 1899 ; 6 years. (Filed 23rd November, 1899.)
Chaim. - In a sprinkler, the cup $A$, the extended loottom of which is threaded internally, said cup having cross arms B, supporting a threaded centre spindle, in combination with rings I), 1), of either cast or spun brass having milled bevelled outer edges and inner bevelled smooth edges, and nut F , having its bottom ring milled, said nut being adapted to screw on spindle $B$, to hold rings $D$, I, in place, and to complete the top of the sprinkler, substantially as and for the purpose hereinbefore set forth.

No. 62,984. Telephone Switeh Eoard Signal.
(Siennal pour échanıes de téléphone.)


The Bell Telephone Company of Canada, Montreal, Quebec, assignee of Charles Eara Scribner, of Chicago, 24th April, 1899) ; 6 years. (Filed 2nd March, 1897.)
Cluim. - 1st. The combination with a telephone line and means for producing current in the line while the telephone is in use, of a relay-magnet in the line, a local circuit including a supervisory signal, a normally open shunt about the signal controlled by the contact-points of the said relay, and a magnet-winding of the relay included in the shunt, substantially as described. 2nd. The conbination with a telephone-line and means for producing current in the line in the use of the telephone, of a relay normally in the path of current in the line, a circuit and source of current therein, and switch-contacts for closing the circuit in making connection with the line, said circuit being controlled at a differant point by switch-contacts of the said relay, a supervisory signal controlled by the relay and circuit connections of the said circuit including a winding of the relay completed in the closure of said circuit by the relay, whereby the condition of the supervisory signal remains unchanged after the initial response of the relay during connection with the line, as described. 3rd. The combination with a telephone-line and means for producing current therein, a spring-jack for the line and a plug and plug-circuit connected with the spring-jack, of a relay in the plug-circuit responsive to currents in the line, a normally open local circuit and switch-contacts of the plug and springjack adapted to put said circuit in operative condition during connection with the line, a superviscory signal in the local circuit and circuit connections of the relay with said local circuit controlling the current in the supervisory signal, and a winding of the relay associated with switch-contacts thereof adapted to bring the said windidg into the local circuit in the response of the relay, as described. 4th. The consbination with a tele-phone-line and an extension therefrom through a spring-jack, plug and plug-circuit, a source of current connected with the plug-circuit, and means for closing the line at the station during the use of the telephone, of a relay having its magnet included in the plug-circuit, a local circuit closed in registering contact pieces of the plug and spring-jack and including a supervisory signal, and a winding of the relay inclnded in said shunt, the continuity of said shunt being controlled by switch-contacts of the relay closed when it is excited, substantially as described. 5th. The combination with a telephone-line and means for produclng current therein while the telephone is in use, of a relay having one winding interposed in the telephone-circuit, a supervisory signal controlled by the relay, a local circuit and an auxiliary winding of the relay included in said circuit together with a source of current, said local circuit being controlled by switch-contacts of the relay to be closed when the relay is excited, a normally broken short circuit of said first-mentioned winding, and other switch contacts of the relay closed when the relay is excited to complete said short circuit, whereby the supervisory signal is effaced and the winding of the relay interposed in the tele, hone-line is short-circulated when the telephone is brought into use, as described. Gith. The combination with telephone lines provided with switches adapted to close the lines during the use of the telephones and united through springjacks, plugs and a plug-circuit, of a source of current connected in a branch from the plug-circuit, an electro-magnet in said branch controlling a clearing out signal, being adapted to display the signal when the magnet is inert, a relay magnet interposed in the line circuit to the called station, and a supervisory signal controlled thereby, a local circuit including a winding of the said magnet and normally broken at two points, switch-contacts closed by the relay to complete one of said breaks, and registering switch-contacts in the plug and spring-jack completing the other of said breaks, whereby the supervisory signal is mede indicative of the dis-use of both telephone's while the supervisory signal is adapted to signalize the use of the telephone at the called station, as described. 7 th. The combination with a telephone line and means for prolucing current in the line during the use of the telephone, a line relay responsive to currents in the line a local circuit controlled thereby,
and a subsidiary signal in said local circuit, of an extension from the line through a spring-jack, plug and plug-circuit, a magnet having a winding interposed in the plug circuit, a conductor closed through registering contact pieces of the spring-jack and plug in shunt of the said subsidiary line signal, a supervisory signal included in the said conductor, and a shunt about the supervisory signal controlled by the said magnet in the plug circuit, substantially as described. 8th. The combination with a telephone line, means for producing current in the line during the use of the telephone, a relay connected with the line responsive to current therein, and a springjack and plug for making connection wish the line, of a local circuit including a source of current and a resistance-coil divided into two parallel branches, one of satid branches being controlled by the line relay and including a secondary signal, and the other of the branches being closed in registering contacts of the spring-jack and plug, a supervisory signal and a resistance-coil, and a relay adapted to interpose the supervisory signal or the resistance-coil alternately into the second-mentioned branch, as described. 9th. Thecombination with a telephone line, a source of current in the line, a switch at the subslation for closing the circuit in the use of the line, and a plug and spring-jack forming a part of the circuit of the line of a relay in the line and a signal controlled thereby, circuit connections controlled by the said relay adapted to remove the resistance of the relay from the line when the relay is excited, other local circuit connections including a winding of the relay, and switch-contacts of the relay adapted to close the said local circuit at one point controlled by the relay, to be clused when the relay is excited, and other switch-contacts controlling the said local circuit closed in registering contacts of the pling and spring-jack, substantially as described.

No. 62,985. Gun Sight. (Mire pour fusils.)


John A. Cooper, Adair, Iowa, U.S.A., 24th April, 1899 ; 6 years. (Filed 3rd January, 1899.)
Claim.-1st. A circular frame having a groove holding a sight in its lower half, removable means to retain the sight in place whereby the sight by half a turn can be removed as set forth. 2nd. An integral circular rim having a widened lower half with a groove therein bolding a semi-eircular sight and means to retain said sight in place, whereby on removing said means, the sight by half a turn can be removed, all arranged as set forth.

## No. 62,986. Trolley Pole. (Perche de trollée.)

Philip H. Gilbert, Scranton, Pennsylvania, U.S.A., 24th April, 1899; 6 years. (Filed 10th February, 1899.)
Claim.-1st. The combination with a trolley-pole and the trolley wheel having flanges fared outwardly, of the springs secured in the fork of the pole and hearing against the outer faces of said flanges, a short pole forked at its end and adapted to be secured at the other end to the fork of a two-part clamp adjustably secured to the trolleypole and a connection between the short pole and the fork of the clamp to allow a limited pivotal movement of the said short pole, and the ice-clearing wheel having ribs. 2nd. The combination with the trolley-pole and trolley wheel having flanges flared outwardly, of the springs secured in the fork of the pole and bearing against the outer faces of said flanges, a sliort pole forked at its end and adapted to be secured at the other end to the fork of a two-part clamp adjustally secured to the trolley-pole, and a connection
between the short pole and the fork of the clamp to allow a limited pivotal movement of the said short pole, and the ice-clearing wheel

having ribs, said ice-clearing wheel being formed in two parts, and a spring bearing against the short pole to hold it yieldingly in contact with the wire.

No. 62,98\%. Heater. (Chrufficur.)


John F. Barker, Springfield, Massachnsetta, U.S.A., 21 th April 1899 ; 6 years. (Filed 22nd November, 1897.)
Claim.-1st. In combination the tank adapted to contain the hydro carbon and for the maintenance of a gaseous pressure within the pump adapted for the generation of such gaseous pressure, the flexible pipe from the tank, the heat atomizing burners attached to said pipe and the handle adapted to act as such for both pipe and and burners all substantially as described and for the purposes spt forth. 2nd. In combination, the tank adapted to contain the dydrocarbon and for the maintaince of a gaseous pressure within the jump adapted for the generation of such gaseous pressure, the flexible pipe from the tanks the heat atomizing burners attached to said pipe and the handle for said burners, centrally traversed by sairl pipe, all substantially as described and for the purposes set forth.

## No. 62,988. Process of and Apparatus for the Destruction of night Soils. (Procédé et apparcil pour la destruction des vidanycs,)

Henry George Downton and William Henry Nicholls, both of Croydon, ncar Sydney, Australia, assignee of James Harvey Mitchell, l'etersham, also near Sydney aforesaid, 25th April, 1899 ; 6 years. (Filed 20th January, 1898.)
Claim.-1st. The apparatus for the destruction of nightsoil and noxious matters consisting of the mechanical parts combined, arranged and operated, substantially as herein described and explained and as ilhstrated in the drawings. 2nd. In apparatus for the destruction of nightsoil and noxious matters, the combination with a closed and staled owen or retort such as A having a gas and vapor draw-off the or downtake such as $\mathrm{E}^{1}$, of a water receptacle of tank-air tightly divided by seals into a mixing and condensing chamber such as $J$ and an ashpit such as $G$ under the firebars of the furnace, substantially as described and explained and as illustrated in the drawing:. 3rd, In apparatus for the destruction of nightsoil and noxious matters, the combination with an oven or
retort such as A having a water receptacle or tank under the furnace divided by seals such as $\left(\dot{i}^{4} G^{6}\right.$ and $F^{1}$, of a pit such as $\mathcal{i}^{1}$ having

therein piston such as ( $\mathbf{x}^{2}$ for altering the water level in such receptacle substantially as herein described and as illustrated in the drawing. 4th. In apparatus for the destruction of nightsoil and noxious matters, the combination with an oven or retort such as $A$ and furnace such as $\mathcal{F}$, of a mixing and condensing chamber such as $J$, ashpit such as $C$, flue or passages such as $J^{2} J^{3 / 3}$ and $J^{4}$, orifices such as $J^{5}$, and ports or passages for supplying heated air tubstantially as herein described and explained and as illustrated in the drawing. 5th. In apparatus for the destruction of nightsoil and noxious matters, the combination with an oven or retort such as A, furnace such as $\mathbf{F}$, and ashyit such as C , of pipes such as $\mathrm{H}^{1}$ and $\mathrm{H}^{1}$, flues or passages such as $\mathrm{H}^{2} \mathbf{H}^{3} \mathrm{H}^{4} \mathrm{H}^{5}$ and $\mathrm{H}^{6}$ and orifices such $\underset{H}{ } \mathrm{H}^{7}$ with or without flues such as $\mathrm{H}^{s} \mathrm{H}_{3}$ and orifices such as $H^{10}$ substantially as herein described and explained and as illustrated in the drawing.

No. 62,989. Telephone. (Tcléphonc.)


Alfred Consen, Ditroit, Michigan, U.S.A., 25th April, 1899; 6 years. (Filed 13th September, 1898.)
Claim. - In an attachment to telephone, the brackets A provided with the spring clamping arm $B$, and the smporting arm $C$, the
coupling member H rotatorially mounted on said supporting arm and adapted to form a supporting rest for the mouth of the receiver, the car tube $\mathbf{D}$ secured at one end to the coupling member and provided at ithe other end with forked terminals $\mathbf{E}, \mathbf{E}^{1}$, having har pieces $G$ and a connecting bow spring $F$ and the arm $K$ provided with a latch hook L, all arranged to operate, as described.

No. 62,990. Vehicle Canopy. (Parasol pour véhicules.)


Alfred Sunford Burnham, Wildomar, California, U.S.A., 25th April, 1899 ; 6 years. (Filed 9th November, 1898.)
Claim.-1st. In a bicycle canopy or shade, the combination of a support, an arm movably mounted thereon, pivoted ribs carried by said arm, a covering attached to the ribs and having a slit extending from the pivotal centre outward to the edge of the canopy, rings along one side of the slit embracing said arm, and a hook on the opposite side of the slit for engaging the arm for holding the covering distended, substantially as described. 2nd. In a bicycle canopy or shade, the combination of a support, an arm movable thereon, pivoted ribs adjustably carried by said arm and all pivoted on a common centre, a covering attached to the ribs and having a slit extending from the pivotal centre outward to the edge of the canopy, rings along one side of the slit, embracing the arm, and a hook on the opposite side of the slit for engaging the arm and holding the covering disjended, substantially as described. 3rd. In a bicycle canopy or shade, the combination with a longitudinally extensible supporting arm, of a longitudinally extensible arm having a jointed connection therewith and extending normally at a right angle, a canopy adjustably secured to the end of said arm, and a break joint, intermediate the ends of the main support, consisting of dises connected to their respective members and having peripheral notches, and a spring pressed catch for engaging said notches, substantially as described.

No. 62,991. Method of Making a Substitute for Emery Wheels. (Méthodc de fabriquer un substitut pour roues d'èmerie.)
Charles Maria Pielsticker, London, England, 25th April, 1899; 6 years. (Filed 6th August, 1898.)
Claim.-1st. The precess herein described for the manufacture of a substitute for emery products consisting in purifying ironsand, heating the purified iron in the presence of carbon to redness and then empting the same into cold oil, substantially as described. 2nd. In the manufacture of a substitute for emery products the process herein described consisting in heating the purified ironsand in the presence of carbon to redness, and then immersing the red-hot iron particles in cold water, on the top of which rests a thick layer of oil as set forth. 3rd. In the manufacture of the substitute for emery wheels the process herein described, consisting in heating the purified ironsand in the presence of carlon to redness, then immersing the red-hot reduced iron particles in a cold liquid, and then mixing a suitable binding medium therewith, substantially as described. 4th. In the manufacture of a substitute for emery product, the process herein described consisting in mixing in a crucible purified iron ore and pulverized carbonaceous matter, and healing the same to reduce the iron ore, and then immersing the hot ironsand in a cold bath, substantially as described. 5th. In the manufaciure of a substitute for emery, the process herein described, consisting
in mlxing in a crucible purified iron ore and pulverized carbonaceous mattior to reduce the iron ore and adding thereto a phos phorus yielding substance to harden the iron and heating the same, and then immersing the same in a cold liquid, substantially as described.

No. 62,992. Water Guard. (Garde pour robincts à eau.)


## 62992

Alexander Lumsden Schram, Toronto, and Frank Maundrall, Woodstock, both in Ontario, Canada, 27th April 1899; 6 years. (Filed 13th December, 1898)
Claim.-1st. In a water guard, in combination a nozzle having the internal shoulder, the three graded concove-convex diaphragms having the finest at the top and the coarest at the bottom and supported upon the shoulder, abutting each other, and with the convex sides lowermost and parallel with each other and a suitable compressible retaining sleeve secured within the nozzle and resting on the edges of the screens and designed to hold them in place as and for the purpose specified. 2nd. In a water guard, in combination a nozzle having the internal shonlder, the three graded concave-convex diaphragins having the finest at the top and the coarest at the bottom and supported upon the shoulder, abutting each other, and with the convex sides lowermost and parallel with each other, a suitable compressible retaining sleeve secured within the nozzle and resting on the edges of the screens and designed to hold them in place and a cap designed to be screwed upon the upper end of the guard, so as to compress the sleeve as and for the purpose specified.

## No. 62,993. Treatment of Edible oils and Fate.

(Traitment d'huile et de graisse mangeable.)
The Globe Trading Company, Broad Street House, London, assignee of John Nugent Harris, 21 Howard Street, Surrey, both in England, 27th April, 1899; 6 years. (Filed 25th May, 1898.)

Claim.-1st. The process of purifying fats, consisting in forming an emulsion of the liquid fat with an absorbing and neutralizing solution containing chloride of sodium, aerating the emulsion with hot air in the presence of a washing liquid of milk, butter-milk or whey with or without a proportion of chloride of sodium, removing the impurity-laden washing liquid, aerating again in the presence of more washing liquid at a temperature of $90^{\circ}$ to $130^{\circ}$ Fahrenheit, and finally aerating and washing with pure water, as and for the purpose set forth. 2nd. The process of purifying fats consisting in forming an emulsion of the liquid fat with an absorbing and neutralizing solution containing chloride of sodium, aerating the emulsion with hot air in the presence of a washing liquid of milk, butter-milk or whey with or without a proportion of chloride of sodium, removing the impurity-laden washing liquid, producing a second emulsion by aeration in the presence of more washing liquid at a temperature of from $90^{\circ}$ to $130^{\circ}$ Fahrenheit, s. nd then gradually lowering the temperature of the air and at the same time washing with a spray of cold water, as and for the purpose set forth. 3rd. The process of purifying rancid butter co sisting in heating liquid butter to from $110^{\circ}$ to $130^{\circ}$ Fahrenheit, orming an amulsion (by mechanical agitation) of liquid butter and a warm absorbing and neutralizing solution containing chloride of sodium at the same temperature, aerating the emulsion with hot air at a temperature of from $120^{\circ}$ to $140^{\circ}$ in the presence a warm washing
liquid of milk, butter-milk or whey with or withont a proportion of chloride of sodium, at a temperature of from $95^{\circ}$ to $120^{\circ}$, removing the impurity-laden liquid, producing a second emulsion by aeration in the presence of more warm washing liquids, at a temperature of $110^{\circ}$ Fahrenheit, and then continuing the aeration, gradually lowering the temperature of the air in the presence of a spray of cold water, to produce grain butter, to be subsequently worked, all as herein described.

No. 62,994. Acetylene Gas Making Machine.
(Machine à gaz acétylènc.)


Cesar Kestner, Aalle on the Seal, Prussia, 27th April, 1899 ; 6 years. (Filed 11th April, 1896.)
Claim.-An apparatus for producing acetylene gas in quantities proportionate to the loss by leakage and consumption, comprising a water vessel $a$, a carbide vessel $l$, a valve $c$ controlling communication between them, a lever $r$ connected with valve $c$, a gutter $t$ secured to lever $r$, a ball $u$ supported in gutter $t$, a gas holder having lell $n$, and a lug or projection o on the bell adapted to strike the end of lever $r$ for opening and closing the valve $c$, substantially as set forth.

No. 62,995. Wrench. (Clê ì écrou.)


Felix Hoerens, St. Francois, Quebec, Canada, 27th April, 1899; 6 years. (Filed 10th March, 1899.)
Claim.-1st. A wrench comprising a shank having a fixed member, a movable member slidably mounted on said shank, toothed pawls pivotally mounted within said movable member, a rack-bar slidably mounted within said shank, said rack-bar having a slidable movement therein, means for automatically moving said rack-bar to its rearmost position, and a nut adapted to move said rack-bar to its rearmost position, and a nut adapted to move said rack-bar to its adjusted position, whereby the movable jaw will be adjusted into contact with the article to be operated upon, substantially as described. 2nd. A wrench comprising a shank having a fixed member, a movable member mounted on said shank, having a slidable movement thereon, a plurality of pawls having teeth of varying alignment, mounted within said movable member, a rack-bar
mounted within said shank, said rack-bar being adapted to be engaged ly the teeth of said pawls alternately, a spring for moving said rack-bar in a rearward direction, and a nut mounted on said shank said nut being adapted to move said rack-bar forwardly as it is rotated, substantially as described.

No. 62,996. Moulding Machine Bed.
(Lit de machine ì moulcr.)


John Ballantine, Preston, Ontario, Canada, 27th April, 1899; 6 years. (Filed 9th January, 1899.)
Claim.-1st. In a revolving bed moulding machine, the combination with the solid bed and side frames thereof and the revolving chain bed supported on suitable gear rollers between the side frames, of ways and means for vertically adjusting such ways underneath the chain bed, as and for the purpose specified. 2nd. In a revolving bed moulding machine, the combination with the solid bed and side frames thereof, and the revolving chain bed supported on suitable gear rollers between the side frames, of ways and lugs depending therefrom provided with slots, and bolts extending through the slots into the side frames of the bed, as and for the purpose specified. 3rd. In a revolving bed moulding machine, the combination with the solid bed and side frames thereof and the revolving bed supported on suitable gear rollers between the side frames, of ways and lugs depending therefrom provided with slots, and bolts extending through the slots into the 'side frames of the bed, land lugs forming part of the side frame of the bed, and set screws extending through such lugs and designed to abutt the end of the depending lugs forming part of the ways, as and for the purpose specitied.

No. 62,997. Shoe Protector. (Protecteur de chaussure.)

1.2497

John O. Sharples, Fairhaven, Washington, U.S.A., 27 th April, 1899 ; 6 years. (Filed 15th March, 1899.)
Clain.-1st. A protector for shoes and other footwear, consisting of $\mathfrak{a}$ shield shaped to cover the fore quarter of the shoe, an inward-
projecting marginal Hange adapted to engage the bottom of the sole, and spring-wires secured to the shield by having the upper edge of the shield rolled over the wires, said wires extending from the rear ends of the shield and being erossed and then carried upward and backward whereby said wires are adapted to rest on the shoe-shank and clasp the connter of the shoe and thereby hold the shield upon the shoe. Ent. A protector for brots, shoes and other footwear. consisting of a shield shaped to the fore quarter of a shoe and provided with an inwardy-extendims horizontal flange arranged for engagement with the botton of the sole, and spring-wires carried wee the end portions of the shield at the hottom, the saic: wires heing crossed and carried upward and backward, having their apper ends curved in a manner to elamp the shoe, substantially as described. Brd. A protector for buots, shoes and other articles of footwear, consisting of a shield shaped to the fore paarter of a shoe and having its immer end portion longer than its outer end portion, the shiefd being provided with a loottom marginal flange extending inwardly and adapted for engagement with the sole of the shoe, and a wire secured to the rear marginal portion of the shield, the ends of the wire being carried from the shield over the other and then given an upward and inward inclination, the terminals of the wire loing arranged for locking engagement with the boot and shoe at a peint near the comenter, as and for the purpose set forth.

No. 62,998. Wremeh. (Clé ì écrou.)


Adin Phillips Joy, New Market, New Hampshire, U.S.A., 27th April, 1899 ; 6 years. (Filed 25th January, 1899.)
Cluim.--1st. In a screw-wrench the combination with the primary jaw, its integral body or shank, and the movable jaw adapted to slide longitudinally upon such shank, and a screw-threaded rod or carriage operated by a thumb nut swivelled to shank or carriage, of a cam or fecentric embraced by said carriage, and pivoted to the movable jaw, and operating to automatically maintain the grip of the two jaws upon a given object wh'n the wrench leaves the user's hands, substantially as explained. 2nd. In a serew-wrench the combination, of the primary jaw and its integral body or shank, the movable jaw adapted to slide longitudinally upon such shank, a screw threaded rod or carriage operated by a thumb-nut swilled to such shank, and a cam or eceentric embraced by such carriage, and pivoted to the movable jaw and operating to automatically maintain the grip of the two jaws upon a given object, when the wrench is out of the user's hands. 3rd. A screw-wrench containing the following elements-a primary or stationary jaw, with its integral borly or shank, a movable jaw composed of two portions, susceptible of longitudinal adjustment with respect to each other, and of common adjustment upon the shank of the primary jaw, and a cam or eccentric connecting the two portions of the movable jaw, and operating to effect adjustment thereof, the above described parts being so constructed and operating, that the eccentric automatically maintains the vice-like grip of the two jaws upon a given object, when the wrench is free from the control of the user, substantially as explained. 4th. The combination of the brimary and movable jaws, the eccentric operating to effect adjustment of the two portions of said movable jaw, the horn serving to operate the ercentric, and to aid in upholding the jaws or the object grasped by them, above the surface of the ground, or other support of the wrench, and the handle carried by the shank or body of the primary jaw, and forming a second element to aid in upholding the jaws, said horn and
handle constituting, in connection with the end of the hand-grasp of primary jaw shank, a tripod, as and for the purposes stated. 5th. The herein-leser ibed wrench, consisting of the primary jaw and its shank, with the longitudinal slot in the latter, the moval,le jaw making part of a carrier-plate, slirling in a groove in the said shank, the screw-threaded rod or carriage disposed upon the side of such shank opposite to that wecupied by the movable jaw, and operated by a thamb-nut swiveled to the shank and conmected with the carriar-plate of the movable jaw by a stud which extends through rhe slot of the primary jaw shank, and constitutes the pivot of the eccentric, and the eccentric embraced by the serew-threaded carriage of the two pertions of the movable jaw but to automatically maintain the grip of the wrench upon a given object, independent of the user, substantially as explained. (ith. The herein described wrench, eonsisting of the primary jaw and its shank with the longitudinal slot in the latter, the movable jaw making part of a carrier-plate sliding in at groove in the said shank, the screw-threaded rod or carriage disposed upon the side of such shank opposite to that occupied by the movable jaw carrier and operated by a thumb-nut swiveled tif the shank, and connected with the carrier-plate of the movahle jaw by a stud which extends through the slot of the primary jaw shank and constitutes the pivot of the eccentric, the eccentric, embraced by the head of the screw-threaded carriage of the movalle jaw, and operating to effect not only adjustment of the two portions of such jaw, but to automatically maintain the grip, of the wrench upon a given object, independent of the user and the horn, serving as a means of operating the eccentric, and adapted to rest upon the gromid or other support of the wrench, and uphold the said wrench independent of the user, substantially as explained.

Vo. 62,999. Wrench. (Clé à écrou.)


Thomas Foostner, New Uhm, Minnesota, U.S.A., 27 th April, 1899 ; 6 years. (Filed 16th February, 1899.)
Cluim. -1st. A pipe-wrench comprising a stock having a fixed jaw at one end, a casing slidable upon the stock and carrying means for locking the stock and casing, comprising a pivoted cam having in operating-arm attached and a toothed block carried thereby, and a jaw pivoted in the casing and against the inner side of the stock with its free end projecting toward the fixed jaw. 2nd. A pine-wrench comprising a stock carrying the fixed jaw, a casing fitted to slide on the said stock, a movable jaw pivoted on the said casing, and a device for imparting a swinging motion to the casing to move the movalle jaw to the work and to lock the casing to the stock, substantialiy as shown and described. 3rd. A pipe-wrench comprising a stock having teeth, a fixed jaw carried by the stock, a casing fitted to slide on the stock, a spring-pressedi movable jatw pivated in the said casing and engaging one side of the stock, a dog adapted to dingage the teeth of the said stock, and a lever carrying the said dog and mounted eccentrically on the said casing, substantially as shown and described.

No. 63,000. Pressure Gauge. (Jutugc de pression.)
Charles Lawrence Burdick, London, Fingland, 27 th April, 1899 ; 6 years. (Filed 5th October, 18!8.)
Claim.-1st. A tubular pressure gauge bohly having means for connecting its ends with other tubes or receptacles, a Hexible tube surrounding the said body and secured tightly at its end thereto, an
aperture in the said body connecting the two tubes, a spiral spring or springs surrounding the flexible tube and having one end free and


63050
the other end secured to the body, a shell supported on the body and surrounding the spring or springs and having a spiral window in it with scale markings beside the window, and an index arm upon the spring crossing the window to register with the said scale, substantially as shown and described. 2nd. In pressure gauges, a circumferentially expansible chamber, a spring wound in a conical spiral around the chamber to bre unwound by the expansion of the chamber, and an index for indicating the amount of pressure causing the expansion. 3rd. In a pressure gauge, a circumferentially expansible chamber, two springs wound in conical spirals around the chamber with their outer ends meeting midway the length of the chamber and one spring overlapping the other, and an indicator arm secured upon tise overlapping end, substantially as described.

## No. 63,001. Lamb's Wool shoe sole.

(Scmelle de chaussures.)


## 63001

George W. Gittens, Paterson, New Jersey, U.S.A., 27 th April, 1899 ; 6 years. (Filed 13th March, 1899.)
Claim.--1st. A lamb's-wool shoe-sole having its bottom section provided all around with an upturned flange portion adapted to receive the other sections inside thereof, in combination with the upper or wool section, the interlining of pulp, or fibre board and
a twisted cord or its equivalent, vertical securing-threads binding the same to the upper sections of sole, upper sections of sole adapted to fit or set into the lower section and threads passing horizontally through said upturned portion of the lower section and the said twisted cord or its equivalent, all substantially as shown and described. 2nd. A lamb's-wool shoe-sole consisting of three sections, an upper, a middle and a lower, a twisted cord on upper section secured adjacent to the edge thereof by threads passed vertically through the upper and middle sections, in combination with an upturned or flanged portion of the lower section and threads passed horizontally through said flanged portion and twisted cord on the upper section, substantially as shown and described. 3rd. The twisted cord, the upper and middle sections, a twisted cord secured on, and adjacent to the edge of, the upper section, in combination with the lower section provided with an upturnedportion, to cover the edges of the upper and middle sections and the outer edge of cord secured thereon, and threads passed horizontally through said upturned portion and said cord, substantially as shown.
No. 63,002. Carving Machine. (Machinc ì sculpter.)


Henry Marles, 72 Cobden Road, Brighton, Sussex, Fingland, 29th April, 1899 ; 6 years. (Filed 2 'nd November, 1898.)
Claim.-1st. In a machine for carving wood mouldings or the like the combination of a frame, a brarket angularly adjustable thereon in a more or less upright position, a bracket angularly adjustable thereon in a more or less horizontai position, said brackets
having guides leng thways thereon, slides adapted to work along the said guides, tool holding device adjustable on each slide, a shaft rotating in bearings on the frame, means for reciprocating the slides, and means for intermittently holding the moulding and feeding it through the machine, substantially as set forth. 2nd. In a machine for carving wood mouldings or the like the combination of a frame, two brackets angularly adjustable towards each other and also adjustable respectively in a horizontal and in a vertical direction, and having guides lengthwise thereon a slide adapted to slide on each bracket and provi led each with an adjustable tool holder and tools, a shaft rotating in bearings on the frame, means thereon in combination with connecting rods for reciprocating the slides, said rods provided with means for length adjustment to suit varying positions of the brackets, means for intermittently feeding the moulding through the machine, and elastic means for holding down the moulding, substantially as described and set forth. 3rd. In a machine for carving wood mouldings or the like the combination of two smooth upper weighted rollers acting on the top of the moulding, two lower rollers with toothed or roughed surfaces acting on the bottom of the machine, toothed change wheels for causing the lower rollers to be rotated, a worm wheel for operating said toothed changewherls, a worm with part straight and helical thread for intermittently rotating the worm wheel, a presser pad and springs for holding the pad against the moulding, substantially as described and set forth. 6th. In a machine for carving wood mouldings or the like the combination of a reciprocated slide, a tool holding chuck formed with $V$ grooves on two opposite sides, $V$ pieces adapted to said grooves, cheeks on the sides and set screws therein for adjusting and fixing the $V$ pieces in the desired position, said chuck formed with a recess for receiving the tools, transverse clamping bars and set screws therein for holding down the tools in the recess when they have been adjusted in position, a transverse flange on the chuck and set screws passing therethrough for setting the tools up to the work, two lugs on the slide, and a set serew attached to the chuck and passing between the lugs and provided with nuts for pashing forward or drawing back the entire chuck with tools adjusted and fixed therein, said chuck being removable bodily for sharpening the tools by merely loosing one of the said nuts and by setting brick one of the $\dot{V}$ pieces. substantially as described and set forth. 5 th. In a machine for carving wood mouldings or the like the combination of reciprocated slides, toolholders thereon adapted to be easily detached and adjusted, tools in said toolholders adapted to be adjusted independently of each other, and means for feeding the moulding stepwise through the machine, for the purpose that the tools on one too.
holder shall make incisions in the moulding, and the tools in the other toolholder follow after and cut away the parts bordering on the incisions, substantially as described. bith. In a machine for carving wood mouldings of the like the combination of a reciprocated slide, a swinging lever worked therefrom by a connecting rod, a toolholder on the slide, a toolholder on the lever, and means for feeding the moulding stepwise through the machine, substantially as and for the purpose described. 7th. In a machine for carving wood mouldings or the like the combination of a reciprocated slide, a bar worked there and back in a particular guide by a connecting rod from such a slide, a toolholder on the slide, a toolholder on the bar, and means for feeding the moulding stepwise through the machine, substantially as and for the purpose described.

No. 63,003. Eaby Carriage Attachment.
(Atturhe pour roitures d'enfants.)


Collins Blakeley, Elsinore, Utah, U.S.A., 29 th April, 1899 ; 6 years. (Filed 5th December, 18:98.)
Claim.-1st. The combination with a baby carriage and its springs, of a plate secured to the underside of the carriage body and provided with a groove for the reception of the end of the spring, and with a threaded opening conmonicating with said groove, and a thumb-nut passing through an opening in the spring into said threaded opening, substantially as described. 2nd. An attachment for baby carriages consisting of a plate provided with intersecting grooves arranged at a right angle to each other, and means to secure the plate to the carriage body, the groove extending longitudinally of the body being adapted to receive the carriage-spring and that extending transversely to receive the top rail of a rocker, or other device, substantially as described. 3rd. An attachment for baby carriages, consisting of a plate provided with intersecting grooves arranged at a right angle to each other for the purpose described, spaced perforated ears at opposite ends of the plate to afford a means of attachment to the carriage bory, and a central threaded opening for the reception of a locking-screw, substantially as deseribed.

No. 63,004. Separator. (Scpuratcur.)


Ivar Peter Bagger Knudsen, Copenhagen, Denmark, 29th April, 1899: 6 years. (Filed Sth March, 1898.)
Claim.-1st. A centrifugal apparatus, characterwed by its work ing space consisting of a nuinber of independently working centrifugal
chambers arranged above, below and aromud each other, the side walls of which chambers diverge from the place of the inlet-apertures, and ony approach the other again, or are broken off, on or in the vicinity of the exit-apertures for the several particles of liquid, these exit-apertures opening into or constituting the inlet-apertures of the next centrifugal chambers. 2nd. In a centrifugal apparatus, the arrangement whereby the inlet-apertures and exit-apertures of each st-parate centrifugal chamber are arranged in a separate plane radial to the axis of rotation, and the inlet-apertures are divided, so that they alternate, thus giving passages for the heavier and lighter particles respectively.
No. 63


Arsene Prince and Thomis Boudreau, Ste. Angéle de Laval, both in Quebec, Canada, 29th April, 1899; 6 years. (Filed 13th March, 1899.)
Clain.-1st. A cross-bar for a vehicle shaft comprising two sections, one such as a consisting of a bar having a longitudinal T-groove in one of its slides, the other section such as $b$ being pro- . vided with a longitudinal T-rib on one of its sides, said rib being adapted to slide into the groove in the other bar, one of said bars or sections being provided with means for retaining the slide in any position into which it is adjusted relative to any section, substantially as and for the purpose hereinbefore set forth and described. 2nd. In a shaft, pivotally or loosely connected to a vehicle, a bar a having a longitudinal $T$-groove in one of its sides, a spring pin $i$ in its side opposite the T.groove, and a strengthening rod $h$ pivotally connected to one of its ends, said bar a being fixidly secured to the sides pivotally or loosely connecting it to a vehicle, in combination with a bar $b$ having a longitudinal T-rib on onte of its sides, said rib having recesses adapted to co-act with the spring pin, said bar $b$ loeing fixedly secured to the sides of the shaft, one of which sides is provided with a stop ! and a hook $f$, substantially as and for the purpose hereinbefore set forth and described.

No. 63,006. Cycle Package Holder.
(Portc-paquet pour cyelcs.)


Charles Samuel Coolidge, Troy, Ohio, U.S.A., 29th April, 1899; 6 years. (Filed 16ith November, 1898.)
Cluint. - In a package holder for cycles, the combination with a supporting lar having its ends bent to form loops, and means for attaching it to a cycle, of a resilient band attached to the loops of
said bar, a net or receptacle secured to the bar along one of its sides, and secured to said resilient band along its other or opposite side, and adapted to have its mouth or opening partly closed by said resilient band.

No. 63,007. Unicycle. (Unicycle.)


Eliza James Christie, Marion, Iowa, U.S.A,, 29th April, 1899; 6 years. (Filed 2nd November, 1898.)
Claim.-1st. In a unicycle, the combination with a main wheel and axle, of motive power suspended from its axle, a pair of wheels revoluble on said axle inside the main wheel, and gearing connecting the motive power therewith. 2nd. In a unicycle, the combination with the main wheel and its axle and motive power suspended therefrom, of a pair of wheels of large diameter mounted ravolubly
on said axle inside the main wheel and each side of the middle, and suitable gearing adapted to impart rapid rotation to said internal wheels, substantially as and for the purpose set forth. 3rd. In a unicycle, the combination with the main wheel and its axle, and a suitable motor suspended therefrom, of a pair of large wheels mounted revolubly on the axle inside the main wheel, suitable gearing to impart rapid rotation to them, and means substantially as described for shifting them sidewise on the axle, to change the course of the main wheel. 4th. In a unicycle, the combination with the main wheel and its axle, of a motor suspended from said axle inside said wheel, a pair of gyroscope wheels mounted revolubly on said axle, gearing connecting them and the motor and adapted to give them a rapid rotation, and gearing connecting said motor with said axle and adapted to impart a comparatively slow rotation to said axle, substantially as and for the purpose set forth. 5 th. In a unicycle, the combination with the main wheel and its axle, of a motor suspended from the axle inside the main wheel, a pair of gyroscope wherls mounted revolubly on the axle adjacent to said motor, suitable gearing to transmit rapid rotation to them, gearing adiated to transmit a slower rotation to the main axle, and a clutch to throw the latter train of gearing in and out at will. 6th. In a unicycle, the combination with the main wheel and its axle, with suitable motor mechanism suspended therefrom, of a balance wheel mounted on a splined sleeve revoluble on the main axle, and a shifter connected revolubly with the hub of the balance whoel, whereby it may be shifted sidewise while in rapid rotation, substantially as and for the purpose set forth. 7 th . In a unicycle, the combination with the main wheel, its axle, and internally suspended motor mechanisin, substantially as described, of friction wheels receiving motion from said motor, sleeves on the main axle having hubs in peripheral contact with said friction wheels, and provided with suitable splines, and balance wheels mounted on said splined sleeves and shifting mechanism, substantially as and for the purpose set forth.

## TRADE-MARKS

## Registered during the month of April, 1899, at the Department of AgricultureCopyright and Trade-Mark Branch.

6835. FRANK C. SIMSON, Halifax, N. S. Spices, Line Juice, Syrups and Ezsences, 1st April, 1899.
6836. SIMÉON RAOUL GAUTHIER, Montreal, Que. A Medical Compound, 1st April, 1899.
6837. JOSEPH AURELIEN SIMARD, Providence, Rhode Island, U.S.A. Pilules, 4 avril, 1899.
6838. J. HUNGERFORD SMITH COMPANY, Rochester, N. Y., U.S.A. Insecticides, 4th April, 1899.
6839. W. A. ROSS \& BROTHER, New York, N.Y., U.S.A., and Montreal, Que. Whisky, 4th April, 1899.
6840. SIR ISAAC PITMAN \& SONS, LIMITED, Bath, England. Books, 4th April, $18: 9$.
6841. KICHARJ B. (GREEN \& COMPANY, LIMITED, Liverpool, England. All kinds of Tinned Salmon, 4th April, 1899.
(842. THE (;RAND HOTEL COMPANY OF CALEDONIA SPRINGS, LIMITED, Caledonia Springs, Ont. Mineral Waters, 5th April, 1899.
6842. WILLIAM CHRISTIE \& JOHN JACKSON PALMER, Toronto, Ontario, Lime, 5th April, 1899.
6843. LEO PAGE, Township of Sandwich West, Ont. Hand Made Woollen Mitts and Socks, 6th April, 1899.
6844. THE OWEN SOUND PORTLAND CEMENT COMPANY, LIMITED, Owen Sound, Ont. Fortland Cement, 10th April, 1899.
6845. CHARLES P. CHISHOLM, Oakville, Ont. A powder to remove odour of Perspiration, 10th April, 1899.
6846. AMERICAN DRESSING COMPANY, Montreal, Que. Dressing for Boots, Shoes, Leather Bags, Trunks, \&c., 10th April, 1899.
6847. LA COMPAGNIE DES GRANULES LE MOYNF, Montreal, Que. Pills, 10th April, 1899.
6848. J. A. \& M. COTÉ, St. Hyacinthe, Que. Shoes and Shoe Soles, 10th April, 1899.
6849. FRANCIS REID STEWART \& FRANCIS MOLLISON BLACK, Vancouver, B.C. General Trade Mark, 10th April, 1899.
6850. JAMES J. BOSTWICK, St. John, N.B. Tea, 10th April, 1899.
6851. B. HOUDE \& COMPAGNIE, Québec, Qué. Tabac coupé, plug et cigarettes,
$6853)$ ALEXANDFR BREMNER, Montreal, Que. Cement, 12th April, 1899.
6855 THE PLATTSVILLE MILLING COMPANY, LIMITED, Plattsville, Ont. Flour, 12th April, 1899.
6852. AMERICAN 1)RESSING COMPANY, Montreal, Que. Dressing for Boots and Shoes, 12 th April, 1899.
6853. NATIONAL BISCUIT COMPANY, Jersey City, New Jersey, and Chicago, Illinois, U.S.A. Bakery Products and Confectionery, 12th A pril, 1899.

EXPELLO MANUFACTURING COMPANY, Chicagn, Illinois, U.S.A. Medicine Specific for Bruises, Cuts, Burns and other injuries to Medicine Specific for Bruses, to diseases and injuries of Horses' Skin of human beings, and
Hoofs, \&c., 13th April, 1899.
TT \& COMPANY, London, Ont. Baking Powder, Coffee,
6860. T. B. ESCOTT \& COMPANY, Lonap, Bird Seed, Mustard and Cream Favouring 13 th April, 1899.
6861. SUTCLIFFE \& BINGHAM, LIMITED, Manchester, England, General Trade Mark, 13th A pril, 1899.
6862. WILLIAM HENRY WATLINGTON, Owen Sound, Ont. A Medicine, 14th April, 1899.

6\&i3. HENRI HATCH, Montreal, (Que. Vegetable Foods, such as Flour, Powder, Bread, Biscuits and similar preparations, 14th April, 1899.
6864. ANDREW MALCOLM, St. John, N.B. Flour, 17 th April, 1899.
6865. DR. C. G. STACKHOUSE \& JAMES COWAN, Ottawa, Ont. A Compround Medicine as a Mild Laxative, 18th April, 1890.
6866. WILLIAM A. HUNGERFORI) \& FRANK CROCKER, Washington, D.C., U.S.A. Shoes, 19th April, 1899.
6867. T. B. ESCOTT \& COMPANY, London, Ont. Japan Tea, Soap, Baking Powder, Coffee, Flavouring Extracts, Bird Seed and Mustard, 19th April, 1899.
6868. VIVE CAMERA COMPANY, Chicago, Illinois, U.S.A. Cameras and Photographic supplies, 19th April, 1899.

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6878. JULEA BRISSONNET, Paris, France. A Compound of Creosote, 21st April, 1899.
6879. FARBENFABRIKEN vormals FRIEDRICH BAYEK \& COMPANY, Elberfeld, Prussia, Germany. Pharmaceutical preparations, 21st April, 18:99.
6880. ARCHIBALD MCKENNA, Pictou, N.S. Plug Tubacco, 24th April, 1899.
6881. J. B. \& (i. W. McFATRICH, Chicago, llinois, U.S.A. Remedies, 2th April, 1899.
6882. LA COMPA(INIE FERMIĖRE DE L'ÉTABLISSEMENT THERMAL DE VICHY, Paris, France. Eaux Minérales, 25 avril, 1899.
6883. LA COMPAGNIE FERMIERE DE L'ÉTABLISSEMENT THERMAL DE VICHY, Paris, France. Eaux Minérales, 25 avril, 1896.
6884. LA COMPAGNIE FERMIÉRE DE L'ÉTABLISSEMENT THERMAL DE VICHY, Paris, France. Faux Minérales, Pastilles, Sels, et autres produits analogues, 25 avril, 1899.
6885. CURTIS'S \& HARVEY, LIMITED, London, England. Explosive Substances, 25 th April, 1899.
3886. THE STARR MANUFACTURING COMPANY, LIMITED, Dartmouth, N.S. Sporting (Goods, such as Skates and Hockey Sticks, 25th April, 1899.
6887. RICHARD B. (9RFEN \& COMPANY, LIMITED, Liverpool, England. Tinned Fish, 25th A pril, 1899.
6888. OVIDE LEFEBVRE, Montreal, Que. Starch, 26th April, 1899.
6889. FARBENFABRIKEN vormals FRIEDRICH BAYER \& COMPANY, Flberfeld, Prussia, Germany. Pharmaceutical preparations, 28th April, 1899.
$6890\}$ MAURICE ROBIN, Paris, France. Préparation Pharmaceutique, 28 avril,
6892 CHARLES RĖML DEPENSIER, Rouen, France. Préparation Pharmaceutique, 28 avril, 1899.
6893 B. HOUDE \& COMPAGNIE, Québec, Qué. Tabac coupé, et en torquette, Cigares et Cigarettes, 29 avril, 1899.

6895 J. \& J. BALIDWIN, Halifax, England. Hosiery, 29th April, 1899.

## COPYRIGHTS

## Entered during the month of April, 1899, at the Department of AgricultureCopyright and Trade-Mark Branch.

10517. McALPINES MONCTON CITY DIRECTORY, 1899. Charles David McAlpine, St. John, N.B., 1st April, 1899.<br>10518. NANCY GREY. (Waltz Song.) Words and Music by John Raymond Hubbell. The Thomson Music Co., Chicago, Illinois, U.S.A., 1st April, 1899.<br>10519. BY-LO-LU. Lyrics by Elizabeth Hess. Music by Jessie L. Gaynor. Charles O. Brokaw, St. Joseph, Missouri, U.S.A., 1st April, 1899.<br>10520. PARSON RINGTAIL'S WEDIING DANCE. (Cake Walk.) By Emil Isenman. Charles O. Brokaw, St. Joseph, Missouri, U.S.A., 1st April, 1899.

10521. SOUTHERN HOSPITALITY. (Rag Time Cake Walk.) By Arthur Pryor. Charles O. Brokaw, St. Joseph, Missouri, U.S.A., 1st $A_{1}$ ril, 1899.
10522. THE DAY WILL COME. Words by Mark Meredith. Music by Jamet Alvin Fairfield. Charles O. Brokaw, St. Joseph, Missouri, U.S.A., 1st April, 1899.
10523. THE DOCTRINE A ND DISCIPLINE OFTHEMETHODIST CHURCH. (1898.) William Briggs, Toronto, Ont., 1st April, 1899.
10524. THE STENOGRAPHER'S COMPANION. Volume II, No. 1. Robert Goltman, Montreal, Que., 4th April, 1899.
10525. LADY MINTO WALTZES. By Carl Kahn. Willimott H. Billing, Toronto, Ont., 4th April, 1899.
10526. UP WITH OUR STANDARD. Patriotic Song and Chorus. Words by A. D. Macintyre. Music by Edward W. Miller. A. D. Macintyre, Deseronto, Ont., 4th April, 1899.
10527. REVISED ASSESSMENT NOTICES, 1889. R. D. Richardson \& Co., Winnipeg, Man., 4th April, 1899.
10528. THE MAYFLOWER. (Pairiotic Song.) By Ernest E. Leigh, Halifax, N. S., 4th April, 1899.
10529. PRICE LIST NO. 18. SPRING AND SUMMER, 1899. The S. Carsley Co. (Ltd), Montreal, Que., 5th April, 1899.
10530. THE SPAN O' LIFE. A Tale of Lonisbourg and Quebec. By William Mc. Lennan and .J. N. Mcllwraith. Harper \& Bros., New York, U.S.A., 6th April, 1819.
10531. THE CANADIAN MAGAZINE. (April, 1899.) The Ontario Publishing Co. (Ltd), Toronto, Ont., 6th April, 1899.
10532. JOURNAL OF PSYCHOSOPHY. Volume I. No. III. April, 1899 W. N. Barnhardt and R. S. J. de Niord, Coronto, Ont., Gith April, 1899.
10533. CANADA: AN ENCYCLOP EDIA OF THE COUNTRY. Edited by J. Castell Hopkins. Illustrated. Volume V. The Bradley-Garretson Co. (Ltd), Toronto, Ont., 7th April, 1899.
10534. LA BOXE. Traité Français des Règles Anglaises. Cléophas Edouard Leclerc, Montréal, Qué., 7 avril, 1899.
10535. DAVID HARUM. By Edward Noyes Westcott. William Briggs, Toronto,
10536. CLUB DE LACROSSE LE NATIONAL, 1898. CHAMPION. LIGUE SENIOR. (Groupe photographique.) Laprès \& Lavergne, Montréal, (Qué., 10 avril 1899.
10537. THE MIRACLE AT MARKHAM. How Twelve Churches became One. By Charles M. Sheldon. William Briggs, Toronto, Ont., 10th April, 1899.
10:338. A DUET WITH AN OCCASIONAL CHORUS. By A. Conan Doyle. George N. Morang \& Co. (Limited), Toronto, Ont., 11th April, 1899.
10538. THE ANGLO.SAXON ANSWER. (Painting.) John Creighton, Toronto, Ont., 11th April, 1899.
10539. FIRE, LIFE AND ACCIDFNT INSURANCE. (Card circular.) William Donald Mitchell, Toronto, Ont., 11th April, 1899.
10540. VIOLA WALTZES. By Dudley (ieorge. A. Cox \& Co., Toronto, Ont., 12th April, 1839.
10541. DINAH'S PROMENADE. By Carl Kahn. Willimott H. Billing, Toronto, Ont., 12th April, 1899.
10542. THE PRESIDENT OF BOKAVIA. By (feorge Lambert. The W. J. Gage Co. (Ltd), Toronto, Ont., 14th April, 1899.
10543. MEMBERS OF THE LEGISLATURE OF MANITOBA, 1899. (Photograph.) Rosetta E. Carr, Winnipeg, Man., 14th April, 1899.
10544. LA CANADIENNE. Marche Nationale. Pour piano, par Georges Fragerolle. Enoch \& Co., Paris, France, 14th April, 1899.
10545. CANADA: THE LAND OF BRIGHT AND HAPPY HOMES. By Thomas Brimage Warren, Montreal, Que., Ifth April, 1899.
10546. A DOUBLE THREAD. By Ellen Thorneycroft Fowler. William Briggs, Toronto, Ont., 14th April, 1899.
10547. YESTERDAY FRAMED IN TO.DAY. A Story of the Christ, and How To-day received Him. By "Pansy" (Mrs. G. R. Alden.) William Briggs, Toronto, Ont., 15th April, 1899.
10548. COUPON BOOK. J. \& A. McMillan, St. John, N.B., 15th April, 1899.
10549. AZIMUTHS OF THE NORTH POLE STAR FOR 1899 AND 1900. Latitude $48^{\circ}$ North to Latitude $54^{\circ}$ North. By Sydney Archibald Roberts, Victoria, B.C., 17 th April, 1899.
10550. DÉVOTION i NOTRE DAME DE PITIÉ. Les Sours de la Congrégation de Notre-Dame de Montréal, Montréal, Qué., 17 avril, 1899.
10551. THE BULLETIN ASSESSMENT LIFE INSURANCE CHART. The Bulletin Publishing Company of Torontrs, Limited, Toronto, Ont., 17th April, 1899.
10552. L'HISTOIRE D'UN C(EUR. (The Story of a Heart.) English words by Jacques Ahrem. Music by Clayton Johns, Op. 25, No. 1. The John Church Co., Cincinnati, Ohio, U.S.A., 19th April, 1899.
10553. LES DEUX AMOURS. (The Two Loves.) English words by Jacques Abrem. Music by Clayton Johns, Op. 25, No. 3. The John Church Co., Cincinnati, Ohio, U.S.A., 19th April, 1899.
10554. A UNE ENFANT TACITURNE. (To a Pensive Child.) English words by Jacques Ahrem. Music by Clayton Johns, Op. 25, No. 2. The John Church Co., Cincinnati, Ohio, U.S.A., 19th April, 1899.
10555. BUYERS' (qUIDE. Johnston \& McFarlane, Toronto, Ont., 20th April, 1899.
10556. THE CAKE WINNER. (Music.) By G. W. Adams. Amey \& Hodgins, Toronto, Ont., 21st April, 1899.
10557. MELINDA ON PARADE. Plantation Shuftle. By H. Navarre. Amey \& Hodgins, Toronto, Ont., 21st April, 1899.
10558. MAGI CALEDONIA SPRINGS, ONTARIO, CANADA. (Book.) The Grand Hotel Company of Caledonia Springs (Limited), Caledonia Springs, Ont., 22nd April, 1899.
10559. THF CROSS TRIUMPHANT. By Florence Morse Kingsley. William Briggs, Toronto, Ont., 24th April, 1899.
10560. MARJORIE. Valse Noble for Piano. By W. O. Forsyth, Op. 26. The Nordheimer Piano and Music Co. (Itd.), Toronto, Ont., 24th A pril, 1899.
10561. THE CANADIAN OVERLAND MARCH. By Norman Lambly. Norman E. Lambly, Inverness, Que., 24th April, 1899.
10562. EDUCATIONAL REVIEW SUPPLEMENTARY READINGS, CAN. ADIAN HISTORY, NUMBER FIVE, MARCH, 1899, George U. Hay, St. John, N.B., 24th April, 1899.

10:fit. PELERINAGE A SAINTF-ANNE DE BEAUPRE. Prières et Cantiques à l'usage des Pélerins. Joseph Daoust, Montréal, Qué., 26 avril, 1899.
10565. ILE MOTEUR CENTRIPĖTE. Par Eraste d'Odet d'Orsonnens. Deuxième Edition, Revue, Augmentée et Refondue. E. d'Odet d'Orsonnens, Hull, Qué., 26 avril, 1899.

10:66. OFFICLAL TELEPHONE DIRECTORY, CITY OF MONTREAL AND SUBURBS, APRIL, 1899. The Bell Telephone Company of Canada, (Ltd.), Montreal, Que., 28th April, 1899.
10567. HANDS ACROSS THE SFAA. (March.) By John Philip Sousa. The John Church Co., Cincinnati, Ohio, U.S.A., 28 th April, 1899.

