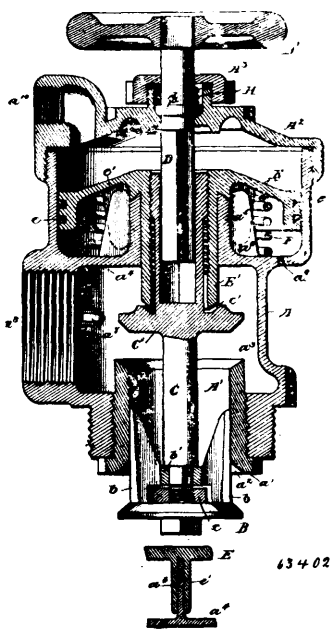


section, and clips to cock the casing to the frame bars of the machine, substantially as described. 5th. In a gear casing for bicycles, the combination with metal cases to respectively close the periphery and one side of the front and rear sprocket wheels, the case for the front sprocket wheel being in sections detachably connected together, each case having projecting sleeves or collars for the passage of the sprocket chains, of diaphragms of chamois, or similar material, secured to said metal cases to inclose the other sides of the sprocket wheels, and rubber tubes inclosing the chain secured at their opposite ends to the respective collars on the metal cases, and means to secure the metal cases to the frame of the machine, the construction being such that the front section of the case on the front sprocket wheel and its diaphragm can be separately removed, without removing the remaining parts of the gear casing, substantially as described.

No. 63,402. Blow-Off Cock. (Robinet d'extraction.)

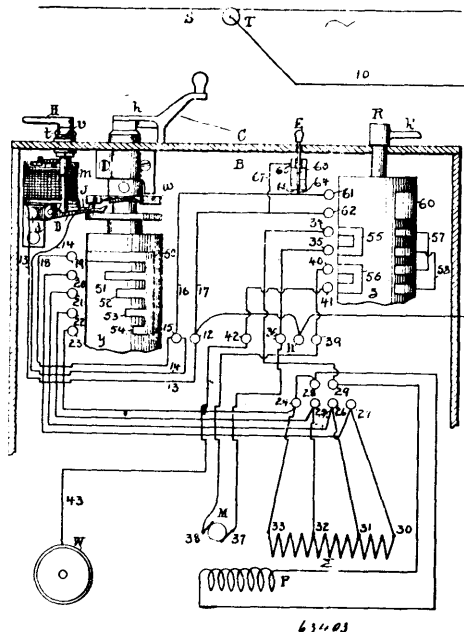


Daniel Barr Donnelly, Pittsburgh, Pennsylvania, U.S.A., 7th July, 1899; 6 years. (Filed 21st November, 1898.)

Claim.—1st. A blow-off cock, having a main valve arranged to be operated by fluid pressure, and independent means for opening and closing the valve by hand, substantially as described. 2nd. A blow-off cock, having a main valve arranged to be operated by fluid pressure, an auxiliary valve on the same stem, and means for operating both valves by hand independently of the fluid pressure actuating devices, substantially as described. 3rd. A blow-off cock, having a main valve and an auxiliary valve both on the same stem, a seat for each valve on a portion of the casing lying between said valves, and means for opening and closing said valves alternately, substantially as described. 4th. A blow-off cock, having a main valve, a piston having a tubular rod, a valve stem adjustable in said rod, means for moving said stem by hand, substantially as described. 5th. A blow-off cock, having a main valve, a piston having a tubular rod, a valve stem screwing into said rod, and means for rotating said stem by hand, substantially as described. 6th. A blow-off cock, having a main valve, a piston having a tubular rod, a valve stem screwing into said rod, and having a polygonal socket, and a polygonal spindle entering said socket, substantially as described. 7th. In a blow-off cock, the combination with a piston having a tubular rod, of a valve stem movable lengthwise therein, and co-operating faces on the end of the rod, substantially as described. 8th. In a blow-off cock, the combination with a casing having a cap, of a spindle rotatable in said cap, a main and an auxiliary valve, a valve stem carrying both said valves and longitudinally movable on said spindle, and seats for said valves so arranged that only one can be closed upon at once, substantially as described. 9th. In a blow-off cock, the combination with a main valve, of a piston for operating it by fluid pressure, a rotatable spindle for operating it by hand, and means for preventing the piston from rotating, substantially as described. 10th. In a blow-off cock, the combination with the piston E having wings c^1 , of the casing A provided with interlocking wings a^1 , substantially as described. 11th. In a blow-off cock, a bushing A^1 removably secured in the neck of the casing of said cock, and having a valve seat at each end, substantially as described. 12th. In a blow-off cock, the combination with a removable bushing having a valve seat on each end, of a main valve and an auxiliary valve, and a stem common to both, said valves being so arranged that when one is seated the other will be open, substantially as described.

No. 63,403. Electric Motor Switch.

(Commutateur pour moteur électrique.)



Reese Hutchison, Mobile, Alabama, U.S.A., 7th July, 1899; 6 years. (Filed 1st December, 1898.)

Claim.—1st. The combination of a supply circuit and two or more electric motors in separate branch circuits, a multiple contact switch and electrical connections between points in said switch and the terminals of said motor branches whereby said branches may be connected in series or in parallel arrangement, a locking device for said switch, and an electromagnet to control said locking device having its coils included in one of said motor branches, substantially as described. 2nd. The combination with a suitable source of electricity and an electrically propelled vehicle of two electromagnet motors each motor mechanically connected to a wheel or axle of the vehicle, a car circuit containing an adjustable artificial resistance, two branch circuits each containing the coils of a motor, a rotating switch having a series of contacts respectively connected to points in the artificial resistance and the terminals of the motor branches, a locking device for said switch and an electromagnet to control said locking device having its coils in a motor branch circuit responsive to a predetermined strength of current, substantially as described. 3rd. The combination of two electromagnet motors, a common source of electric energy therefor, and means for simultaneously varying the power and speed of said motors consisting of an adjustable artificial resistance in a branch circuit common to both motors, a separate branch circuit for each motor, a rotating switch having a series of contacts connected to points in said resistance and to the terminals of the motor branch circuits, a locking device for said switch and an electromagnet responsive to a predetermined strength of current to control said locking device having its coils included in one of the motor branch circuits, substantially as described. 4th. The combination with a suitable source of electricity and an electrically propelled vehicle of two electromagnet motors mechanically connected to the wheels or axles thereof, respectively, means for connecting said motors in parallel and in series relation to vary the effective strength of current with respect to both motors simultaneously, said means consisting of a rotating switch having a series of fixed and movable contacts connected respectively to the terminals of the field and armature coils of said motors, a locking device for said switch having a series of engaging points in number equal to the contact points of said switch, and an electromagnet to control said device having its coils in a motor branch circuit responsive to the predetermined maximum current permissible in said motor branch, substantially as described. 5th. The combination of two electric motors, a motor circuit therefor, a multiple contact switch for connecting said motors in series and in parallel branch circuit with respect to each other, a locking device for said switch and an electromagnet responsive to a predetermined strength of current having its coils located in said circuit in series with one motor and in parallel with the other motor, substantially as described. 6th. The combination of an electric motor, a motor circuit therefor, means for varying the effective strength of current in said circuit including a multiple contact switch, a locking device for holding said switch in any contact position, an electromagnet included in the motor circuit responsive to a predetermined strength of current only to control said switch, and a separate switch located in close proximity to the first named switch having its contact points connected to opposite terminals of said magnet whereby said magnet