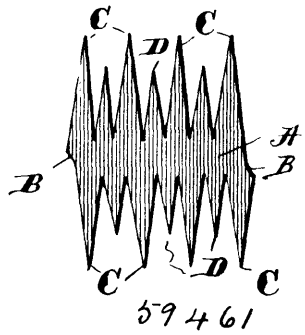
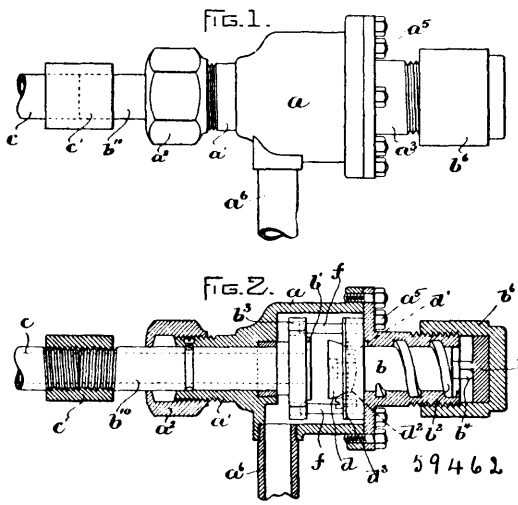
points to pass through and be clenched on the under surface of the belt, the projections at each side alternately long and short so that



four rows of points are formed, the projections at one edge staggered with relation to those at the opposite edge, so that each projection is arranged opposite and pulls against a long and short projection, the four corners of the fastener having the long projections, substantially as described.

No. 59,462. Valve. (*Soupape.*)



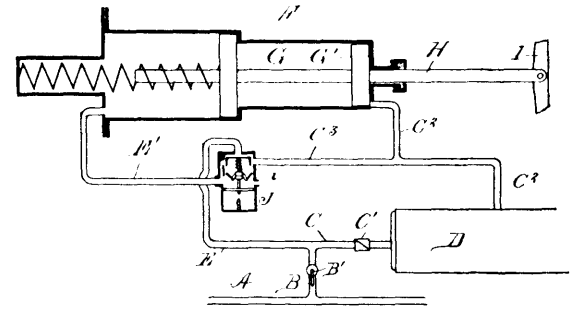
Joseph Samuel Lovering Wharton and William Satterthwaite Hallowell, both of Philadelphia, assignees of Burton Walter Hill, Somerville, Massachusetts, U.S.A., 26th March, 1898; 6 years. (Filed 9th March, 1898.)

Claim.—1st. An appliance of the character specified, comprising a stationary casing having an outlet, a conduit journalled to turn in the casing and constituting the inlet thereof, an annular valve-seat at the inner end of said conduit communicating with said outlet, a valve opposite said seat having a screw-threaded stem engaged with an internal thread in the casing, whereby the valve may be opened for a prompt and adequate clearance within less than a full revolution of the conduit, and a connection between the conduit and valve, through which rotary motion is communicated from the conduit to the valve to cause a longitudinal movement of the valve. 2nd. An appliance of the character specified, comprising a stationary casing having a stuffing box at one end, an internal screw-thread at the other end, and an outlet intermediate of said ends, a rotatable inlet tube or conduit journalled in the casing and passing through the stuffing box, said conduit having an annular valve seat at its inner end communicating with the outlet of the casing, a valve in the casing opposite the said seat and provided with a stem having a screw-thread engaged with the screw thread onc te casing, and a sliding connection for the conduit and valve, saidhonnection being guided in an orifice in said rotatable conduit.

No. 59,463. Air Brake. (*Frein atmospherique.*)

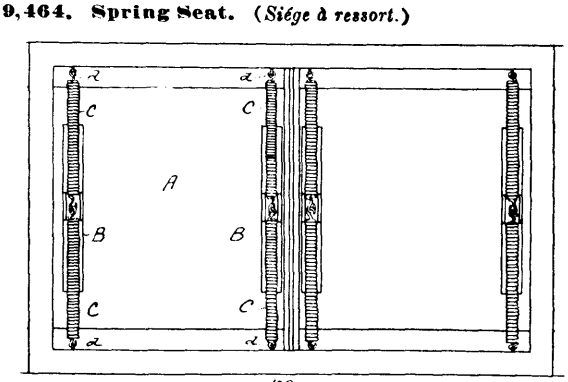
George P. Magann and Alexander Fraser, both of Toronto, Peter Duffus and William Duffus, both of Pontiac, Michigan, and William K. Omick, of Pontiac, aforesaid, 26th March, 1898; 6 years. (Filed 7th March, 1898.)

Claim.—1st. In an air-brake, the combination with the train-pipe and brake-cylinder, of an auxiliary reservoir is a branch from the train-pipe, a valve in said branch from the train-pipe and auxiliary reservoir, an automatic brake-valve located in a branch between one end of the brake-cylinder and the train-pipe, and a separate branch connecting the brake-valve with the auxiliary-reservoir and a pipe putting the reservoir in communication with the other end of the brake-cylinder, said brake-valve operating to simultaneously establish



through said branch communication between the train-pipe, the auxiliary reservoir and the end of the brake-cylinder to which the brake-valve is connected. 2nd. In an air-brake system, the combination with the train-pipe and brake-cylinder of two branches connecting the opposite ends of the brake-cylinder with the train-pipe and having a common connection with said train-pipe, a check-valve and an auxiliary reservoir located in one of said branches, and an automatic brake-valve located in the other one of said branches and communicating also with the auxiliary reservoir, said brake-valve operating automatically to open an exhaust-port for the air from one end of the brake-cylinder upon diminution of pressure in the train-pipe and to admit air under pressure into the brake-cylinder when said pressure is restored and then maintain a normal position in which said brake-cylinder is disconnected from the train-pipe. 3rd. In an air-brake system, the combination with the train-pipe, brake-cylinder and auxiliary reservoir, communicating with one end of one brake-cylinder, of a brake-valve, located in a branch between the train-pipe and the other end of the brake-cylinder comprising a casing, freely communicating at one end with the train-pipe, and also communicating with the other end of the brake-cylinder and auxiliary reservoir and having ports and passages adapted to simultaneously connect said end of the casing with the brake-cylinder and with the auxlliary reservoir by the operation of an automatic valve, and also having ports and passages controlled by a separate valve adapted to connect the brake-cylinder with an exhaust into the atmosphere under the control of said automatic valve, said valve operating automatically to maintain a normal position in which all the ports and passages are closed, to move in one direction from said normal position upon diminution of pressure in the train-pipe and thereby open the separate valve, and to move in the opposite direction and then back again into its normal position when the pressure is restored. 4th. In an air-brake system, the combination with the train-pipe, brake-cylinder and auxilhary reservoir communicating with the train-pipe and with the brake-cylinder of the brake-valve comprising a cylinder freely communicating at one end with the train-pipe and also communicating with the auxiliary reservoir and with the brake-cylinder, the valve-piston in said end controlling ports for simultaneously connecting said end with the brake-cylinder and with the auxiliary, the double flap-valve having a loose toggle connection upon the stem of the piston-valve and operated by a collar and spring upon said stem to open and close opposite ports in the cylinder whereby the brake-cylinder is put into communication with an exhaust-port, the air-spring formed in the opposite end of the cylinder for controlling the movement of the piston-valve and the spring-top in said end.

59,464. Spring Seat. (*Siége à ressort.*)



George Coxon and Henry Newbott Roberts, both of Toronto, Ontario, 26th March, 1898; 6 years. (Filed 12th March, 1898.

Claim.—1st. A spring-seat composed of a light board, fastened to a block which rests on its under side upon the junction or hinge of two spiral springs, the other ends of which are secured to the opposite