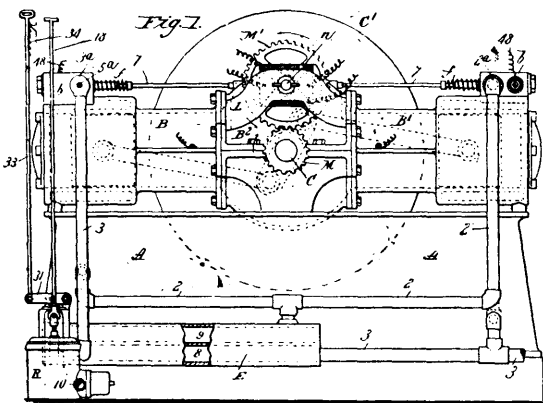


the interior of said reservoir, an opening in said pipe for the admission of air, and means for regulating the quantity of air to

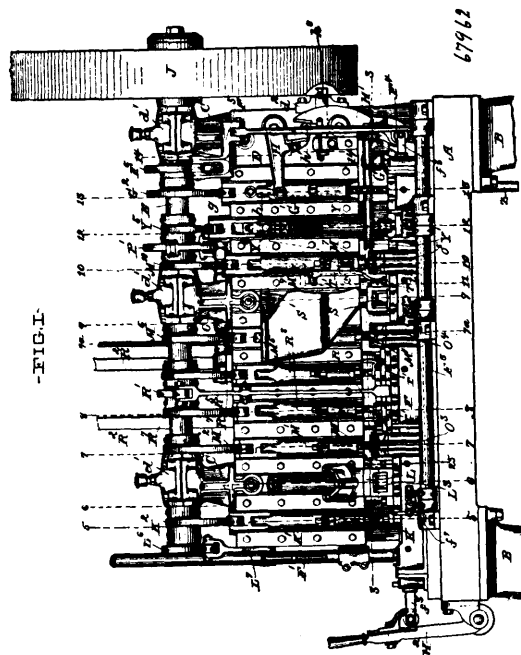


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admitted, a valve in said pipe for regulating the quantity of atomized hydro-carbon and air to be drawn into the said cylinders, and a heating chamber in said pipe connection for heating said atomized hydro-carbon between said reservoir and said cylinders, substantially as described. 2nd. In a hydro-carbon engine in combination, a supply tank for liquid hydrocarbon, an intermediate reservoir between said tank and said engine located on a lower level than said tank, suitable pipe connections between said engine, reservoir and tank, means in said reservoir for regulating the quantity of hydro-carbon which can be drawn therefrom by one stroke of the piston of said engine, and means for automatically controlling the quantity of hydro-carbon in said reservoir, consisting of a float therein, an inlet port communicating with said tank, a suitably pivoted valve having a seat in said port, and a spring arm attached thereto by one end and whose opposite end has a free engagement with said float, substantially as described. 3rd. In a hydro-carbon engine, means for operating the exhaust valves, consisting of a rod 7 having a suitable endwise movement, a valve 6 thereon, a bevelled shoulder d^1 on said rod 7, the valve 5 closing the exhaust port, the stem of which valve is engaged by said bevelled shoulder for opening the valve, and a suitable spring 5^a on said valve stem against which said opening movement takes place, combined with a suitable cam operated rod 7 for opening said valve 6 and permitting said valve 5 to close before the closing of said first named valve, substantially as described. 4th. In a hydro-carbon engine, means for atomizing liquid hydro-carbon and regulating the quantity of air to be mixed therewith, consisting of an atomizer tube connected with a suitable reservoir containing a supply of hydro-carbon, a neck on said reservoir enclosing said tube, a plate 21 axially rotatable in said neck, a plate 24 fixed in said neck, and in contact with said plate 21, air passages 25 in said plates, a central air passage 22 through said plate 21, an opening R^1 through the side wall of said neck, and a pipe connection from said neck to the cylinder of said engine, substantially as described. 5th. In a hydro-carbon engine, means for atomizing liquid hydro-carbon and regulating the quantity of air to be mixed therewith, consisting of an atomizer tube connected with a suitable reservoir containing a supply of hydro-carbon, a neck on said reservoir enclosing said tube, a plate 21 axially rotatable in said neck, a plate 24 fixed in said neck and in contact with said plate 21, as shown, air passages 25 in said plates, a central air passage 22 through said plate 21, an opening R^1 through the side wall of said neck, and a pipe connection from said neck to the cylinder of said engine, a valve 29, and a heating chamber in said pipe connection between said atomizer and the cylinder of said engine, substantially as described. 6th. A gasoline or other hydro-carbon engine, consisting of a plurality of cylinders connected to a common crank shaft, a gasoline supply tank, one exhaust chamber common to said cylinders, pipe connections between the latter and said chamber, pipe connections between said supply tank and said cylinders, a heating chamber interposed in said last-named connection and adjoining said exhaust chamber, an atomizer in said connections between said heating chamber and said tank, means for regulating the supply and relative proportions of gasoline and air, a float valve for automatically controlling the flow of gasoline from the supply tank to said atomizer, and an electric igniting circuit having a spark gap in the cylinder, and a device outside of the cylinders and operated by the movement of the engine for making and breaking said circuit to effect the bridging of said spark gap by the electric current, at a predetermined and variable point in the stroke of the piston of said engine, substantially as described.

No. 67,962. Shell Loading Machine.

(Machine à charger les obus.)



-FIG. 1-

The Austin Cartridge Company, assignee of William L. Morris, both of Cleveland, Ohio, U.S.A., 3rd July, 1900; 6 years. (Filed 4th December, 1899.)

Claim.—1st. In a shell loading machine, the combination of operating mechanism, a shell carrier, means for operating said carrier, the latter having separable engagement with its operating means whereby its position relatively to said operating means may be changed from the normal, and means for rendering said driving means inoperative during a change of such relation between said carrier and its operating means, substantially as set forth. 2nd. In a shell loading machine, the combination of operating mechanism, a reciprocating shell carrier, means for advancing and means for returning said carrier, the latter having separable connection with said returning means whereby its position relatively to the operating mechanism may be changed from the normal during the advance of the carrier, driving means and means connected with the carrier for disconnecting said driving means from the operating mechanism during the advance of said carrier, substantially as set forth. 3rd. In a shell loading machine, the combination of operating mechanism, a shell carrier, means for reciprocating said carrier, the latter having separable engagement with its reciprocating means, driving means disconnectably engaging the operating mechanism, and reciprocating means connected with said carrier for disconnecting said driving means from said operating mechanism, the path of said reciprocating means intersecting the path of the means connecting the driving means and operating mechanism, substantially as set forth. 4th. In a shell loading machine, the combination of operating mechanism, a shell carrier, means for reciprocating said carrier, the latter capable of alteration of its position relatively to the operating mechanism, driving means connected with said operating mechanism and capable of disconnection therefrom, and reciprocating means connected with said carrier, the path of said latter reciprocating means intersecting that of the means for connecting the driving means and operating mechanism at all points excepting at the end of the advance movement of the carrier, substantially as set forth. 5th. In a shell loading machine, the combination of a drawing pulley and operating shaft, means for operatively connecting said pulley and shaft, a shell carrier, means for operating said carrier, and means connected with said carrier for disconnecting said pulley and shaft, substantially as set forth. 6th. In a shell loading machine, the combination of an operating shaft, a driving pulley loosely mounted upon said shaft, an arm secured to said shaft, means for engaging the end of said arm with said pulley, a shell carrier, suitable means for operating said carrier, and means connected with the latter for actuating said engaging means to disconnect the arm from the pulley, substantially as set forth. 7th. In a shell loading machine, the combination of an operating shaft, a driving pulley loosely mounted upon said shaft, an arm secured to the latter, means for engaging said arm and said pulley, a shell carrier, suitable means for operating said carrier, and means interposed in the path of the arm and pulley engaging means and connected with the shell carrier for engaging the latter to effect the disconnection of said arm and pulley, substan-