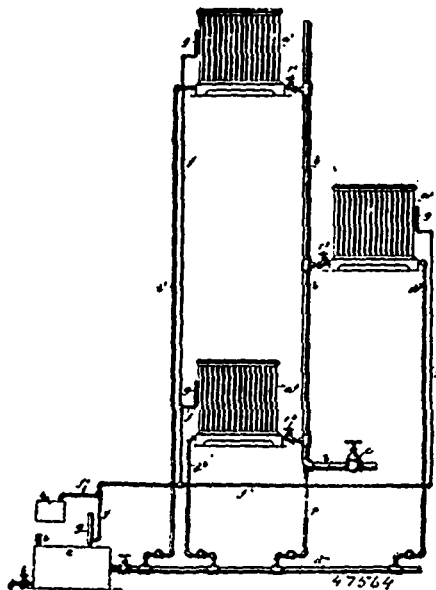


depressed and the staves assembled, a shaft mounted to rotate in said block, a socket-piece adjustable longitudinally upon the shaft, croze and chime-cutters having a limited sliding movement in the socket piece toward and away from the interior of the barrel, a spring tending to hold the croze and chime-cutters at the limit of their outward movement, and means for operating the croze and chime-cutters, substantially as set forth.

**No. 47,564. Method of Heating.** (*Méthode de chauffage.*)

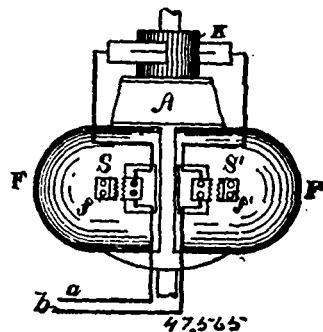


William P. Skiffington, New York, State of New York, and Andrew G. Paul, Boston, Massachusetts, U.S.A., 1st December, 1894; 6 years.

*Claim.*—1st. The method of heating which consists in supplying steam in measured quantities at or below atmospheric pressure and causing the flow of said steam to the place of use by reducing the pressure thereat. 2nd. The method of heating which consists in supplying steam in measured quantities at or below atmospheric pressure, and causing the flow of said steam to the place of use by exhausting the air therefrom, and causing the steam to condense thereat and conducting away the water of condensation, substantially as before set forth. 3rd. The combination with a steam heating system which is provided with an air exhauster and with the usual supply pipe for steam, of a measuring device situated in the said supply pipe, substantially as before set forth. 4th. The combination with a steam heating system which is provided with an air pipe in addition to the supply and return pipe or pipes and with an exhauster for drawing air from the system through the said air pipe and with the usual supply pipe, of a measuring device situated in the said supply pipe, substantially as before set forth. 5th. The combination with a steam heating system, which is provided with an air pipe in addition to the supply and return pipes, and with an exhauster for drawing air from the system through the said air pipe, and with the usual supply pipe, of a measuring device situated in the said supply pipe, and a sealed escape pipe for the water of condensation, substantially as before set forth. 6th. In combination with a heating system, a supply pipe provided with a reducing valve, an air pipe in addition to the supply and return pipe connecting in said system, an exhauster for drawing the air from the system through the said air pipe, and a sealed escape pipe for the water of condensation, substantially as shown and described. 7th. In combination with a heating system containing a number of radiators or heaters, a main supply pipe, branch pipes connecting the main supply pipe with the several radiators or heaters, a reducing valve in each branch pipe for separately controlling each radiator or heater, an air pipe in addition to the supply and return pipes connecting with each of the said radiators or heaters, an exhauster for drawing the air from the said radiators or heaters through the said air pipe, and sealed escape pipes for the water of condensation, substantially as shown and described. 8th. In combination with a heating system containing a number of radiators or heaters, a main supply pipe provided with a reducing valve and branch pipes connecting the main supply pipe with the several radiators or heaters, a reducing valve in each branch pipe for separately controlling each radiator or heater, an air pipe in addition to the supply and return pipes connecting with each of the said radiators or heaters, an exhauster for drawing the air from the said radiators or heaters through the said air pipe, and sealed escape pipes for the water of condensation, substantially as shown and described. 9th. In combination with a heating system containing a number of radiators or heaters, a supply pipe provided with a reducing valve,

the supply pipe being connected by branches with each of the radiators or heaters, an air pipe in addition to the supply and return pipes connected by suitable branches with each of the radiators or heaters and provided at each radiator or heater with an automatic valve for preventing the escape of the heating agent, an exhauster for drawing air from the system through the said air pipe, and sealed escape pipes for the water of condensation, substantially as shown and described. 10th. In combination with a heating system containing a number of radiators or heaters, a supply pipe provided with a reducing valve and connected with the said radiators or heaters, an air pipe in addition to the supply and return pipes connected by suitable branches with each of the radiators or heaters, and also connected with the tank for collecting the water of condensation, each of the branches of the air pipe being provided with an automatic valve near each radiator or heater and near the said tank, an exhauster for drawing air from said radiators or heaters and the said tank through the said air pipe, sealed escape pipes for permitting the passage of the water of condensation to the said tank, a check valve in each of the said escape or return pipes, substantially as shown and described. 11th. In combination with a heating system, a supply pipe provided with a reducing valve, an air pipe in addition to the supply and return pipes connected with the heater or radiator at a suitable place above the point where the water of condensation collects, an exhauster for drawing air from the system through the said air pipe, and a sealed escape pipe for the water of condensation, substantially as shown and described. 12th. In combination with a heating system, a supply pipe provided with a reducing valve, a sealed tank for the water of condensation, an air pipe connected with said tank, an exhauster for drawing air from the system through the said air pipe, and a sealed escape pipe for the water of condensation, substantially as shown and described.

**No. 47,565. Lightning Discharge Protector for Electric Apparatus.** (*Paratonnerre pour appareil électrique.*)



The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of Elihu Thomson, Swampscott, Massachusetts, U.S.A., 1st December, 1894; 6 years.

*Claim.*—1st. The combination with a line circuit and a dynamo electric machine or motor, having its windings or coils connected thereto and its core or body portion insulated therefrom, of a connection including a spark gap between such line and core, such spark gap being placed in the magnetic field of the motor or dynamo electric machine. 2nd. The combination with a line circuit, of a dynamo electric machine, having its coils connected therewith, and its core insulated therefrom, of a connection between said line and core, a pair of separable spark plates included in said connection and located in the free magnetic field of the machine, and an electro-magnet responding to a discharge through said connection, and operating to separate said plates, substantially as described.

**No. 47,566. Detector for Electric Current Meters.**

(*Avertisseur pour compteur de courant électrique.*)

The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of Elihu Thomson, Swampscott, Massachusetts, U.S.A., 1st December, 1894; 6 years.

*Claim.*—1st. An electric current meter provided with an electro-magnetic device controlled by the main line current and adapted to operate when the meter is shunted, substantially as set forth. 2nd. An electric current meter provided with an electro-magnetic device controlled by the main line current and in series with the meter and adapted to respond to an attempt to shunt the meter, substantially as set forth. 3rd. An electric current meter provided with a detector comprising a magnetizable core on which the line wires are wound in reverse coils, and a device responsive to any disturbance of the balance between said coils, substantially as set forth. 4th. An electric current meter provided with a detector comprising a magnetizable core on which the line wires are wound in reverse coils, and a circuit controlling device responsive to any disturbance of the balance between said coils, substantially as described. 5th. An