No. 4, 606. Telephone. (Téléphcne.)
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The Bell Telephone Company of Canada, Montreal, Quebec, Canada, assignees of Hammond V. Hayes, Cambridge, and Wilton L. Richards, loth of Malden, Massachusetts, U.S.A., 3rd November, 1893 ; 6 years.
Claim.-1st. A magneto telephone for two circuits, comprising a double pole magnet and helices therefor for each circuit, the poles and helices of each magnet being arranged in a position inductively neutral to those of the other. 2nd. A compound or double circuit telephone having for each circuit an independent diaphragm and inducing helices and magnet, the poles and helices of each magnet being arranged substantially perpendicular or at right angles to the poles of the other, whereby reciprocal inductive neutrality is secured, substantially as described. 3rd. A compound or donble magneto telephone provided with an independent magnet and inducing coils, and diaphragm for each circuit and having a single and common case and earpiece, each magnet having its poles and helices so relatively arranged that a straight line uniting its said poles will be substantially perpendicular to a straight line similarly uniting the poles of the other, whereby the two telephone circuits are made relatively neutral, substantially as described. 4th. In a telephone, two double pole magnets, the poles of each being fitted with inducing helices adapted for connection, respectively, in independent circuits, and each magnet being secured in such a position that each of its poles is substantially equidistant from the two poles of the other. 5th. In a compound or double circuit telephone, the combination of a central non-conducting disc having a shouldered recess on each side to form a vocalizing chamber and diaphragm seat, an earpiece secured to the periphery of said disc and connecting with the vocalizing chambers on the two sides thereof by independent sound channels, a diaphragm for each recess resting by its edges upon the shoulder thereof, closing caps or magnet holding disc for the side recesses of the said central disc adapted to inclose and clamp the edges of the diaphragms, and an independent bipolar magnet and its inducing coils for each circuit secured upon and supported by the said caps or discs, respectively, the two magnets being arranged with their poles in close proximity to their respective diaphragms, and substantially at right angles to the poles of the other, substantially as described. 6th. In a compound telephone, the combination of two separate bipolar magnets provided with pole surrounding helices, the respective helices of each being adapted for inclusion in a circuit independent of the other, with means, as indicated, for the angular displacement and adjustment of either magnet relatively to the other, for the purpose of preventing reciprocal inductive effects, as described herein.

No. 44,607. Damper Regulator for Steam Furnaces. (Régulateur ḋe régistre pour fournaises à vapeur.)


Peter St. Mary, Portland, Oregon, U.S.A., 3rd November, 1893 ; 6 years.
Claim.-1st. In a damper regulator of the character herein described, the combination of oppositely arranged spindle valves
operating in seats in a valve chamber provided with ports and pipe connections, a cylinder connected with said valve chamber having a piston, means connecting said piston with damper actuating mechanism, an electro magnet having an armature adapted by its movements to operate the spindle valves, and a steam pressure guage having its expansion ring in circuit through one side of battery with one coil of the magnet, and a contact point on the pressure guage in circuit through the other coil of the magnet with the other side of the battery, substantially as set forth. 2nd. In a damper regulator, the combination of the spindle valves, the valve chamber having ports and seats for the valves, steam pipes or ports connecting with the steam boiler and a cylinder and waste pipe, a piston holding a piston rod and chains connecting the rod to the part to be controlled, and means for operating the valves consisting of an electro magnet, an armature and an armature lever adapted to engage a circuit closer in circuit with said magnet through a battery, and actuated by the variation of the steam pressure of the boiler through the steam guage, as set forth. 3rd. In a damper regulator, the combination of a pressure guage connected by opposite poles to an electro magnet and electric battery, a hinged armature actuated by the said battery and engaging a valve spindle for opening and closing the ports of a valve chamber and admitting steam to a cylinder in which a piston and piston rod work, the piston rod having connection with a chain or rod attached to a damper of a steam boiler, substantially in the manner as herein set forth and specified.

## No. 44,608. Rotary Press, (Presse rotative.)



Frederick Lindley Hunt Sims, Toronto, Ontario, Canada, 3rd November, 1893 ; 6 years.
Claim.-1st. In a rotary press, a drum provided with a series of moulds having a corresponding number of plungers located therein and deriving a radial movement from stationary cams on the main shaft of the machine, and a pivoted door provided with plates for each pair of moulds, in combination with the eccentrically journalled gear wheels adjustably connected to and driving the drum, and a means on the gear-wheels whereby the plates of the door may be forced into the moulds so as to co-act with the radially movable plungers, as and for the purpose specified. 2nd. In a rotary press, a series of moulds rotating around the main shaft of the machine and provided with radially moving plungers, in combination with a stationary cam, the periphery of which is concentric from 1 to 2 , and from 2 to 3 , is provided with sudden rise for the first portion, the remaining portion being concentric to centre 9 , from 3 to 4 , of a gradual rise, as described, from 4 to 5 , of a depression from 5 to 6 , of an inclined way from the certre, from 6 to 7 , of the concentric portion, and from 7 to 1 , of the flange $d$, formed on the curve shown and for the purpose specified. 3rd. A rotary press, comprising a drum containing a series of moulds arranged in pairs, plungers reciprocating in the moulds, a transverse shaft for each pair of plungers, a divided cam and rollers carried by the transverse shafts and bearing on the periphery of the cam, substantially as described. 4th. A rotary press, comprising a drum containing a plurality of moulds arranged in pairs, plungers reciprocating in the moulds, a transverse shaft for each pair of plungers having its ends bearing in slots in the webs of the drum and allow movement at right angles to its longitudinal, axis, a divided cam and a series of rollers on each transverse shaft bearing on said divided cam, substantially as described. 5 th. The drum E, provided with moulds ( $i$, the plungers $H$, provided with a top plate $h$, the shaft I, provided with rollers $J$, and having tenoned ends moving in radial slots, and cams D, arranged to operate upon each pair of rollers as they rotate, in combination with the feed hopper $V$, and pivoted door 14, arranged to close the top of the moulds when the pressure is being exerted

