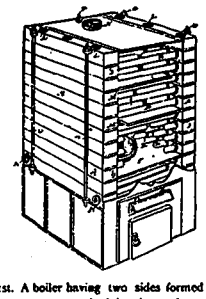
RECENT PATENTS.

Sectional Boiler for Heating Purposes.

No. 28,775. George Guest, Toronto, Ont., dated 27th March, 1888.



Claim.—1st. A boiler having two sides formed of a series of hollow compartments properly jointed together, each compartment forming a head for a series of tubes, which are screwed into, or otherwise fixed to the compartments and arranged in relation to the fire-pot in such a manner that, while connecting the compartments forming the sides of the furnace, the expansion and contraction of the tubes will not twist or injuriously affect the compartments forming the said sides, substantially as and for the purpose specified. 2nd. The compartments A arranged one above the other and connected by water-legs G, the joints between the compartments being formed on their outer edges so as to have a space *f* between each compartment, substantially as and for the purpose specified. 3rd. The compartments A arranged one above the other and connected by water-legs G, in combination with the tubes D, each connected at one end with one of the compartments, and plugged or otherwise closed at its other end, a horizontal partition J, with an opening K through it, being placed in each tube, substantially as and for the purpose specified. 4th. The compartments A arranged one above the other and connected by water-legs G, in combination with the tubes D, each connected at one end with one of the compartments and plugged or otherwise closed at its other end, tubes I arranged to connect the compartments A with a water-leg H, substantially as and for the purpose specified. 5th. The compartments A arranged one above the other and connected by water-legs G, in combination with the tubes D, each connected at one end with one of the compartments, and plugged or otherwise closed at its other end, and deflecting plates M, substantially as and for the purpose specified.

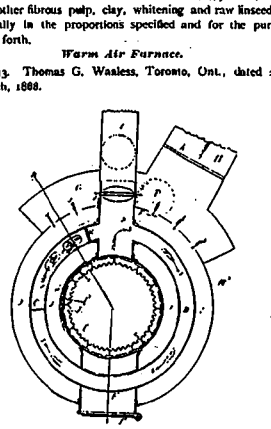
Composition for Plastering and Decorating the Interior and Exterior of Walls with a Material known as "Carton-Pierre."

No. 28,719. Alfred J. Pigeon, Montreal, Que., dated 16th March, 1888.

Claim.—A compound composed of glue, molasses, bichromate of potassium or chrome alum, or tannic acid, glycerine, wood, straw or other fibrous pulp, clay, whitening and raw linseed oil, substantially in the proportions specified and for the purpose herein set forth.

Warm Air Furnace.

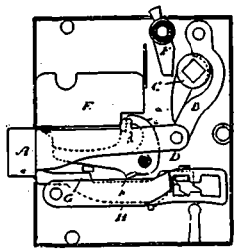
No. 28,743. Thomas G. Waaless, Toronto, Ont., dated 22nd March, 1888.



Claim.—1st. A fire pot for a warm air furnace, constructed of vertical sections, with ribs on its inner and outer surface, for the purposes set forth. 2nd. A combustion dome for a warm air furnace, constructed so as to encircle the fire pot to keep the sections thereof in position, and also provide an air space between the combustion dome and fire pot, said combustion dome provided with a number of small apparatuses around its circumference and near to the lower edge thereof, for admitting air which passes up through the air space between the fire pot and combustion dome, to ignite the gases arising from the burning fuel, as set forth. 3rd. The annular rim encircling the combustion dome at its lower edge, and provided with apertures equal in size and number to those in the dome, and so placed as to coincide with the apertures in the dome, and which rim may be moved sidewise by rod of lever for the contraction or enlargement of said apertures, as set forth. 4th. A dual radiator for a warm air furnace, constructed so that the active heat will pass from the combustion dome into, and circulate around the upper portion thereof, thence passing down suitable pipes into, and circulate around the lower section thereof thence passing out into the smoke-pipe, from which it is carried to the the chimney, as specified and described. 5th. A cold air receiver for a warm air furnace, constructed partly around the outer side of the base of the furnace casing, for receiving and distributing the cold air to the warm air chamber inside of the furnace casing, as set forth. 6th. An air pipe for a warm air furnace, connecting the cold air receiver with one or more of the warm air pipes, for the purpose of supplying cooler air to the apartments of the building when necessary, as specified and shown. 7th. In a warm air furnace, the combination of two radiators B and C, placed horizontally one above the other and by means of stop plates N, direct draught regulator *b2*, junction pipes D, the active heat is made to circulate entirely around each radiator before passing out into the smoke pipe, substantially as arranged and operating as set forth. 8th. In a warm air furnace, the combination of the combustion dome A, fire pot L, grate K2, ash pan K, dust pipe E, with check damper *e1*, substantially as arranged and operating as set forth. 9th. In a warm air furnace, the combination of the cold air box H, with regulating slide *h1*, cold air receiver G, cold air pipe P, warm air chamber J and warm air pipes H1, substantially as arranged and operating as set forth.

Gravity Lock.

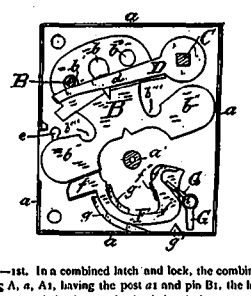
No. 28,573. The Peterborough Lock Manufacturing Company, (assignee of Charles S. Osgood), Peterborough, Ont., dated 22nd March, 1888.



Claim.—1st. The combination, with a latch-bolt, of a pivoted lever having its short arm in contact with the latch-bolt, with its long arm arranged to support a vertically-adjusted weight, substantially as and for the purpose specified. 2nd. The combination, with a latch-bolt, of a pivoted lever having its short arm in contact with the latch-bolt, its long arm arranged to support a vertically-adjusted weight and its heel in contact with the tumbler of the lock, substantially as and for the purpose specified. 3rd. The combination, with a latch-bolt, of a pivoted lever having its short arm in contact with the latch-bolt, and its long arm arranged to support a vertically-adjustable weight, and a pivoted stop arranged to lock the weight, substantially as and for the purpose specified. 4th. A pivoted lever arranged to support a vertically-adjustable weight and formed so as to be in contact with the stop-side of the tumbler of the lock, in combination with the lock-bolt formed so that its end may be adjusted against a shoulder formed on the head of the latch-bolt, substantially as and for the purpose specified. 5th. A latch-bolt A pivotally connected to the pivoted hanger B, which is actuated by the tongue *a*, formed on the spindle-bearing C, a projecting lip *d* formed on the bolt A, and extending close to the short arm *b* of the lever D, in combination with the vertically-adjustable weight E, arranged to rest upon and supported by the long arm of the lever D, substantially as specified. 6th. A pivoted lever D arranged to support the vertically-adjustable weight E, and having a lip *b* extending over the tumbler H, in combination with the said tumbler and with the lock-bolt G, arranged so that its end may be thrown against the shoulder *e*, formed on the head of the latch-bolt A, substantially as and for the purpose specified. 7th. A keeper I having a bevelled projection *f*, in combination with a square-ended latch-bolt, substantially as and for the purpose specified.

Combined Latch and Lock.

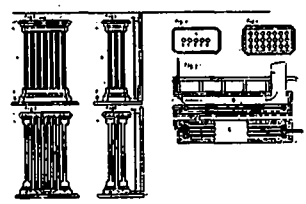
No. 28,766. Charles Sandford, William Feeney and James Feeney, Madoc, Ont., dated 24th March, 1888.



Claim.—1st. In a combined latch and lock, the combination of the casing A, *a*, A1, having the post *a1* and pin B1, the latch bolt B having a central slot *b*, eyes *b1*, latch heads *b11*, recesses *b111*, and lugs *b1111*, hung eccentrically upon the pin B1 and resting in its normal position upon the post *a1*, the lever D adapted to be operated by the spindle C, and operating the latch bolt B by lugs *d d1*, engaging the slot *b* and lug *b111*, a latch key E engaging the lug *b1111*, and inserted through keyholes *e*, partly covered by the latch bolt B, locking cams F, F, guided in a race *g*, *g1*, *g11*, *g111*, and having heads *f*, *f1* and shoulder *f11*, and adapted to be operated by a key, the head *f* adapted to shut between the post *a1*, and the rear shoulder of the projecting latch bolt, substantially as set forth. 2nd. In a combined latch and lock, the combination of the casing A, *a*, A1, having the post *a1* and pin B1, the latch bolt B, having a central slop *b*, eyes *b1*, latch heads *b11*, recesses *b111* and lugs *b1111*, hung eccentrically upon the pin B1, and resting in its normal position upon the post *a1*, the lever D adapted to be operated by the spindle C, and operating the latch bolt B by lugs *d d1*, engaging the slot *b* and lugs *b1111*, a latch key E engaging the lug *b1111*, and inserted through keyholes *e*, partly covered by the latch-bolt B, substantially as set forth. 3rd. In a combined latch and lock, the combination of the casing A, *a* A1, having the post *a1* and pin B1, the latch bolt B having a central slot *b*, eyes *b1*, latch head *b17*, recesses *b111* and lugs *b1111*, hung eccentrically upon the pin B1, and resting in its normal position upon the post *a1*, an operating lever acting upon the latch bolt B by a lug *d*, substantially as set forth. 4th. In a combined latch and lock, the combination of the casing A, *a*, A1, having the post *a1*, pin B1, guides *g*, *g1*, *g11*, *g111*, keyhole G1, the latch bolt B, having a central slot *b*, eyes *b1*, latch heads *b11*, recesses *b111* and lugs *b1111*, hung eccentrically upon pin B1 and resting in its normal position upon the post *a1*, an operating lever acting upon the latch bolt B by a lug *d*, and the cams F, F1, having heads *f* fitting in the recess between the post *a1* and the rear shoulder of the forward end of the latch head *b11*, shoulder heads *f1* adapted to be operated by a key, and shoulders *f11* adapted to be engaged by the stop *g11*, substantially as set forth.

Ventilator in Connection with Hot Water Heating Apparatus.

No. 28,640. Charles C. Longard, N. S., dated 6th March, 1888.



Claim.—1st. In a device for ventilating buildings, rooms and apartments, in connection with hot water radiators, the construction and arrangement of the diaphragm K with or without a non-conducting lining, the air pipes or conduits E, and the diaphragm K1 between the current of fresh air and the base, pipes, top and other parts respectively of the radiator, substantially as and for the purpose described. 2nd. In a device for ventilating buildings, rooms and apartments, in connection with hot water radiators, the combination of the diaphragms K (with or without a non-conducting lining) and K1, and the air pipes E, substantially as and for the purpose described. 3rd. In a device for ventilating buildings, rooms and apartments, in connection with hot water radiators, the combination of the diaphragms K (with or without a non-conducting lining) and K1, the air pipes E and the chambers of air spaces C and H, substantially as and for the purposes described. 4th. In a device for ventilating buildings, rooms and apartments, in connection with hot water radiators, the combination of the diaphragm K (with or without a non-conducting lining) and K1, the air pipes E and the air chamber C, substantially as and for the purpose described. 5. In a device for ventilating buildings in connection with hot water heating apparatus, the construction and arrangement of the diaphragm K, between the current of fresh air and the different parts of such heating apparatus, substantially as and for the purposes described. 6th. In a device for ventilating buildings, in connection with hot water heating apparatus, the intervention of a shield or diaphragm between the current of fresh cold air and the heating apparatus, to protect the water in the apparatus from freezing in consequence of a draught or current of cold air striking thereon, substantially as described.

HOW PAINTS ARE OBTAINED.

EVERY quarter of the globe, says the *Argonaut*, is ransacked for the materials—animal, vegetable and mineral—employed in the manufacture of the colors one finds in a paint box. From the cochineal insect is obtained the gorgeous carmines, as well as the crimson, scarlet and purple lakes. Sepia is the inky fluid discharged by the cuttle fish, to render the water opaque for its own concealment when attacked. Indian yellow is from the urine of the camel. Ivory black and bone black are made out of ivory chips. The exquisite Prussian blue is got by fusing horses' hoofs and other refuse animal matter with impure potassium carbonate. It was discovered by an accident. In the vegetable kingdom are included the lakes, derived from roots, barks and gums. Blue black is from the charcoal of vine stalk. Lampblack is soot from certain resinous substances. From the madder plant, which grows in Hindostan, is manufactured Turkey red. Gamboge comes from the yellow sap of a tree, which the natives of Siam catch in cocoanut shells. Raw sienna is the natural earth from the neighborhood of Sienna, Italy. When burned it is burned sienna. Raw umber is an earth from Umbria, and is also burned.

To these vegetable pigments may probably be added Indian ink, which is said to be made from burnt camphor. The Chinese, who alone can produce it, will not reveal the secret of its composition. Mastic—the base of the varnish so called—is from the gum of the mastic tree, indigenous to the Grecian archipelago. Blister is the soot of wood ashes. Of real ultramarine, but little is found in the market. It is obtained from the precious lapis lazuli, and commands a fabulous price. Chinese white is zinc. Scarlet is iodine of mercury, and cinnabar, or native vermilion, is from quicksilver ore.