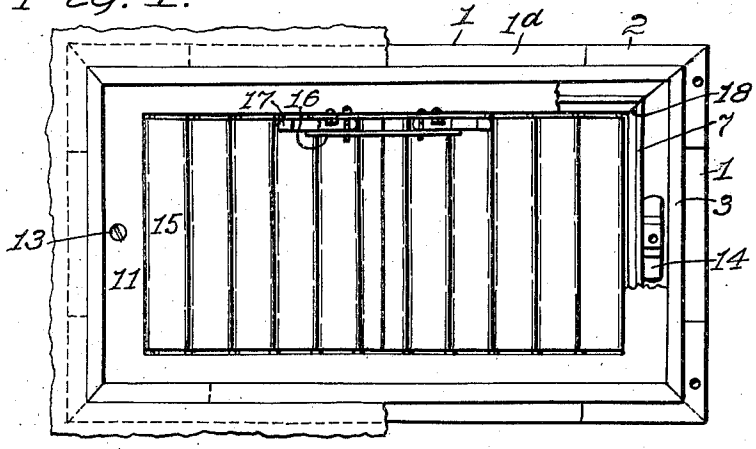
Jan. 4, 1938. F. C. OLTROGGE 2,104,208

REGISTER

Filed April 27, 1936

Fig. 1.



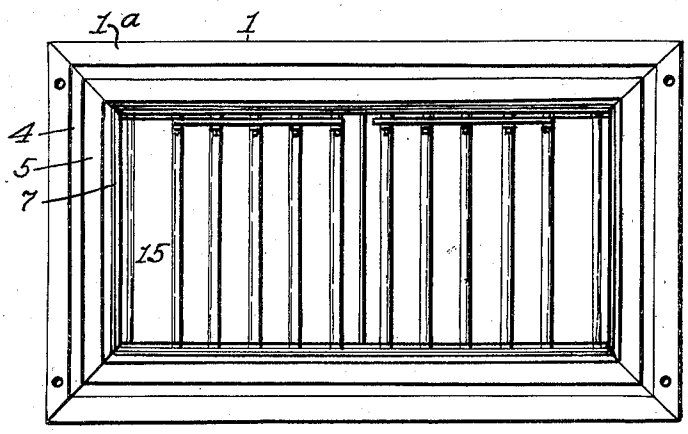


Fig. 2.

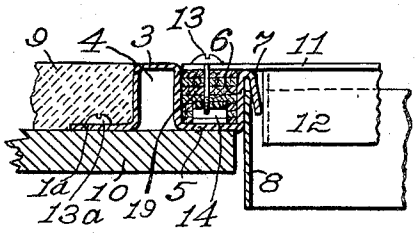


Fig. 3.

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2,104,208

REGISTER

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Application April 27, 1936, Serial No. 76,541

1 Claim. (Cl. 98—114)

My invention relates to improvements in registers, and one object of my improvements is to provide a sectional framing device for a register, whose segments are connected and shaped of suitable material whereby certain parts are bendable to conform to a stack end and receive the same sealingly in preventing escape of air and dust through their joints. The framing device may be integral in its construction instead of segmental, however, and framed to accomplish successfully the above object.

Another object of my improvements is to shape the framing device to provide one or more surrounding channels or ducts about the register and communicating stack termination adapted to prevent heat being transmitted to the abutting or supporting wall or floor structures in insulating them and preventing damage to plaster or other facing bodies.

Another object of my improvements is to, when desired, pack one or more of said channels or ducts with insulation, while permitting the walls thereof to yield when heated by the stack, to not only obviate damage to wall plaster or plastics around the frame, but to also prevent open joints in the framing or between the latter and the stack.

Another object of my improvements is to mount the framing device and to shape and proportion its parts or segments or their projections upon a wall suitably to permit its being relatively positioned to the wall plaster to insure a close joint therebetween while preserving the outer face of the register and its frame in an even plane with the face of the wall.

It will be understood that my framing means for a register may be variously otherwise shaped, proportioned and constructed without departing from my invention herein, or from the protection of the appended claim.

My invention is illustrated by the appended drawing.

Figs. 1 and 2 are elevations of the front and rear faces of my improved framing device with a louvered register cover mounted removably thereon; parts of the device, its framing and the surrounding wall face being broken away in Fig. 1. Fig. 3 is an enlarged cross section through one side part of the framing device and register, and of a supporting lath and the plaster thereon, in mutual assemblage.

The frame sections 1 have each an outwardly projecting inwardly opening and troughed part 3 within its outer surrounding flanged part 1*a*. The parts 5 of the frame 1 within the bounding channeled part 3 are at the same level as the parts 1*a*, and each part 5 is bent upwardly or outwardly at a right angle at 6 and with its marginal part 7 reversely bent downwardly or inwardly at an acute angle with the part 6 to receive within its acutely angled hollow the outer end part of a metal stack 8, as disclosed in said Fig. 2. When the end of the stack is fitted closely into the seat thus provided, pliers or pincers or other means may be used to bend the marginal parts 7 against the inner wall of the stack 8 to effectually seal their joint and thus prevent the escape of air and dust at this joint. The flanges 1 are connected by angles 2.

The outer flange or margin 1*a* of the frame may be secured, as by screws 13*a* to a backing layer of laths 10 which extend under the troughed parts 3 and the parts 5, thus closing the rearwardly opening trough 4 making it air tight and surrounding the removable register 11 at its margin. The troughed part 19 is closed by the flange of the register 11 and provides an air-filled non-conducting means acting to prevent escape of heat from the stack toward the wall plaster 9 which is troweled to contact with the outer wall of the troughed parts 3, the plaster having its outer face level with the outer face of the register margin 11. The hollow under the margin of the register 11 is closed thereby, and may be filled with a non-conducting substance such as asbestos wicking 19, to further isolate the stack and prevent leakage of heat past it to the plaster. Hollow lugs 14 having offset middle parts are fixed to and within the frame parts 19 to have apertured seats to receive screws 13 through the margin of the register 11 as fastenings.

The framing device 1 may have its outer parts and margin 1*a* shaped or spaced relative to its supporting backing 10 to conform thereto or otherwise to permit of troweling the outer face of wall plaster therearound even with the outer face of the register, and so that the plaster fits closely to the outer wall part of the channeled part 3. The framing device may be of rolled steel plate, or pressed into shape as desired.

I have shown in Figs. 1 and 2, but not claimed, a register 11 containing a like pair of sets of reversely rockable hinged louvers 15, each set of which may be rocked independently to open or shut them to vary the size of the air delivery openings between them. The louvers of each set are connected similarly rockably to opposite parts of the register inner frame flange 12 on pintles at opposite ends, and by link connections

or arms 17 having movable connection with the louvers by rear bars shown in Fig. 2, the arms 17 also being swingable on a fixed front bar 16 mounted on the register frame part 11—12. The louvers may thereby be seated at desired angles separately to direct air currents therethrough in different directions.

In the air conditioning of buildings, the air is usually driven through the ducts, stacks and registers by a blower. This air often contains dust, which may streak adjacent walls or ceilings. It is necessary, therefore, that the framing of a register be constructed as to not allow passage of dust laden air through joints thereof, or between the framing and the stack. The provision of a bendable joint connection, fitted by means of pliers or other tools to practically hermetically seal the joint between the delivery end of a stack and the framing of the register, prevents such air leakage therebetween.

The channeled parts 3 and 5 of the frame being flexible can yield to allow to the register 11 and 12 expansion when heated without permitting the frame at 1a to yield outwardly to push upon and crack the surrounding plaster 9. The dead air spaces in the channeled parts 4 also insulate the plaster from heat conduction through the frame, and the insulating filling or asbestos wicking 19 in the channeled part 5 is a preventive of heat conduction from the stack 8 to the part 3 and plaster 9.

I claim:

In a device of the character described, a register having an outwardly bent margin, a frame surrounding and seating therein said register and bent in its inner part with a forwardly directed open trough therearound closed forwardly by said bent margin of the register to be a concentric dead air chamber, the frame having without said chamber a concentric forwardly closed dead air chamber and open at the rear, a supporting structure closing the opening of the last-mentioned dead air chamber and extending outwardly beyond it, and a plaster layer mounted on the outwardly extending forward face of the supporting structure to be in edge contact with and with its forward face flush with the outer faces of said frame and register.

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