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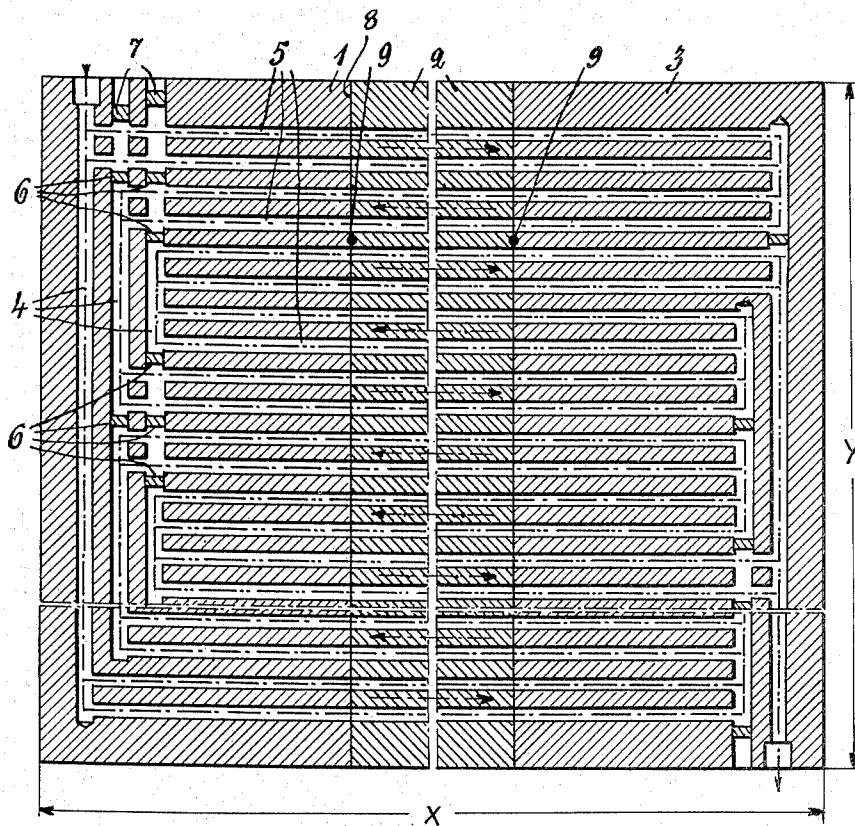
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PRESS-PLATE FOR WALLBOARD PRESSES AND THE LIKE

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2 Sheets-Sheet 1

Fig. 1.



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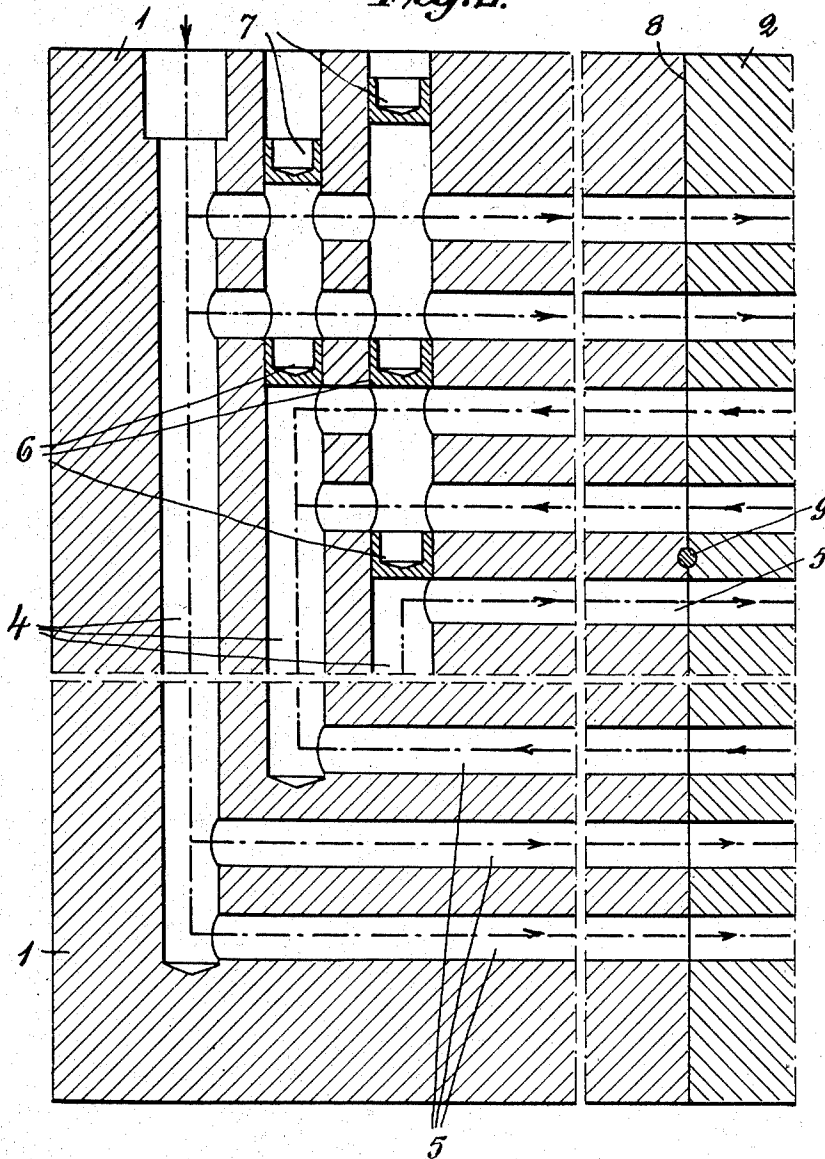
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2 Sheets-Sheet 2

Fig. 2.



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PRESS-PLATE FOR WALLBOARD PRESSES AND THE LIKE

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1 Claim. (Cl. 257—256)

The present invention relates to press platens for presses for wall-board and similar sheet material provided with a channel system for a heating medium, for instance hot water or steam.

Previously known press platens of the kind referred to are manufactured in such a way that after a number of transversely extending channels for the heating medium have been made these are connected by means of channels extending longitudinally of the platens. The channels thus provided are then plugged in the required places so that the desired channel system is obtained. Especially the external plugging of the channels has in practice proved to be extremely difficult to master, and leakage of the heating medium has often been very troublesome and required repeated repairs at short intervals. This tendency is particularly pronounced when the material to be pressed releases liquid that cools the edges of the press plates. As a result there is a great need for press platens having a channel system which requires a minimum of plugs.

This is obtained by the present invention, which is characterized in that the press platen comprises two or more tightly united end sections and, if desired, one or more intermediate sections. These latter sections are provided with conduits extending throughout the same in horizontal direction of the plate and communicating with parallel conduits in the end sections entering from the facing side-edges of said end sections and extending thereto only so far that they communicate with one or more vertical conduits entering from the opposite horizontal sides of said end sections and likewise only extending thereto so far that they meet one or more of the first mentioned horizontal conduits.

Fig. 1 illustrates a longitudinal section of a press platen according to the present invention, and Fig. 2 is a part of Fig. 1 on a larger scale.

The illustrated press platen comprises three sections 1, 2 and 3 made of thick sheet-iron which sections are united, for instance by welding, after the conduit system for the heating medium has been bored, but of course the press platen may also be composed of more parts, in which case more sections corresponding to the section 2 are inserted between sections 1 and 3. In order to obtain the required circulation system in the press platen 1, 2, 3 it is provided with a number of horizontally and vertically extending conduits or channels 4 and 5 respectively. The vertical channels 4 enter from one of the horizontal side edges of the sections 1 and 3, whilst the horizontal channels enter from the vertical edge which is united with the adjacent section. In boring the channels, however, care should be taken that they only extend so far, that the indispensably necessary number of channels are connected which is required for providing the desired path of flow, without an unnecessary number of such connections afterwards having to be closed by plugging. If a system is to be provided which involves a serpentine flow of the heating medium, for instance the one shown in the embodiment according to Figs. 1 and 2, it cannot be avoided that a few connections caused by horizontal and vertical channels crossing one another will have to be closed by sealing means in form of plugs 6 and some of the ends of the vertical channels by sealing means in form of plugs 7. The construction according to the invention shown in Figs. 1 and 2 illustrates the most considerable simplification which is obtained by the new construction, due to the required number of internal and external plugs being reduced. As mentioned above,

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especially the reduction of the amount of external plugs is of very great importance with respect to the operation and maintenance of the press platens.

A further advantage obtained by the invention is, that the channels for the heating medium may be bored in the horizontal direction of the press platen, which often hitherto has not been possible to accomplish in practice, due to the length of the platens preventing this. The advantages of arranging the channels in the horizontal direction of the platens are a considerable reduction of the resistance to flow of the heating medium, due to the reduction of the number of bends in the channels, and the possibility of varying the intensity of heat supplied to the outer and inner portions of the press platen by spacing the channels differently.

After the channels have been made, the different sections 1, 2, 3 are united along the lines designated 8, using one or more guide pins 9 for ensuring that corresponding channels will be in alignment.

Of course the invention is not limited to the embodiment shown in Figs. 1 and 2, but can be varied in a number of ways within the scope of the invention. Thus it is also feasible to allow the transverse channels 4 to enter alternatively from opposite sides of the sections 1 and 3, or to arrange the channel system as desired by changing the number of channels and/or plugs. If desirable, transverse channels serving as inlets or outlets may also be arranged in the intermediate section 2.

Instead of forming the press platen, the length and width of which, of course, may vary within wide limits, of sections transverse to the longitudinal direction of the platen, it may, if desired, be composed of sections parallel to the longitudinal direction of the platen, in which case the channels 5 shown in Figs. 1 and 2 will be perpendicular to and the channels 4 parallel to the longitudinal direction of the assembled press platen.

Such an embodiment is obtained without any changes whatever in the construction shown in Figs. 1 and 2 of the drawing if x is shorter than y .

The platen may also have the same length and width, that is, be a square.

Having now particularly described the nature of my invention and the manner of its operation what I claim is:

A fluid-circulation rectangular platen for presses used in the manufacture of wall-board and similar sheet material, comprising two rectangular outer sections and at least one rectangular intermediate section, the said three sections abutting with their respective side edges against each other so as to form said rectangular platen, each of said outer sections including a first plurality of parallel fluid-circulation conduits extending within the respective outer section from the abutting side edge thereof toward the side edge opposite thereto ending short thereof, the said parallel conduits being distributed substantially over the entire area of the outer sections, a second plurality of parallel fluid-circulation conduits extending within each outer section perpendicular to the conduits of the first plurality from a respective side edge thereof towards the side edge opposite thereto ending short thereof, the said perpendicular conduits starting at respective side edges of the outer sections oppositely situated in the platen and being staggered in length, the outermost perpendicular conduit being the longest perpendicular conduit in each outer section, the said outermost conduits forming an inlet passage and an outlet passage respectively on respective opposite side edges of the outer sections, the said first plurality of conduits including conduits equal in length and conduits having a length greater than that of the equal conduits, each of the said conduits of equal length communicating with the innermost perpendicular conduit and each of the said longer conduits communicating with a correspondingly longer perpendicular conduit, the said intermediate section including a plurality of parallel fluid-circulation conduits extending between the abutting side edges thereof and disposed in registry with the respective parallel conduits of the outer sections, and sealing means including outer plugs closing the outer ends of substantially all the perpendicular inlet conduits of one of said outer sections except the outermost perpendicular conduit of each outer section and inner plugs fitted in the inner perpendicular conduits at intermediate points such

that the conduits of all three sections are interconnected to form a continuous circulation system leading from said inlet passage to said outlet passage and directing a fluid admitted into the platen through said inlet passage into the respective outermost perpendicular conduit in counter-current through the conduits in the three sections.

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