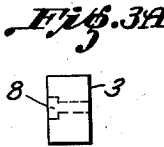
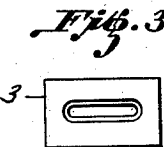
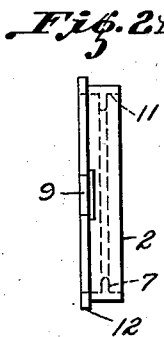
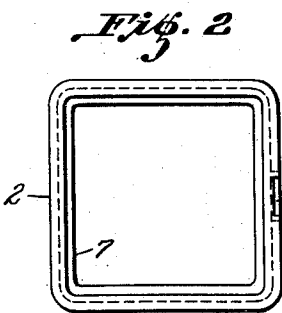
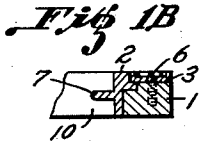
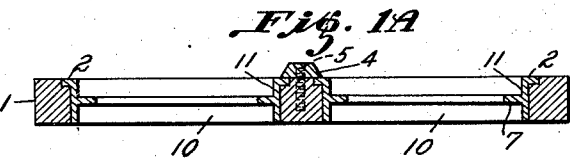
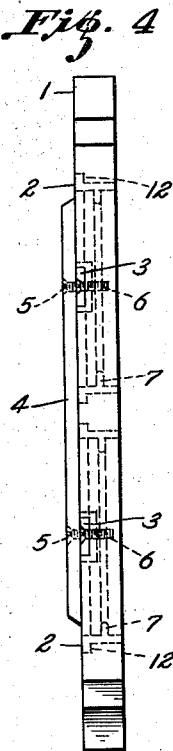
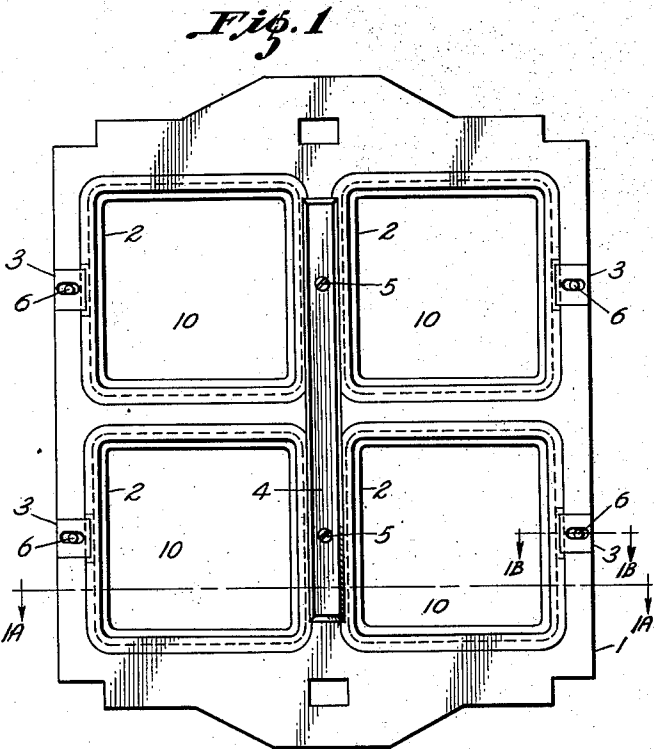


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SECTIONAL MATCH PLATE
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UNITED STATES PATENT OFFICE

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SECTIONAL MATCH PLATE

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1 Claim. (Cl. 22-157)

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The invention relates to improvements in sectional match plates in which one or more sections can be interchanged or replaced with other sections alike in size, and the objects of my improvement are, first, in an interchangeable match plate, comprising a main frame, supporting removable pattern sections, a series of clamping arrangements which are practical from a foundry standpoint, and fast in operation, and arranged in such manner as to prevent the loss of the clamping members when the match plate is in operation and when the sections are being removed or replaced; second, to utilize the edge of the drag member of the flask as to lend its weight and support to the pattern sections of the main frame; third, to provide a frame to support the pattern sections therein, and which will permit the shrinkage of the pattern section and still remain firm in the section frame, and fourth, to provide a practical sectional match plate from a foundry stand-point, having removable sections which will remain in a firm, rigid position when clamped in their respective positions in relation to the main frame.

One form of the invention is illustrated in the accompanying drawing in which:

Fig. 1 is a plan view of the entire match plate;
Fig. 1A is a section taken on line 1A of Fig. 1;
Fig. 1B is a section taken on line 1B of Fig. 1;
Fig. 2 is a plan view of a pattern section frame;
Fig. 2A is a side view of the same frame;
Fig. 3 is a plan view of a clamping strip;
Fig. 3A is a side view of the same strip;
Fig. 4 is a side view of the match plate shown in Fig. 1.

The main frame 1, the removable pattern section frames 2-2-2-2, (which in this instance frame 1, and frames 2-2-2-2, are metal), the adjustable clamping strips 3-3-3-3, the removable runner bar 4, the runner bar screws 5-5, the adjustable clamping strip screw 6-6-6-6, and the pattern sections 10-10-10-10 (which in this instance is a thermosetting casting resin) see Figure 1 and Figure 1A, (the pattern sections, which will be specified as plastic pattern sections, are cast in the metal section frames 2-2-2-2), constitute the entire sectional match plate.

In the main frame 1, Figure 1, one or more recessed openings, (four in this instance) are provided to receive one or more removable metal section frames 2-2-2-2, see Figure 2, (four in this instance,) the said section frames 2-2-2-2, have flanged edges 12-12-12-12, which fit into the said recessed openings of frame 1, enough clearance being allowed at the point of

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contact between the recessed openings of frame 1, and the said section frames 2-2-2-2, to permit easy assembly of the said section frames 2-2-2-2, when installed in the recessed openings in frame 1, without having an excessive amount of clearance between the said section frames 2-2-2-2, and the recessed openings in frame 1.

The parts 9-9-9-9, of the pattern section frames 2-2-2-2, (see 9 of Figure 2) which are recessed to allow the adjustable clamping strips 3-3-3-3, to be flush with the surface of the match plate, enough clearance being allowed between the said clamping strips 3-3-3-3, and the recessed parts 9-9-9-9, to permit easy adjustment of the said clamping strips 3-3-3-3, the said recessed parts 9-9-9-9, fit into recessed provisions in the frame 1, as shown in the Figure 1B. In the frame 1, recessed provisions are also utilized to receive the adjustable clamping strips 3-3-3-3, said recessed parts of frame 1, having enough clearance to permit easy adjustment of the said clamping strips 3-3-3-3 and not interfere with the foundry flask when same is set in position on the match plate.

The adjustable clamping strips 3-3-3-3, see Figure 3, and the removable runner bar 4, see Figure 1A, (which functions also as a clamping bar) in conjunction with the tightening of the runner bar screws 5-5, and the adjustable clamping strip screws 6-6-6-6, securely clamps all the said sections of the match plate, securely in the recessed openings in frame 1.

The runner bar 4 is removable from the frame 1, to provide for different type runner bars, when needed, and is securely held in place by tightening the screws 5-5, (see Figure 1) the said runner bar 4, as shown in the Figure 1A, and Figure 1, rests directly on the flanged edges 12-12-12-12, of the said metal section frames 2-2-2-2, which contact the runner bar 4. The portion of the frame 1, lying directly under the runner bar 4, is recessed below the surface of the frame 1, to permit a sufficient amount of clearance between the runner bar 4, and the bottom of the said recess in frame 1, to attain a clamping action when the runner bar 4, contacts the flanged edges 12-12-12-12, of the said frames 2-2-2-2, and the screws 5-5 are tightened.

The adjustable clamping strips 3-3-3-3, Figure 3, have elongated counter-bored holes 8-8-8-8, which receive screws 6-6-6-6, said counter-bored holes permit easy adjustment of the

said clamping strips 3-3-3-3, which in conjunction with the said screws 6-6-6-6, permits said clamping strips 3-3-3-3, to be set securely in position when clamping the said metal section frames 2-2-2-2, in the recessed openings provided in the frame 1.

The removable runner bar 4 and the adjustable clamping strips 3-3-3-3, provides a quick method of removing or replacing and interchanging the said sections 2-2-2-2, of the frame 1, without entirely removing the screws 5-5, or 6-6-6-6, from the frame 1, first, by loosening the screws 5-5, in the runner bar 4, which releases the clamping pressure exerted on the flanged edges 12-12-12-12 contacting the runner bar 4, of the said section frames 2-2-2-2, and second, by loosening the screws 6-6-6-6, of the clamping strips 3-3-3-3, and sliding back the said clamping strips 3-3-3-3, away from the recessed parts 8-8-8-8, of the said section frames 2-2-2-2.

The adjustable clamping strips 3-3-3-3 and the removable runner bar 4, are to be located on the frame 1, in any such location as to accommodate the number of sections in the frame 1 and to meet the foundry requirements.

The recessed openings in the frame 1, which receive the section frames 2-2-2-2, are in such location as to allow one or more flanged edges 12 of the section frames 2-2-2-2, (in this instance eight flanged edges 12, of the section frames 2-2-2-2) to extend partly beyond the inside of the flask line of the frame 1, permitting the foundry flask to rest on one or more of the flanged edges 12, of the said metal section frames 2-2-2-2, this location of the said sections 2-2-2-2, when the flask is set in position on the frame 1 additionally supports all the sections of the match plate to withstand the shock and stress of sand molding operations.

The parts 11 and 7 of the section frames 2-2-2-2, around which the plastic pattern sections 10-10-10-10 are cast, are tongued or grooved (tongued in the present instance) said tongue 7, (which runs completely around the inside of the said frames 2-2-2-2) being on a parallel with the surface of the match plate and of a uniform wall thickness to permit a slight shrinkage or expansion of the said plastic pattern sections 10-10-10-10 and still remain securely tongued in the said sections 10-10-10-10, the parts of the said pattern sections 10-10-10-10, which contact the metal section frames 2-2-2-2, after the plastic pattern sections 10-10-10-10, are cast, (in this instance a thermosetting casting resin is referred to) in the metal section frames 2-2-2-2, and are protected from chipping or breaking when subjected to the rough handling of foundry molding operations.

The metal section frames 2-2-2-2 and the metal frame 1, can be adapted to accommodate pattern sections made of other materials suitable to foundry molding operations.

The tongue 7 and adjoining parts 11, which contact the plastic pattern sections 10-10-10-10, can be coated if necessary, with a synthetic rubber paint or other suitable parting agent to provide a non-adhering surface which will allow the plastic pattern sections 10-10-10-10, to shrink or expand independently of the said metal frames 2-2-2-2 and prevent the said sections 10-10-10-10 from breaking or cracking when using a material for the said pattern sections which does shrink or expand.

I am aware that prior to my invention, sectional match plates have been made with removable sections, I therefore do not claim such a combination broadly; but I claim:

A match plate comprising in combination a unitary rigid main frame having sides, ends and a centrally disposed member forming at least two openings in the frame, said sides, ends and centrally disposed members being recessed about the sides facing said openings, flanged pattern carrying blocks disposed in said openings in such fashion that the flanges on said blocks are received in the recesses in said openings, clamping strips removably secured to said main frame, a slot in each clamping strip whereby said strip may be moved over an outer flange of an adjacent pattern carrying block to engage said flange and clamp said block into said recessed opening and a centrally disposed removable runner bar adapted to be positioned on said central member and over an inner flange of each pattern block, whereby said inner flange may be clamped into said recessed opening, each clamping strip and runner bar cooperating to form a clamp securing a pattern block in the recessed opening provided therefor.

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