

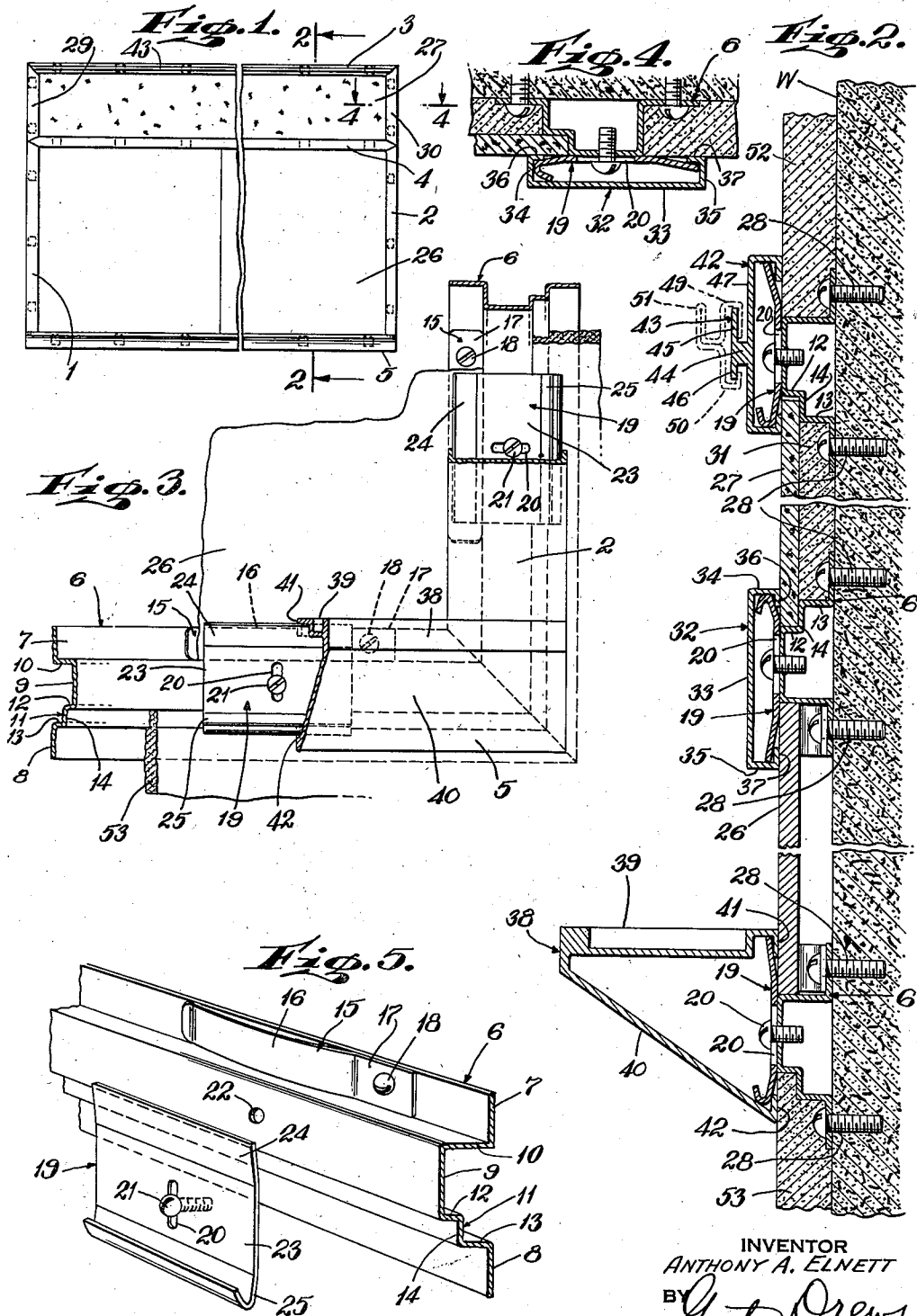
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FRAME FOR BLACKBOARDS

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FRAME FOR BLACKBOARDS

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11 Claims. (Cl. 35—63)

This invention relates to frames in general and more especially to metal frames suitable for supporting blackboards and the contrivances today customarily associated with blackboards.

Among the objects of the present invention it is aimed to provide an improved metal frame for supporting blackboards and the like including a main frame portion, a metal finishing trim, chalk frames and metal clips for removably connecting the trim, chalk frames and the like to the main frame portion.

These and other features, capabilities and advantages of the invention will appear from the sub-joined detail description thereof illustrated in the accompanying drawing, in which

Figure 1 is a front elevation on a reduced scale of a frame equipped with a cork board and blackboard.

Fig. 2 is a section enlarged on the line 2—2 of Fig. 1.

Fig. 3 is an enlarged fragmental view of one corner of the frame equipped according to the present invention.

Fig. 4 is an enlarged section on the line 4—4 of Fig. 1, and

Fig. 5 is a fragmental enlarged perspective of a portion of the main strip and clip detached.

In the embodiment shown there is illustrated a main wall W, which may be brick as an instance, to which are secured the metal strips of the main frame elements 1, 2, 3, 4 and 5, the metal strips of which, in cross-section, are substantially identical with one another, see as an instance the fragmental strip 6, which consists essentially of two parallel base webs 7 and 8, a main outer web 9, and intermediate webs connecting the outer web 9 with the base webs 7 and 8, said intermediate webs including the intermediate web 10, preferably extending vertically to the webs 9 and 7 and connecting the web 9 with the web 7, and also including the stepped web portion 11 consisting of two short web portions 12 and 13 parallel to the web 11 and a connecting web 14 between the web portions 12 and 13, such connecting web 14 extending parallel to the webs 7, 8 and 9. On the base web 7 at intervals, as desired, there are provided the spring blades 15, known in the trade as "double end springs" each consisting of a bowed portion 16 and a securing flange 17, which latter flange is secured to the outer face of the base web 7 by a rivet 18, or the like, while the free end of each blade 15 rides on the adjacent base web 7.

In addition to the spring blades 15 each strip 6 is also provided with a plurality of spaced apart

fastening clips 19 having the slots 20 cooperating with the screws 21, which are screw threadedly connected to the openings 22 in the web 9. The clips 19 preferably consist of a main web 23 in which the slots 20 are formed, which extend parallel to the web 9, an outwardly flaring web portion 24 along one end of the web 23 and a hooked web portion 25 along the other end of the web 23 (see Figure 5), the hooked web portion 25 slightly flaring from the intermediate web portion 23. The clips 19 and strips 6 are preferably composed of steel.

When installed and attached to a wall, the webs 10 of the strips 6 face one another for the blackboard 26, and the stepped webs 11 of the strips 3 and 4 face one another for forming the cork board 27. When the cork board 27 constitutes a panel above the blackboard 26, as illustrated in Figs. 1 and 2, the metal strips of the frame elements 1 and 2 are supplemented between the frame elements 3 and 4 by strips 6 in which the stepped webs 11 also face one another to cooperate with the stepped webs 11 of the frame elements 3 and 4 to support the cork board 27.

As shown in Fig. 2, the strips 6 are secured to the main wall W by having screws 23 extend through the base webs 7 and 8 and also the screws 18 of the springs 15 extend through the base webs 7 into the wall W. Metal strips of the frame elements 1, 2, 4 and 5 are arranged as aforesaid by having the webs 10 face one another, thereupon the blackboard 26 which may vary in thickness is placed against the bowed portions 16 of the springs 15 between the opposing webs 10, thereupon the clips 19 move inward over the edges of the blackboard 26 and the screws 20 are tightened, as shown in Figure 2.

The metal strip of the frame element 3, as aforesaid, and the metal strips of the frame elements 29 and 30 supplementing the metal strips of the frame elements 1 and 2 are similarly secured to the wall W by having screws 23 pass through the webs 7 and 8 and the screws 18 of the springs 15 pass through the webs 7 into the wall W, with the stepped webs 11 facing one another, first preferably to receive a plaster filler 31 in the space between the webs 13 and then to receive the cork board 27 on the sides formed by the webs 12 and 14, as shown in Figure 2.

If the blackboard 26 has already been installed then care must be exercised to see that the cork board 27 clears the hooked webs 25 of the clips 19 secured to the strip 4. Thereupon the clips 19 of the metal strips 6 of the supplemental frame

strip elements 29 and 30 and of the frame element 3 are moved over the edges of the cork board 27 and secured in place by tightening the screws 21.

Thereupon, there are secured to the metal strips of the frame elements 1, 2, 29, 30 and 3, the finishing trim strips 32 (see Figs. 2 and 4) which are preferably composed of aluminum and consist essentially of a main plate element 33 and two winged portions 34, 35 extended vertically to the plate element 33 and two inwardly extending fingers 36 and 37 formed on the wing portions 34 and 35, respectively, the fingers 36 and 37 being either slidably mounted on the clips 19 mounted on metal strips 6 of the frame elements 1, 2, 29, 30 and 4 or forced thereon, advantage being taken of the transverse yieldability of the strips 32.

To the clips 19 secured to the metal strip of the lower frame element 5, there is secured the chalk frame or shelf strip 38, see Figures 2 and 3, consisting essentially of a recessed or trough formed upper web 39, and an inclined lower web 40 with an inwardly extending finger 41 at the inner edge of the trough formed web 39 and another inwardly extending finger 42 at the inner edge of the inclined web 40. This strip 38 similarly is either slidably mounted on the clips 19 on the metal strips 6 of the frame element 5 or are spring pressed into place, advantage being taken of the resiliency in the strip 38, it also being preferably composed of aluminum.

In place of the plain trim strip 32, see Fig. 2, the clips 19 or the metal strips 6 of the upper frame 3 may consist of a trim strip 42 similar to the strip 32 and having extended therefrom the map receiving molding 43 consisting essentially of the elongated projection 44 and two wing elements 45 and 46 extending parallel to the main plate 47 of the strip 42. To this molding 43 picture hanging hooks 48 for securing the cords of maps or the like are connected, the hooks 48 consisting of wire or metal elements having two opposite U-shaped fingers 49 and 50 and a cord receiving hook element 51, which hooks 48 may be slidably moved onto the wings 45 and 46 of the molding 43 as shown in dotted lines in Figure 2.

As shown in Figure 2, above the web 10 of the metal strips 6 of the frame element 3 and below the stepped web 11 of the metal strip 6 of the frame element 5, the plaster layers or fillers 52 and 53 are disposed. Plaster fillers or layers like the layers 52 and 53 are also disposed on the wall W laterally of the outwardly extending webs of the metal strips 6 of the frame elements 1, 2, 29 and 30.

It is obvious that various changes and modifications may be made to the details of construction without departing from the general spirit of the invention as set forth in the appended claims.

I claim:

1. A frame for a blackboard or the like including a metal strip enclosure in cross-section a base web, an outer offset web parallel to said base web, an intermediate web connecting said base web to said offset web, a plurality of clips secured to the outer face of said offset web, a plurality of flat double end springs secured to the base web, and means for drawing said clips toward said springs resiliently to grip the edge of a blackboard between said slips and said springs, the flat springs having an outer bowed portion to engage the blackboard, one end portion being secured flat against said base web and the other

end portion free to ride on said base web according to the thickness of the blackboard portion being engaged by the associated bowed portion and the consequent tension exercised on such blackboard portion.

2. A frame for a blackboard including a metal strip enclosure in cross-section a base web, an outer offset web parallel to said base web, an intermediate web connecting said base web to said offset web, a plurality of clips secured to the outer face of said offset web with a portion thereof extending beyond said offset web and spaced from said base web to receive an edge of the blackboard therebetween, a plurality of flat double end springs, one for each of said slips secured to said base web, and means for drawing said clips toward said springs, resiliently to clip the edge of the blackboard between said clips and said springs, the flat springs having an outer bowed portion to engage the blackboard, one end portion being secured flat against said base web and the other end portion free to ride on said base web according to the thickness of the blackboard portion being engaged by the associated bowed portion and the consequent tension exercised on such blackboard portion.

3. A frame for a blackboard including a metal strip enclosure in cross-section a base web, an outer offset web parallel to said base web, an intermediate web connecting said base web to said offset web, a plurality of sets of clips and springs, each set including one clip and one spring, the clips being positioned on the outer face of said offset web and the springs being secured on the outer face of said base web adjacent to but spaced from a portion of its associated clip, the springs including a flat outwardly bowed portion and having one end secured flat against said base web and the other end free to ride on said base web according to the thickness of the blackboard portion engaged and the consequent tension exercised on the bowed portion, and means for drawing said clips toward said springs, resiliently to grip the edge of the blackboard between said slips and said springs.

4. A frame for a blackboard including a metal strip enclosure in cross-section a base web, an outer offset web parallel to said base web, an intermediate web connecting said base web to said offset web, a plurality of sets of clips and springs, each set including one clip and one spring, the clips being positioned on the outer face of said offset web and the springs being secured on the outer face of said base web adjacent to but spaced from a portion of its associated clip, the springs including a flat outwardly bowed portion and having one end secured flat against said base web and the other end free to ride on said base web according to the thickness of the blackboard portion engaged and the consequent tension exercised on the bowed portion, means for drawing said clips toward said springs, resiliently to grip the edge of the blackboard between said clips and said springs and trim and chalk shelf strips having offset gripping edges for engaging the edges of said clips after having been secured in place to anchor the blackboard in position.

5. A frame for a corkboard or the like including a metal strip enclosure in cross-section a base web, an outer offset web parallel to said base web, an intermediate stepped web connecting said base web to said outer offset web including an intermediate offset web parallel to said outer

offset web, said intermediate offset web parallel to said outer offset web serving as a guide to facilitate accurately predetermining the level of the plaster behind the cork board, clips disposed on the outer face of said outer offset web and having a portion thereof extending beyond said outer offset web adjacent to but spaced from said intermediate offset web to receive therebetween the edge of a corkboard and means for drawing said clips down securely to grip the edge of the corkboard between said clips and said intermediate offset web and the plaster behind the cork board.

6. A frame for a plurality of boards such as blackboards, corkboards and the like including metal strip enclosures in cross-section oppositely extending base webs, an outwardly offset web parallel to and intermediate said base webs, an intermediate transverse web connecting one side of said offset web with one of said base webs and extending perpendicularly to said offset base webs, a second intermediate transverse web connecting the other side of said offset web with the other of said base webs and including an intermediate offset web parallel to said outer offset web, a plurality of clips secured to the outer face of said offset web with portions thereof extending beyond both sides of the outer offset web, a plurality of flat double end springs, each mounted adjacent one of said clips on that base web which is disposed adjacent said intermediate vertically extending transverse web, and securing means for drawing said clips downwardly to grip an edge of a blackboard between said springs and the overhanging portions on one side of said clips and to grip an edge of a corkboard between said intermediate offset web and the overhanging portions on the other side of said clips, said intermediate web portion parallel to said outer offset web portion when used for the cork board serving as a guide to facilitate accurately predetermining the level of the plaster behind the cork board.

7. A frame for a plurality of boards such as blackboards, corkboards, and the like including metal strip enclosures in cross-section oppositely extending base webs, an outer offset web parallel to and intermediate said base webs, an intermediate transverse web connecting one side of said offset web with one of said base webs and extending perpendicularly to said offset base webs, a second intermediate transverse web connecting the other side of said offset web with the other of said base webs and including an intermediate offset web parallel to said outer offset web, a plurality of clips secured to the outer face of said offset web with portions thereof extending beyond both sides of the outer offset web, a plurality of flat double end springs, each mounted adjacent one of said clips on that base web which is disposed adjacent said intermediate vertically extended transverse web, and adjustable securing means including a slot in each clip and a screw extending through said slot into said outer offset web for drawing said clip downwardly to grip an edge of a blackboard between said springs and overhanging portions on one side of said clips and to grip an edge of a corkboard between said intermediate offset web and the overhanging portions on the other side of said clips, said intermediate web portion parallel to said outer offset web portion when used for the cork board serving as a guide to facilitate accurately predetermining the level of the plaster behind the cork board, said slot facilitating adjustment of said clip relative

to the edges of the blackboard and corkboard to be secured in place.

8. A frame for a blackboard including a metal strip enclosure in cross-section a base web, an outer offset web parallel to said base web, an intermediate web connecting said base web to said offset web, a plurality of clips secured to the outer face of said offset web with a portion thereof extending beyond said offset web but spaced from said base web to receive an edge of the blackboard therebetween, a plurality of flat double end springs, one for each of said clips secured to said base web, and adjustable securing means including a slot in each clip and a screw extending through such slot into said outer offset web for drawing the clip downwardly to grip the edge of the blackboard between said clip and its associated spring.

9. A frame for a corkboard or the like including a metal strip enclosure in cross-section a base web, an outer offset web parallel to said base web, an intermediate stepped web connecting said base web to said outer offset web including an intermediate offset web parallel to said outer offset web, said intermediate offset web parallel to said outer offset web serving as a guide to facilitate accurately predetermining the level of the plaster behind the cork board, clips disposed on the outer face of said outer offset web and having a portion thereof extending beyond said outer offset web adjacent to but spaced from said intermediate offset web to receive therebetween the edge of a corkboard, means for drawing said clips down securely to grip the edge of the corkboard between said clips and said intermediate offset web and adjustable securing means including a slot in each clip and a screw extending through such slot into the outer offset web and for drawing the clip downwardly to grip the edge of the corkboard between said clip and an intermediate offset web and the plaster behind the cork board.

10. A frame for a corkboard or the like including a metal strip enclosure in cross-section a base web, an outer offset web parallel to said base web, an intermediate stepped web connecting said base web to said outer offset web including an intermediate offset web parallel to said outer offset web, clips disposed on the outer face of said outer offset web and having a portion thereof extending beyond said outer offset web adjacent to but spaced from said intermediate offset web to receive therebetween the edge of a corkboard, means for drawing said clips down securely to clip the edge of the corkboard between said clips and said intermediate offset web and the space between the corkboard and the building wall being filled with plaster or the like, said intermediate offset web parallel to said outer offset web serving as a guide to facilitate accurately predetermining the level of the plaster filler between the building wall and the cork board.

11. A frame for a plurality of boards such as blackboards, corkboards, and the like including metal strip enclosures in cross-section oppositely extending base webs, an outer offset web parallel to and intermediate said base webs, an intermediate transverse web connecting one side of said offset web with one of said base webs and extending perpendicular to said offset base webs, a second intermediate transverse web connecting the other side of said offset web with the other of said base webs and including an intermediate offset web parallel to said outer offset web, a plurality of clips secured to the outer face of said

offset web with portions thereof extending beyond both sides of the outer offset web, a plurality of flat double end springs, each mounted adjacent one of said clips on that base web which is disposed adjacent said intermediate vertically extending transverse web, securing means for drawing said clips downwardly to grip an edge of the blackboard between said springs and the overhanging portions on one side of said clips and to grip an edge of a corkboard between said intermediate offset web and the overhanging portions on the other side of said clips, said intermediate

web portion parallel to said outer offset web portion when used for the cork board serving as a guide to facilitate accurately predetermining the level of the plaster behind the cork board, the space surrounding the frame beyond the building wall being filled with the usual plaster or the like, the outer offset web parallel to and intermediate said base webs serving as a guide to facilitate accurately predetermining the level of the plaster for the building wall in the space surrounding the frame.

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