No. 859,992. PATENTED JULY 16, 1907.

S. H. SUMMERSCALES.

SUPPORTING PLATE.

APPLICATION FILED AUG. 29, 1906.

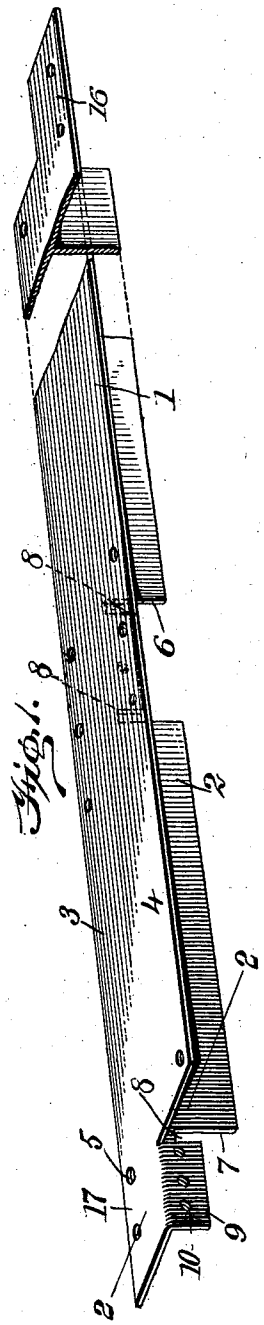


Fig. 1.

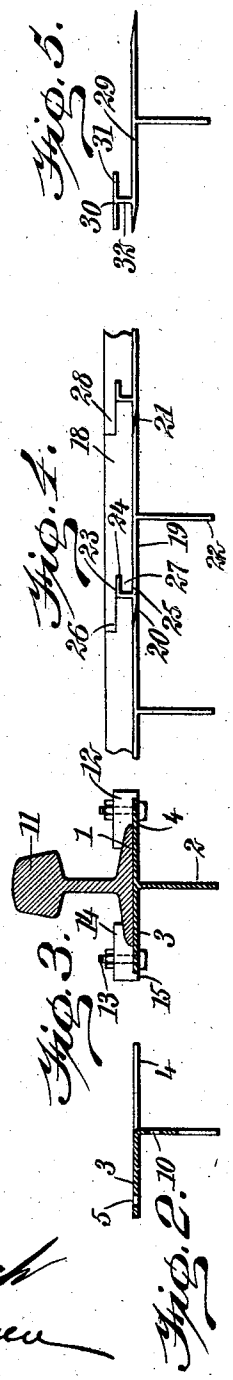


Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

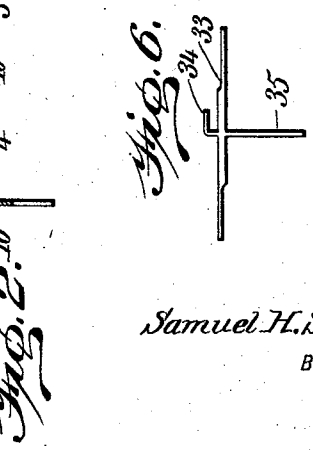


Fig. 6.

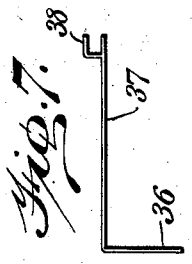


Fig. 7.

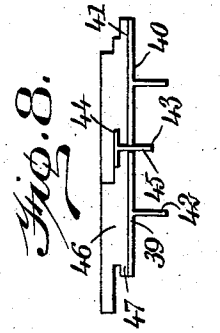


Fig. 8.

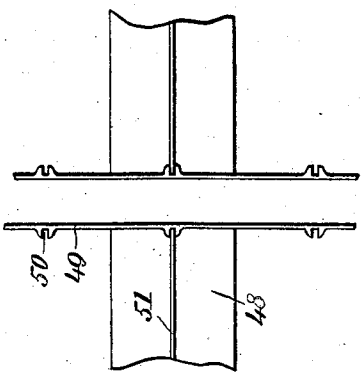


Fig. 9.

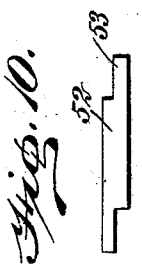


Fig. 10.

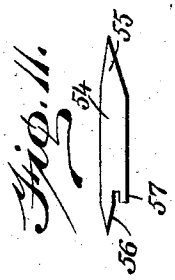


Fig. 11.

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SUPPORTING-PLATE.

No. 859,992. Specification of Letters Patent. Patented July 16, 1907.

Application filed August 29, 1906. Serial No. 332,437.

To all whom it may concern:

Be it known that I, SAMUEL HENRY SUMMERSCALES, a subject of the King of Great Britain, and a resident of Winnipeg, in the Province of Manitoba and Dominion of Canada, have invented a new and Improved Supporting-Plate, of which the following is a full, clear, and exact description.

This invention relates to a structural plate or supporting plate to be used in various constructions as an auxiliary support.

The object of the invention is to provide a plate of this kind having a form especially adapting it to its purposes so that it may be readily secured to the object which it supports and also to the members upon which it rests.

The invention consists in the construction and combination of parts to be more fully described hereinafter and definitely set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective of the plate, a portion of the view being broken away; Fig. 2 is a vertical cross section taken through the plate on the line 2—2 of Fig. 1; Fig. 3 is a cross section through the plate and representing the same as used in railway construction; Fig. 4 is an end elevation showing another form the plate may take, adapting the same for building construction, or similar purposes; Fig. 5 is an end elevation of a plate of another form but embodying my invention; Fig. 6 is an end elevation of a plate of another modified form differing slightly from the form shown in Figs. 4 and 5; Fig. 7 is an end elevation of a plate of another modified form; Fig. 8 is an end elevation showing a special adaptation of the invention where the plate is of simpler form than that shown in Figs. 4 to 7; Fig. 9 is an elevation showing a construction enabling the supporting plate to be held in a substantially horizontal position, its extremities resting against a wall or partition; Fig. 10 is an end elevation of a clapboard or floor board especially adapted to be used with my supporting plate; and Fig. 11 shows a modified form which the clapboard or floor board may take when used in connection with my invention.

Referring more particularly to the parts, 1 represents an elongated rectangular face plate, on the lower side whereof there is formed a longitudinally disposed web or fin 2. The face plate 1 is expected normally to be held in a horizontal plane, and in one aspect may be considered as formed of flanges 3 and 4 which project in opposite directions from the web 2, as indicated most clearly in Figs. 2 and 3. Near their edges, the flanges 3 and 4 are provided with suitable openings 5 which facilitate the attachment of an object to be supported upon the upper face of the plate 1, as will be readily understood. In order to facilitate the attachment of the plate to supports such as horizontal beams, I provide the web 2 at suitable points with recesses or enlarged notches 6, 7. In applying the supporting plate to the beams, the beams will be received in these notches, as will be readily understood. In case the beams referred to are formed of inverted channels, I prefer to provide the side edges of the notches 6, 7 with upwardly projecting slots 8 which will receive the flanges of the channels, as will be readily understood. In this way, downwardly projecting wings 9 are formed between the grooves 8, and I prefer that these wings should be cut, in practice, so as not to rest upon the webs of the channel when used as a supporting beam, as described above. These wings 9 I prefer to provide with openings 10 which facilitate their attachment to the supporting beams when desired.

In Fig. 3 I illustrate the plate as used in railway construction. In this connection, the plate is applied longitudinally to the roadbed beneath the rail 11, the rail being disposed centrally above the web 2 as indicated. The notches 6 in the web 2 are arranged so as to receive the cross-ties of the roadbed, as will be readily understood. In order to enable the rail 11 to be securely held to the plate 1, I provide clamping blocks 12 which are secured to the flanges 3 and 4 by means of bolts 13 which pass through the aforesaid openings 5. These clamping blocks 12 are formed with inwardly projecting toes 14 which extend over the side edges of the flange of the rail as shown, so as to grasp the same securely when the nuts of the bolts are tightened.

In order to assist in preventing any force from knocking the toes 14 to one side in such a manner as to rotate the blocks on the bolts, I provide the butts of the blocks with downwardly projecting nibs or shoulders 15 which engage the side edges of the flanges, as shown. Evidently, these shoulders will prevent any rotation of the blocks.

As indicated most clearly in Fig. 1, I prefer, at one end of the plate 1, to extend one of the flanges beyond the other, thus the far end of the plate as shown in Fig. 1, is formed with a projecting extension 16 and a corresponding projection 17 is formed at the other end. From this arrangement, when the plates are laid end for end, the projections 16 and 17 will come opposite each other and overlap so as to give an interlocking connection between the face plates 1. It should be understood that in railway construction, these plates are laid in this way beneath the rails so as to form continuous plates or girders resting upon the ties and securing the rails to the ties. In this way a very rigid construction results which prevents undesirable depression of the rails at the joints and which, furthermore, tends to distribute the pressure over a number of ties, at the same time tending to prevent creeping of the rails.

In Fig. 4, a slightly modified construction is shown, adapting the plate for holding boarding or sheathing 18. With this construction, the body or face plate 19 of the plate is formed with its side edges beveled as indicated at 20 and 21. It will be observed that the bevel edges are sloped oppositely, so that when the plates are laid side by side they overlap each other, the bevel of one edge being complementary with respect to the other. Centrally disposed beneath the face plate 19 there is a web 22 corresponding to the web 2 described above. Near one edge of the face plate I provide a cleat 23 which extends continuously longitudinally of the plate and is formed with an overhanging lip 24 which forms a groove 25 under it and above the face plate 19, as will be readily understood. The individual members of the boarding 18 are formed with rabbeted edges 26 which present tongues 27 adapted to engage in the grooves, as shown, and in this way the boards are formed with overlapping beads 28 which increases their security when placed in position as indicated in Fig. 4. Instead of adopting the form shown in Fig. 4, I may adopt the form shown in Fig. 5, in which the plate 29 has substantially the same form as that shown in Fig. 4, with the exception that the cleat 30 is formed double so as to present two oppositely projecting lips 31 formed in grooves 32 on each side thereof. With this arrangement, the cleat evidently affords means for holding both boards which lie adjacent thereto.

In Fig. 6 I show a construction in which, instead of beveling the side edges of the face plate, I provide the same with reduced extensions 33, which overlap each other and form what is generally known as a scarf joint. In this instance, also, I prefer to use the cleat 34 of the form shown in Fig. 4, placing the same centrally, however, just above the web 35.

In Fig. 7 I place the web 36 at the side edge of the face plate 37 and place the cleat 38 near the edge remote from the web 36.

In Fig. 8 I illustrate a construction wherein I dispense with a rigid cleat on the upper face of the face plate. In this construction, I provide supporting plates 39 and 40 which comprise horizontal face plates 41 provided with centrally disposed webs 42 on their under sides. These plates are laid adjacent to each other and between the adjacent edges of the plates I provide keepers 43. These keepers have substantially the form of a "T," presenting a horizontal upper bar or double flange 44 with a centrally disposed web 45. This web is arranged so as to project downwardly through the space between the adjacent edges of the face plates 39 and 40, and when the construction is set up, the web 45 is securely clamped between the supporting plates 41, as will be readily understood. In this way, the upper extremity of the keeper 43 constitutes a double cleat, projecting in opposite directions and engaging the rabbeted edges of the boards 46, said boards having tongues 47 formed near the lower sides thereof adapted to engage under the cleats, as will be readily understood.

In Fig. 9 I illustrate a construction in which the supporting plates 48 are held in horizontal position by means of vertical end strips 49. These end strips may be placed against a wall or the sides of the partition, and are provided with horizontal transverse grooves 50 which are adapted to receive the extremities of the webs 51 of the plates 48, as indicated. In this connection, it should be understood that the plates 48, in being applied, will be slid horizontally into position.

In Fig. 10 I show an end view of a board 52 which is adapted to be used in connection with the different forms of the supporting plate, the said board having rabbeted edges presenting a projecting tongue 53 adapted to be received under the cleat of the plate or keeper.

Fig. 11 shows a modified form of a board 54, the same having V-shaped edges 55 and 56, the edge 56 being cut away on its lower side so as to present the projecting tongue 57 which will be engaged by the cleat of the plate or the keeper, as will be readily understood.

Having thus described my invention, I claim as new and desire to secure by Letters Patent,—

1. A supporting plate comprising an elongated face plate with a central longitudinally disposed web on the under side thereof, said web having notches therein adapted to receive beams or other supports, said face plate having openings therein for securing supported members above said face plate.

2. A supporting plate comprising a web extending longitudinally thereof on the under side and flanges projecting laterally from the upper edge of said web, one of said flanges being extended beyond the other at each end whereby adjacent plates may interlock when laid longitudinally.

3. A supporting plate comprising a face plate in combination with a rail laid longitudinally thereof, clamping blocks bolted to said face plate and engaging the flange of said rail, said clamping blocks having shoulders projecting downwardly and engaging the edges of said face plate.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAMUEL HENRY SUMMERSCALES.

Witnesses:
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JAS. DICHMONT.