

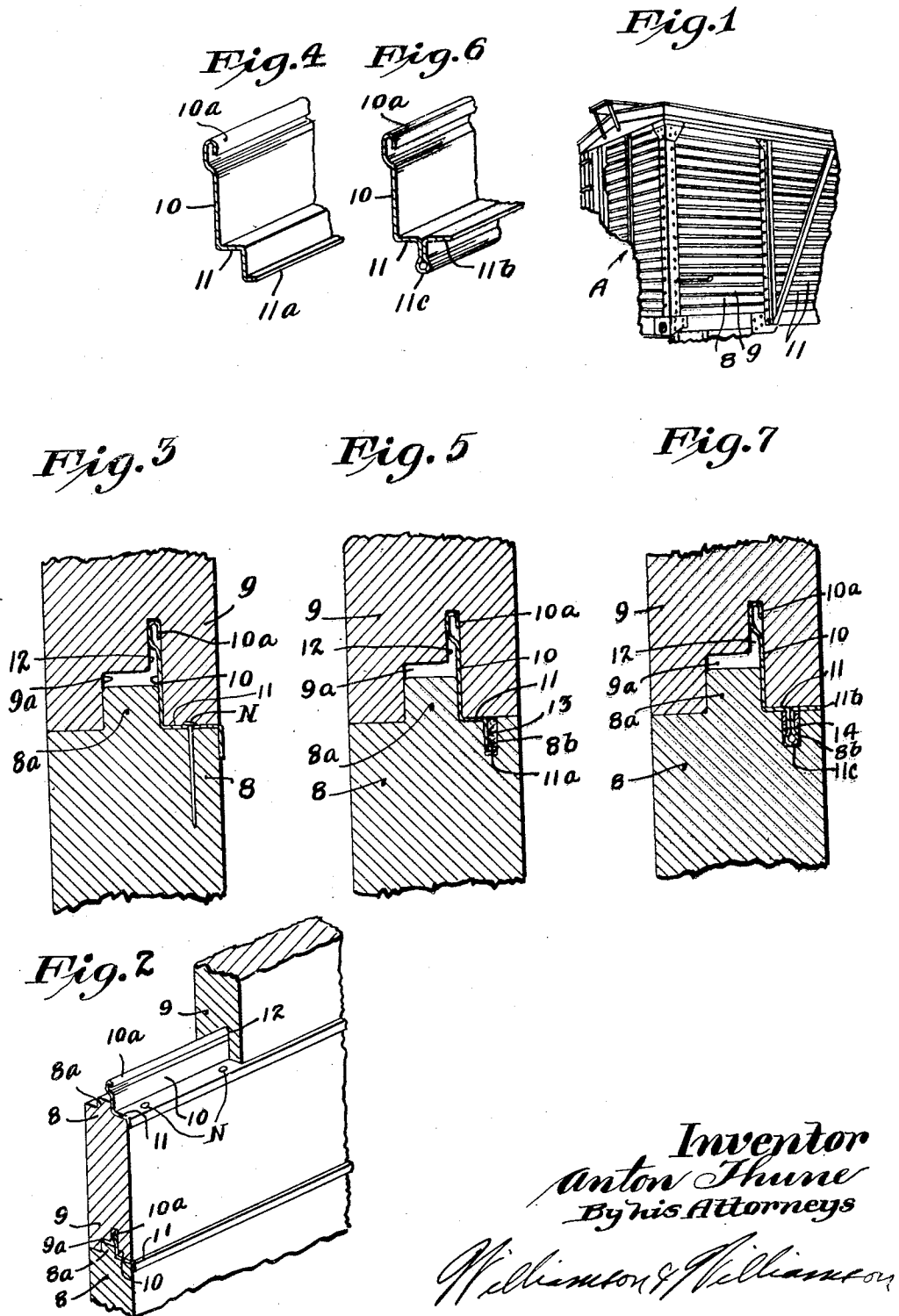
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WEATHER STRIPPING FOR FREIGHT CAR SIDING

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UNITED STATES PATENT OFFICE

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To all persons familiar with the structure and usage of freight cars, it is well known that the body portions of many freight cars are still made of wood. The sidings are usually composed of tongued and grooved boards with the tongued or tenoned member located underneath the grooved member, and the tenon engaging the groove of the grooved member. It oftentimes happens that the lumber has not been thoroughly dried out before it is put into use on the cars; but whether the lumber has been fully seasoned, or not, the joints will, in the service, open to a greater or less extent under the shocks and strains of the service, and when the car is exposed to the rain or fine snow, more or less water and snow will pass inward through the joints to the inside of the car and oftentimes greatly injure the contents thereof. It has, therefore, been found necessary to pack, or seal these joints between the tongued and grooved members of the sidings, to prevent moisture from being passed through the joints to the interior of the car.

My invention has for its object to provide an improved weather strip for sealing the joints of such tongue and groove jointed sidings of freight cars, but, of course, the invention is applicable to many other structures wherein such tongue and groove boards are employed and exposed to the weather. To the end above stated, my invention consists of a weatherstrip having the novel features hereinafter described and pointed out in the claims.

This invention is illustrated in the accompanying drawing, in three slightly different forms, all of which are within the scope of the hereinafter stated claims. In said drawing, like notations refer to like parts throughout the several views:—

Fig. 1 is a perspective view showing a portion of the body of a freight car having tongue and groove sidings equipped with my invention;

Fig. 2 is a perspective view of portions of two jointed boards having the preferred form of my weather strip in working position to protect the joint;

Fig. 3 is a vertical section through two

boards and the weather strip shown in Fig. 2;

Fig. 4 is a perspective view showing a slightly modified form of my weather strip;

Fig. 5 is a vertical section through two jointed boards having the said modified form of my weather strip in working position;

Fig. 6 is another perspective view showing another slightly modified form of my weather strip; and

Fig. 7 is a vertical section through two boards having the modified form of strip shown in Fig. 6 in working position.

In Fig. 1 of the drawing, the reference A represents a portion of a freight car having its sidings equipped with my improved weather strip.

In Figs. 2, 3, 5 and 7, the numeral 8 represents the lower member of two tongued and grooved jointed boards, and the numeral 9 represents the upper member of the two boards. The lower board 8 is provided with the customary tongue or tenon 8a, and the upper board 9 is provided with the customary groove 9a.

My improved weather strip is formed of a thin strip of resilient metal, such as steel bent upon itself crosswise of the strip at different places, to afford a weather strip of the desired form. In all of its illustrated forms, my improved weather strip is composed of an upright portion 10 and a stepped base portion 11; and in all the forms the upright portion 10 is provided with an outwardly and downwardly turned flange 10a at its upper end which makes that part of the weather strip of hook shape in cross section; and the downturned part of this flange stands slightly outward from the body portion of the strip, and because of this fact, it will yield or spring slightly whenever so needed. Moreover, the upper end section of the body 10 is slightly offset inward so that the hook-shaped upper end portion of the strip is of considerably greater width than the body portion thereof. In the simplest form of my strip illustrated in Figs. 2 and 3, the base portion 11 is composed of a single step. In the slight modification shown in Figs. 4 and 5, the base portion of the strip is composed of two steps, and in the form illustrated in Figs. 6 and 7,

the base portion is composed of a two faced step with the vertical walls of the stepfold abutting each other and forming a bead at their lower end.

For properly seating the upright portion of the weather strip, in all of its forms, the grooved board 9 is provided with a vertical slot 12 extending upward in the body of the board from the horizontal wall of the groove 9a, and opening into the same at its lower end. In all the forms, the upright portion of the strip is adapted to be seated in the outer joint between the tongue and the groove of the two jointed boards, with the upper end portion 10a of the strip located in the said slot 12 of the board 9, and the hook shaped top portion 10a slightly compressed or under spring tension.

In all the forms, the stepped portion 11 of the base of the weatherstrip rests on the outer shoulder of the lower board 8, and in the form illustrated in Figs. 2 and 3, the downturned outer portion of the step overlaps the outer face of the lower board and, in the usage of this form, the horizontal part of its step is secured to the lower board 8 by a nail N. In the modification shown in Figs. 4 and 5, the base, or stepped portion of the weather strip has one more step 11a than the form shown in Figs. 2 and 3; and for its application in working position, as shown in Fig. 5, the lower board 8 is provided with a vertical slot 8b extending downward from the outer member of the tenon's shoulders and adapted to receive the outer step of the base 11, and then be filled with cement or lead 13, for closing the slot and holding the embedded parts of the strip in proper working position, as shown in Fig. 5 of the drawing.

In the modification shown in Figs. 6 and 7, the base of the strip is formed with what might be called a two-faced single step 11 and 11b connected by a beaded fold 11c of the metal, which beaded fold is adapted to be seated in a vertical slot 8b formed in the lower board 8 of the pair of boards shown in Fig. 7, embedded in cement or lead 14 first placed in the slot.

From the foregoing it will be seen, that, in all forms of my improved weatherstrip, all parts of the outer joint between the tongue and groove jointed boards is lapped by the weatherstrip, and the joints sealed thereby in such a way that no water or snow can pass through the joint of said boards to the inside of the car. On the contrary, any water that gets into the outer joint must come between the base of the strip and the upright portion of the strip and be thereby intercepted and directed back outward to the outer face of the car. There is no possibility of the water passing over the upper end of the upright part of the strip because the water would necessarily strike the undersurface of

the hook-shaped flange at the upper end of the strip and be turned downward and backward thereby. There is no possibility of the water or snow getting under the base of the strip in any of the forms illustrated. In the form shown in Fig. 3, the downturned part of the step embraces the outer face of the underboard, as clearly shown in Figs. 2 and 3 of the drawing, and precludes the entrance of water or snow. In the forms shown in Figs. 4 and 5 and Figs. 6 and 7, the downwardly projected parts of the base of the strip are embedded in cement, filling the slots provided to receive said parts, and excluding rain or snow therefrom and rigidly securing the strip to the lower board 8.

What is claimed is:—

1. In combination with a pair of boards disposed edge to edge and having a tongue and groove joint therebetween, a joint-closing strip having a flat intermediate portion extending longitudinally throughout its length and adapted to fit between the opposed edges of said boards, extending outwardly from the tongue carried by one of said boards, said strip having an upwardly extending substantially vertical flange disposed against the vertical edge of said tongue and seated in a narrow groove formed in the other board and closing the joint between said boards even when said boards are spaced some distance apart.

2. In combination with a pair of boards forming a portion of a wall and disposed substantially edge to edge, said boards having a tongue and groove joint therebetween, a joint closing strip having a flat intermediate portion extending longitudinally thereof substantially throughout its length and fitting between longitudinal portions of one of said boards outwardly to the outer surface of said wall, the grooved board having a relatively narrow longitudinal groove communicating with its main groove and substantially aligned with the outer side of the tongue of the second board, said strip having a perpendicular portion extending substantially longitudinally throughout its length, said perpendicular portion terminating in an outwardly and downwardly turned edge yieldingly engaging said narrow grooved portion for insuring the return of any leakage to the outer face of the joined boards, and means for securing the intermediate portion of said strip to one of said boards.

In testimony whereof I affix my signature.
ANTON THUNE.