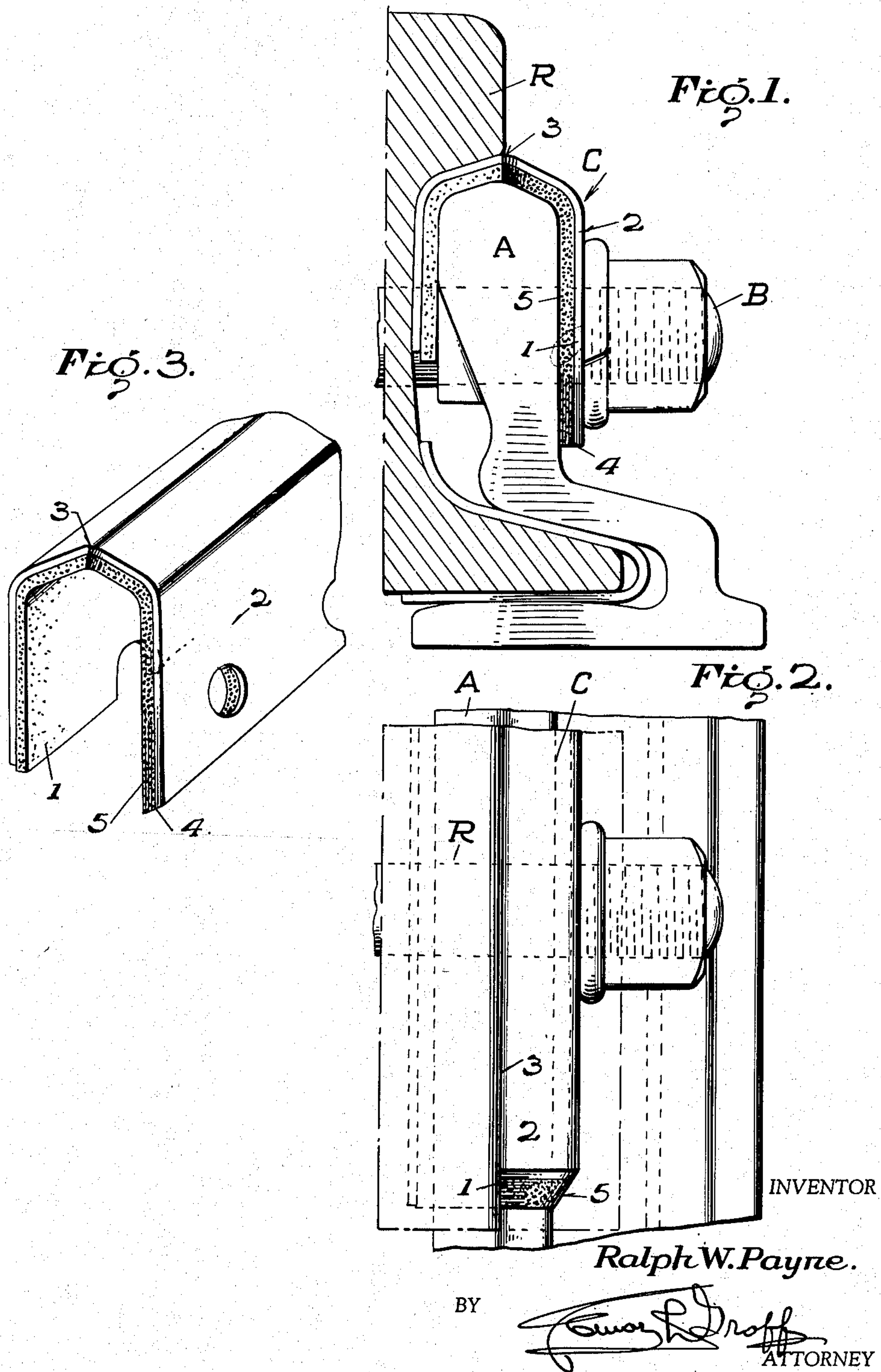


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INSULATED RAIL JOINT  
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## UNITED STATES PATENT OFFICE

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## INSULATED RAIL JOINT

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2 Claims. (Cl. 238—155)

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This invention relates to insulated rail joints, and more particularly to improvements in the armored insulated type shown in my former Patents No. 2,016,214, dated October 1, 1935, and No. 2,441,329, dated May 11, 1948.

Armored insulated joints, as they are known in the industry, have been in extensive use over a period of time and have given very satisfactory results. However, as indicated in my Patent No. 2,441,329, equipment dragging from rolling stock occasionally strikes the exposed outer portions of the ends of the metal shields damaging blows with the result that the metal shield pieces are bent downwardly and inwardly and forced through the insulating sheath thereby producing short circuits, resulting in signal failures. The last patent referred to discloses one way of meeting the problem and the present invention employs the carrying forward of the same general purpose in a different and practical manner.

Accordingly, one of the objects of the present invention is to provide an insulated joint including an insulation unit consisting of an inner insulation sheath of hard fiber or other insulating material and an outer metal shield assembled in laminar form, and wherein the exposed ends or corners of the unit, outwardly of the point of outer loading engagement between the top of the unit and the head of the rail, are so formed as to provide a wedge-like continuous impact surface for deflecting blows resulting from dragging equipment away from the joint, thereby not only softening the blow but by reason of such deflection avoiding the damaging of the metal shield in a way that will likely cause short circuits or signal failure.

A further object of the invention is to provide an insulating unit wherein the insulation sheath and the metal shield are continuously beveled outwardly and rearwardly in the same plane thereby providing a firm, smooth and solid impact deflecting face.

With the above and other objects in view which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts, hereinafter more fully described, illustrated and claimed.

A preferred and practical embodiment of the invention is shown in the accompanying drawings, wherein:

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Figure 1 is a detail vertical section of a half rail and a joint bar having the armored unit of the present invention applied thereto;

Figure 2 is a top plan view of the construction shown in Figure 1;

Figure 3 is a detail perspective view of one corner of the armored unit.

Referred to the drawings, it will be seen that the rail R is provided with a joint bar A secured to the rail by bolts B in the usual manner, and an insulating unit C, according to the present invention, overlies the head of the joint bar and has loading engagement with the underside of the rail head and the upper fillet of the rail.

The insulating unit C is of substantially inverted U-shaped formation and includes the inner hard fiber insulation sheath 1 and an outer metal protecting shield 2. The exposed vertical edge or corner of the unit from a point 3 at the top thereof where loading engagement between the unit and the rail R ceases to exist, to and including the bottom edge 4 of the unit is formed with an outwardly and rearwardly beveled impact receiving and deflecting surface 5. This surface includes both the insulation and the metal sheath and therefore the impact surface 5 includes, in planar relation, both the insulation and the metal to provide a firm and rigid blow deflecting portion.

It will, of course, be understood that the angularly disposed or beveled impact receiving surface 5 is formed at both ends of the unit so that it is adapted to be reversed end for end in installation and will also ward off or deflect blows from dragging equipment moving in either direction.

The impact face 5 is preferably formed on an angle of approximately 20 to 60 degrees with respect to the plane of the outer face of the shield so as to thereby cause dragging equipment to readily glance off the unit before any substantial damage is done to any part thereof. In other words, the beveled impact surface 5 acts as a wedge with relation to dragging equipment to push the same away from the joint and at the same time save the parts of the unit from damage serious enough to cause a short circuit.

I claim:

1. An insulated rail joint, comprising, the rails, the splice bars, and head pieces of insulation having covering metal shields of inverted U-shaped cross section engaged over the top of the splice



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bar and having the upper inner portions thereof in loading engagement with the rail, and the outer corner edge portions of the insulation sheath and shield disposed downwardly of said point of loading engagement being beveled outwardly toward the center of the bar and in the direction of the length thereof to provide an outwardly directed impact surface for deflecting dragging equipment away from the joint to prevent rupture of the insulation and the shield that would short circuit the joint.

2. A blow deflecting insulating unit for rail joint bars bolted to rail ends, comprising, an insulated member, a mating metal shield therefor telescopically fitted over the head of its related bar, said insulating member and metal shield both beveled at their outer exposed ends outwardly relative to the outer face of the bar in the direction of the longitudinal axis thereof to provide a blow deflecting impact surface lying

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outwardly of the outer side of the rail ends and upstream of the bolts in the direction of traffic.  
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REFERENCES CITED

The following references are of record in the file of this patent:

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