

No. 872,142.

PATENTED NOV. 26, 1907.

A. H. MOSHER.

RAIL BOND.

APPLICATION FILED JAN. 17, 1907.

Fig. 1

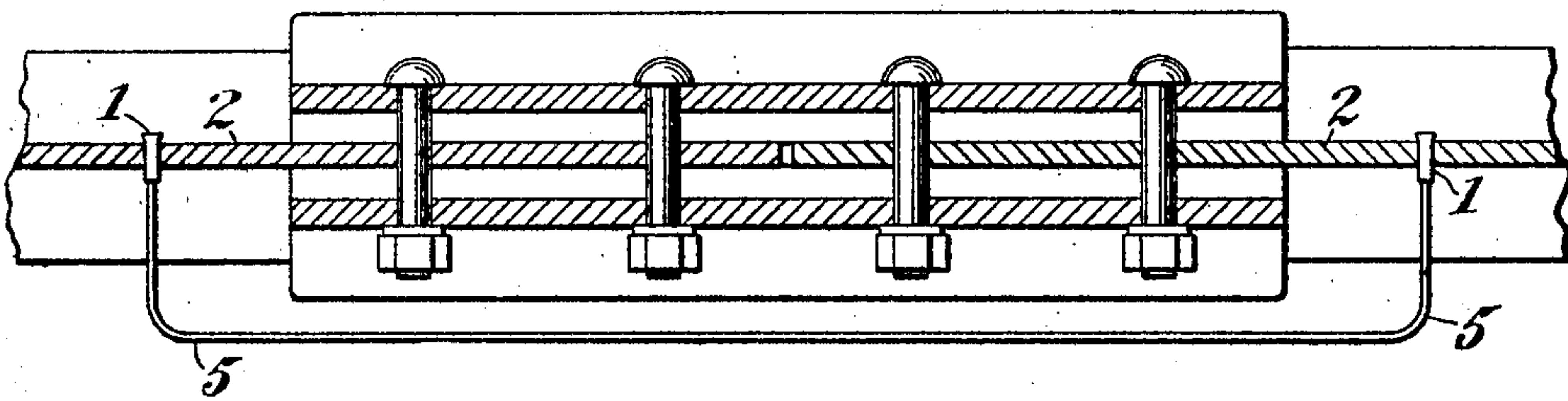


Fig. 2

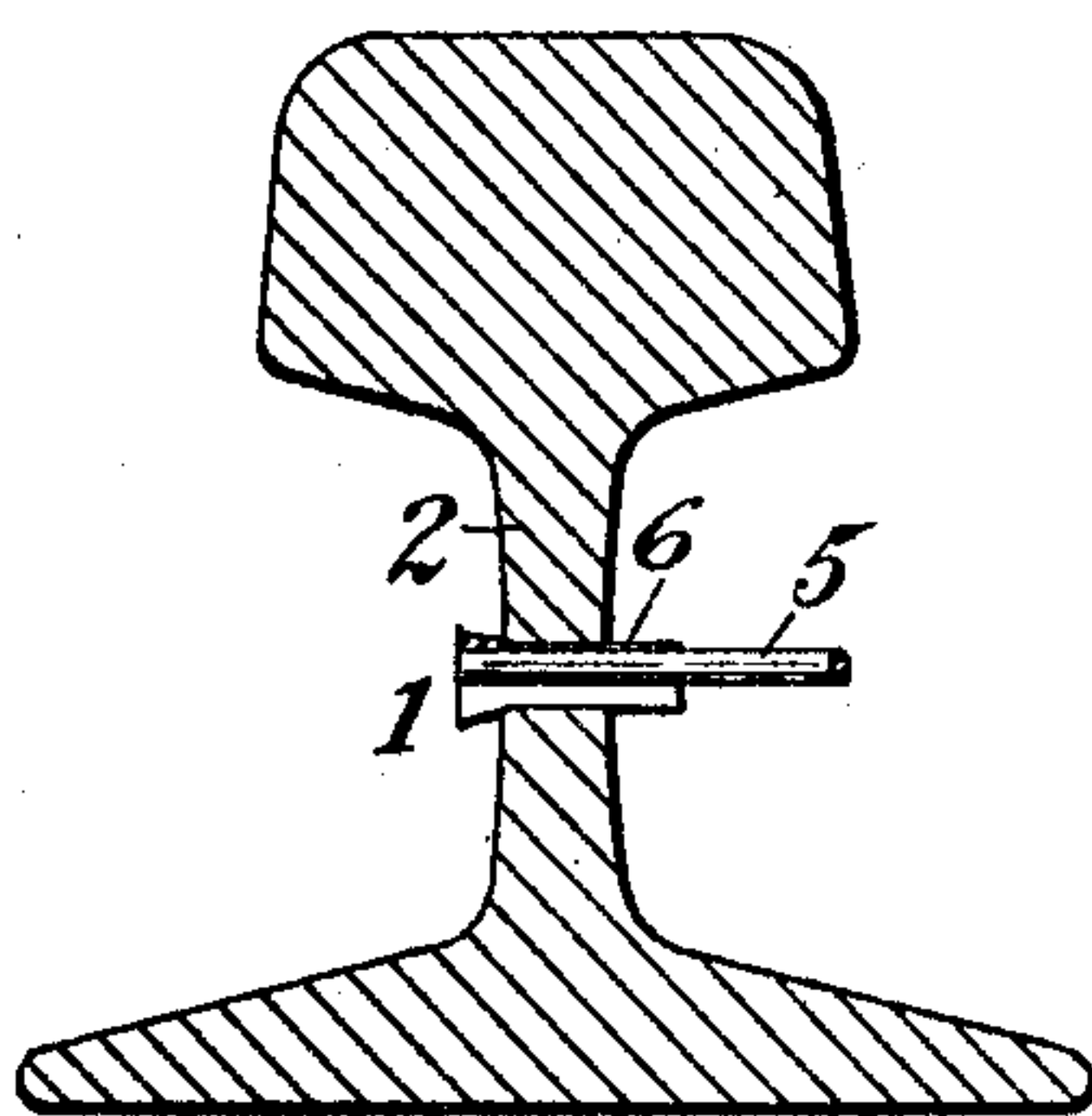


Fig. 3

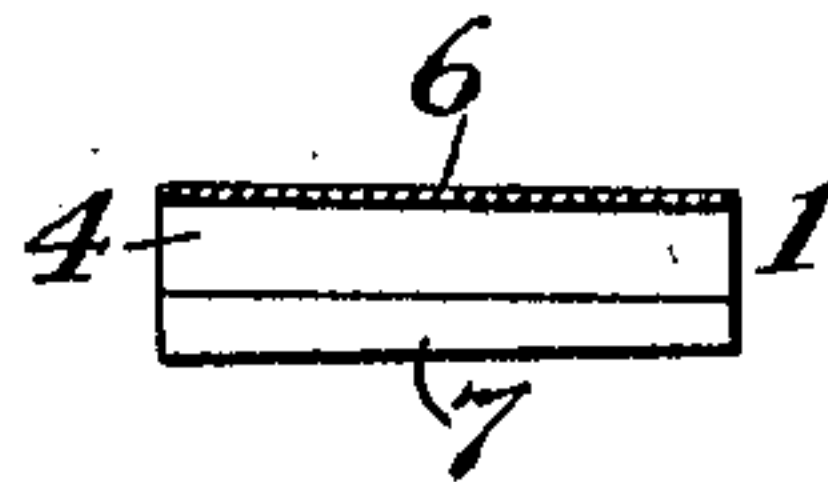


Fig. 4



Witnesses:

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UNITED STATES PATENT OFFICE.

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RAIL-BOND.

No. 872,142.

Specification of Letters Patent.

Patented Nov. 26, 1907.

Application filed January 17, 1907. Serial No. 352,678.

To all whom it may concern:

Be it known that I, ASA H. MOSHER, a citizen of the United States, residing at Westfield, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Rail-Bonds, of which the following is a specification, reference being had therein to the accompanying drawings, forming a part thereof.

10 My invention relates to rail-bonds or means for making electrical or other wire or plug connections with such objects as railway-rails.

My invention has for its objects, simplicity of construction, ease of application, the tight closing of all joints and the maintenance of such tight closure, the attainment and maintenance of perfect contact between the bond-wire and the connector and the rail or other conductor, and the production of a durable and non-corrodible joint.

My invention includes a connector so formed and constructed as to have a portion of its substance or material or body more readily yielding than other portions, to permit the device to be driven into a hole or opening otherwise too small to receive it, and further to cause the device, when so driven, to re-act with great gripping power on a wire or other member which the device incloses.

My invention also includes as an accessory to the means having this feature of differential yield, "give" or flow of the substance or material composing the device, the formation of the device with a slot the sides of which are adapted to come together to contract the device and thereby to roughly adjust it to the opening into which it is to be driven and likewise to adjust it roughly to the wire which it incloses. As stated, these accessory means effect only a comparatively rough, preliminary adjustment of the parts to each other, leaving it to the differential yield feature to effect the ultimate and complete adjustment and contact between the parts.

In the drawings, Figure 1 is a horizontal sectional-view of a pair of rails united by fish-plates and electrically connected by a rail-bond embodying my invention. Fig. 2 is an enlarged cross-section of one of the rails passing centrally through the connector driven therein, the section being taken on a vertical plane. Fig. 3 is a further enlarged longitudinal section of the connector de-

tached and before it is driven into the rail to inclose the bond-wire. Fig. 4 is an end elevation of the same.

Describing now my invention as illustrated in the particular embodiment shown in the drawings, the connector is in the form of a plug 1 adapted to be driven into a bore or hole in the web 2 of either rail and to engage the same with a driving fit. For this purpose the plug is slightly tapering in form.

An opening 4 is provided in the plug to receive the end of the rail-bond or wire or other connection 5 as the case may be. This plug-opening is located eccentrically in the plug so as to leave a thin metal portion 6 on one side of the opening and a thick metal portion 7 on the other side thereof, and the thick metal portion is cut through or slotted, the slot being designated 8 and clearly shown in Fig. 4. Thus the opening 4 is located entirely within the plug, the walls of the plug encompassing it so that the wire makes contact entirely with the plug.

The material which I have employed for the plugs above described is a moderately soft iron, such as commercial wrought iron.

In the use of a connector the wire is inserted in the opening in the plug, and the plug is then driven into the rail-hole. Since the plug is adapted to engage the rail-hole with a driving-fit, the first effect of the driving operation is to jam the sides of the cut together. As soon, however, as the sides of the cut have actually come together, the yielding of the plug at this point is practically at an end, and the additional yield or "give" required of the plug to permit further driving is provided by the thin metal portion 6 described above. This thin portion yields under the drive so as to permit the plug to be driven into an absolutely tight contact with the walls of the rail-hole and also and at the same time so as to permit the walls of the opening 4 in the plug to close snugly about the wire to the extent of fully surrounding it with a tight and clenching grip. Again, this thin metal portion, as it yields, flows into and fills any adjacent existent gap or space between the plug and the surrounding wall of the rail-hole.

Whenever the word "rail" is used in the accompanying claims, said expression is intended to include any object to which it is practicable to secure a wire connection by the use of the device of my within invention. Similarly, the word "wire" is intended in

the claims to cover not only wires strictly so-called, but other forms of rail-bonds or conductors adapted to cooperate with means embodying my invention for the purpose of being connected with a rail or other suitably adapted object.

It is obvious that modifications may be made in the construction shown and above particularly described within the principle and scope of my invention.

I claim:—

1. The combination of a rail, a wire to be connected therewith, and an intermediate connector comprising a plug adapted to engage a hole in the rail with a driving fit, the plug being provided with an opening adapted to receive the wire and this opening being located entirely within the plug and having its surrounding walls thin in one portion and thick in other portions, the thick

portion being slotted, and the thin portion being adapted to yield when the plug with the wire therein is driven into the rail.

2. The combination of a rail, a wire to be connected therewith, and an intermediate connector comprising a tapered plug adapted to engage a hole in the rail with a driving fit, the plug being in the form of a hollow shell split longitudinally, the hollow of the shell being adapted to receive the wire, and the wall thereof opposite the split portion being of reduced thickness to adapt it to yield when the plug with the wire therein is driven into the rail.

In testimony whereof I have affixed my signature in presence of two witnesses.

ASA H. MOSHER.

Witnesses:

HENRY D. WILLIAMS,
BERNARD COWEN.