

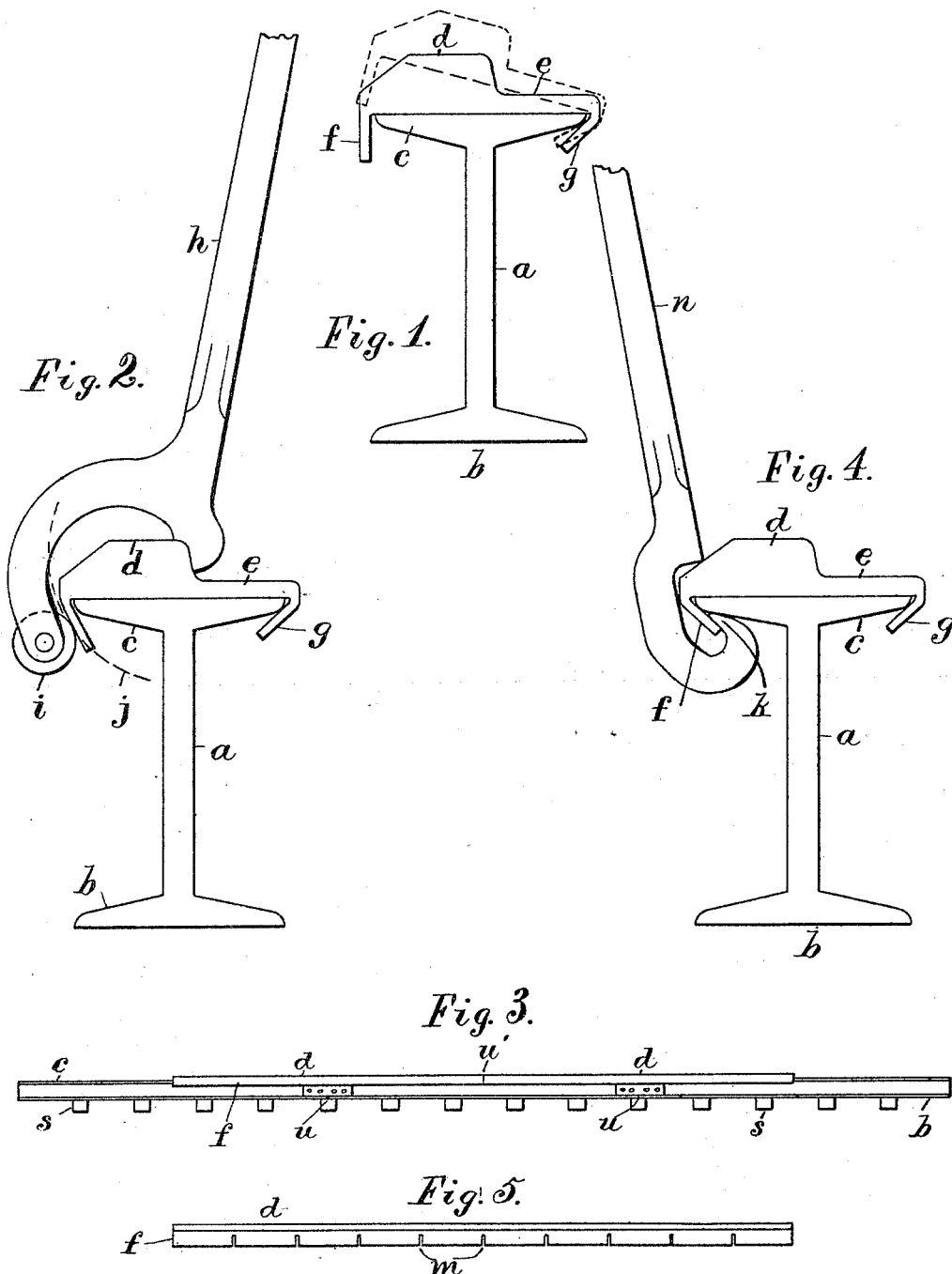
(No Model.)

J. A. ENO.

REMOVABLE CAP FOR STREET RAILWAY RAILS.

No. 491,538.

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UNITED STATES PATENT OFFICE.

JOSEPH A. ENO, OF NEWARK, NEW JERSEY.

REMOVABLE CAP FOR STREET-RAILWAY RAILS.

SPECIFICATION forming part of Letters Patent No. 491,538, dated February 14, 1893.

Application filed September 14, 1892. Serial No. 445,851. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. ENO, a citizen of the United States, residing at Newark, Essex county, New Jersey, have invented certain new and useful Improvements in Removable Caps for Street-Railway Rails, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The object of the present invention is to furnish an improved form of removable rail cap which may be applied to and removed from the body of the rail without detaching the same from the sleepers.

The invention is especially adapted for use where a heavy traffic is imposed upon the rails, as it forms a very stiff construction; and it furnishes a means of utilizing for the body of the rail the ordinary merchant I-beams which are found in the open market for use as building beams. Such beams are utilized by forming the cap of a particular shape adapted to secure readily upon the flanged head of such beams when attached to the sleepers.

The cap in its manufacture is formed with the usual car tread, and is provided upon its opposite edges with two longitudinal flanges. One of the flanges is formed at right angles to the under side of the cap, and the other is bent quite abruptly to hook upon the edge of the head of the beam. After the cap is placed in position upon the head of the beam, the right angle flange is bent cold against the opposed edge and thus secures the cap rigidly thereto.

By making the caps of the same length as the I-beams and applying them over the joints of the beams, a rigid continuous rail is formed when the right angle flange is bent under the edge of the head.

In the annexed drawings, Figure 1 is an end view of an I-beam with the rail cap laid thereon in readiness for attachment; Fig. 2 is an end view of the beam with the cap attached; Fig. 3 is a side elevation of three I-beams supported upon sleepers with two of the caps applied over the joints of the same. Fig. 4 shows a means of detaching the cap, and Fig. 5 shows an edge view of the cap and its flange *f*.

a is the web of the beam *b* the bottom flange or foot of the same, and *c* the top flange or head of the same.

The cap is shown of suitable form for the street railway with car-tread *d* and wagon-tread *e* which are provided at their outer edges respectively with flanges *f* and *g*. In the process of manufacture the flange *g* is bent inward to fit one edge of the head *c*, and the flange *f* is left at right angles with the outer edge of the rail. By this construction the cap may be applied to the head *c* without slipping it on longitudinally, by first hooking the flange *g* upon the inner edge of the head as indicated by the dotted lines in Fig. 1, and then dropping the flange *f* outside the opposite edge of the head *c*. The flange *f* is then bent without heating by suitable means against the under edge of the head *c* as shown in Fig. 2, and the cap is thus securely locked upon the head. The flange *f* is made thin enough to yield under the pressure of such tools as can be operated by hand, and a bent lever *h* adapted to engage the edge of the car-tread *d* is shown, in Fig. 1, applied to the flange, with the latter partially bent. The end of the lever is provided with a roller *i* to reduce the friction, and the path of the roll in bending the flange is indicated by the dotted line *j*.

In Fig. 3, three of the I-beams are shown mounted upon sleepers *s* with the usual fish plates at the joints *u*, and two of the caps applied to the heads of the I-beams, so that the joints *u'* of the caps may break joints with the ends of the beams, and thus form a continuous rail. The fastening of the caps upon the heads of the I-beams in such position serves to brace and strengthen the joints *u* in a very great degree and thus forms a very firm and permanent rail. When the caps *d* are worn out they may be removed by bending the flange *f* outward into its initial shape. A tool for such purpose is indicated in Fig. 4, with a jaw *k* of hooked form to engage the edge of the flange, and formed upon a hand lever *n* which has an offset *l* to rest upon the top of the rail cap.

It will be noticed that in a street railway rail no strain is imposed upon the flange *f* and the wear is confined chiefly to the treads *d* and *e*, and the flanges *f* and *g* are thus of

sufficient durability, although the flange *f* is necessarily made quite thin to be readily bent as required. To facilitate the bending, the flange *f* may be nicked or notched at intervals, as shown at *m* in Fig. 6, and is then adapted to be bent by a hand hammer.

I am aware that removable caps have been secured upon the heads of rail bars and their beams have been constructed with heads clamped upon the same, and I do not therefore claim a removable cap broadly, but only the construction shown herein.

In all previous constructions a rail bar or beam of special form has been required, as for instance where the cap has been secured by wedges, which required a heavy head with beveled edges formed upon the rail bar; and in other cases where the cap has been formed to slip longitudinally upon the body of the rail bar. My construction is adapted to utilize the wrought iron **I**-beams which are already furnished in the open market at a very low price, for structural purposes, and necessitates only a cap of special form to furnish the tread upon the head of such beams.

I am not aware that any cap has ever been flanged in such manner that the flange could

be bent cold upon the head of a beam after the same was laid in the street, and have therefore claimed such method of securing the cap to the rail beam.

Having thus set forth the nature of my invention, what I claim herein is:—

1. The combination, with the merchant **I**-beam having a web *a* and head *c*, as set forth, of the cap provided with the car-tread *d* and wagon-tread *e* having the flange *g* hooked upon one edge of the head *c* and the flange *f* bent cold against the opposite edge, as and for the purpose set forth.

2. The method of forming a continuous rail which consists in applying a flanged and hooked cap upon the heads of two **I**-beams over the joint of the same, with the hook upon one edge of the said heads, and then bending the flange under the opposite edge of the said heads, as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOSEPH A. ENO.

Witnesses:

WM. B. PRICE,
THOMAS S. CRANE.