

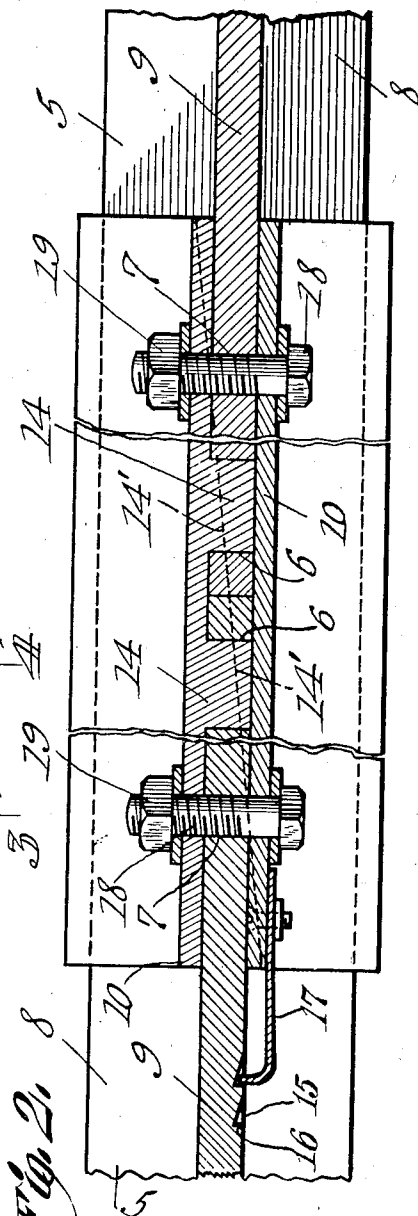
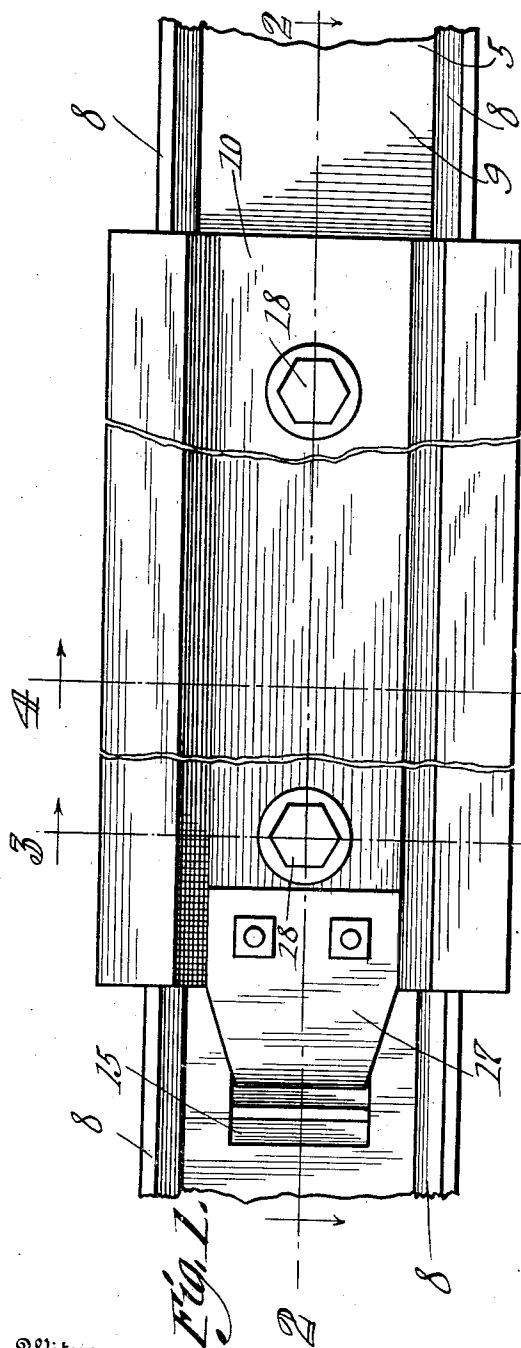
Y. AND J. G. ARNANDEZ AND C. L. VOORHIES,
JOINT LOCK.

APPLICATION FILED MAY 12, 1920.

1,358,918.

Patented Nov. 16, 1920.

3 SHEETS—SHEET 1.



Witness

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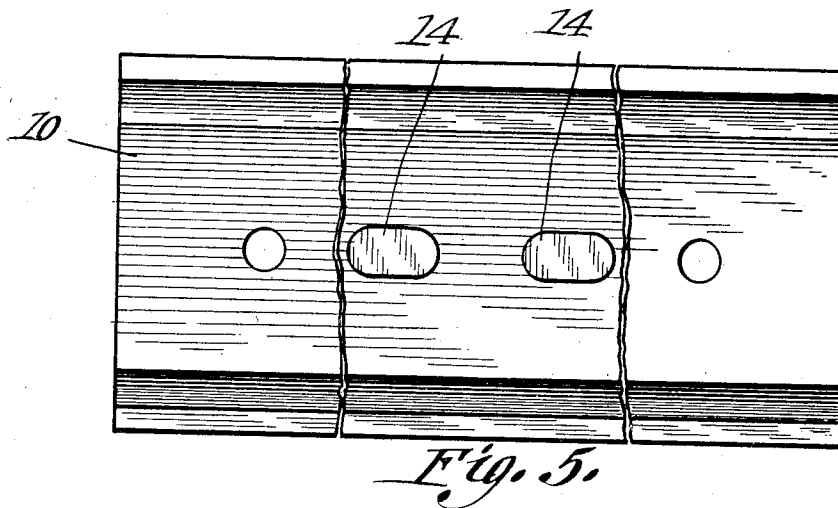
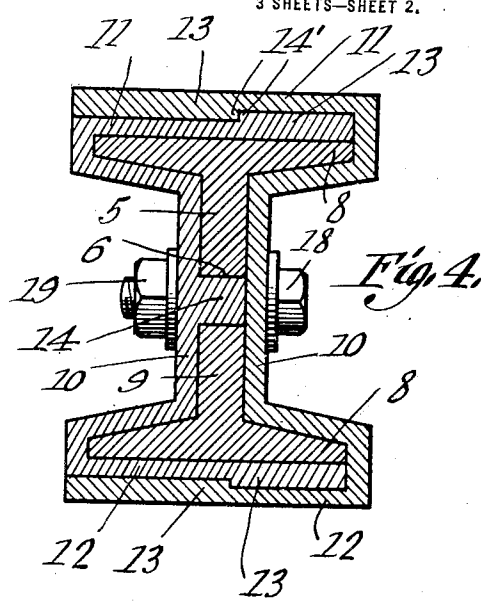
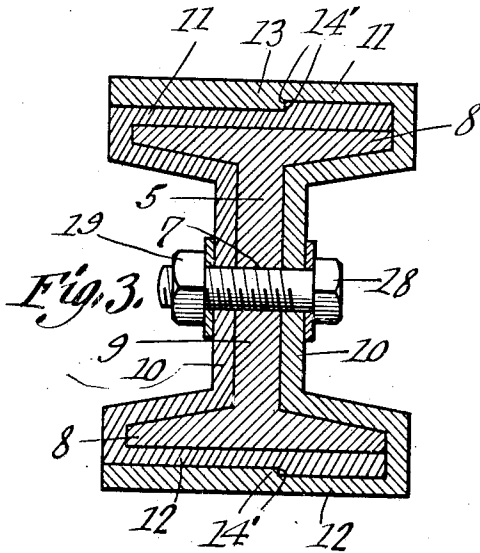
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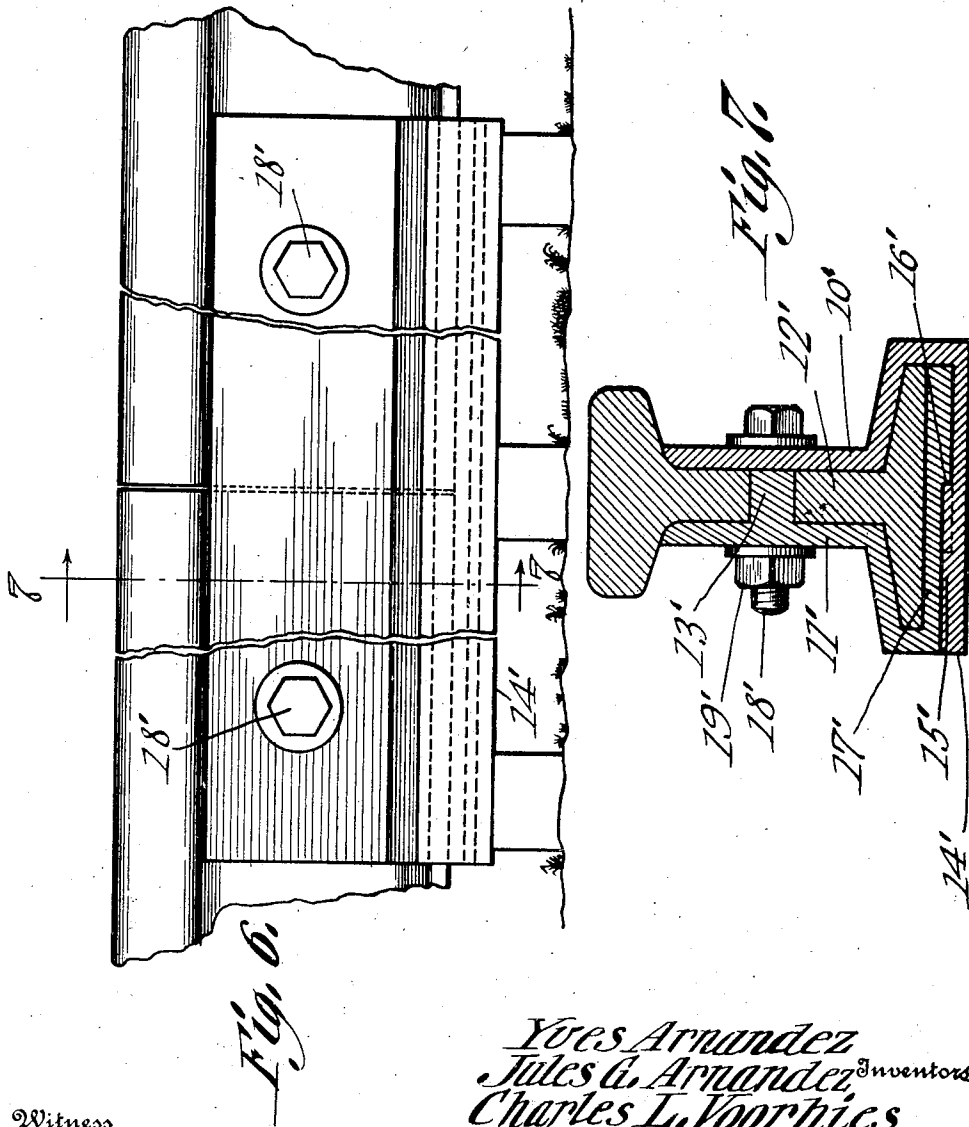
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3 SHEETS—SHEET 3.



Witness

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UNITED STATES PATENT OFFICE.

YVES ARNANDEZ, JULES G. ARNANDEZ, AND CHARLES L. VOORHIES, OF OPELOUSAS, LOUISIANA.

JOINT-LOCK.

1,358,918.

Specification of Letters Patent.

Patented Nov. 16, 1920.

Application filed May 12, 1920. Serial No. 380,913.

To all whom it may concern:

Be it known that we, YVES ARNANDEZ, JULES G. ARNANDEZ, and CHARLES L. VOORHIES, citizens of the United States, residing at Opelousas, in the parish of St. Landry, State of Louisiana, have invented a new and useful Joint-Lock, of which the following is a specification.

This invention relates to beam splices, and more particularly to splices employed for connecting the adjacent ends of I beams employed in metallic building construction.

The primary object of the invention is to provide a splice comprising a separable housing having means to interlock the sections thereof.

A further object of the invention is to provide means to restrict movement of the housing longitudinally of the beam to which the splice is secured, thus insuring a rigid connection between the ends of adjacent beams, at all times.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawings:—

Figure 1 is a side elevational view of the splice constructed in accordance with the present invention, the same being shown as applied to adjacent ends of the beams.

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1.

Fig. 3 is a sectional view taken on line 3—3 of Fig. 5.

Fig. 4 is a sectional view taken on line 4—4 of Fig. 5.

Fig. 5 is a side elevational view of adjacent ends of beams, one of the side sections of the splice being shown as removed.

Fig. 6 illustrates a fragmental side elevational view of rail sections showing the invention applied as a fish-plate.

Fig. 7 illustrates a sectional view taken on line 7—7 of Fig. 6.

Referring to the drawings in detail, the reference character 5 designates beam sections which are shown as having their ad-

jacent ends abutting and provided with elongated openings 6 and bolt openings 7.

The I beams to which the splice is secured, are of the usual construction, the same having the head sections 8 connected by the central web 9, and as shown, the splice forming the subject matter of the present invention includes opposed sections, each of which comprises a central web 10 and right angled plates 11 and 12, the plates 11 and 12 of one section being supported in such spaced relation with the web portion thereof that the plates 11 and 12 of the opposed section may fit between the first mentioned plates 11 and 12 and the heads of the beam, to which the splice is applied.

The contacting surfaces of the plates 11 and 12, of the opposed sections are provided with ribs 13 having oppositely inclined faces 14' respectively, so that when the opposed sections are positioned on an I beam, as illustrated by Figs. 3 and 4 of the drawings, and the sections move longitudinally of the beam, in a predetermined direction, the sections will be drawn into close engagement with each other in a direction transverse of the beam and will firmly grip or embrace the entire surfaces of the contacting ends of the beams in a manner to prevent lateral displacement of the beams.

One of the sections 10 is provided with elongated lugs 14 adapted to be positioned within the elongated openings 6 of the beams, these lugs being of a length equal to the thickness of the web, so that the free ends of the lugs will lie flush with one surface of the webs of the I beams so that the adjacent section may closely engage the I beam.

Formed within one of the surfaces of one of the I beams to be connected, are a plurality of notches 15 arranged in spaced relation with each other and provided with relatively straight walls 16 adapted to cooperate with the spring plate 17 which has a right angled end portion shown as engaging within one of these notches 15, the opposite end thereof being shown as rigidly secured to one of the plates. From the foregoing it is obvious that as the opposed sections of the splice are moved longitudinally of the beams, in a manner to cause the inclined edges of the plates 11 and 12 thereof to be wedged together, the spring plate 17 contacts with the relatively straight walls 16 of the

notches 15 to insure against the sections moving in a reverse direction. It will also be seen that this spring plate 17 temporarily secures the sections of the splice in proper
5 relation with each other to permit the securing bolts 18, which extend through the openings 7 of the webs of the I beams, to be applied.

These bolts 18 are provided with threaded
10 portions to receive the nuts 19, and since the bolts 18 pass through registering openings formed of the sections of the splice and webs of adjacent I beams, it will be seen that by rotation of the nuts 19 to a position as indicated by Fig. 2 of the drawings, the sections
15 of the splice are firmly secured to the adjacent ends of I beams.

In the modified form of the invention as illustrated by Figs. 6 and 7 of the drawings,
20 it will be seen that the device is employed as a fish-plate, wherein the web portions 10' and 11' respectively contact with opposite surfaces of the web of the rail indicated at 12', the web portion 11' of the fish-plate being provided with integral lugs 13' that pass
25 through suitable openings provided in the web 12' of the rail, whereby the webs 10' and 11' are restricted from movement with relation to the web 12'.

Formed on the lower end of the web 10' is a plate 14' which is provided with a rib indicated at 15' having an integrally formed inclined edge 16', adapted to contact with a similarly formed inclined edge provided on
30 the plate 17' of the web 11', the plates being of a construction to permit the plate 14' to embrace the plate 17' so that when the sections of the splice are moved into engagement with each other, and the plate 10'
35 moved longitudinally of the rail, to which the device is to be applied, the sections are moved laterally to draw the same into close engagement with the web 12' of the rail proper.

In this form of the invention, securing bolts indicated at 18' pass through suitable openings provided in the fish-plate and rail, the nuts 19' being provided for drawing the webs of the fish-plate into engagement with
40 the web 12' of the rail.

Having thus described the invention, what we claim as new is:—

1. An I beam splice comprising opposed sections, each of said sections having right
45 angled plates, webs forming a part of each section and adapted to support the plates, each of said plates having a rib formed thereon, said ribs having inclined surfaces, the inclined surfaces of the contacting ribs
50 of the opposed sections adapted to cooperate to wedge the opposed sections together, and means for securing the splice to an I beam.

2. An I beam splice comprising opposed

sections, each of said sections including a web and right angled plates, the plates of
65 one section adapted to overlie the plates of the opposed section, means for setting up a wedging action between the sections to cause the sections to be wedged together, and means for securing the sections to an I beam.
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3. An I beam splice comprising opposed sections, each of said sections including a web and right angled plates, the plates of
75 one section adapted to overlie the plates of the opposed section, lugs formed on one section, said lugs adapted to fit within openings formed in the I beams to restrict movement of the sections, means for setting up a wedging action between the opposed sections,
80 means carried by one of the sections and cooperating with one of the I beams to restrict movement of the section longitudinally of the I beams, in one direction, and means for securing the opposed sections to the I beams.

4. An I beam splice comprising opposed
85 sections, each of said sections comprising webs, and right angled plates, each of said plates having a rib formed thereon, the ribs of one section adapted to cooperate with the ribs of the opposed section for setting up a binding action between the sections, and means for securing the opposed sections to
90 an I beam.

5. An I beam splice comprising opposed sections, each of said sections comprising a
95 web, right angled plates formed at each end of the webs, the plates of one section adapted to overlie the plates of the opposed section, means for preventing longitudinal movement of one section with relation to the I
100 beams to which the same is secured, spring means for preventing longitudinal movement of the opposite section with relation to the I beams, and means for rigidly securing the sections to the I beams.
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6. In combination with adjacent ends of I beams, one of said I beams having notches formed therein, a splice including opposed sections, each of said sections including a web and right angled plates, means for setting
110 up a wedging action between the plates, a spring plate having connection with one of the sections of the splice, one end of said spring plate adapted to engage within the notches for restricting movement of the sections longitudinally of the I beams, and means for securing the splice to the I beams.
115

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

YVES ARNANDEZ.
J. G. ARNANDEZ.
CHAS. L. VOORHIES.

Witnesses:

JOE CORDOVA,
O. G. LUNDOMIL.