

No. 721,019.

PATENTED FEB. 17, 1903.

R. P. CLOVER & J. L. JOHNSTON.

RAIL JOINT.

APPLICATION FILED AUG. 16, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

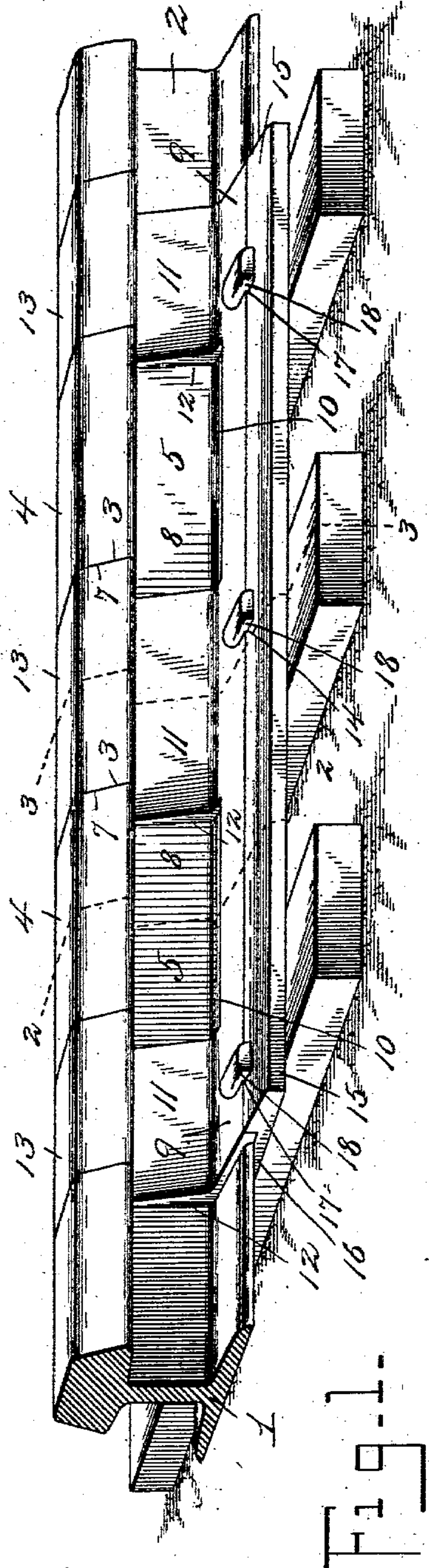
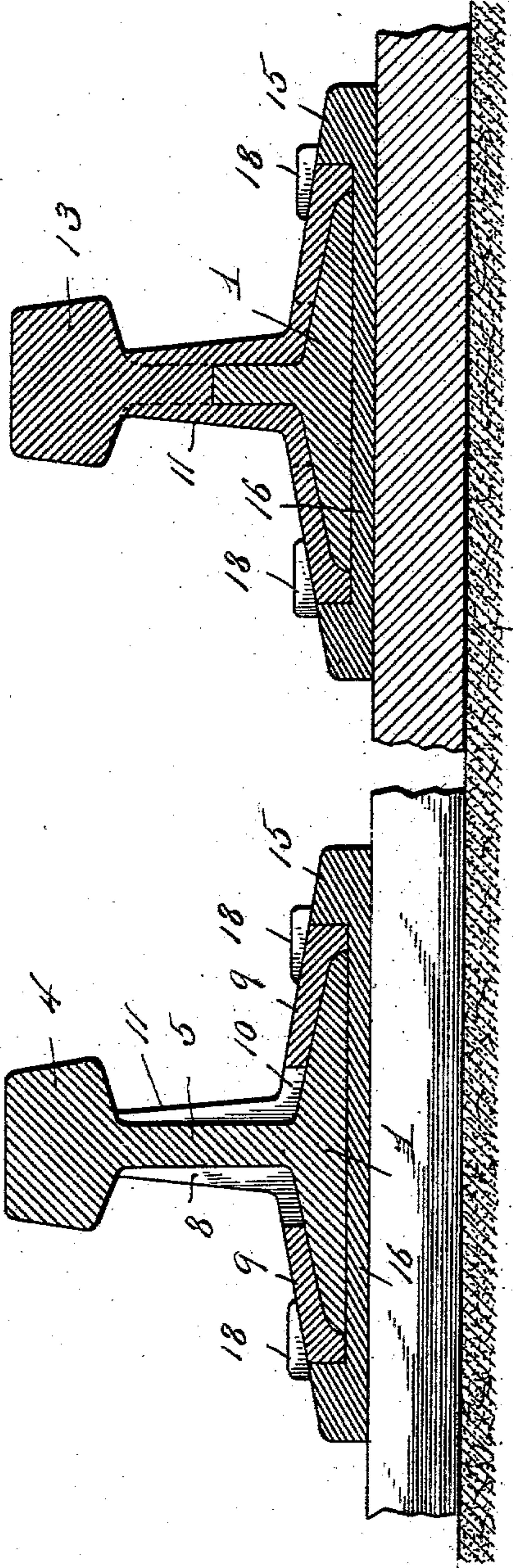


Fig. 1.

Fig. 2.



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Witnesses

Harry L. Amer.
Chas. S. Hoyer.

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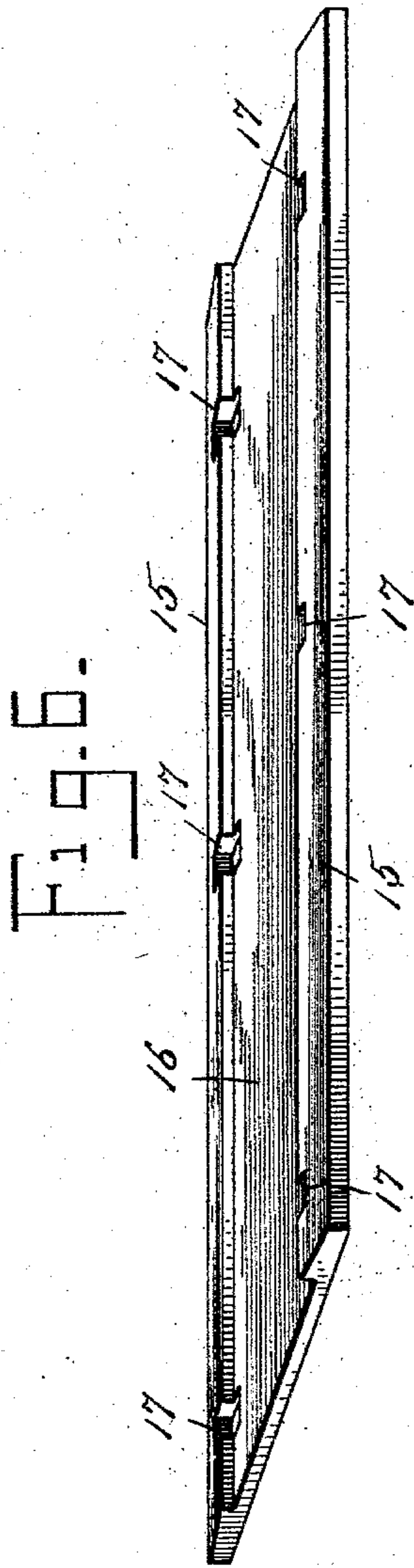
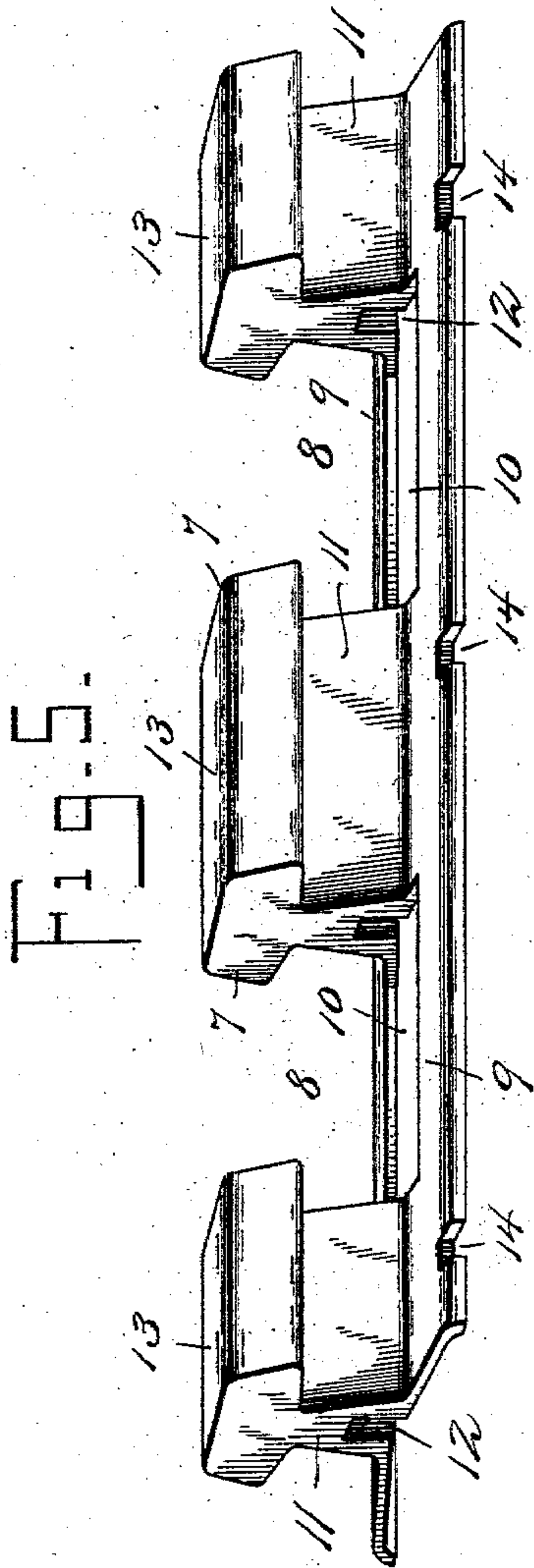
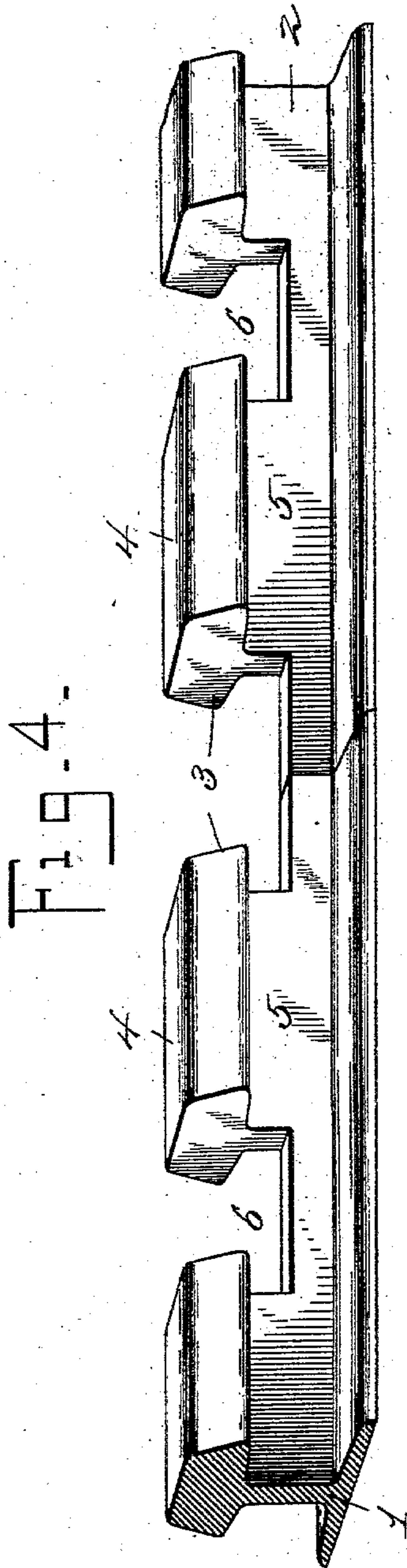
R. P. CLOVER & J. L. JOHNSTON.

RAIL JOINT.

APPLICATION FILED AUG. 16, 1902.

NO MODEL.

2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

RICHARD P. CLOVER AND JAMES L. JOHNSTON, OF STRATTONVILLE, PENNSYLVANIA, ASSIGNORS OF ONE-FOURTH TO WILLIAM R. RU-
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RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 721,019, dated February 17, 1903.

Application filed August 16, 1902. Serial No. 119,957. (No model.)

To all whom it may concern:

Be it known that we, RICHARD P. CLOVER and JAMES L. JOHNSTON, citizens of the United States, residing at Strattonville, in the county of Clarion and State of Pennsylvania, have in-
5 of Clarion and State of Pennsylvania, have in-
vented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to improvements in
10 that class of rail-joints in which the conjoin-
ing ends of the rail lengths have their heads
cut away at intervals to receive a connecting-
piece in the form of an elongated steel cap
correspondingly cut away and shaped at in-
15 tervals to fit in the cut-away portions of the
rail lengths to provide a reliable connecting
means for the latter without the use of bolts
and nuts now commonly employed for a simi-
lar purpose.

20 The main object of the present invention
is to hold rail-joints securely without rattling,
present a smooth continuous surface to the
wheels, and obviate flattening of the ends of
the rails; also, in furnishing means whereby
25 old rails the ends of which have become flat-
tened may be used again by slightly altering
them.

With these and other objects and advan-
tages in view the invention consists in the
30 construction and arrangement of the several
parts, which will be more fully hereinafter
described and claimed.

In the drawings, Figure 1 is a perspective
view of rail lengths, showing the joints there-
35 of connected by the improved devices form-
ing the subject-matter of the present inven-
tion. Fig. 2 is a transverse vertical section
on the line 2 2, Fig. 1. Fig. 3 is a similar
section on the line 3 3, Fig. 1. Fig. 4 is a
40 perspective view of the conjoining ends of
rail lengths prepared to receive the connect-
ing means embodying the features of the in-
vention. Fig. 5 is a detail perspective view
of the connecting means or cap for applica-
45 tion to the rail ends as shown prepared by
Fig. 4. Fig. 6 is a detail perspective view of
a chair or base-plate forming part of the in-
vention.

Similar numerals of reference are employed

to indicate corresponding parts in the several 50
views.

The numerals 1 and 2 respectively design-
ate the conjoining ends of railroad-rail
lengths which have their terminals formed
with slots 3, providing a seat above the abut- 55
ting portions of the said ends. In forming
the slots 3 a part of the head 4 and web 5 of
each rail is removed, and at a suitable dis-
tance from the slots 3 other similar slots 6 are
constructed, but are of less length than the 60
seat formed by the slots 3. By providing the
slots 3 to form the seat adjacent to the abut-
ting ends of the rails old rails which have
been flattened and materially injured at their
abutting ends may be used again by employ- 65
ment in connection therewith of a steel cap
7 (clearly shown by Fig. 5) and simulating a
rail length having slots 8 at regular intervals
extending transversely therethrough, base-
flanges 9, with vertical slots 10 therein, at the 70
bases of the slots 8, upstanding thickened
webs 11, with grooves 12 opening upwardly
thereinto from the bottom, and heads 13,
forming a part of the web and shaped simi-
larly to the ordinary railroad-rail head or 75
ball. The grooves 12 are formed in all the
webs 11, there being three of such webs and
three heads 13 in the present instance, though
the number may be increased as desired. 80
The flange 9 is shaped to fit over the base-
flanges of the rail lengths, as clearly shown
by Figs. 1, 2, and 3, and at opposite edges
the flanges 9 have spike-receiving slots or re-
cesses 14. The cap 7, constructed as set forth,
is placed over the ends of the rail lengths, 85
the end webs 11 and heads 13 fitting in
the slots 6 and the central web 11 and its
head 13 fitting in the seat formed by the slots
3. The reduced rail-webs which are pro-
duced by the formation of the slots 3 and 6 90
are embraced by the grooves 12, and the
heads 13 coincide with the rail-heads and
form flush joints with the latter, as clearly
indicated by Fig. 1. Before the cap 7 is ap-
plied, however, a chair or base-plate 15 is dis- 95
posed under the conjoining ends of the rail
lengths, the said chair or base-plate being
brought to bear on the upper surfaces of a

number of contiguous ties. The upper side of the chair or base-plate 15 is formed with a channel 16 to receive the base-flanges of the conjoining ends of the rail lengths, and at 5 regular intervals along opposite side walls of the said channel 16 spike-slots 17 are formed in the said chair or plate 15.

The chair or base-plate 15 is arranged under the conjoining ends of the rail lengths, 10 which have been prepared as shown by Fig. 4, and the cap 7 is then fitted over the said ends so as to have the flanges 9 thereof cover the base-flanges of the rail lengths and the openings or recesses 14 coincide with the slots 15 17. When the several parts are in this position, the heads 13 will be snugly fitted in close relation to the heads of the rail lengths, and to hold the parts in immovable relation spikes 18 are driven through the recesses 14 and slots 20 17 into the ties beneath, the said recesses and slots having their innermost walls located in vertical alinement with the opposite edges of the base-flanges of the rail lengths, and by so positioning the recesses 14 and slots 17 the 25 spikes driven therethrough will prevent the rail lengths from shifting laterally on the chair or base-plate 15.

From the foregoing it will be seen that a very simple and effective form of railroad- 30 joint is provided, and by the use of the cap 7 the employment of the ordinary form of securing bolts and nuts, as well as fish-plates, is dispensed with and a reliable and secure rail-joint results.

Having thus fully described the invention, 35 what is claimed as new is—

1. The combination with conjoining ends of rail lengths having slots formed through the heads and webs thereof, of a cap having a base-flange to fit over the flanges of the web 40 and formed with vertical slots therethrough and upstanding grooved webs with heads simulating those of the rail lengths, the said webs and heads of the cap being fitted in the slots of the rail lengths and the grooves in 45 the webs of the cap embracing the reduced web below the slots in said rail lengths, and a base-chair having a channel in its upper surface in which the flanges of the rail lengths are disposed, the flanges of the cap and the 50 opposite side portions of the base-chair being secured by spikes driven therethrough.

2. A railroad-joint comprising rail lengths having slots therethrough at the abutting ends and at a distance from said ends, a cap 55 with upstanding grooved webs and heads and a base-flange to flushly engage the abutting extremities of the rail lengths, and a base-chair on which the rail lengths are disposed and to which the flange of the cap is secured 60 over the flanges of the rail lengths.

In testimony whereof we affix our signatures in presence of two witnesses.

RICHARD P. CLOVER.
JAMES L. JOHNSTON.

Witnesses:

J. C. STRATTAN,
M. P. STRATTAN.