

(No Model.)

M. F. BUCH.

RAILWAY RAIL JOINT.

No. 317,293.

Patented May 5, 1885.

Fig. 1.

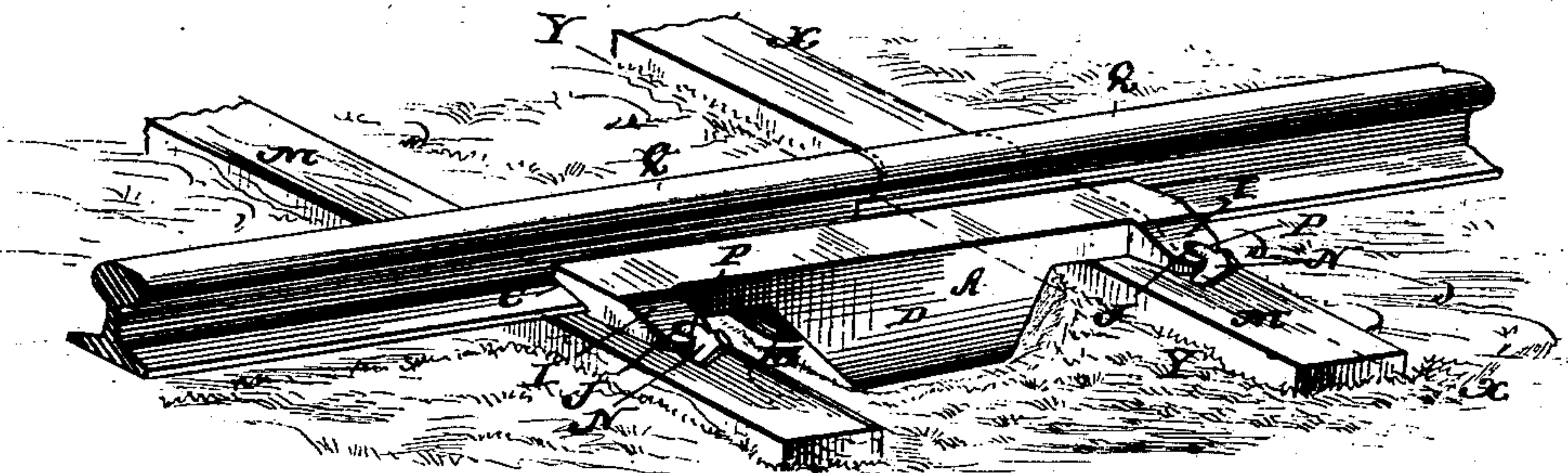


Fig. 2.

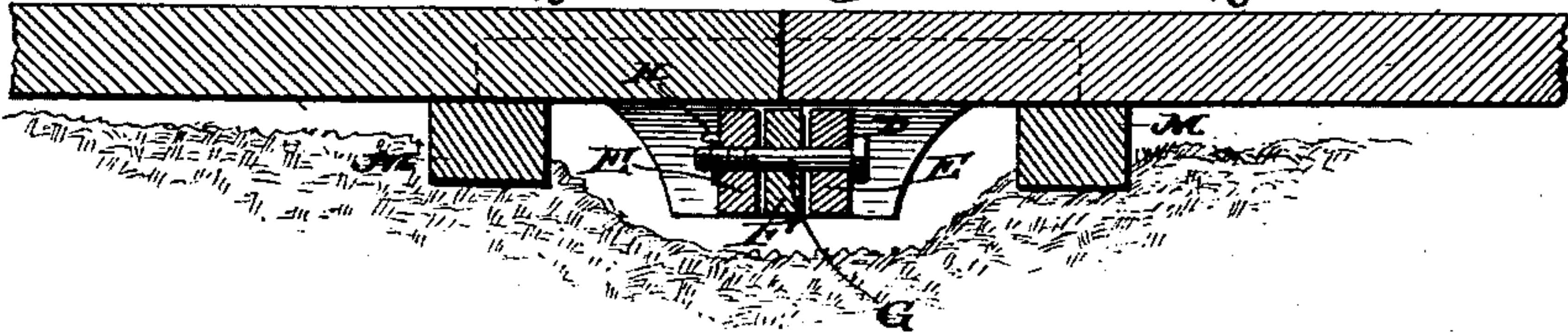


Fig. 3.

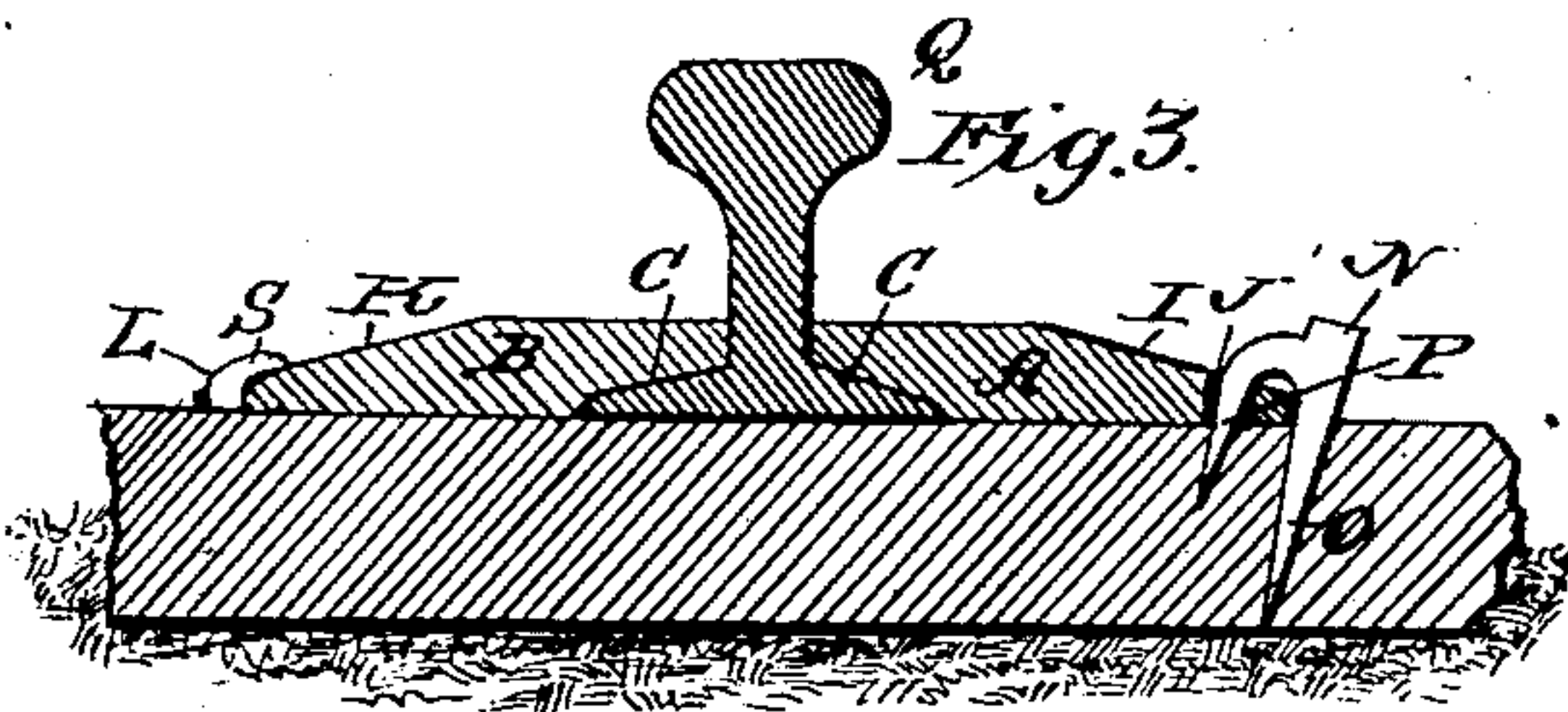


Fig. 4.

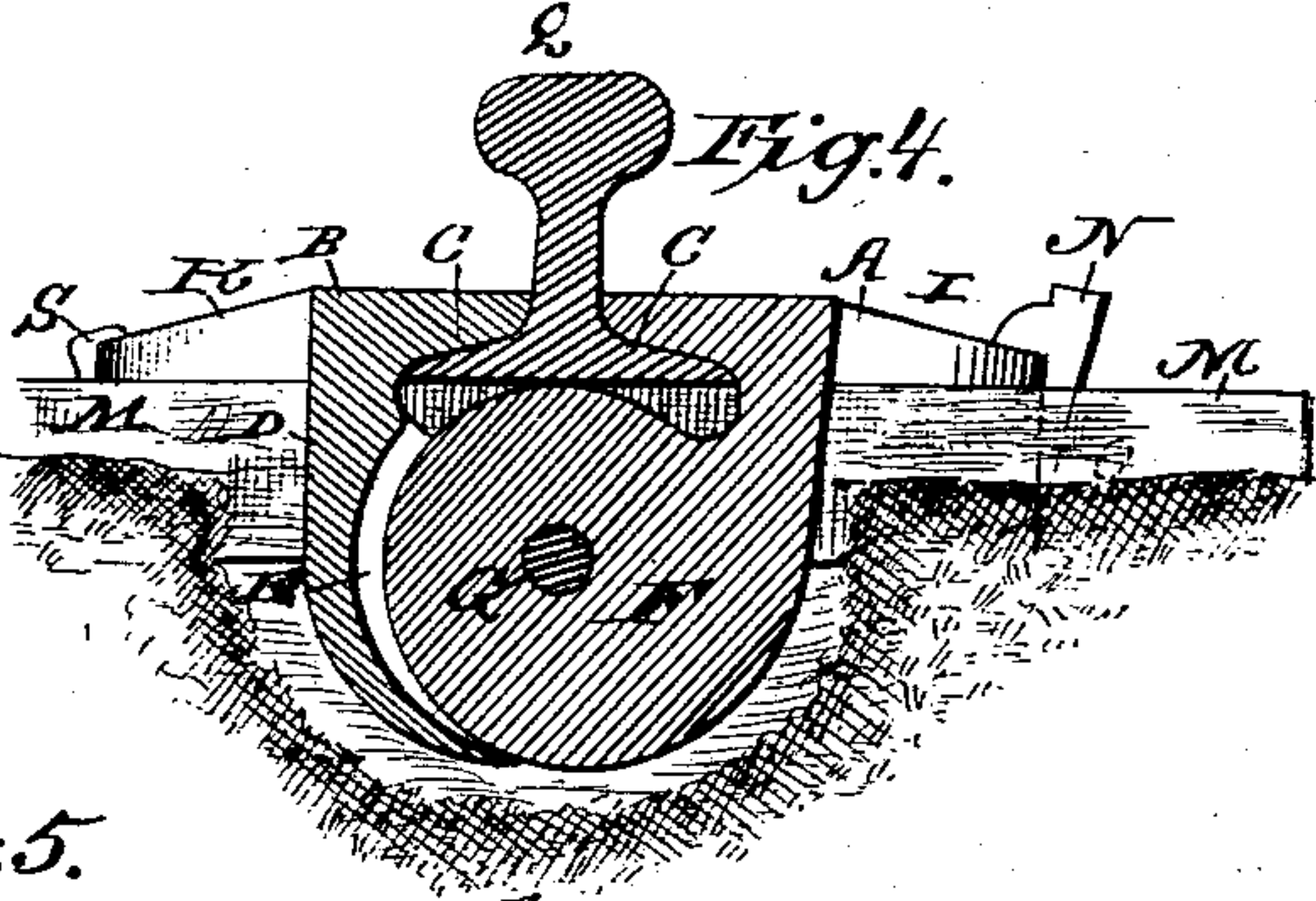


Fig. 5.

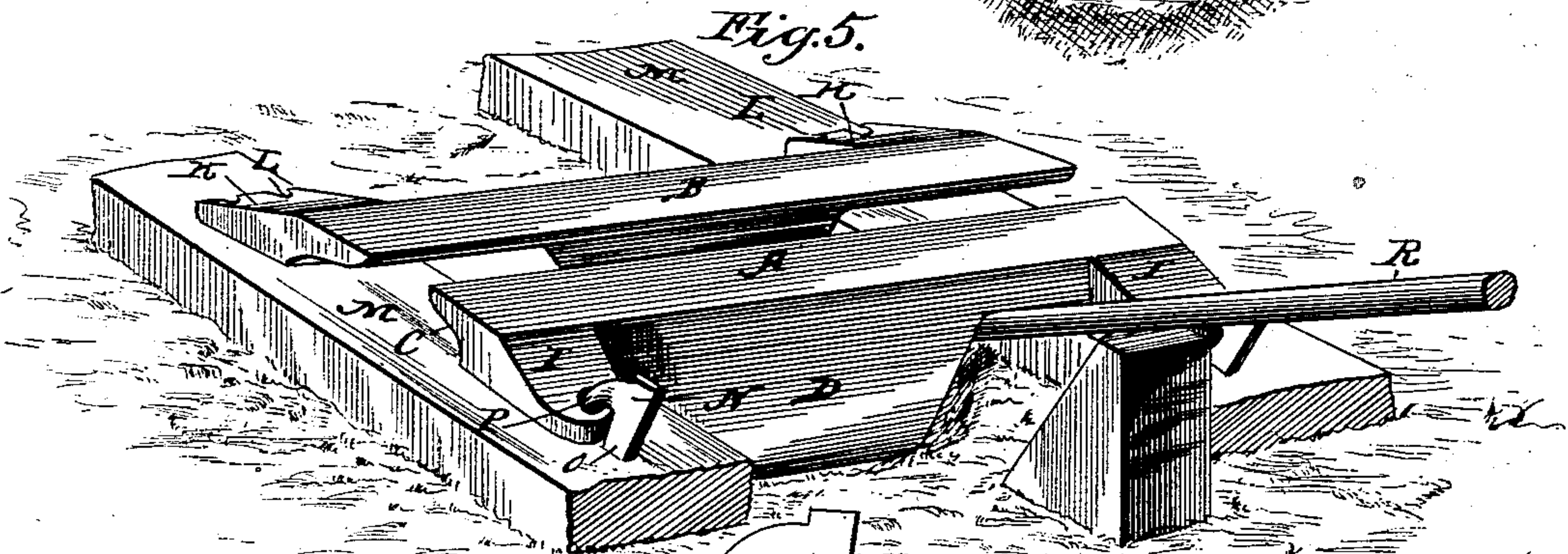


Fig. 6. Milton F. Buch.

INVENTOR.

by Louis Bagger & Co.

ATTORNEYS

WITNESSES:

Fred. G. Dietrich.
Wm. Bagger.

UNITED STATES PATENT OFFICE.

MILTON F. BUCH, OF LANCASTER, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO DAVID P. BITNER, OF SAME PLACE.

RAILWAY-RAIL JOINT.

SPECIFICATION forming part of Letters Patent No. 317,293, dated May 5, 1885.

Application filed January 30, 1885. (No model.)

To all whom it may concern:

Be it known that I, MILTON F. BUCH, a citizen of the United States, and a resident of Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Rail Joints; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved railway-rail joint. Fig. 2 is a longitudinal vertical sectional view of the same. Fig. 3 is a transverse vertical sectional view taken on the line *xx* in Fig. 1. Fig. 4 is a transverse vertical sectional view taken on the line *yy*. Fig. 5 is a detail perspective view of the fish-plate or joint-plate in position for receiving the rail ends, and Fig. 6 is a detail view of the hooked spike used in connection with my invention.

The same letters of reference indicate the same parts in all the figures.

This invention relates to railway-rail joints; and it has for its object to provide a device of this character which shall possess superior advantages in point of simplicity, durability, and general efficiency, in which the passage of rolling stock over the joint shall cause the latter to grip the rail ends more firmly and render lateral displacement absolutely impossible, in which no hinderance shall exist to the expansion and contraction of the rails, and in which the use of bolts and nuts, and the consequent punching and weakening of the rail ends, shall be dispensed with.

With these ends in view the invention consists in the improved construction and arrangement of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

My improved rail-joint consists of two plates, A and B, which may be termed the "fish-plates," and which are beveled on their under adjoining sides, as shown at C, so as to fit over the flange and against the web of a rail. The said plates are provided on their outer sides with downward-extending flanges

D D, having inwardly-extending perforated lugs E E and F, the latter fitting between the lugs E E, and connected therewith by a headed pin or bolt, G, passing longitudinally through all of said lugs, and retained in position by means of a pin or key, H, so as to form a knuckle or hinge joint connecting the two fish-plates. The plate A is provided at its ends with outward-extending lugs I I, having vertical perforations J J. The plate B is likewise provided at its ends with outward-extending lugs K K, the outer edges of which may be provided with notches L L, the purpose of which will be presently explained.

The plates A and B, constituting the joint, are to be placed with their ends resting upon two adjoining sleepers, (designated in the drawings by M M.)

Through the perforations J of the lugs I of plate A are driven a pair of hooked spikes, N N, of the construction shown in Fig. 6 of the drawings, by reference to which it will be seen that they consist of a pointed shank, O, provided at its upper end with a hook, P. The shank O is driven, as will be seen, against the outer side of the lug I, with the hook P passing through the perforation J and into the sleeper. The fish-plate A will be firmly secured by two of these spikes, one for each of the lugs I. The joint having thus been placed in position to receive the rails, the ends of the latter, which are designated by letters Q Q, may be easily adjusted by simply sliding them into the joint, which latter is meanwhile held in an "open" position, as shown in Fig. 5 of the drawings, by simply prying the outer side of the plate A in an upward direction by means of a crow-bar, R, or othersuitable implement. When this is done, the plate A will turn slightly upon the hooks P P, and the weight of plate B will cause it to turn outward upon the hinge-joint connecting the plates A and B, thus separating the latter sufficiently to enable the rail ends to be easily slid into position. This having been done, the plate A is released, when the weight of the rail ends upon the lugs E E F, constituting the hinge, will cause the plates A and B to approach each other and clamp or grasp the flange and web of the rail ends,

which are thus held securely in position. Ordinary spikes, S S, are now driven against the outer edges of the lugs K K of plate B, which latter is thus secured, thus completing
5 the joint.

When it is desired to replace worn-out rails with new ones, it is only necessary to draw the spikes S S, pry the plate A upward, so as to enable the old rails to be withdrawn and
10 the new ones to be placed in position, release the plate A, and drive the spikes S S. This may be done easily in a very short time, and with less trouble and expense than is the case with the ordinary rail-joints where the old-
15 fashioned fish-plates and bolts and nuts are employed.

It is obvious that the parts constituting my invention are to be made of such size and strength as to insure durability and efficiency
20 for the purposes set forth; but beyond this I do not wish to limit myself to any particular shape or form. On the other hand I would have it understood that with regard to the construction of details several changes may
25 be found desirable. Thus, for instance, the construction of the hinge-joint connecting the plates A and B might be altered; or I might find it expedient to provide the inner edges of the plates A and B with upward-extending
30 flanges adapted to bear against the sides of the web and against the under side of the head of the rails. I therefore do not limit myself to the precise construction herein

shown, but reserve to myself the right to all such modifications as may be resorted to with-
out departing from the spirit of my invention. 35

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a railway-rail joint, the herein-de-
scribed clamping-plates or fish-plates, having
downwardly-extending flanges provided with
inwardly-extending lugs, whereby they are
hinged together, said clamping-plates being
provided at their ends with outwardly-ex-
tending lugs, the lugs of one of said plates
being perforated, substantially as and for the
purpose set forth. 40 45

2. In a railway-rail joint, the combination,
with a clamping device constructed substan-
tially as described, and consisting, mainly, of
a pair of plates hinged together, of perforated
lugs extending outward from the ends of one
of said plates, and hooked spikes for securing
the latter to the sleepers, and affording hinges
upon which the said plate may partially turn,
substantially in the manner and for the pur-
pose herein set forth. 50 55

In testimony that I claim the foregoing as
my own I have hereunto affixed my signature
in presence of two witnesses. 60

MILTON F. BUCH.

Witnesses:

J. L. STEINMETZ,
JOHN E. MALONE.