

(No Model.)

J. R. BURGESS.
RAIL JOINT FASTENING.

No. 445,971.

Patented Feb. 10. 1891.

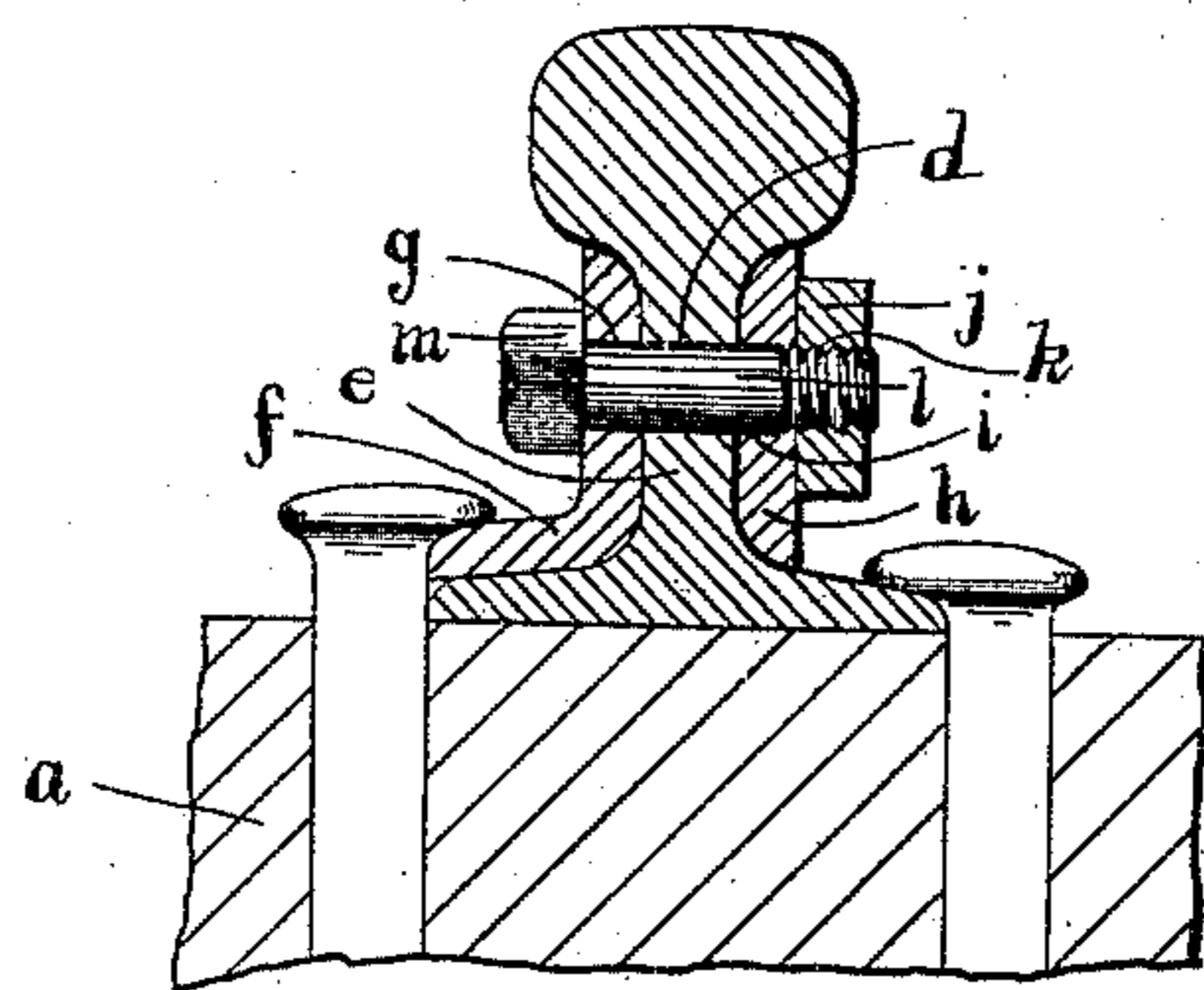


Fig. 2.

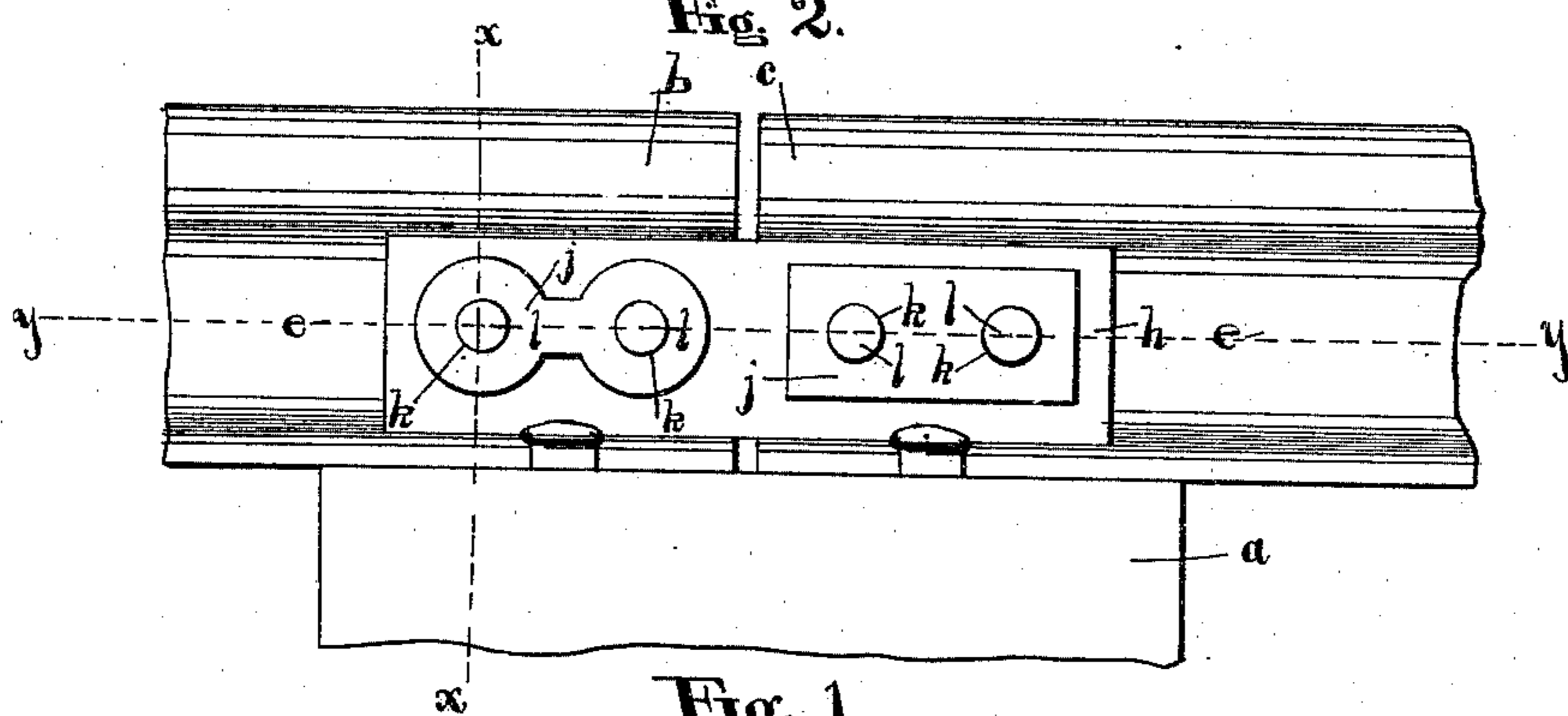


Fig. 1.

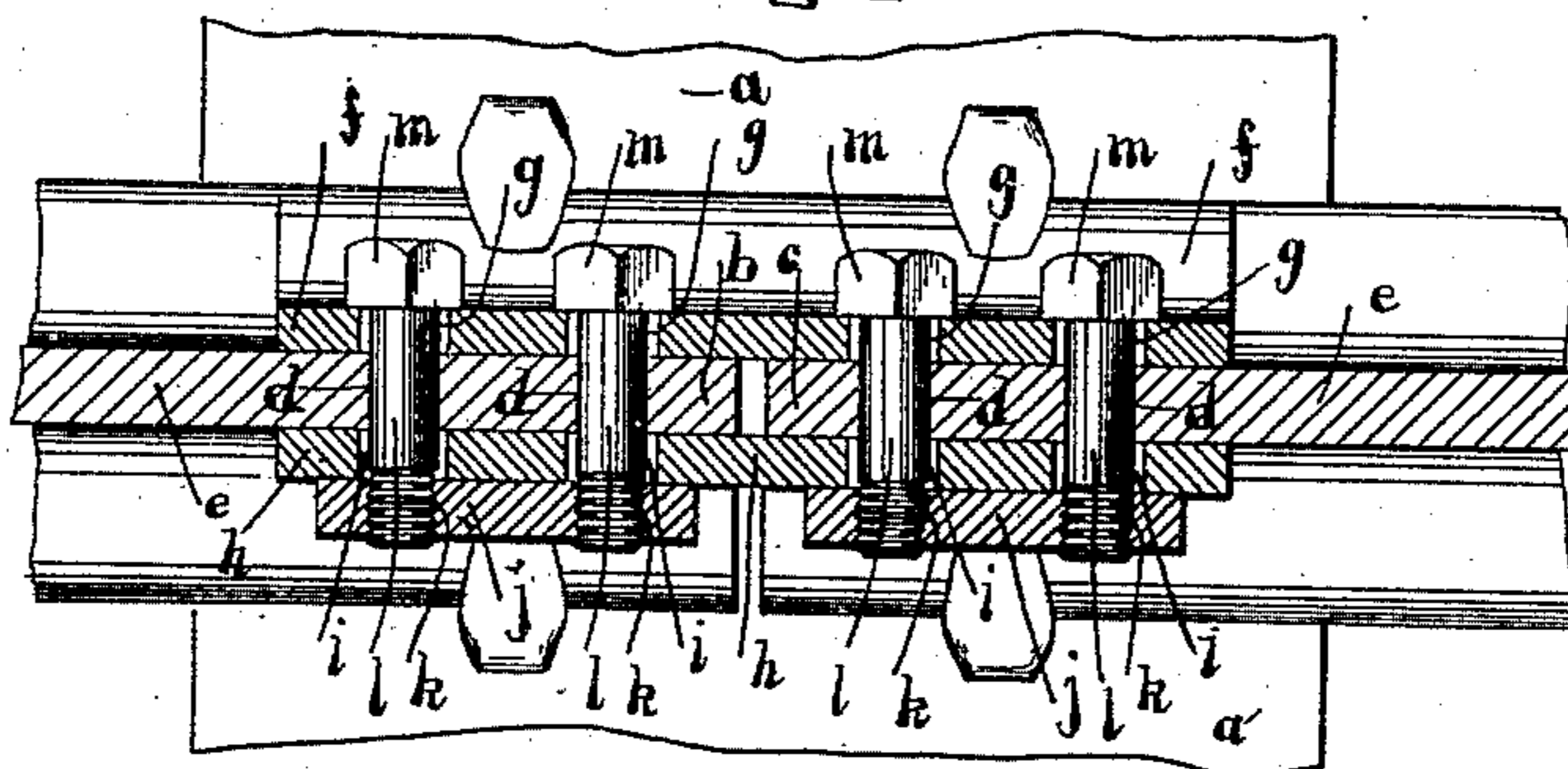


Fig. 3.

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UNITED STATES PATENT OFFICE.

JAMES R. BURGESS, OF PORT HURON, MICHIGAN.

RAIL-JOINT FASTENING.

SPECIFICATION forming part of Letters Patent No. 445,971, dated February 10, 1891.

Application filed May 31, 1890, Serial No. 353,879. (No model.)

To all whom it may concern:

Be it known that I, JAMES R. BURGESS, a citizen of the United States, residing at Port Huron, in the county of St. Clair and State of Michigan, have invented certain new and useful Improvements in Rail-Joint Fastenings; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in fastenings for railway-rail joints, and pertains especially to the class of joint-fastening in which plates on opposite sides of the meeting ends of the rails and secured in position by bolts passed through the plates and rails are used to connect the adjacent ends of the rails to each other; and the invention consists, essentially, in the combination, with the abutting rail ends and the fish-plates on opposite sides thereof, and coincident bolt-openings through the rails and fish-plates, of a plate or twin nut placed against the outer side of one of the fish-plates and provided with threaded openings in its opposite ends coincident with the said bolt-openings in the rails and fish-plates, and the bolts passed through the rails and fish-plates and having their threaded ends turned into the said threaded openings in the twin nut, as I shall hereinafter specifically explain, and definitely point out in the claim of this specification.

It is well understood that great trouble and expense is occasioned by the use of rail-joint fastenings of this class by the nuts on the ends of the securing-bolts becoming loosened and turning off from the threaded ends of the bolts by the continuous jar of the passing trains, and the object of my invention is to overcome this annoyance, and so construct and arrange the fastenings that while being in every way similar in their operation for holding the ends of the rails in position, will not be liable to become loosened or affected by jarring and expansion and contraction.

My improved fastening is illustrated in the accompanying drawings, in which—

Figure 1 is a side view in elevation of the adjacent ends of two rails secured together by my improvement. Fig. 2 is a vertical transverse section of the same, taken at $x x$. Fig. 3 is a horizontal longitudinal section of the same, taken at $y y$.

a represents the tie or sleeper of a railroad, and $b c$ are the adjacent ends of two rails, abutting against each other and secured to the tie by spikes d in the ordinary way, and near the ends of these rail-sections are provided transverse openings d through the vertical web portion e of the rails.

f is a fish-plate placed against the inner side of the web e and provided with openings g , coinciding with the openings d , being, however, elongated to permit the usual expansion and contraction of the rails, and on the opposite side of the rail-web is placed an outer fish-plate h , provided with openings i , also coinciding with the openings d , and provided with a longitudinal elongation similar to the openings g .

j is a plate or twin nut placed against the outside of the fish-plate h and provided with two threaded openings k .

l are securing-bolts provided with threaded ends and passed through the openings g and i , and with their threaded ends passed into the threaded openings k , the heads m of the bolts being of a suitable form and construction to allow the bolts to be easily turned with a wrench or screw-driver.

When the bolts are turned to tightly clamp the plates against the web of the rail, the plate forming the nuts is held against revolution, so that the nuts cannot turn upon the ends of the bolts, and the bolts having their body portions resting upon the surface of the openings are retained by friction against turning should the iron so contract as to allow the bolts to become loose, as the rails are depressed slightly and crowded by the passing wheels, so that the jar of the wheels in passing the joint, and which serves to loosen the revoluble nuts of the ordinary form, operates in my improvement to retain the bolts till the wheels have passed beyond the joint, so that all trouble and annoyance of the bolts working out is easily overcome.

Having described my invention, what I

claim as new, and desire to secure by Letters Patent, is—

In a rail-joint fastening, the combination, with the abutting ends of the rails, each provided with two transverse bolt-openings *d*, the fish-plates *f* and *h* on opposite sides of and overlapping the ends of the rails and provided with bolt-openings, as described, coinciding with the bolt-openings *d*, of the twin nut *j*, placed, as shown, outside of one of the fish-plates and having in its end portions the threaded openings *k*, coinciding with the two

adjacent openings in the ends of the rails and fish-plates, and the fastening-bolts passed through the said openings in the rails and fish-plates and having their threaded ends turned into the threaded openings in the nuts, substantially as set forth. 15

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

JAMES R. BURGESS.

Witnesses:

CHAS. S. WARN,

RUSSELL N. WADE.