

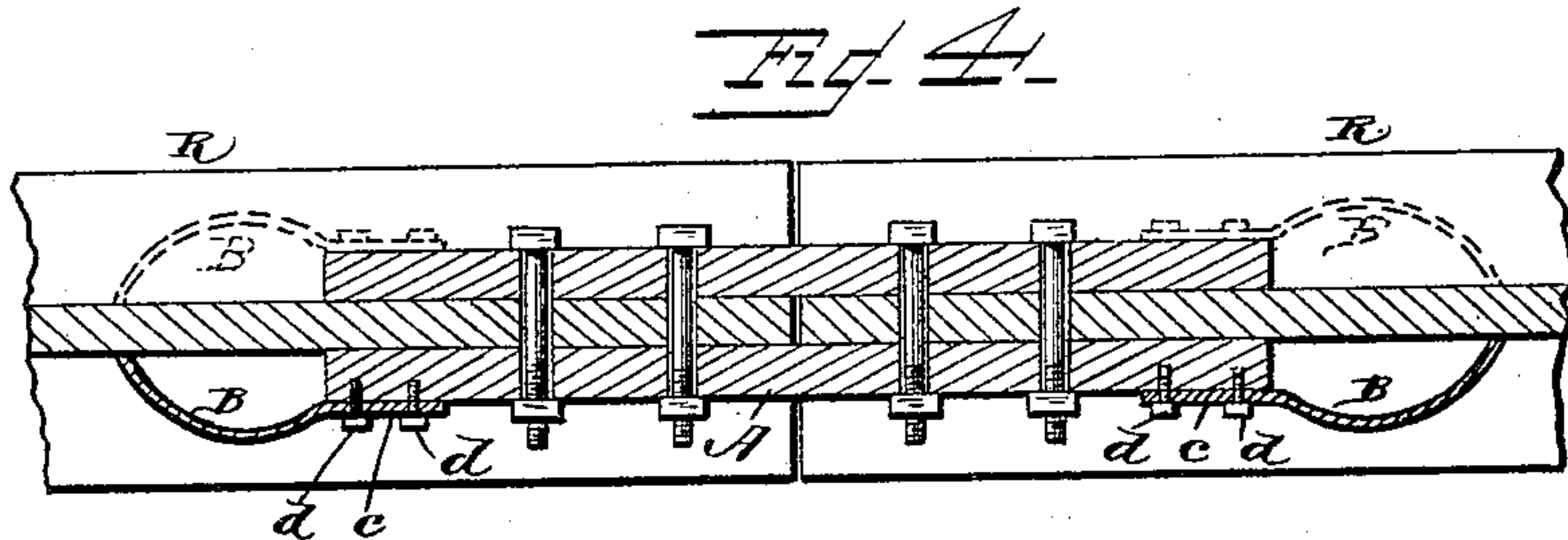
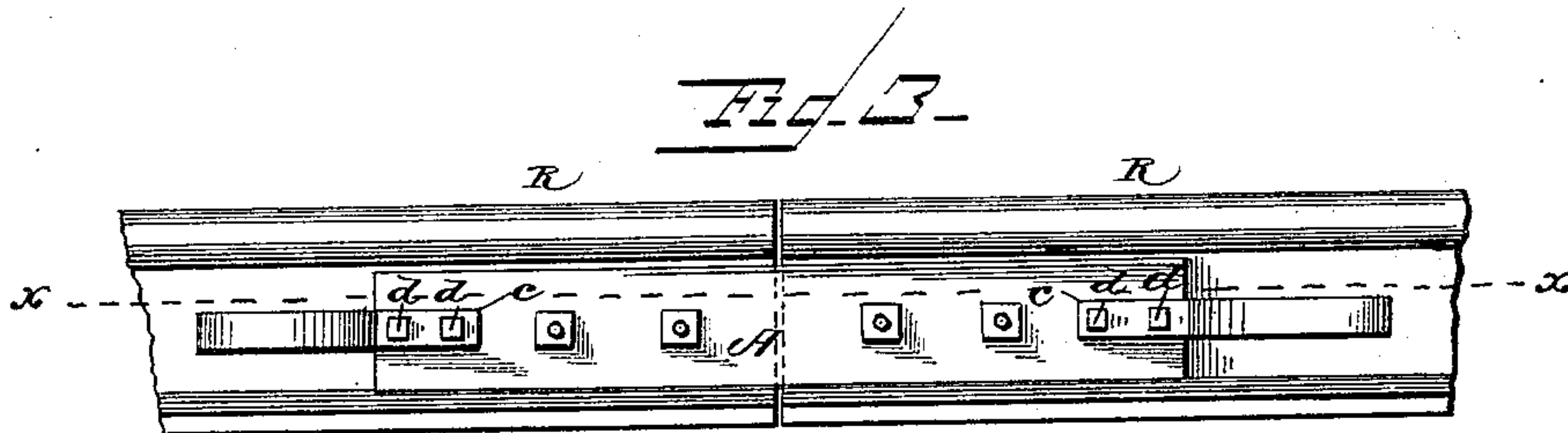
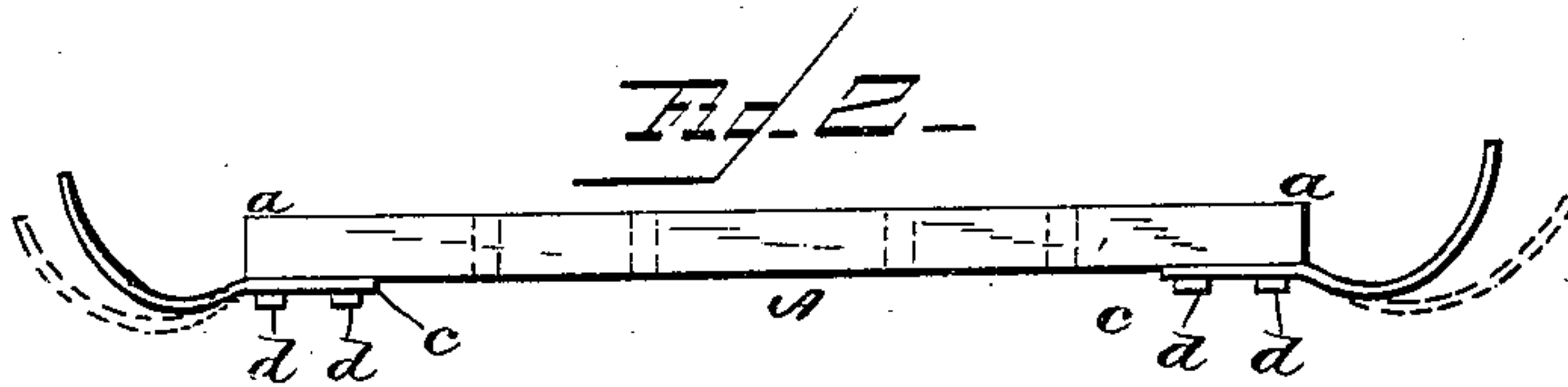
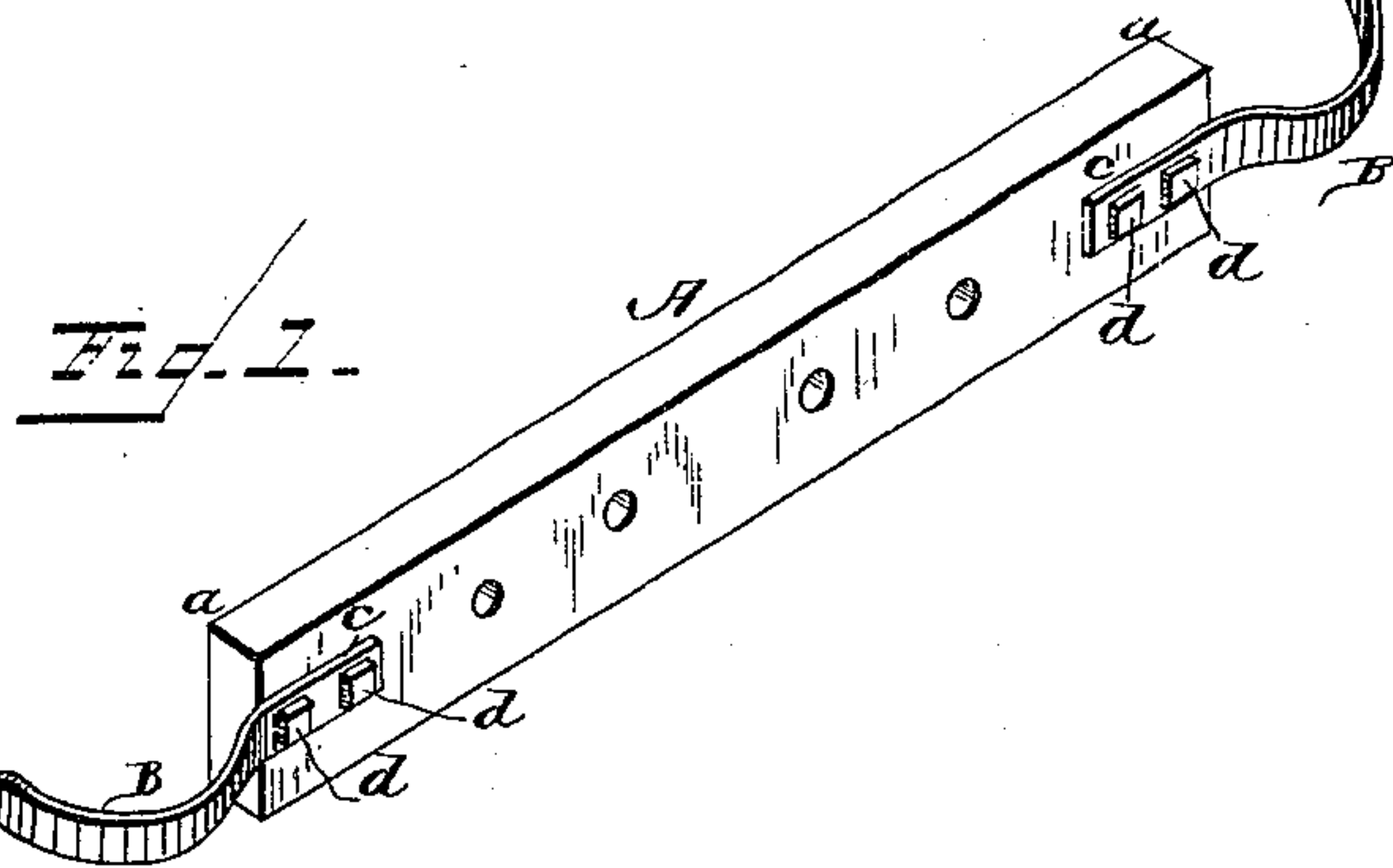
(No Model.)

R. MEEK.

ELECTRICAL CONNECTING DEVICE FOR RAILWAY RAILS.

No. 303,538.

Patented Aug. 12, 1884.



WITNESSES
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ELECTRICAL CONNECTING DEVICE FOR RAILWAY-RAILS.

SPECIFICATION forming part of Letters Patent No. 303,538, dated August 12, 1884.

Application filed February 23, 1884. (No model.)

To all whom it may concern:

Be it known that I, ROBERT MEEK, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Electrical Connecting Devices for Railway-Rails, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to that class of electrical connections which are used for connecting end to end the rails of a line of railway, for the purpose of adapting said rails to be used for conducting electric currents in an electric signal system, or for other purposes, the object of my improvement being to furnish a cheap, reliable, readily applied, and easily accessible device of this class, which has the double function of holding the rails in line as a fish-plate, as well as insuring electrical connection between them.

The invention consists, substantially, of a metallic fish-plate provided at its opposite ends with endwise-projecting metallic springs bent to have their lips normally project inwardly beyond the inner surface of the plate, and to be forced into resilient contact with two respective rails in a line of railway when the fish-plate is applied thereto in the usual manner for holding them in line, the tension under which the springs are thus placed causing them to maintain a reliable electrical contact with the rails while they are themselves electrically connected by the fish-plate to which they are attached, the two rails being thus connected as conductors of electricity; and each rail may be connected in the same manner to adjacent rails at both ends, thus forming a continuous line of conductors of any desired length, which may be connected with electrical signals or other electric instruments and an electric generator, in any known or suitable manner.

In the accompanying drawings, Figure 1 is a perspective view of an electric rail-connecting device constructed according to my invention. Fig. 2 is an edge view of the same. Fig. 3 is a side elevation of two rails having my improved connecting device applied thereto. Fig. 4 is a longitudinal section of the

rails and connecting device on the line *x x* of Fig. 3.

The letter A in all the figures designates the fish-plate, which in Figs. 3 and 4 is shown bolted to two adjacent rails in the usual manner. At each end of the fish-plate is secured an endwise-projecting steel spring, B, the free portion of which is bent so that when in its normal position its tip will project laterally beyond the inner surface *a* of the plate. The straight portions *c* of the springs are secured to the fish-plate by screws or bolts *d d*. It will now be seen that when the fish-plate is applied to two adjacent rails, R R, and bolted snugly up to their webs, the tips of the springs will be forced into contact with the rail-webs with a tension which would cause them to resume their normal position if released from pressure, and which will therefore cause them to snugly follow the rails and maintain their contact therewith, even though the fish-plate should become loose and stand off from the rails in such manner as to render uncertain their electrical connection were it the only agent to maintain it. I prefer to make the springs of steel about, say, one-eighth to one-fourth of an inch thick, and with curved or bent portions to project beyond the ends of the fish-plate from six to eight inches, while their straight portions, which are directly bolted to the plate, may be of the same or any length to insure a firm connection.

Of course it is immaterial how the springs are secured to the fish-plate provided they are in electric connection therewith, and their tips are so bent as to be forced into resilient electrical contact with the rails when the springs are attached thereto; nor is it important what metal the springs are made of, provided it has the proper resilience to maintain such contact.

If desired, contact-springs may be secured to both the fish-plates at a joint. One pair of springs is shown in full lines and the other pair in dotted lines in Fig. 4.

I am aware that a fish-plate has been provided with endwise extensions projecting laterally outward beyond the main body of the fish-plate, and inclined inwardly so that their tips will touch two rails, respectively, which are connected by such a fish-plate. I do not

claim a fish-plate of this construction, as its extensions are not springs arranged to come in tense contact with the rails, but are rigid inclines for guiding the wheels of a car clear of the fish-plate bolts when such car has jumped the track.

I am also aware that a bowed metal spring has been arranged between a fish-plate and two rails, so as to bridge the rail-joint, and I disclaim such arrangement or combination.

What I claim is—

1. An electrical railway-rail connection consisting of a metallic fish-plate having at its ends projecting springs, the free tips of which are arranged to come, respectively, into resilient contact with two rails to which the fish-plate is applied, substantially as described, and for the purpose set forth.

2. The combination, with a metallic fish-plate, of projecting metallic springs electrically connected to its opposite ends, and having their tips projecting and arranged to come in resilient contact with two railway-rails to which the plate may be applied, substantially as described.

3. The combination, with two endwise-adjacent rails in a line of railway and a metallic fish-plate applied to said rails to hold them in line, of metallic springs secured to said plate, projecting beyond the same, and having their projecting portions in resilient or tense contact with the respective rails, substantially as described.

4. The combination, with a metallic fish-plate, of detachable endwise-projecting metallic springs electrically connected to the opposite ends of said fish-plate, and having their tips normally bent inwardly beyond the inner surface of the plate, so that when the said plate is applied to couple two rails the springs will be forced under tension in contact with the rails, respectively, as set forth.

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

ROBERT MEEK.

Witnesses:

C. A. SOMERVILLE,
W. B. HALE.