

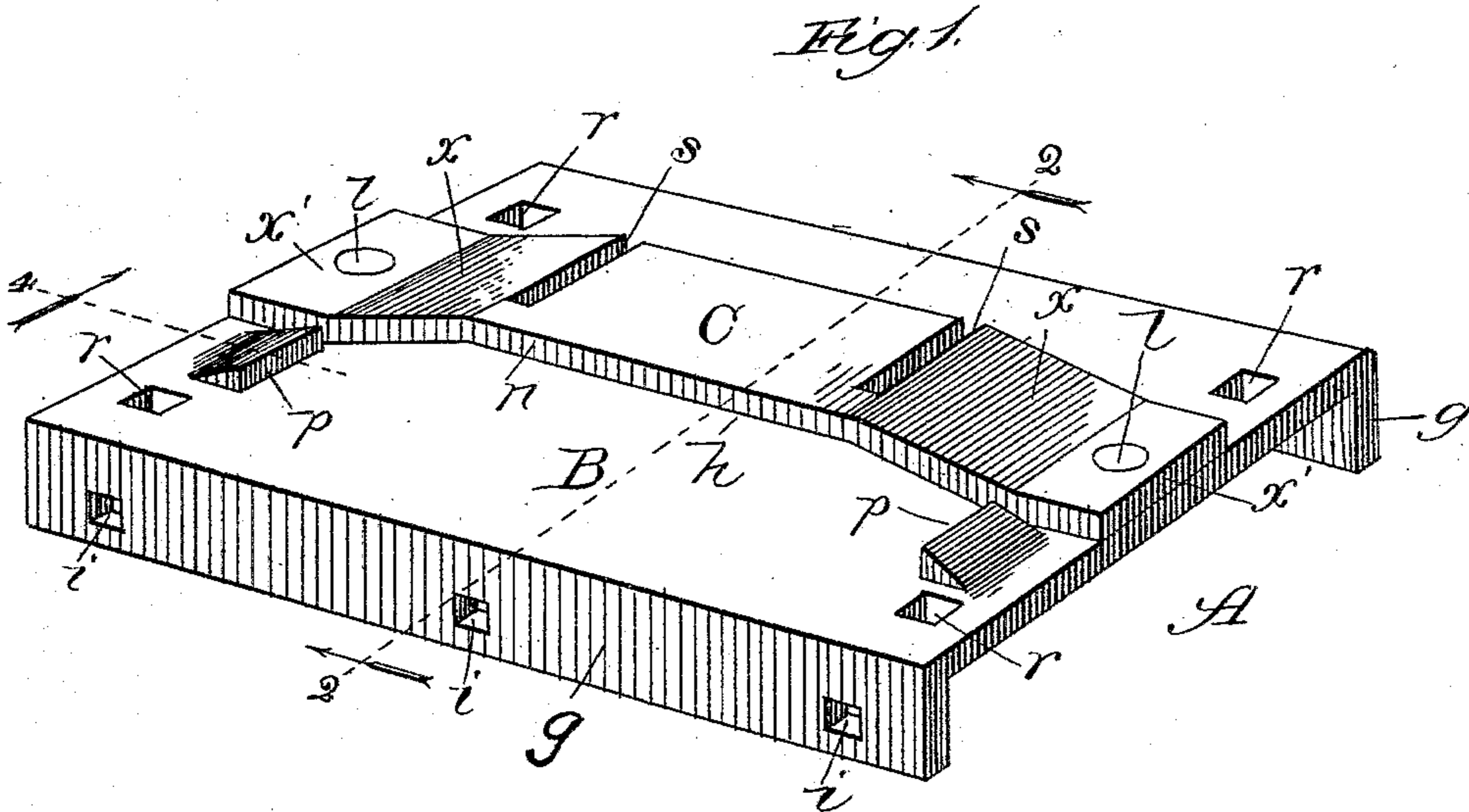
(No Model.)

2 Sheets—Sheet 1.

A. A. STROM.  
SWITCH RAIL CHAIR.

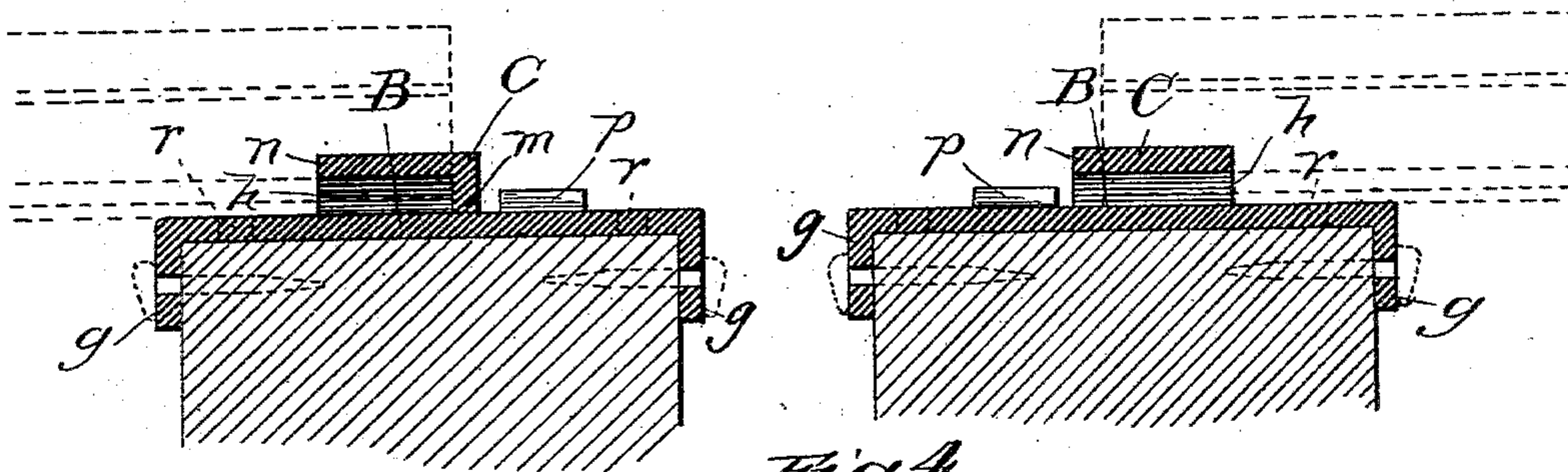
No. 401,312.

Patented Apr. 9, 1889.

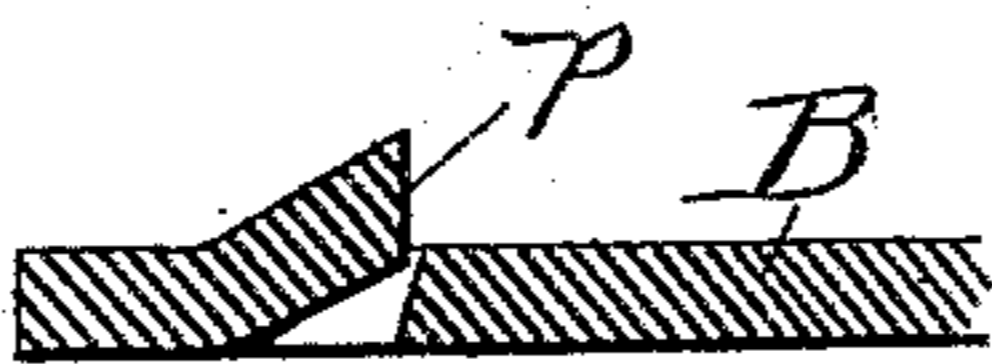


*Fig. 3.*

*Fig. 2.*



*Fig. 4.*



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2 Sheets—Sheet 2.

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Fig. 5.

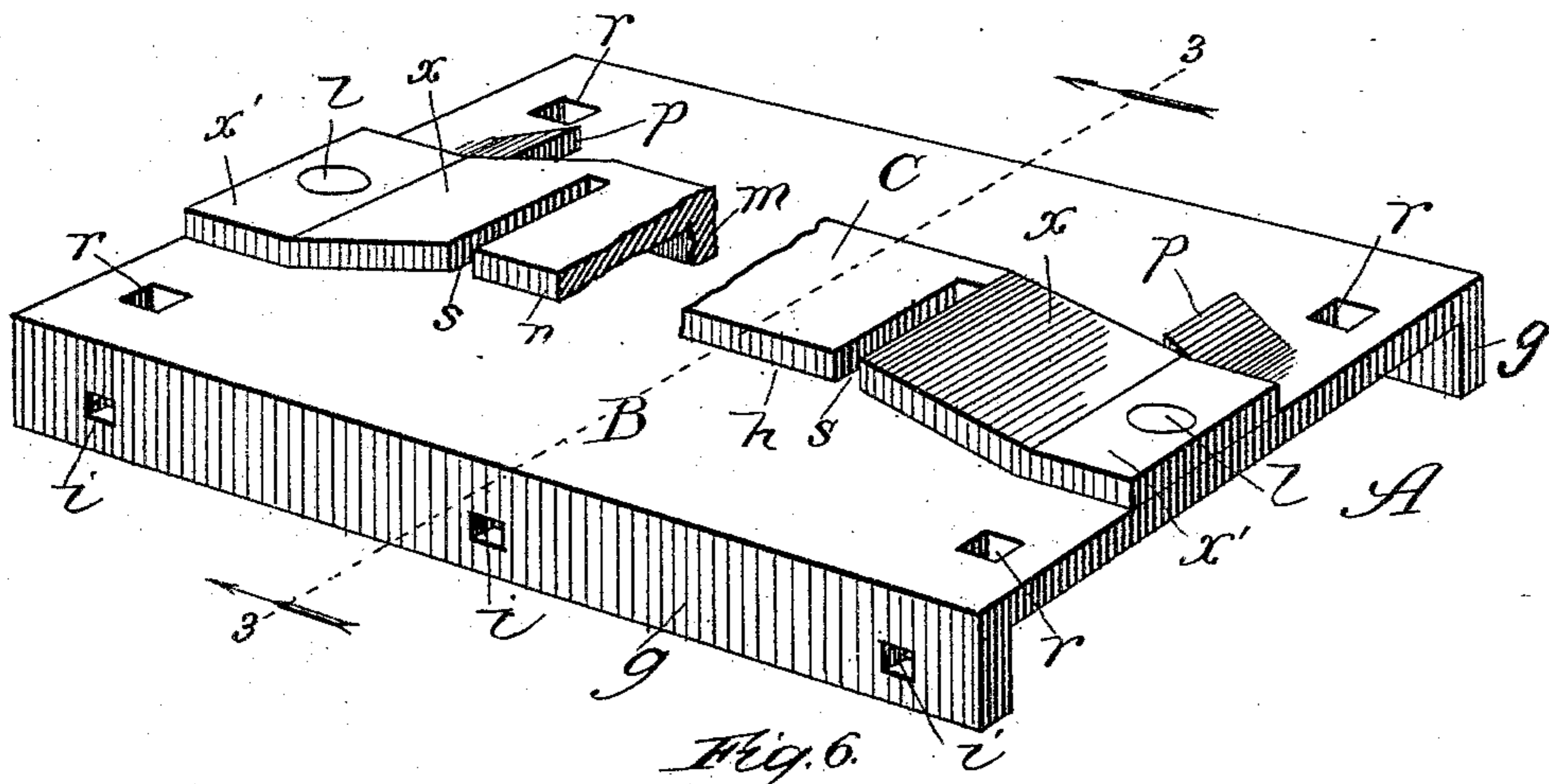


Fig. 6.

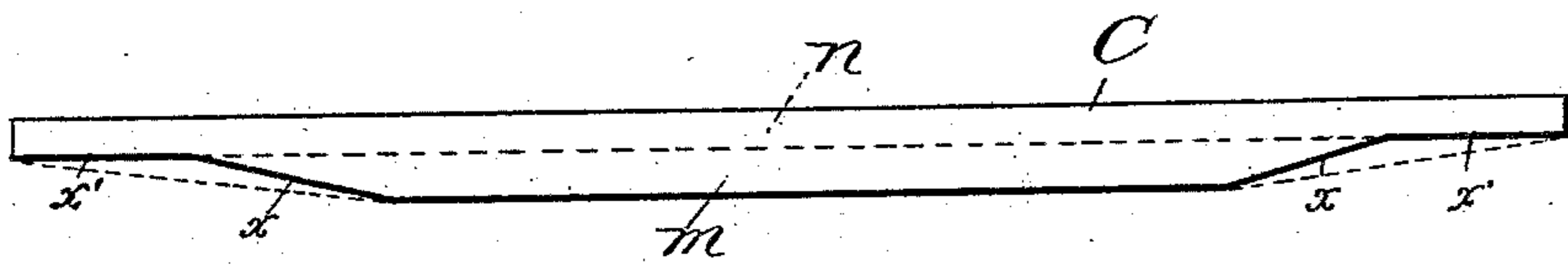


Fig. 7.

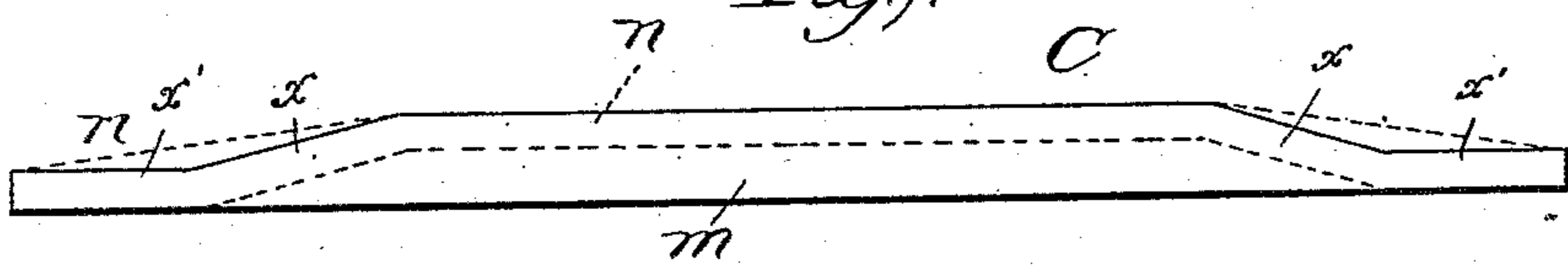
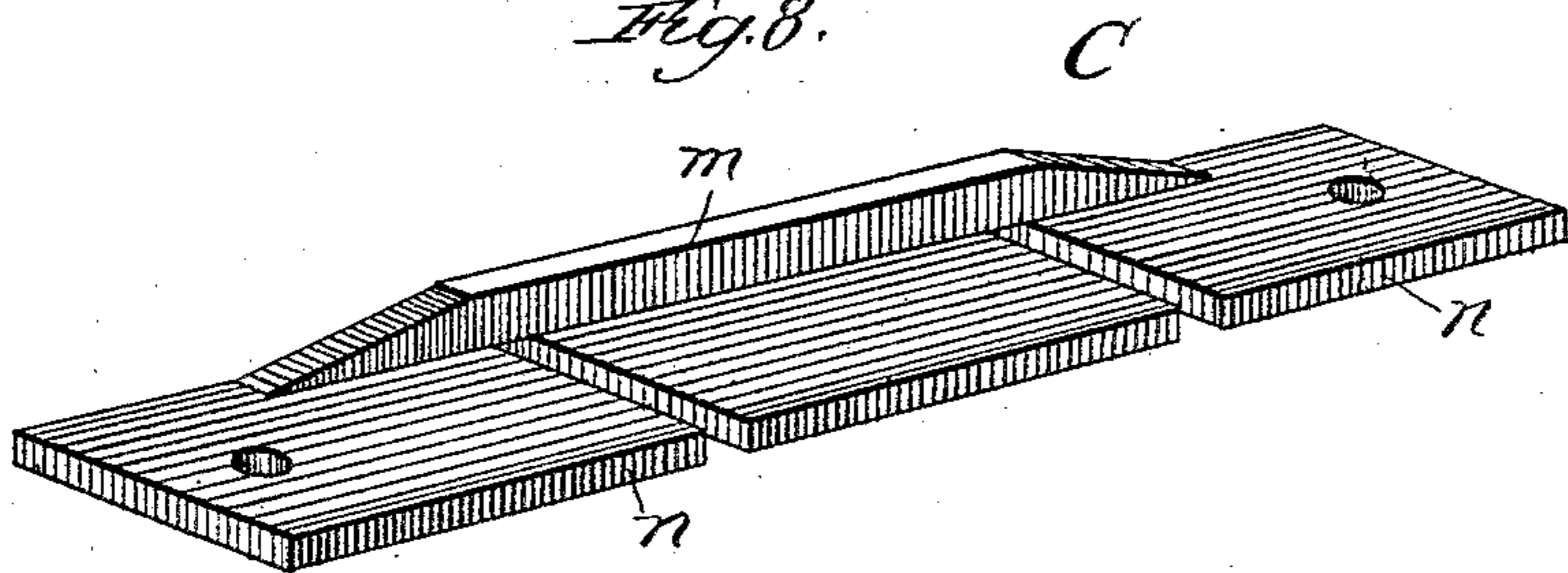


Fig. 8.



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# UNITED STATES PATENT OFFICE.

AXEL A. STROM, OF AUSTIN, ASSIGNOR TO THE STROM MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS.

## SWITCH-RAIL CHAIR.

SPECIFICATION forming part of Letters Patent No. 401,312, dated April 9, 1889.

Application filed November 23, 1888. Serial No. 291,641. (No model.)

*To all whom it may concern:*

Be it known that I, AXEL A. STROM, a citizen of the United States, residing at Austin, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Rail-Chairs, of which the following is a specification.

My invention relates to improvements in the class of rail-chairs commonly termed "head-chairs," and employed in railroad-tracks to afford seats for the ends of switch-rails; and it relates more particularly to improvement on the form of head-chair in which a bed-plate is surmounted by a cross-bar having slots extending transversely part way through it to admit the webs toward the ends of the stationary rails at the switch.

The object of my improvement is to provide a head-chair having the general construction last referred to—namely, a base-plate and slotted cross-bar—and which shall involve the simplest and least expensive construction of the device compatible with the required strength to enable it to withstand the strain to which it is subjected in use.

In the accompanying drawings, Figure 1 shows a rear perspective view of my improved device with the slotted cross-bar in its simplest form. Fig. 2 is a section taken on the line 2 2 of Fig. 1, and viewed in the direction of the arrows. Fig. 3 is a section taken on the line 3 3 of Fig. 5, and viewed in the direction of the arrows. Fig. 4 is a section taken on the line 4 of Fig. 1, and viewed in the direction of the arrow. Fig. 5 is a front perspective view of my improved head-chair, showing a portion of the slotted cross-bar broken away to illustrate a modified construction thereof. Fig. 6 shows a rear view of the cross-bar of the construction represented in Fig. 5 before it is secured to the bed-plate. Fig. 7 shows a similar view of the same cross-bar after it has been bent toward its ends to cause the latter to meet the base-plate, and Fig. 8 is a bottom perspective view of the cross-bar shown in Fig. 6 before it is bent and secured to the bed-plate.

A is the head-chair, having, like the head-chairs hereinbefore referred to as being improved upon by my present construction, a

cross-bar provided with slots extending part way through it, the cross-bar being secured on a bed-plate, B, which may have perforations *r*, to admit bolts or spikes for fastening it to the ties, and provided on its upper side with stops to limit the play of a movable switch-rail.

My improvement is due to the construction of the cross-bar and the manner in which it is applied to the bed-plate.

As shown in Fig. 1, the cross-bar C comprises a bar, *n*, which is preferably rectangular throughout, and the transverse slots *s* in which extend from one edge nearly through the bar. To adapt the cross-bar to my purpose, it is bent obliquely, as shown at *x*, at opposite sides of the slots *s*, and the end portions, *x'*, are bent to horizontal positions, thereby adapting the ends of the bar to rest flat on the bed-plate, to which they are secured by welding or by means of rivets *l*, or both, and the bent form of the slotted bar C raises it between its ends *x'*, affording a housing, *h*, for the rail-flanges, the webs of which are inserted into the slots *s*, and the opposite ends of which housing thereby conform, substantially at least, in shape to the bevel of the rail-flanges which they receive.

As constructed in the manner illustrated in Figs. 5 to 8, inclusive, the slotted bar *n* of the cross-bar C is provided with a flange, *m*, extending perpendicularly from the lateral edge short of which the slots reach, and the thickness of the flange should correspond with the width of the space between the inner ends of the slots *s* and adjacent edge of the bar *n*. For the purpose of this form of my improved device the flange *m* should extend at its opposite ends short of the respectively adjacent ends of the cross-bar, and this construction may be produced by forming the cross-bar originally with the flange of the same length as the bar *n*, and subsequently removing a section of the flange from each of its ends or heating it and beating it down toward its opposite ends; or the cross-bar may be originally formed with the flange shorter than the bar *n*.

However the desired form of the flanged cross-bar is produced, the ends of the flange *m*, instead of being perpendicular or straight,

as they may be, should, by preference, be beveled, as shown in Figs. 6 and 8, or, if preferred, by extending the bevel to the extremities of the bar  $n$ , as indicated by dotted lines. The cross-bar is adapted to be secured to the bed-plate in the manner already described in relation to Fig. 1—namely, by bending it, by preference obliquely, as shown at  $x$ , at opposite sides of the slots  $s$ , and bending the end portions,  $x'$ , to horizontal positions, to adapt the ends of the bar to rest flatwise on the bed-plate and securing them thereto, as hereinbefore explained. Either of the constructions thus described affords a simply-formed durable cross-bar at a comparatively small cost.

Instead of employing the form of stops  $p$  commonly used on head-chairs, and which comprise blocks riveted to the bed-plate to extend to the limits of the throw of the movable switch-rail, I may provide the stops  $p$  illustrated, which are formed by striking up, at the desired points, the metal of the bed-plate.

As a means of permitting head-chairs to be secured more firmly to their supports (ordinarily the ties) than by merely bolting or spiking them down through openings  $r$ , I prefer to provide lateral perpendicular flanges  $g$ , thereby forming the bed-plate into a species of cap, the sides of which embrace the sides of the tie or other support, and secure the head-chair in position by driving the fastening bolts or spikes horizontally through openings  $i$  in the flanges  $g$ .

Where perforated flanges  $g$  are provided on head-chairs, the base-plates may or may not, as desired, be provided with bolt-holes  $r$ .

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

1. In a head-chair, the combination of a bed-plate, B, and a cross-bar, C, having slots  $s$ , and bent toward its opposite ends, thereby producing end portions,  $x'$ , and an intermediate housing, and secured to the bed-plate, substantially as described.

2. In a head-chair, the combination of a bed-plate, B, and a cross-bar, C, having slots  $s$ , and bent obliquely from near the opposite outer sides of the slots, and having horizontal end portions,  $x'$ , and an intermediate housing,  $h$ , and secured to the bed-plate, substantially as described.

3. A head-chair comprising, in combination, a bed-plate, A, and a cross-bar, C, formed of a slotted bar,  $n$ , having a flange,  $m$ , extending at opposite ends short of the ends of the said bar, and the cross-bar being bent toward its ends and secured thereat to the bed-plate, substantially as described.

4. A head-chair comprising, in combination, a bed-plate, A, and a cross-bar, C, formed of a slotted bar,  $n$ , having a flange,  $m$ , beveled at opposite ends toward the surface of the bar  $n$ , the cross-bar being bent toward its ends and secured thereat to the bed-plate, substantially as described.

5. A head-chair comprising, in combination, a bed-plate, A, and a cross-bar, C, formed of a slotted bar,  $n$ , having a flange,  $m$ , beveled at opposite ends toward the surface of the bar  $n$ , the cross-bar being bent toward its ends to conform to the surface of the bed-plate and welded and riveted thereto toward its bent ends, substantially as described.

6. A head-chair comprising, in combination, a bed-plate, A, having lateral perforated flanges  $g$  and struck-up stops  $p$ , and a cross-bar, C, having slots  $s$ , and bent toward its opposite ends, thereby producing the end portions,  $x'$ , and an intermediate housing,  $h$ , and secured to the bed-plate, substantially as described.

AXEL A. STROM.

In presence of—

J. W. DYRENFORTH,  
M. J. BOWERS.