

(No Model.)

2 Sheets—Sheet 1.

J. L. SILSBEE.
RAILWAY CONSTRUCTION.

No. 527,891.

Patented Oct. 23, 1894.

Fig. 1.

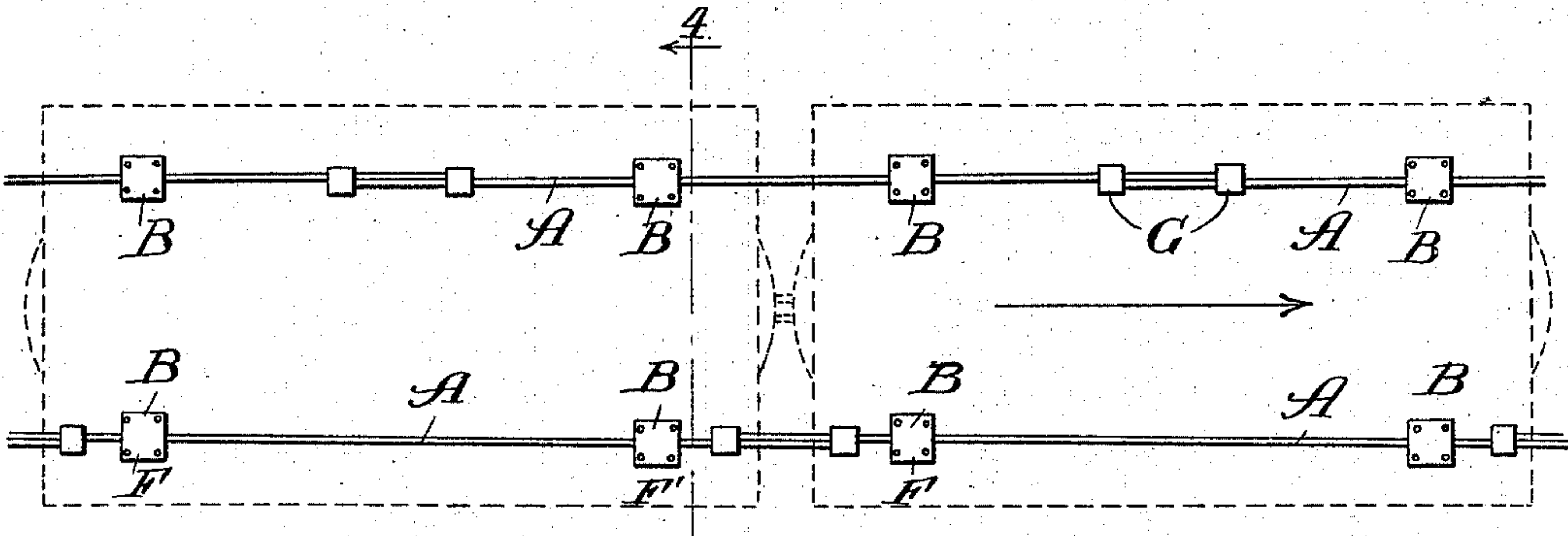


Fig. 2.

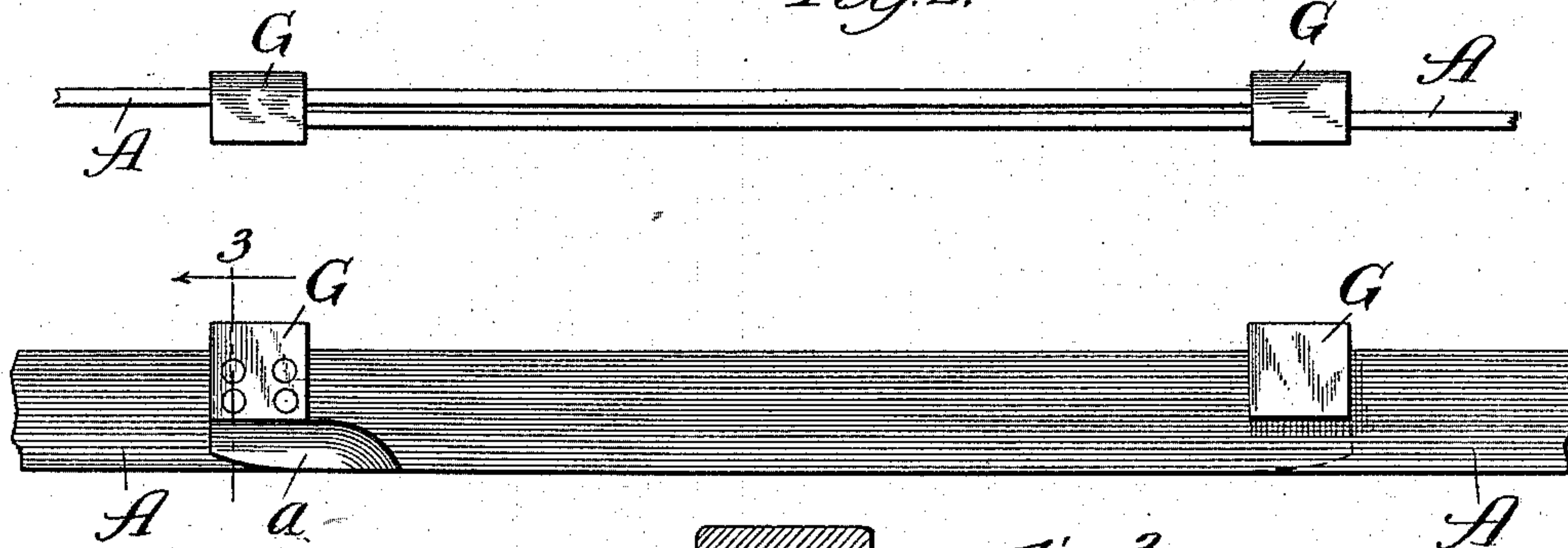


Fig. 3.

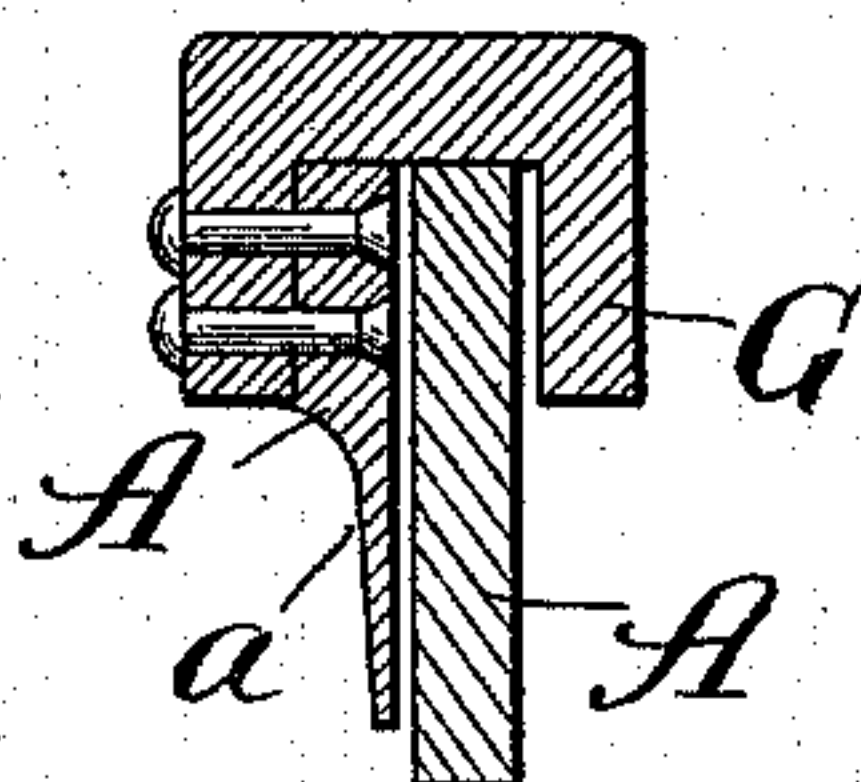
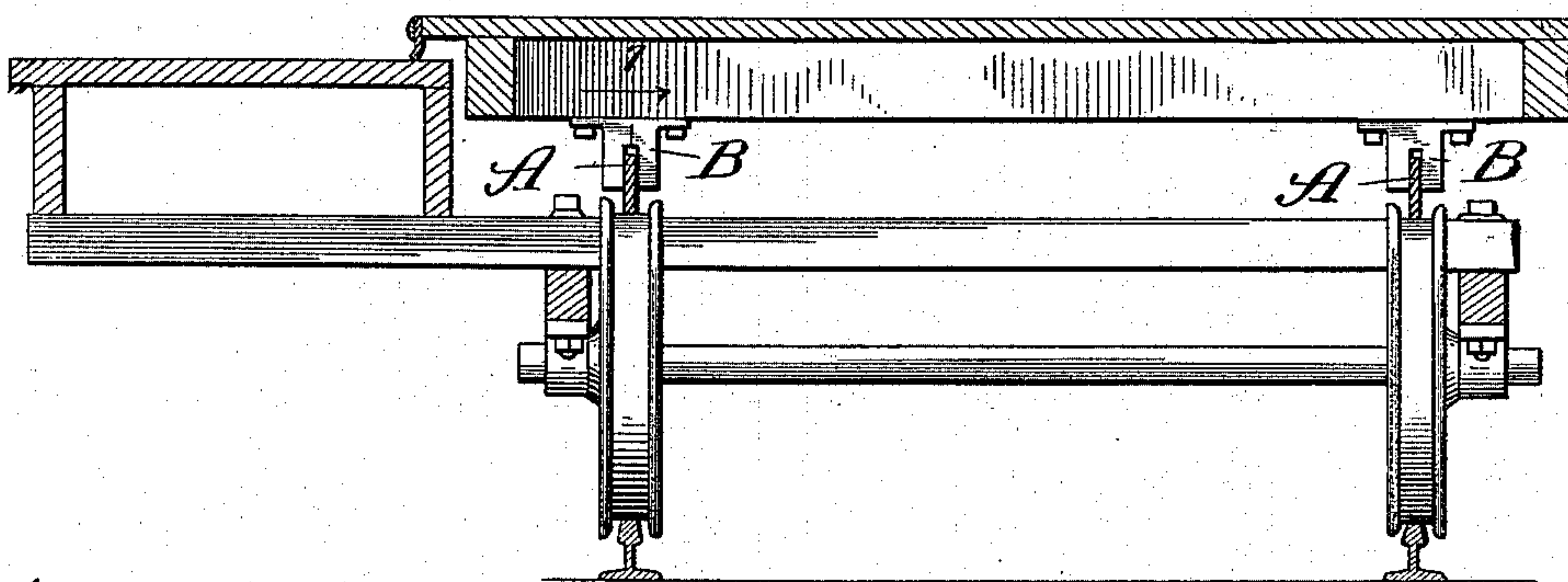


Fig. 4.



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2 Sheets—Sheet 2

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Fig. 5.

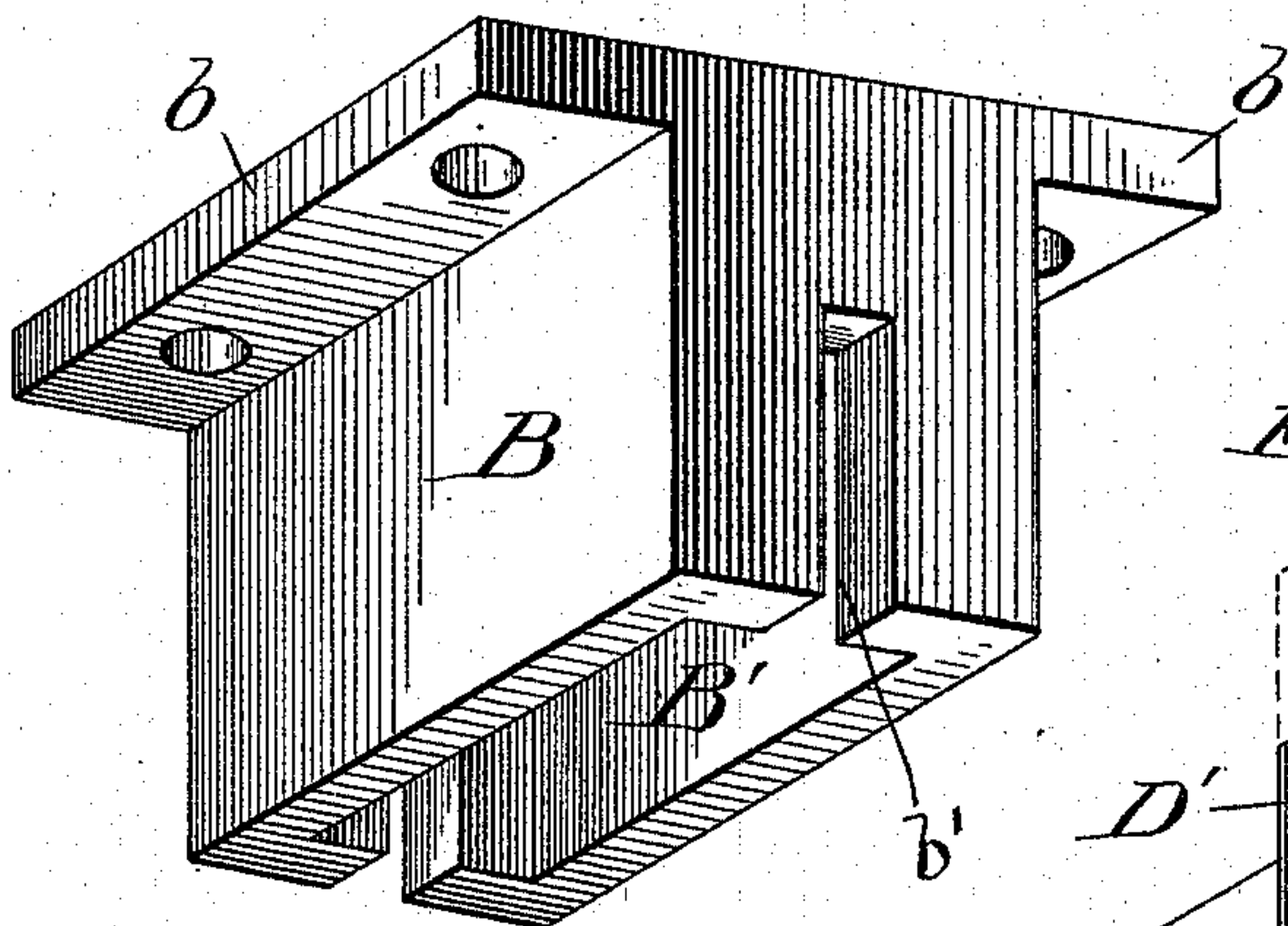


Fig. 6.

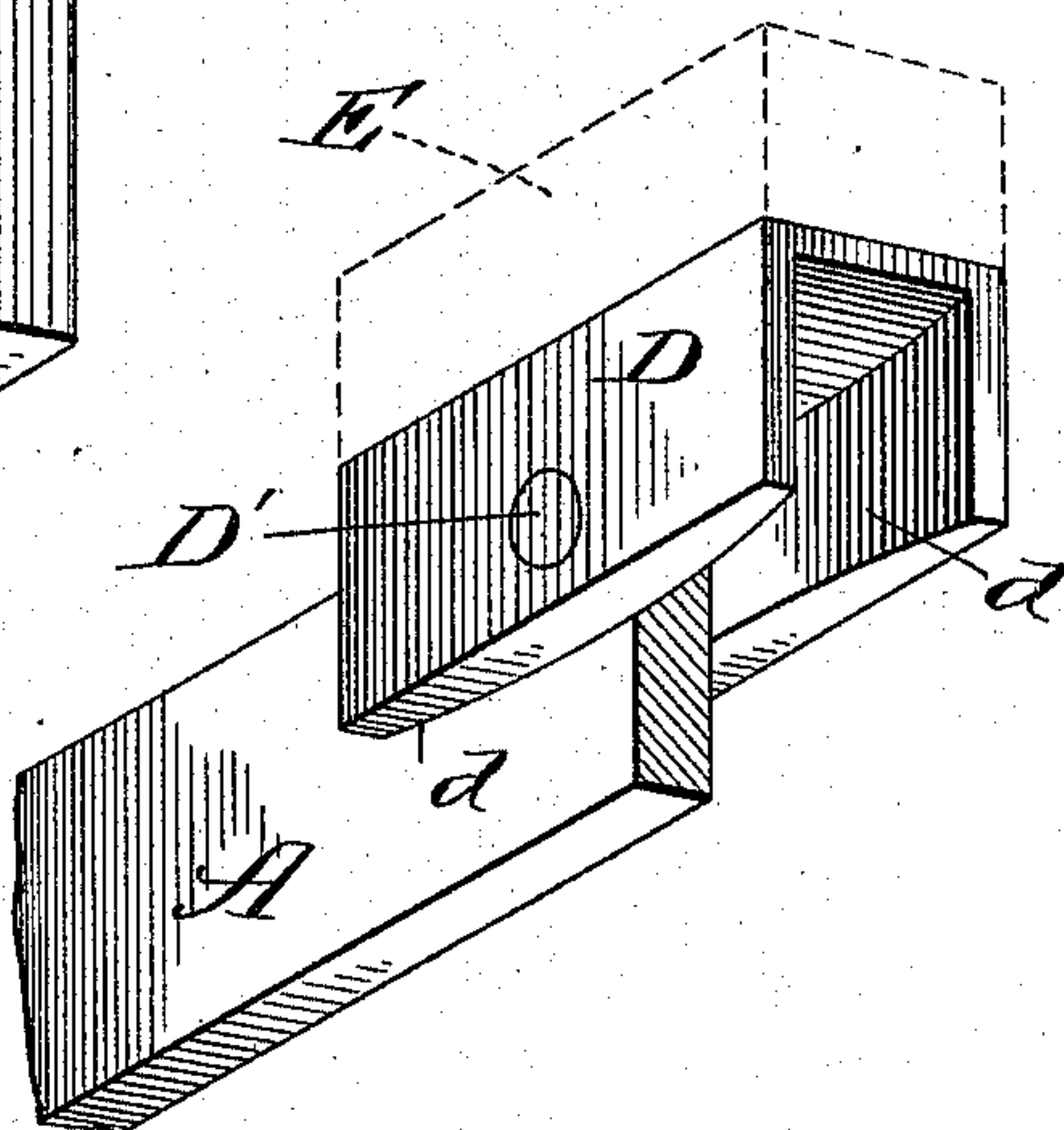


Fig. 7.

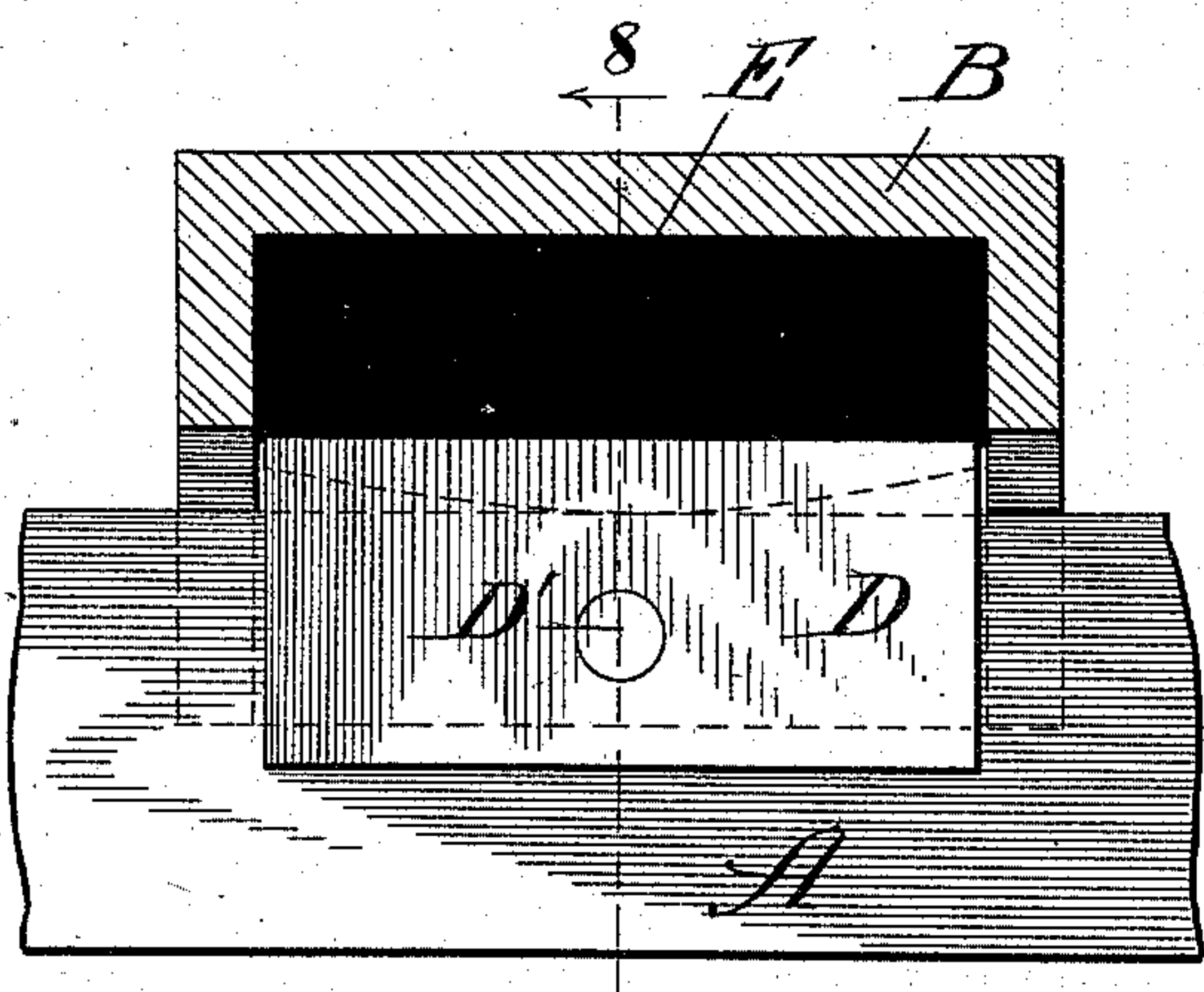
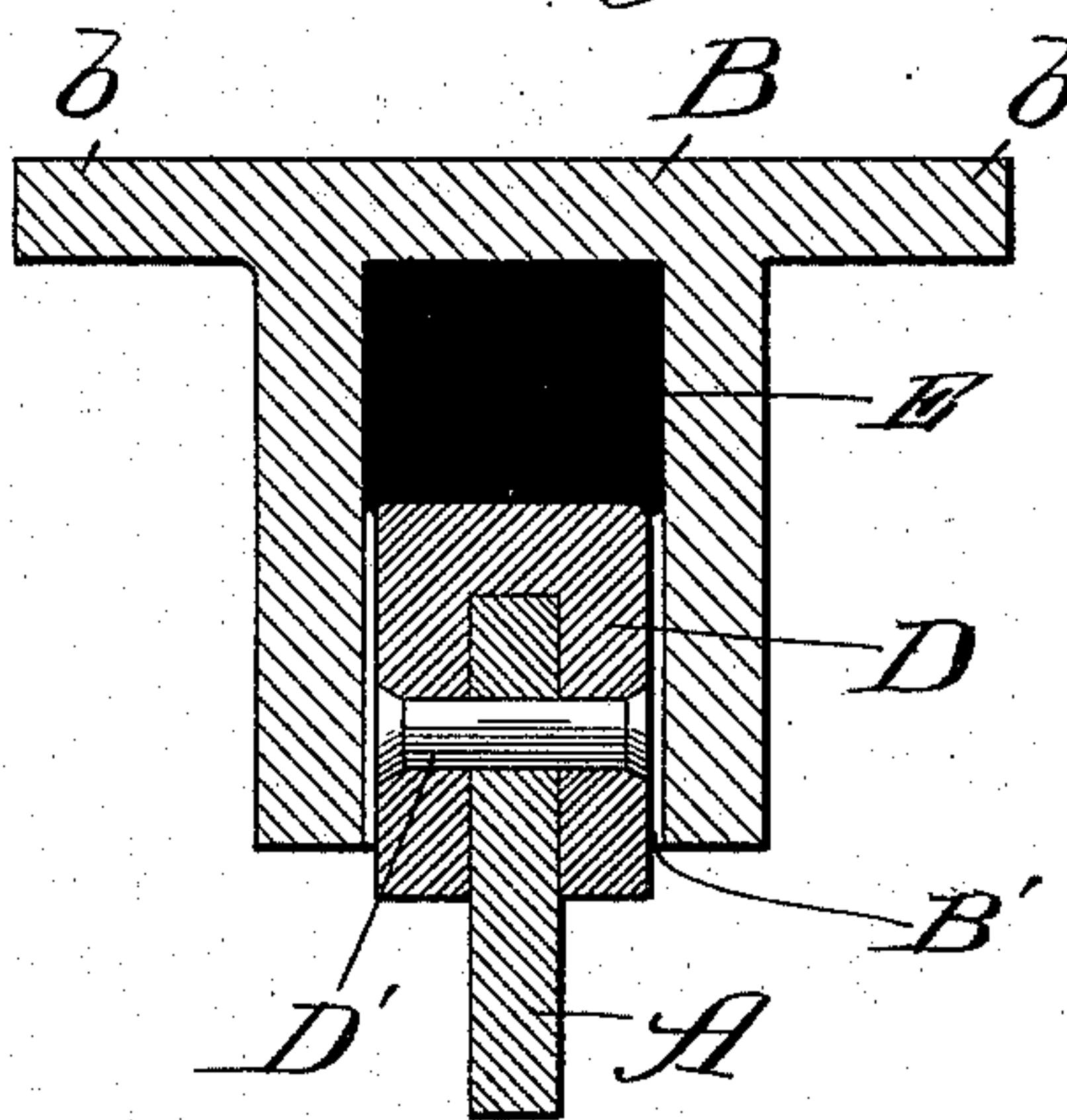


Fig. 8.



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UNITED STATES PATENT OFFICE.

JOSEPH L. SILSBEE, OF CHICAGO, ILLINOIS.

RAILWAY CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 527,891, dated October 23, 1894.

Application filed December 26, 1893. Serial No. 494,693. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH L. SILSBEE, a citizen of the United States, residing at Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Railway Construction, of which the following is a specification.

My invention relates to railway systems for the transportation of freight or passengers in which the construction is such that the cars move at a higher rate of speed than the axles from which the movement is derived. This is accomplished by attaching the cars to moving tracks resting upon the peripheries of wheels mounted upon axles, so that as the wheels and axles run upon fixed tracks at a certain speed, the moving rails, and the cars attached thereto will move at substantially double the rate of speed of the axles.

The system of construction to which I refer is shown in a patent issued to Max E. Schmidt and myself on the 18th of November, 1890, No. 440,725, to which patent I refer for the purpose of avoiding any detailed description of the general construction of the apparatus employed in such system.

My present invention relates to certain devices adapted for use in connection with the above described or similar systems, and my object is to improve upon and modify in various details the traveling rail, and the parts intimately associated therewith.

Stating my present invention in general terms, I may say that it consists, first, in constructing a flexible traveling rail in sections interlocking at their ends and attached to the car as to provide for the easy running of the cars carried by such rails, either on straight lines or around curves; and second, in providing suitable means for connecting the rails and the cars.

More particularly my invention consists in the features and details of construction, and combinations hereinafter described and claimed.

In the drawings Figure 1 is a plan view of my improved form of rail, showing the means of connecting it to a car, and for connecting the sections of which the rail is composed, the cars being shown in dotted outline; Fig. 2, a plan view and an elevation, showing the means of connecting the ends of the sections

of the flexible rail; Fig. 3, a cross section on line 3 of Fig. 2, looking in the direction of the arrow; Fig. 4, a transverse vertical section on line 4 of Fig. 1, looking in the direction of the arrow. Figs. 5 and 6 are details illustrating the method of connecting the rail to the car. Fig. 7 is a section on line 7 of Fig. 4, looking in the direction of the arrow; and Fig. 8, a section on line 8 of Fig. 7. The last seven figures are all on a scale larger than that of Fig. 1.

The car bodies, track, axles and other parts of the railway system not hereinafter more particularly described, are made in any desired manner, as, for example, that shown in the patent already referred to, the wheels may be either double flanged, as shown in the drawings, or single flanged, as may be desired. In the case of a wheel with a single flange I preferably provide guides attached to the frame work of the truck to prevent the flexible rails from running off the wheel.

The rails A are made of any suitable material that will afford the necessary strength and flexibility. The rails are made in sections of any desired length. One length of section, the use of which is attended with good results, is such as to enable the rail to extend out beyond each end of the car and pass some little ways under the opposing end of the adjacent car. This length however is not essential, and may be varied whenever the circumstances of the case shall require it, and to accommodate the curves around which the car passes. These rails may be attached to the car in any manner that will permit of their efficient operation, and that will not impair their flexibility to such an extent as to render them too rigid for operation in the manner hereinafter described. In the drawings I have illustrated, and will here describe one mode of attachment which I consider efficient, but do not intend to limit myself to that precise mode. Attached to the under side of the car bodies are any desired number of pockets B. I preferably use four of these pockets, as shown in Fig. 1, one being fastened near each corner of the car; but any other number may be used, as desired. The preferred form of these pockets is more particularly shown in Figs. 5, 7, and 8. In this form the pocket is provided with flanges

b by means whereof it is secured to the car body. The ends of the pocket are slotted, as shown at *b'*, to permit the passage of the rail, and the interior of the pocket *B'* is made of a suitable size to receive the shoe *D*, and the spring *E*. This shoe *D* is shown more particularly in Figs. 6, 7, and 8. It is secured directly to the rail *A* by means of a bolt *D'*, which passes through a hole in the rail of a size to tightly fit the bolt, while the holes in the shoe are preferably made of a greater diameter than the bolt, or elongated, to afford play. The ends and top of the shoe are beveled on their inner sides, as shown at *d*, to allow the rail to rock in the shoe, affording play.

The spring *E* may consist of a block of rubber, or other suitable elastic material, or coiled or flat springs may be used if desired. As shown this spring fits in the pocket on top of the shoe.

The joints or connections in the sections may come either between the cars, as shown at the lower side of Fig. 1, or underneath the car bodies, as shown at the upper side of that figure. In the former case the section of the rail *A* will be fastened to the shoe in a pocket at one end of the car, as the one marked *F*, and will slide loosely through the shoe in the pocket at the other end of the car marked *F'*. Where the connection comes under the body of the car the rail will be fastened in the same manner to one of the shoes in a pocket at the end of the car.

To connect the ends of the rails I preferably, though not necessarily, employ the following means: Clips *G* are fastened to the ends of the rails. When the ends of the rails are laid overlapping, the clip on the end of one section will overlap the other section, and conversely, as shown more particularly in Figs. 2 and 3. The ends of the rail sections are preferably beveled, as shown at *a*, Fig. 3, to prevent any jar on striking the wheel flange, and thereby facilitate the ease and travel of the rails over the wheels.

The method of putting the parts together will be obvious from the above description, and need not be further elaborated.

In operation the flexible rails will travel along over the peripheries of the wheels, bending readily on passing curves and running without undue jar or friction. In this way I produce what I consider a highly serviceable and efficient flexible, sectional traveling rail, which is adapted to all of the exigencies and emergencies encountered in the operation of railway systems of this class, and while I have described more or less precise forms, it is not my intention to unduly limit myself thereto, but, on the contrary, I contemplate all necessary or desirable changes in form or proportions, and the substitution of equivalent members. Some of these changes have already been suggested in foregoing parts of the specification. Others will readily sug-

gest themselves to those skilled in the art. For example: under some circumstances, where the pockets on either side of the joint between the end of two sections are sufficiently near together to hold the sections of the rail with the requisite firmness, the clip *G* might be omitted; and other similar changes might be made without departing from the spirit of my invention.

It will be noted that the flexible, traveling rail herein shown is made of separate sections which are not bolted to each other in any rigid manner, but are provided with suitable means whereby the adjacent sections are interlocked with each other in a loose and sliding manner. The rail is not a composite rail, that is, a rail made of a plurality of pieces held side by side and secured together to give flexibility and strength, but is a rail made up of separate sections which overlap each other sufficiently to preserve the continuity of the rail under all conditions, and which interlock in such a manner that the horizontal adjustment of the rail is constantly maintained, while allowing a lateral motion sufficient for all purposes. In practice each car generally carries a section of rail which is adapted to interlock with a similar section on the next adjacent car. Another advantage of this rail over the composite rail is that it is not weakened by slots used to connect the members of said composite rail. The rail sections here are of a given length, which length depends on the length of the cars, and the overlap of the rail depends on the radii of the curves around which the cars are expected to pass, since the sharper the curve, the greater the overlap required.

I claim—

1. A flexible traveling rail made in sections interlocking at their ends, substantially as described.

2. A flexible, sectional, traveling rail, the sections whereof are loosely interlocked at their ends, whereby the horizontal adjustment of the sections is maintained, while allowing said sections to slide upon each other, and to move laterally, substantially as described.

3. A flexible rail section secured to a car or platform, and adapted to interlock with a similar section on an adjacent car or platform, substantially as described.

4. A car or platform provided with a flexible rail section adapted to engage with a corresponding section on an adjacent car or platform, whereby the horizontal adjustment of the sections is maintained, substantially as described.

5. A flexible traveling rail made in sections, each section connected at one or more points to the car or platform and by means of a loosely fitting interlocking joint at its ends with the sections next adjacent, whereby the rail is adapted to yield laterally, and enabled to pass around curves, while through the in-

terlocking a uniform level is maintained between adjacent sections of the rail, and thereby between the cars or platforms, and sufficient stiffness is imparted to the rail sections to enable them to travel on a straight line, or in conformity with the curvature of the railroad track, substantially as described.

6. The combination of a flexible, sectional, interlocking, traveling rail, wheels upon which the rail travels, and cars or platforms supported by and secured to the rail sections, substantially as described.

7. In a railway for increasing the speed of a car or platform over that of the axle, the combination of the flexible, sectional, interlocking, traveling rail resting upon the peripheries of the wheel or wheels transmitting motive power, the rail sections being connected at their ends by loose, interlocking connections preventing vertical or lateral play, but allowing the longitudinal play that is necessitated by the curvature of the railway track, and the lengths and widths of the cars and platforms resting on it, and a car or platform resting upon and secured and carried or supported by such rail sections, substantially as described.

8. The combination of a car, pockets secured to the under side thereof, and a flexible rail section secured in such pockets, substantially as described.

9. The combination of a car, pockets secured thereto, a flexible rail section, and shoes

engaging the section and retained in the pockets, substantially as described.

10. The combination of pockets adapted for attachment to a car body, shoes fitting in such pockets, and a rail section passing through the pockets and shoes, and secured to the latter.

11. The combination of pockets adapted to be secured to a car and provided with slotted ends, shoes having beveled and slotted ends, and adapted to be received in the pockets, and a rail section passing through both shoes and pockets, and secured to the shoes by a loose joint, whereby the rail section is afforded play in all directions, substantially as described.

12. The combination of a car, pockets secured thereto, shoes inserted into the pockets, springs interposed between the shoes and pockets, and a flexible rail section passing through both pockets and shoes, and secured to the latter, substantially as described.

13. As a means for securing a rail section to a car, the combination of a pocket with slotted ends, and adapted to be secured to the car, and a shoe adapted to be received into the pocket, and secured to the rail section, substantially as described.

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