

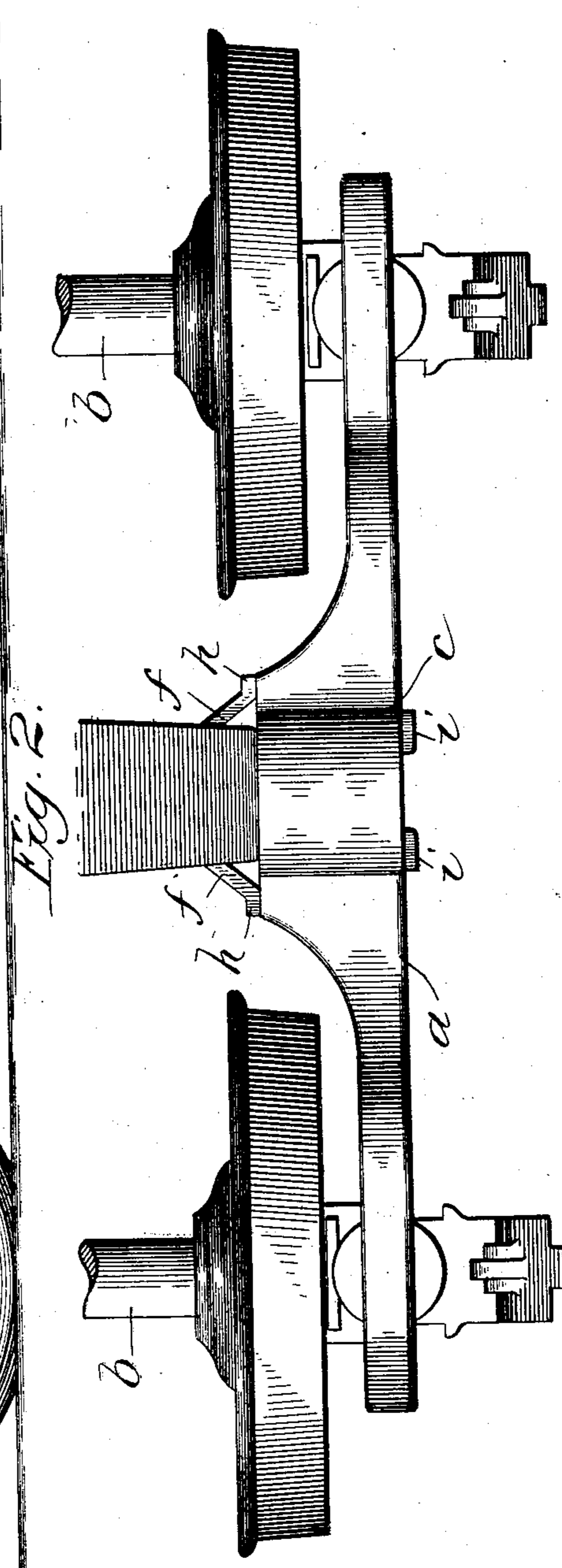
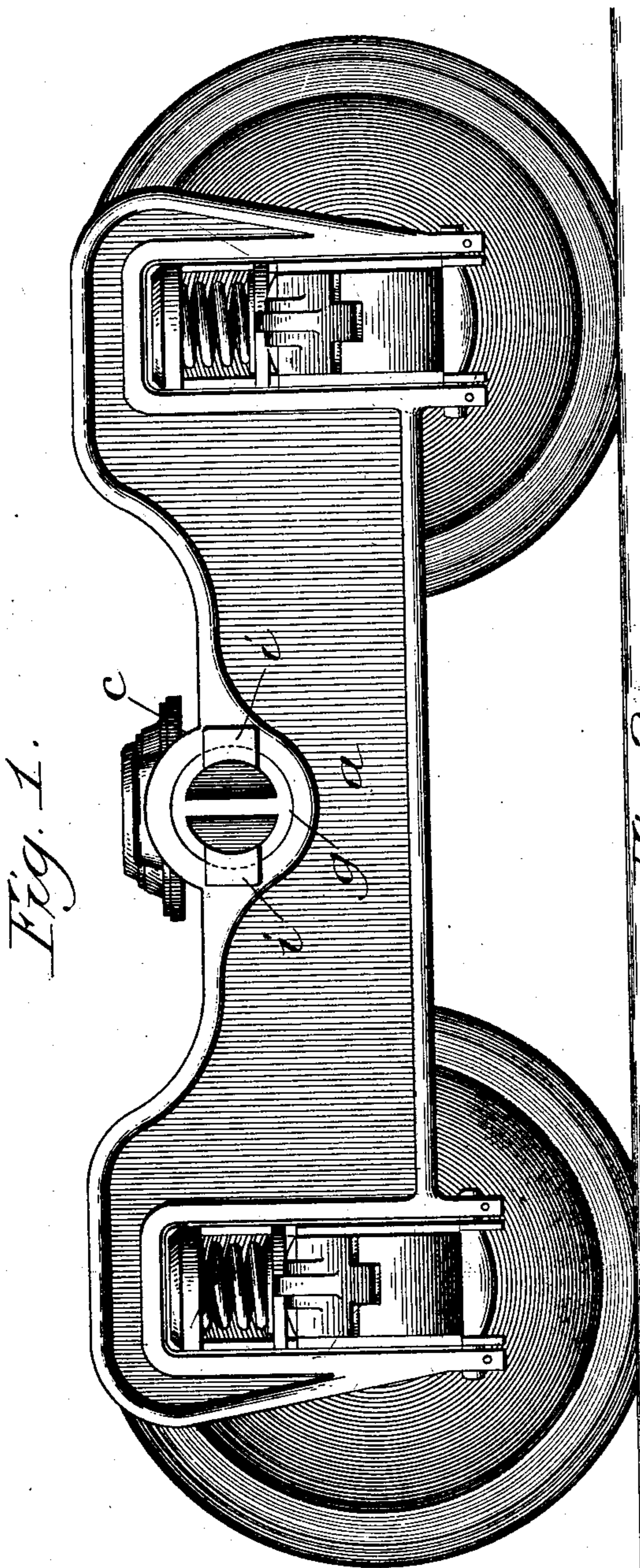
No. 739,917.

PATENTED SEPT. 29, 1903.

S. OTIS.
BOLSTER AND TRUCK.
APPLICATION FILED MAY 11, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:
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2 SHEETS—SHEET 2.

Fig. 3.

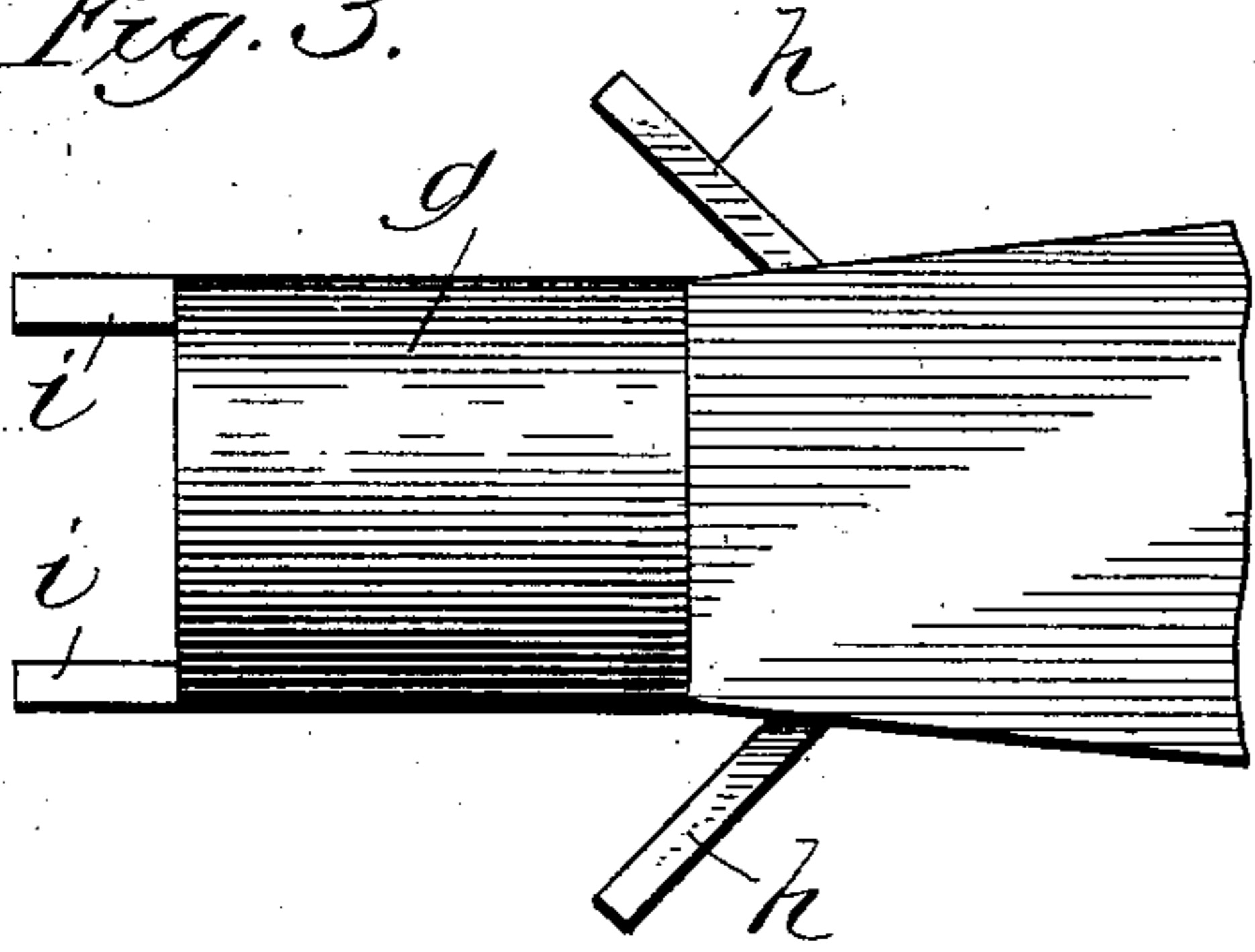


Fig. 5.

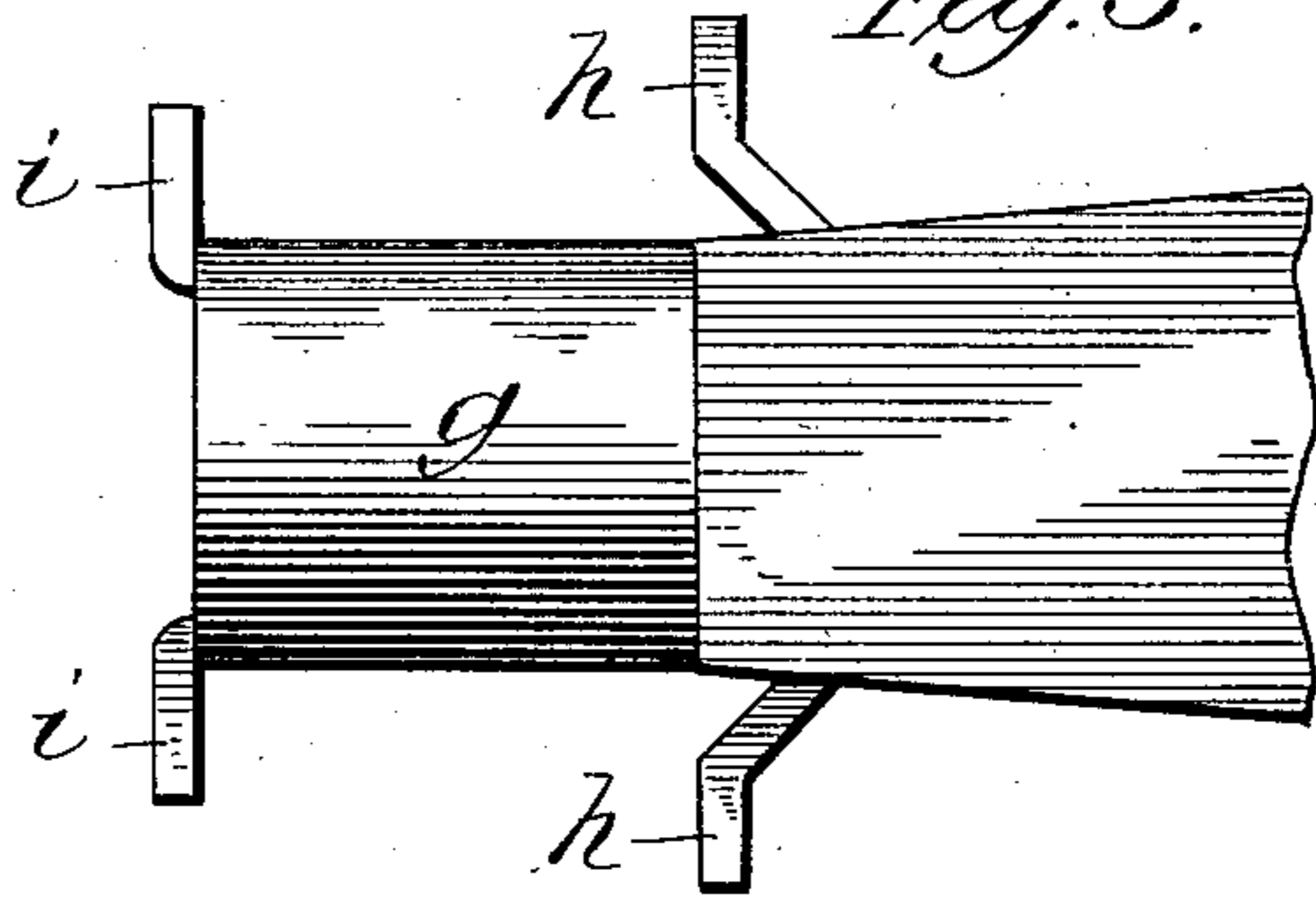


Fig. 4.

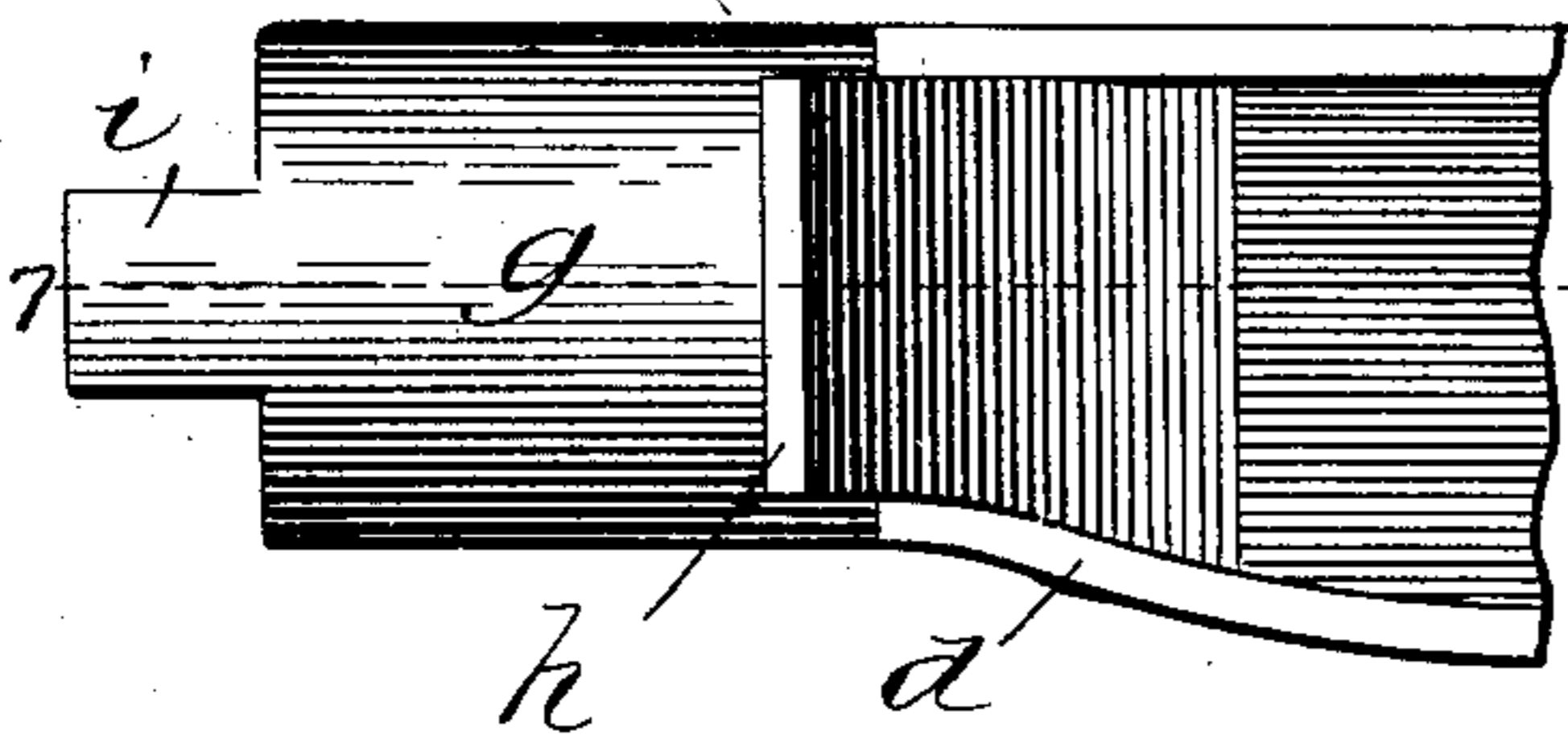


Fig. 6.

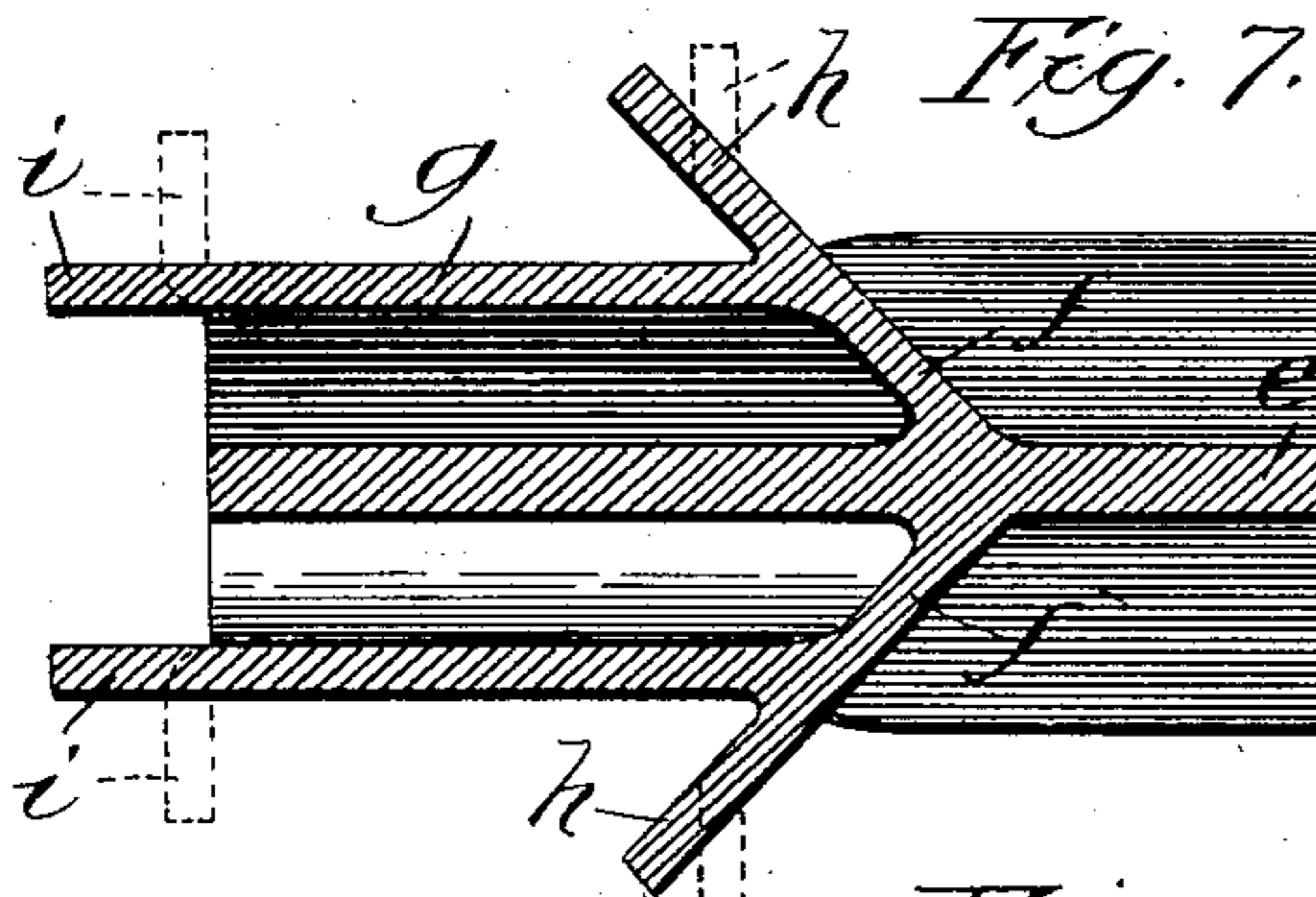
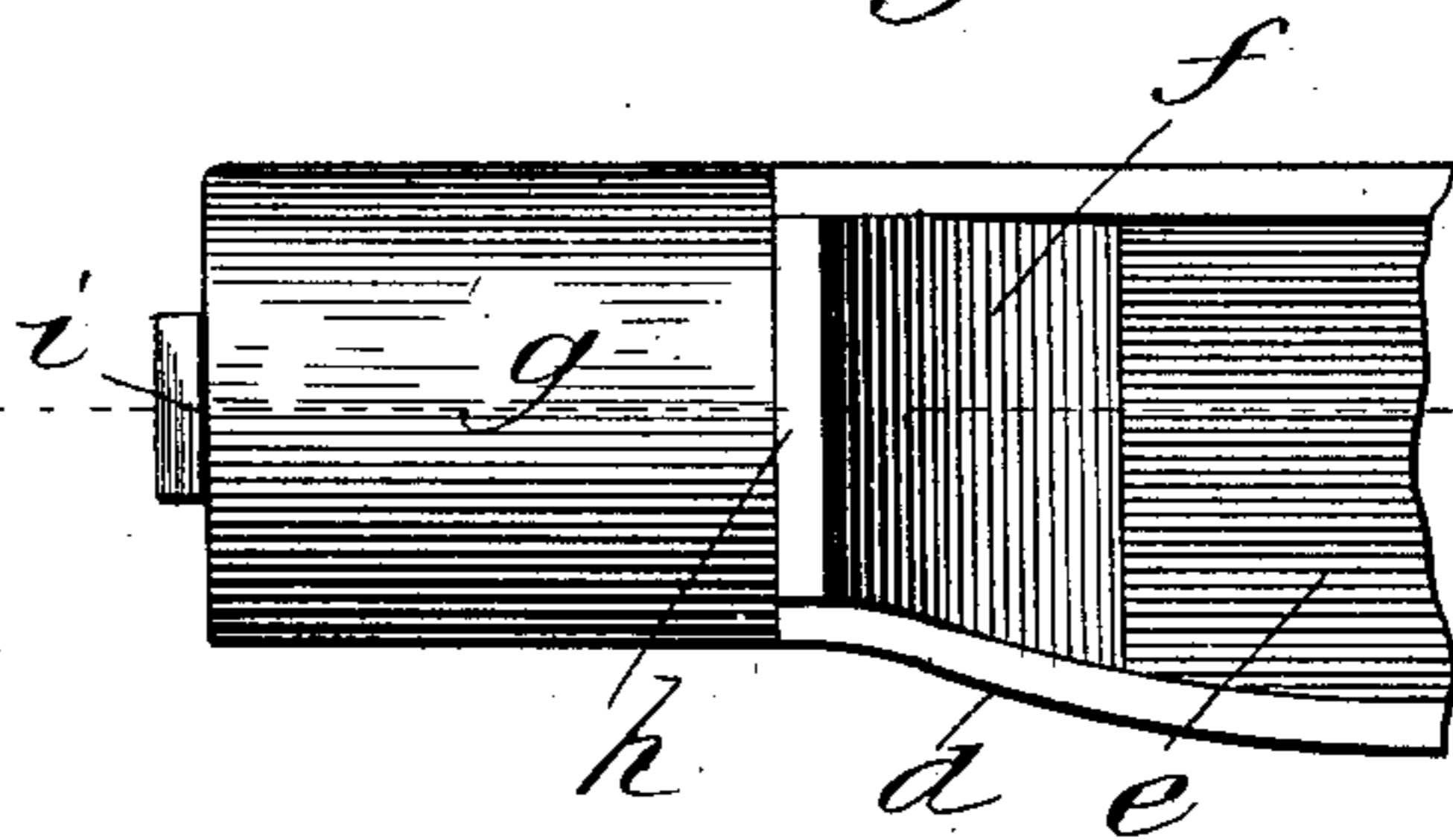
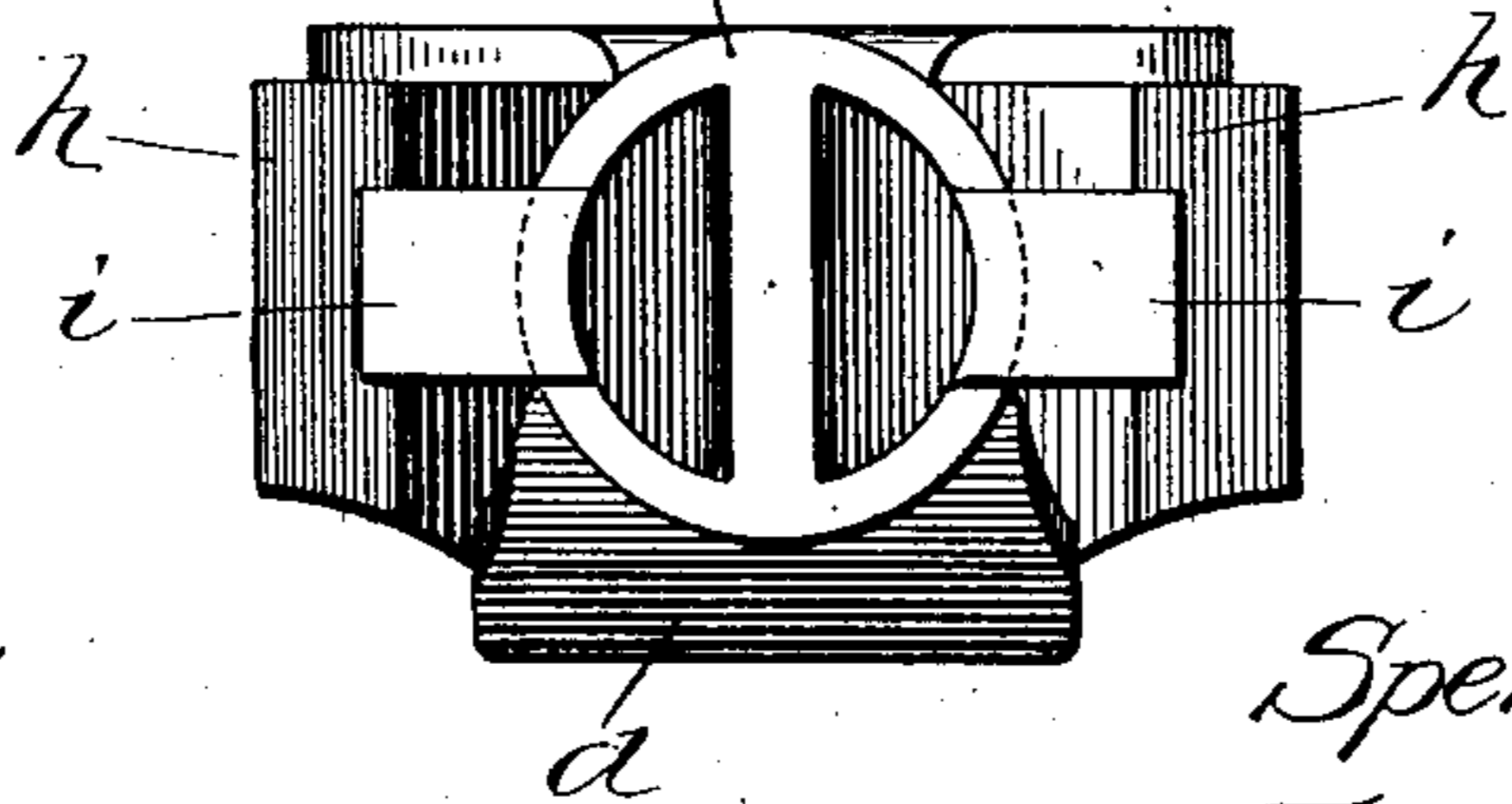


Fig. 8.



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UNITED STATES PATENT OFFICE.

SPENCER OTIS, OF CHICAGO, ILLINOIS, ASSIGNOR TO NATIONAL PATENT HOLDING COMPANY, OF SOUTH DAKOTA, OF RAPID CITY, SOUTH DAKOTA, AND CHICAGO, ILLINOIS, A CORPORATION OF SOUTH DAKOTA.

BOLSTER AND TRUCK.

SPECIFICATION forming part of Letters Patent No. 739,917, dated September 29, 1903.

Application filed May 11, 1903. Serial No. 156,652. (No model.)

To all whom it may concern:

Be it known that I, SPENCER OTIS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, am the inventor of certain new and useful Improvements in Bolster and Truck Mechanisms for Railway-Cars, of which the following is a specification.

My invention relates to that class of bolster and truck mechanisms having a pair of side frames, axles mounted in and connecting such frames, and a bolster mounted in the side frames, provided with integral shoulders in engagement therewith.

It relates particularly to the bolster and the means for mounting it in the side frames and holding the parts in position with relation to each other.

The principal object of my invention is to provide a simple, economical, and efficient bolster and truck mechanism for railway-cars.

A further object of the invention is to provide a bolster and truck for railway-cars with means for holding them in position with relation to each other without the use of bolts, rivets, or other similar devices, to permit the rocking of the parts transversely of the bolster, and provide the desired rigidity transversely of the truck.

Other and further objects of the invention will appear from an examination of the drawings and the following specification and claims.

The invention consists in the features, combinations, and details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a truck constructed in accordance with my improvements, showing the outer integral shoulders of the bolster in engagement with the side frame of the truck; Fig. 2, a plan view of a portion of a truck, showing the integral shoulders in engagement with the outer and inner sides of one of the side frames; Fig. 3, a longitudinal elevation of one end of a bolster, showing the integral flanges for forming the shoulders in the form in which they are cast; Fig. 4, a longitudinal elevation, partly in section, of the parts shown in Fig. 3; Fig. 5, a view similar to Fig. 3, showing

the flanges after being bent into the form in which they are when in use; Fig. 6, a similar view showing the parts illustrated in Fig. 5; Fig. 7, a plan view, partly in section, showing the inner longitudinal web portion and the flanges in full lines in the position in which they are cast and in dotted lines in the position into which they are bent to form the shoulders for holding the bolster and side frames in position with relation to each other; and Fig. 8 an end elevation showing the bolster in position in the truck-frame.

In constructing a device in accordance with my improvements I provide a truck-frame comprising a pair of side frames *a*, which may be of any ordinary and well-known type and in which axles *b* are mounted, so as to connect such frames, form supports therefor, and hold them in position with relation to each other in any ordinary manner. Both of the side frames are counterparts of each other and may be of any ordinary type. It is therefore only necessary to describe one to enable the construction and arrangement of both to be understood, so as to enable those skilled in the art to make and practice the invention. Each side frame is provided at its longitudinal center with an opening *c* therethrough, forming a bearing socket or journal in which the bolster *d*, hereinafter described, is rockingly mounted.

It is desirable that a bolster be provided having means for connecting it with the side frames of the truck without the use of bolts or rivets, so as to efficiently hold the parts in position with relation to each other and permit the desired play or rocking motion transversely of the bolster, at the same time affording the desired rigidity of the parts transversely of the side frames or trucks. To accomplish these objects, as well as other objects which will be readily apparent to those skilled in the art, the bolster *d* is made, preferably, of cast-steel substantially hollow throughout, but provided with an inner longitudinal vertical web *e* and at each end with laterally reinforcing-webs *f*, which extend outward therefrom and form an integral connection between such inner longitudinal web and outer walls of the bolster.

The bolster is provided at each end with a preferably integral bearing portion or journal h , conforming with the shape of the opening or socket portion of the side frames in which it is to be mounted and which I make, preferably, circular or substantially cylindrical, so as to permit the desired play transversely of the bolster between the parts. A pair of inner lateral flanges h is cast at the inner end of each of such journal portions integral with the journal and main body portion of the bolster and when cast extending at an angle to the axial center of the bearing portion toward the outer extreme end of the bolster, substantially in line with the inner reinforcing-webs already described. A pair of integral flanges i when cast extend outward beyond the outer end of each journal portion in line with the cylindrical wall thereof. The inner flanges are then upset or bent backward from the position in which they are cast, as shown in dotted lines in Fig. 7, preferably while hot, so as to form shoulders adapted to engage the inner side of the side frames of the truck when the bolster is in operative position. The journal portion is then inserted into the opening or journal of the side frame and the outer flanges i are upset or bent outward, preferably while hot, from the position in which they were cast to a lateral position, as shown in Figs. 1 and 2, so as to engage the outer side of the side frame and, together with the journal and inner shoulder portions of the bolster, hold the parts in position.

It will be readily seen that the inner lateral flanges above described being cast at an acute angle, as shown in Fig. 7, are adapted to be bent backward or upset to any desired extent within certain limits, so as to overcome any inequalities in the length of the bolsters between the inner shoulders of the opposite ends which may occur in the varying conditions of casting. It is also apparent that the integral outer and inner shoulder portions of the bolster coact with the journal portion of such bolster and with the side frames to hold the parts rigid transversely of the trucks or side frames and permit the desired play or rocking movements transversely of the bolster. A simple, economical, and efficient truck may be thus provided and the bolster held in position with relation thereto without the use of a single bolt or rivet for holding such parts together.

I claim—

1. In a device of the class described, a bolster provided with an integral bearing portion at each end thereof, integral lateral shoulders on the inner end of each of such bearing portions adapted to engage the inner side of the truck-frame, and integral flanges extending longitudinally beyond the outer end of the bearing portion and adapted to be bent out laterally into engagement with the outside of a truck-frame, substantially as described.

2. In a device of the class described, a bolster provided with an integral circular bearing portion at each end thereof adapted to be mounted in the side frames of a truck and having integral shoulders on the inner end of each bearing portion extending outward laterally at an acute angle throughout a portion of their length and at right angles to the axial center of the bearing portion throughout the remaining portion of their length, and lateral shoulders on the outer end of each of such bearing portions adapted to engage the outer side of the truck-frame, substantially as described.

3. In a device of the class described, the combination of a substantially hollow metallic bolster provided with an inner integral longitudinal web, and integral connecting-webs extending therefrom to the outer walls of such bolster and provided with an integral circular bearing portion at each end having integral lateral shoulders on the inner and outer ends of such bearing portions, substantially as described.

4. In a device of the class described, the combination of a pair of side frames having an opening therethrough beneath a portion of the solid body thereof for receiving the end of a bolster, axles mounted in and connecting such frames, and a bolster mounted in the opening in the solid body portions of such side frames and provided with integral shoulders in engagement with the outside and inside of each of such frames, substantially as described.

5. In a device of the class described, the combination of a pair of side frames, axles mounted in and connecting such frames, and a bolster rockingly mounted in such side frames and provided with integral shoulders in engagement with the outer and inner sides of each side frame, substantially as described.

6. In a device of the class described, the combination of a pair of side frames, axles mounted in and connecting such side frames, and a bolster provided with an integral circular bearing portion at each end thereof, and integral shoulders on the outer and inner ends of such bearing portions in engagement with the outer and inner sides of the side frames, substantially as described.

7. In a device of the class described, the combination of a pair of side frames, axles mounted in and connecting such side frames, and a bolster provided with an integral circular bearing portion at each end thereof and integral shoulders on the outer and inner ends of such bearing portions, rockingly mounted in the side frames with such outer and inner shoulders in engagement with the outer and inner sides of the side frames, respectively, substantially as described.

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Witnesses:

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