

(No Model.)

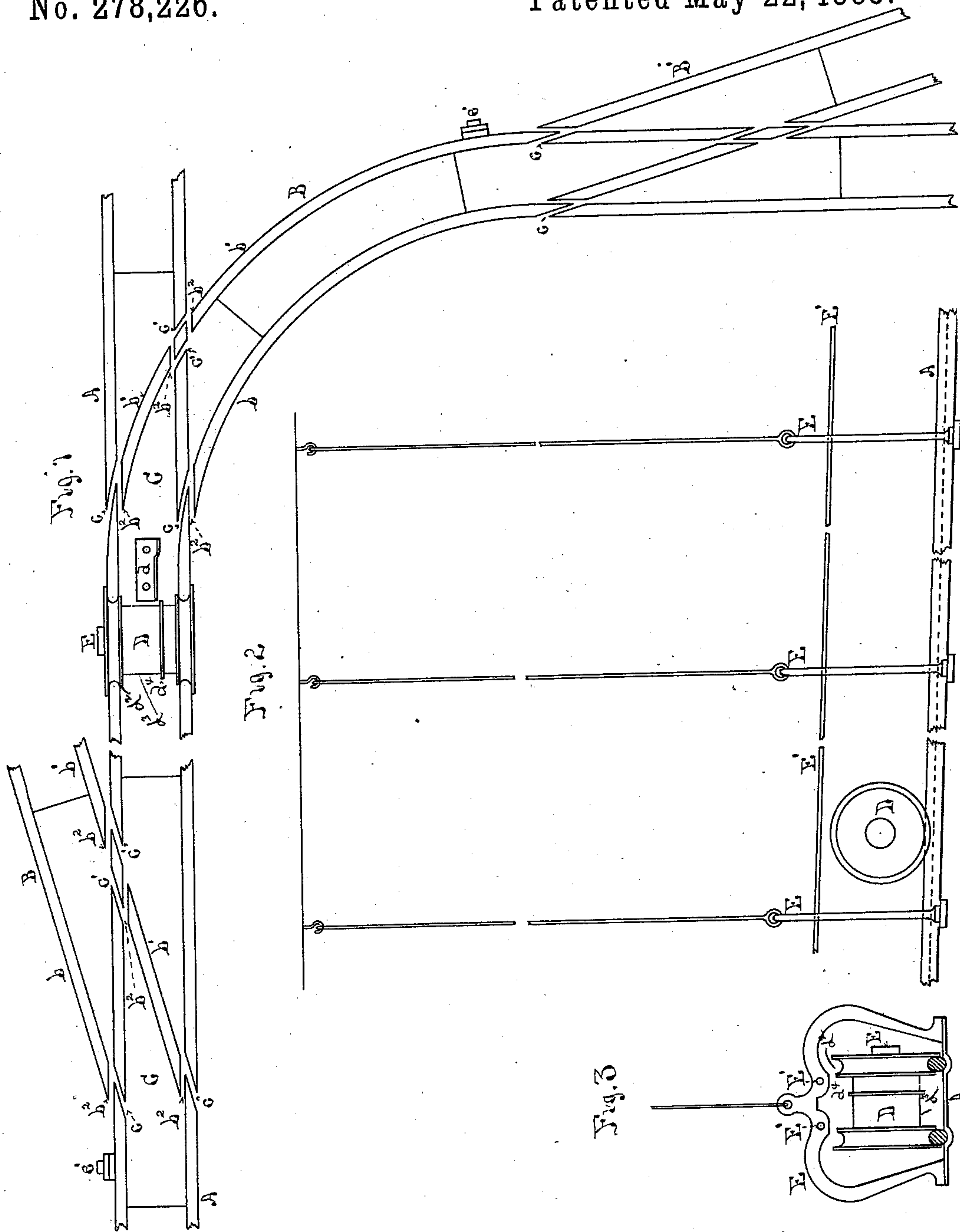
4 Sheets—Sheet 1.

J. DENNIS.

PARCEL CARRIER AND ELEVATED TRACK FOR SAME.

No. 278,226.

Patented May 22, 1883.



Witnesses

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By David Hall Rice
His Atty.

(No Model.)

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Fig. 6

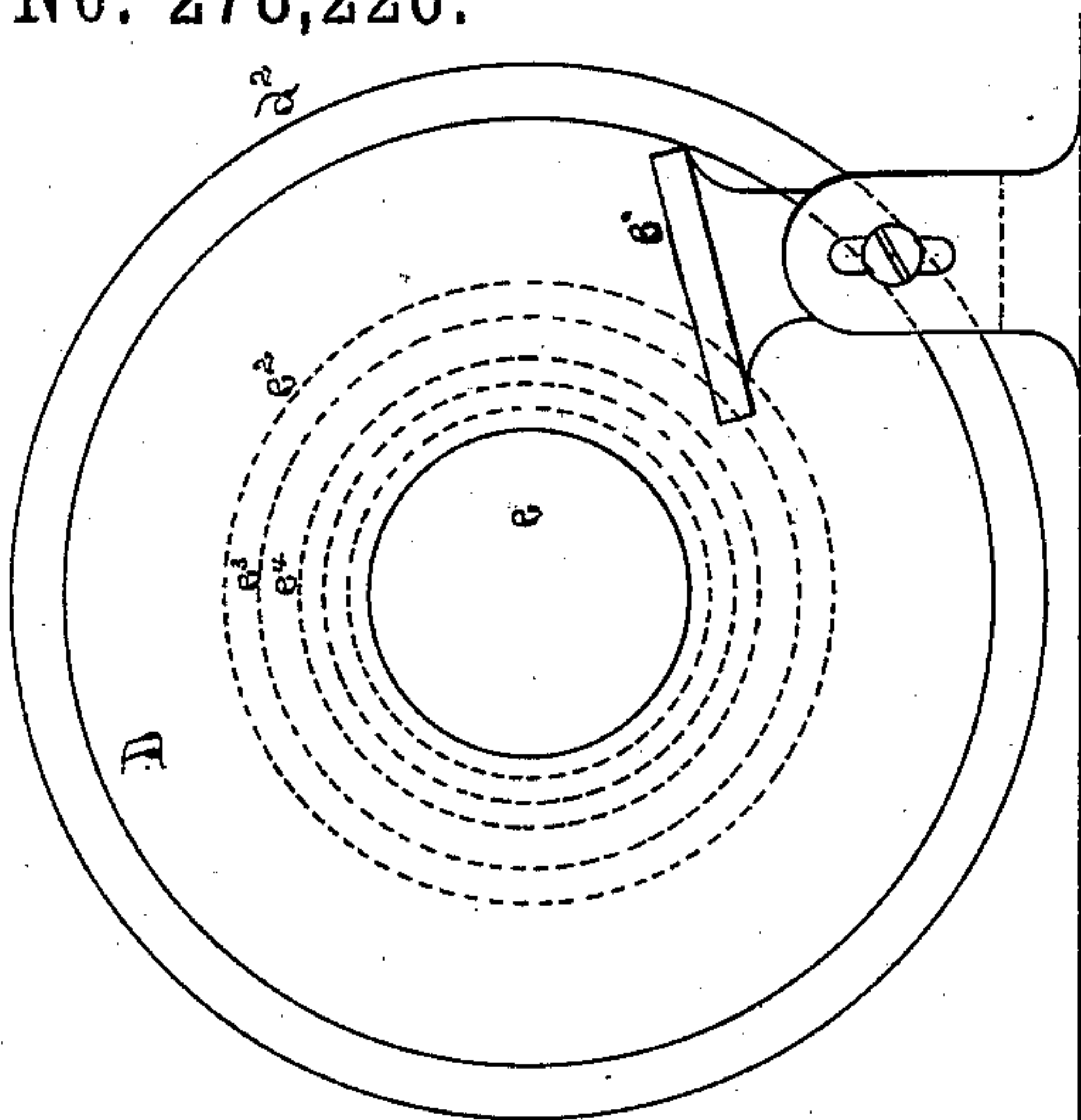


Fig. 5

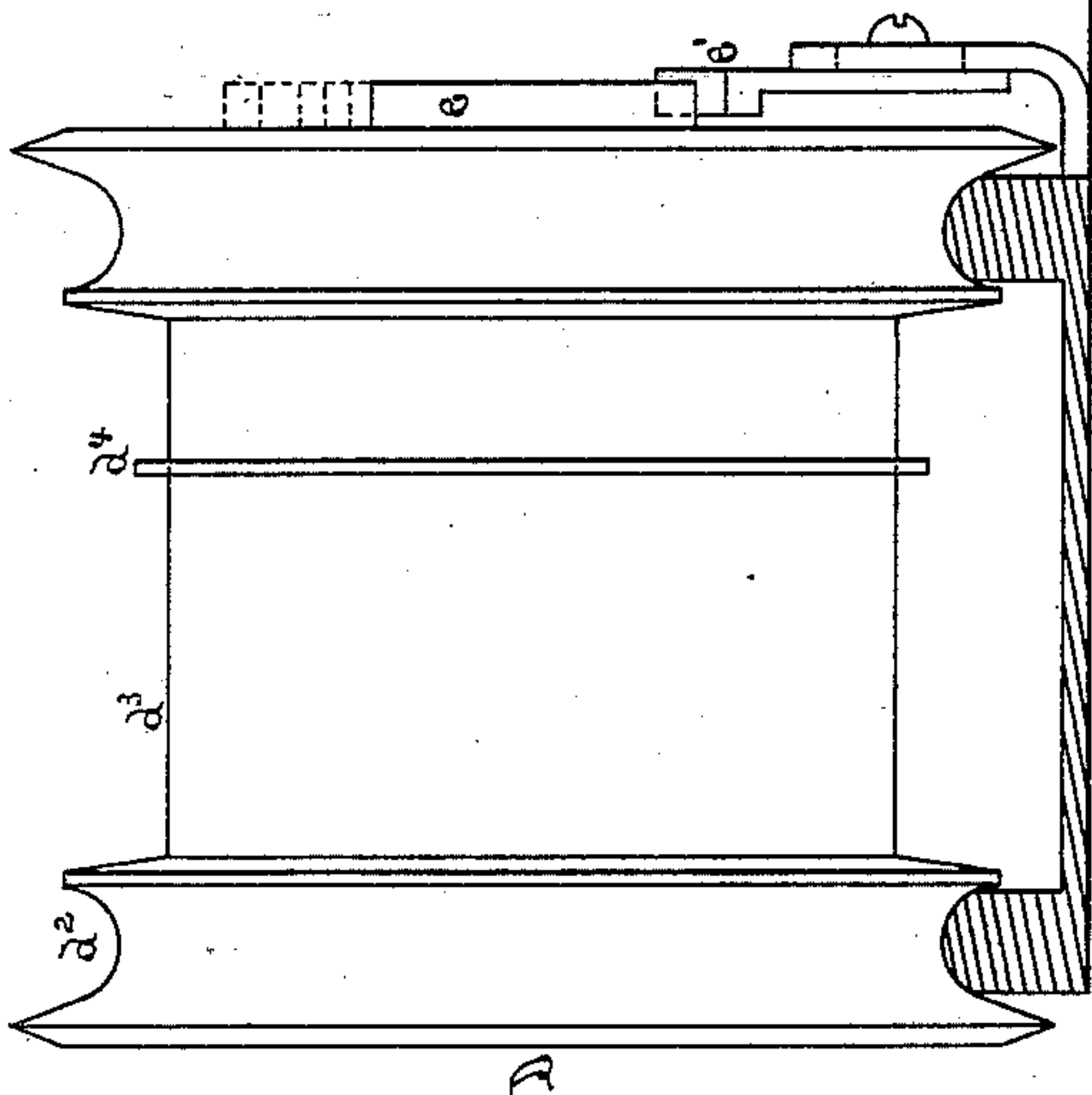
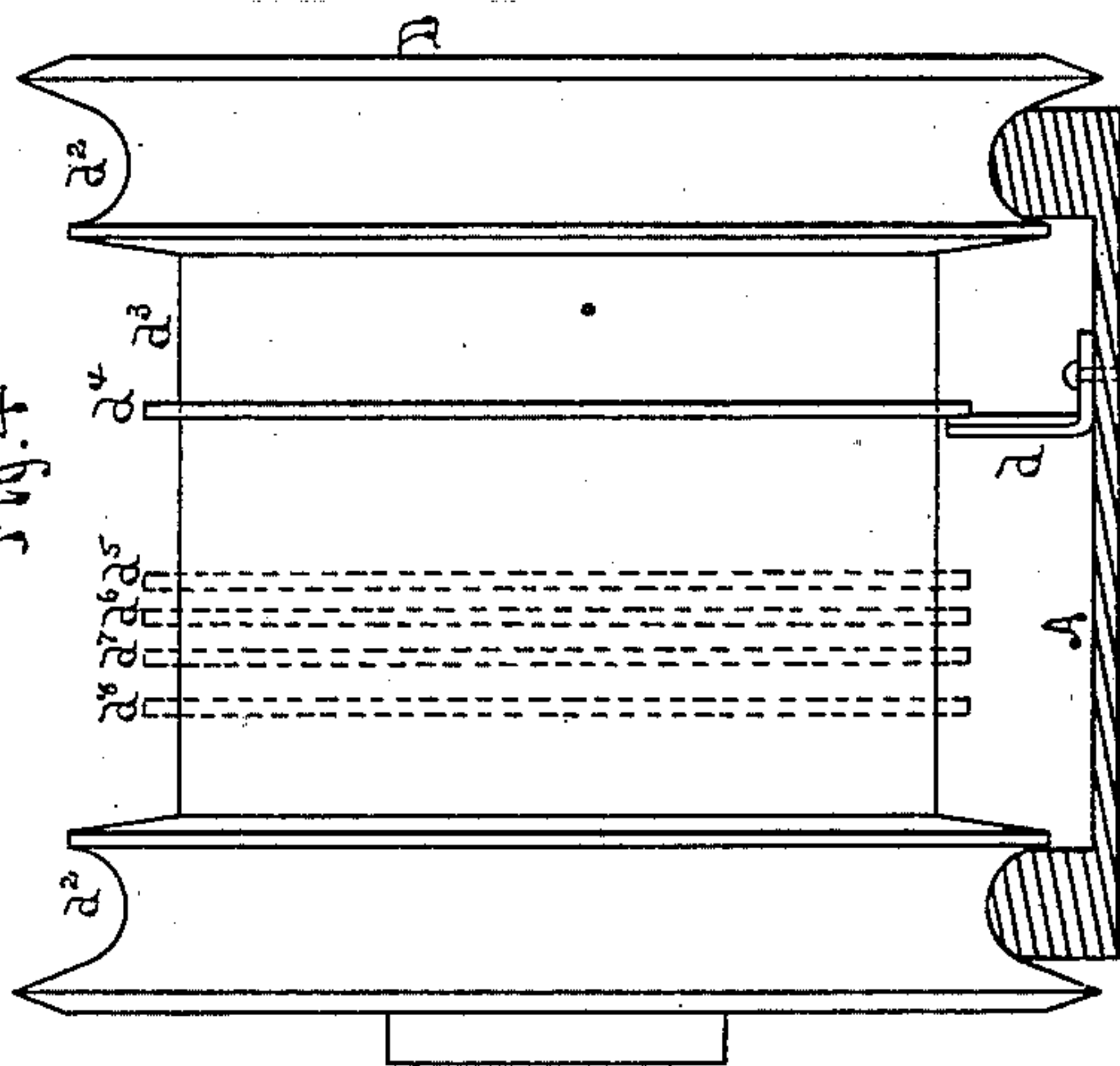


Fig. 4



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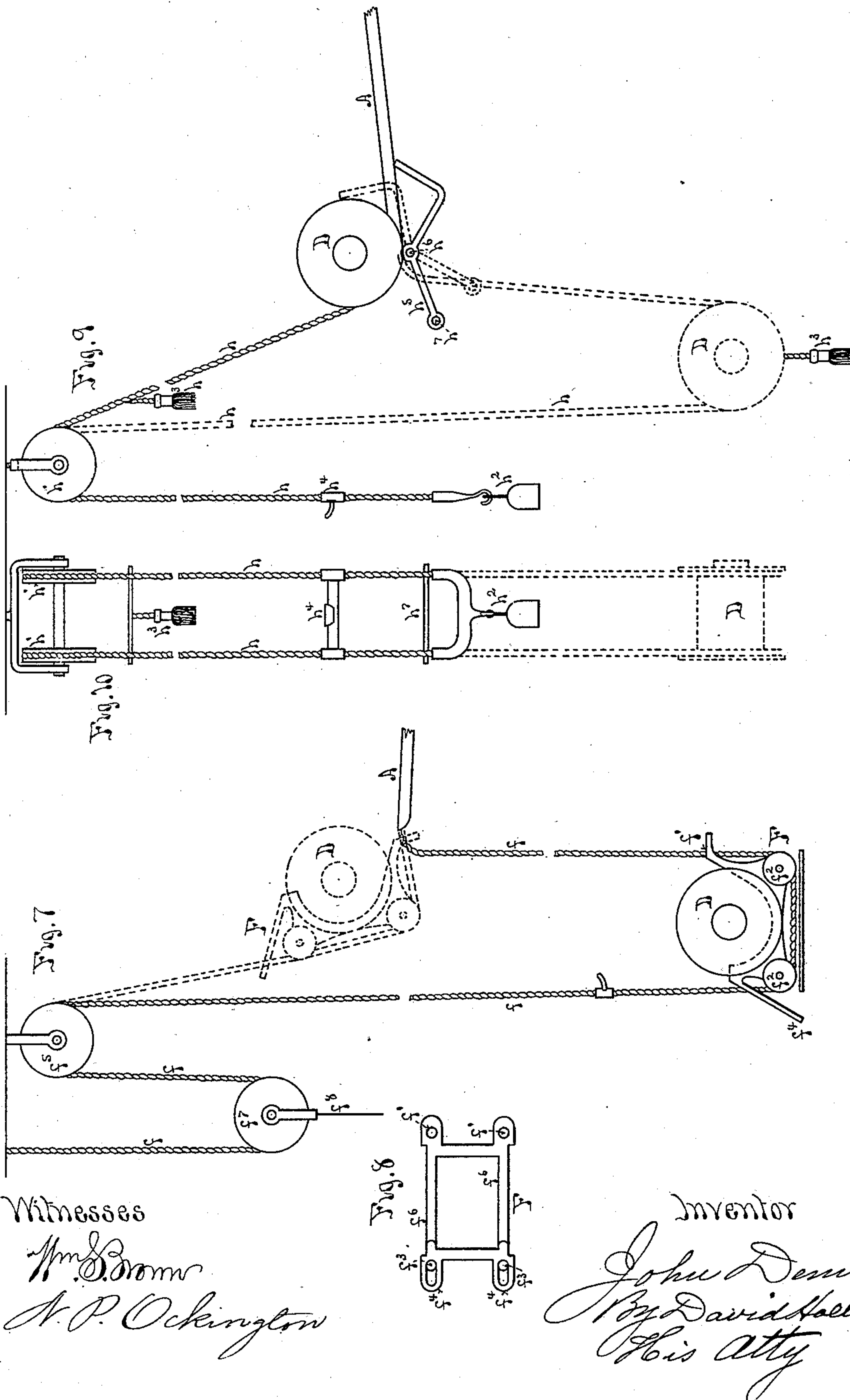
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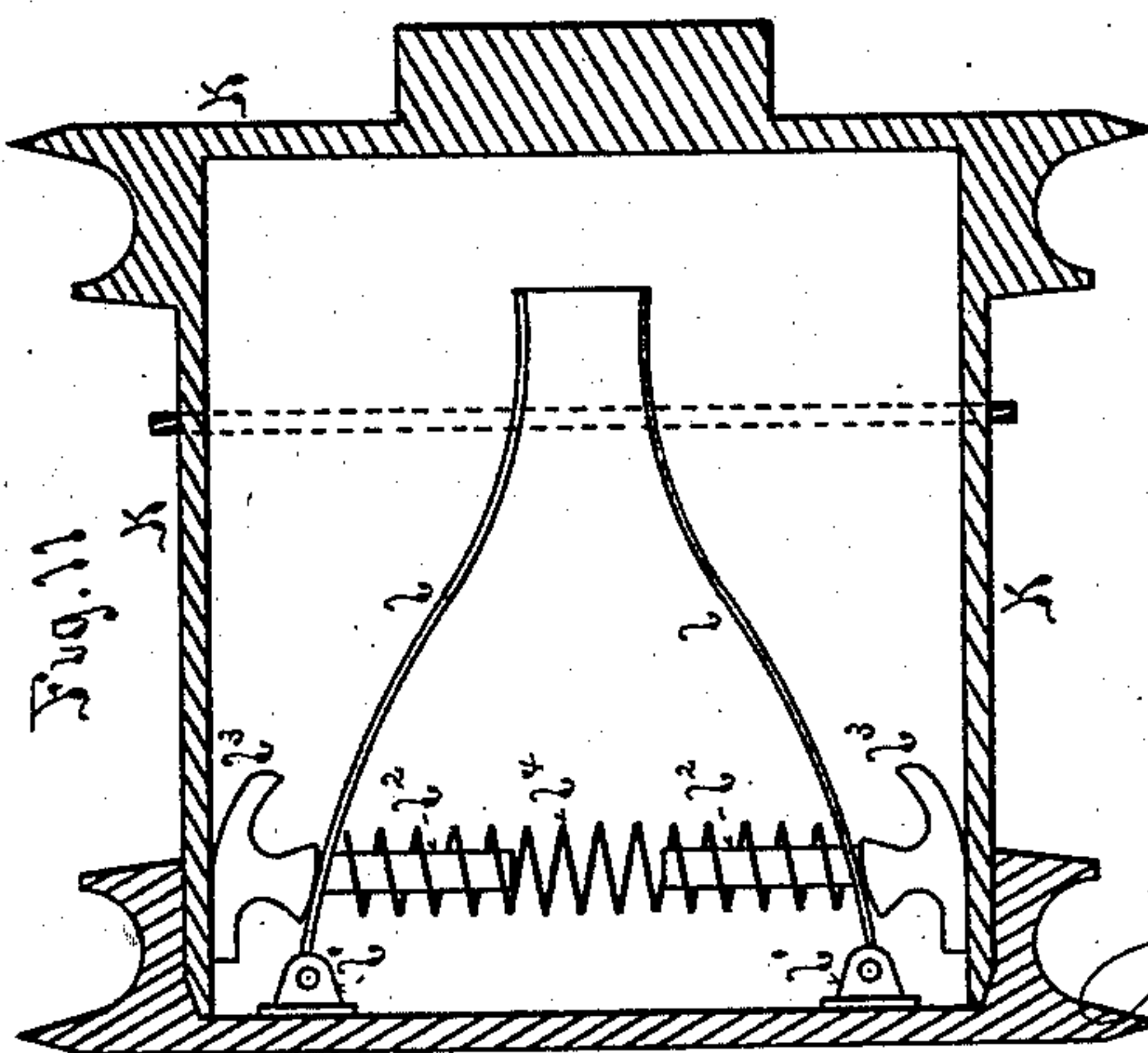
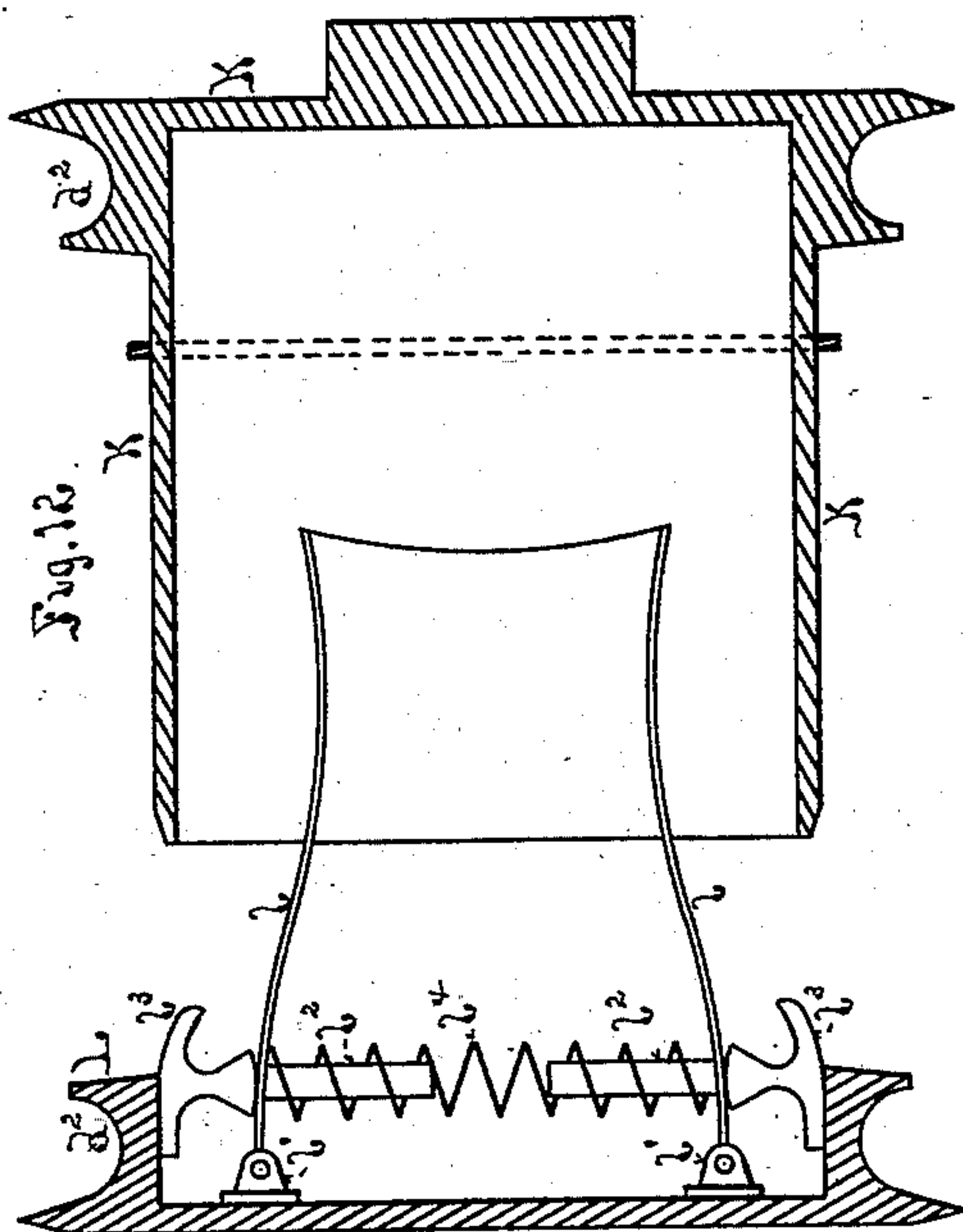
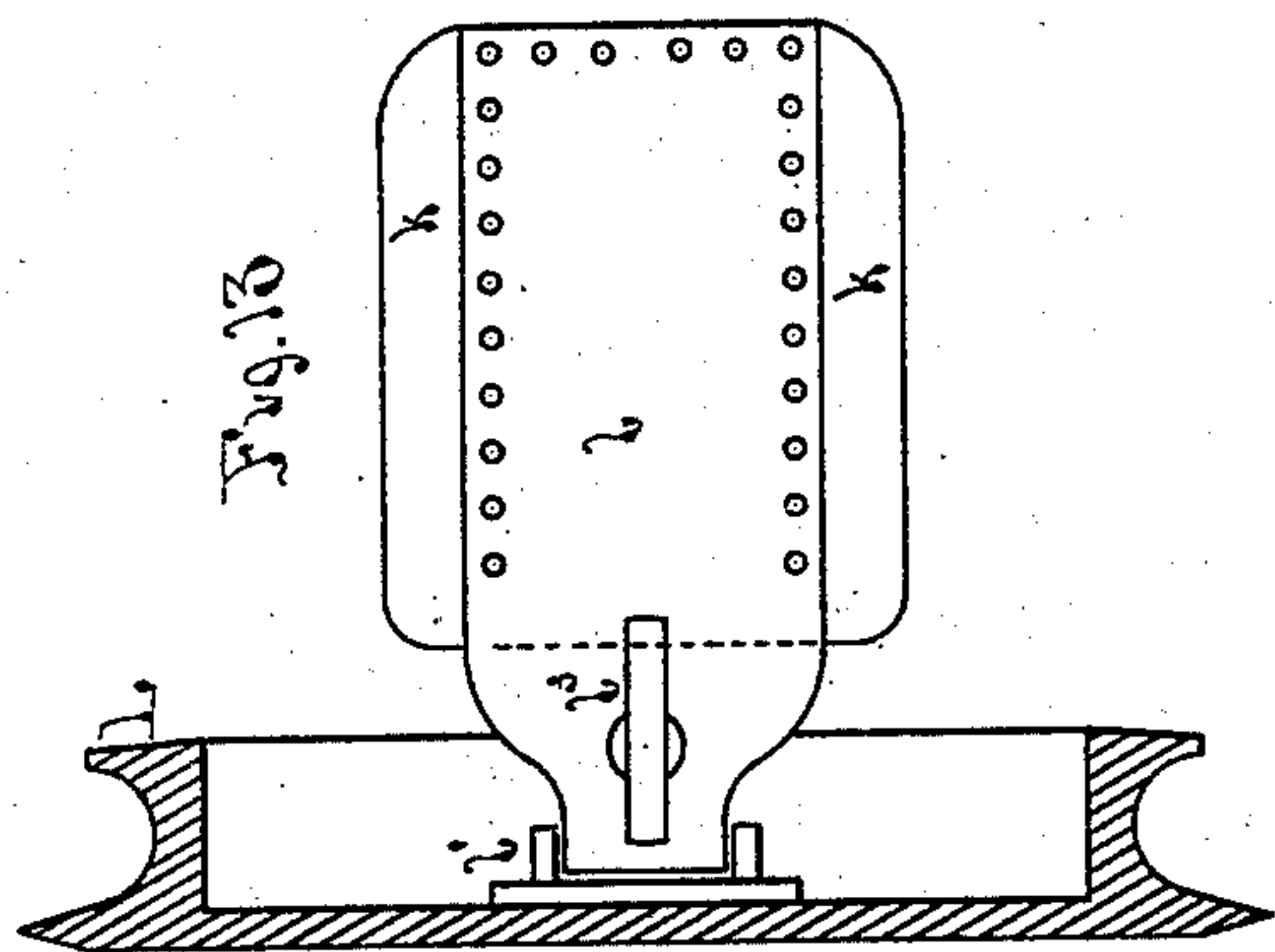
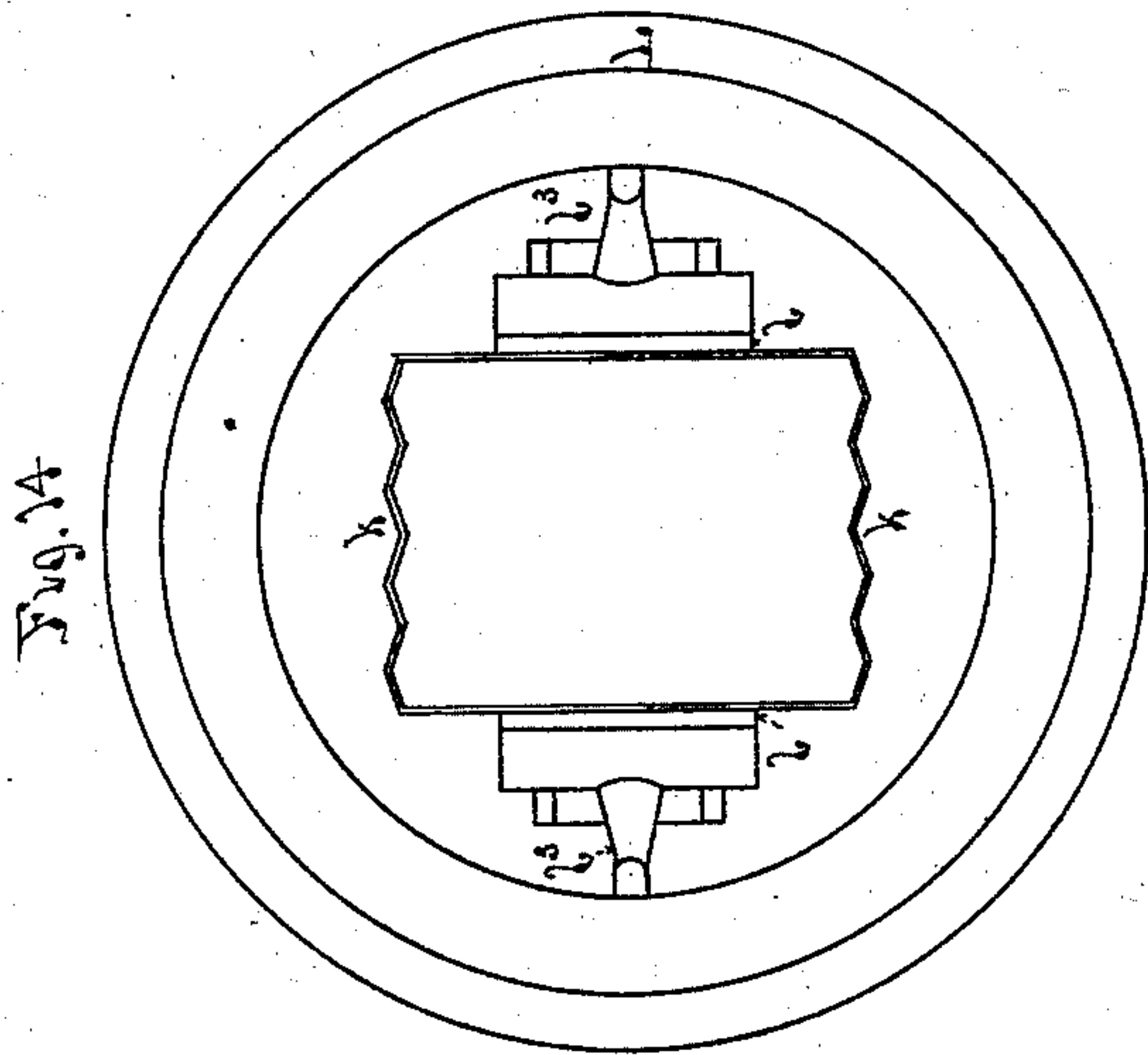
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UNITED STATES PATENT OFFICE.

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PARCEL-CARRIER AND ELEVATED TRACK FOR SAME.

SPECIFICATION forming part of Letters Patent No. 278,226, dated May 22, 1883.

Application filed October 21, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN DENNIS, of the city of Lowell, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Parcel-Carriers and Elevated Tracks for Same, of which the following is a specification.

My invention relates, first, to a new and improved shunting mechanism for elevated tracks for parcel-carriers; secondly, to an improved parcel-carrier for traversing the track and improved shunt; thirdly to an improved mechanism for delivering the carrier upon the tracks; fourthly, to an improved mechanism for receiving the carrier from the track at the end thereof; and, fifthly, to an improved grasping device or pocket within the carrier for holding the parcel to be carried, all substantially as hereinafter described.

In the drawings, Figure 1 is a plan view of a track containing my improved shunting mechanism. Fig. 2 is a side view of the same, showing its manner of suspension from the ceiling. Fig. 3 is an end view of the track and its suspension apparatus shown in Fig. 2. Fig. 4 is a section of track with a carrier in position thereon when about to be diverted onto another track. Fig. 5 is a view of the same parts as Fig. 4, with a modification of the device for shunting the carrier. Fig. 6 is an end view of Fig. 5 and the diverting mechanism. Fig. 7 is a side view of the mechanism for delivering the carrier upon the elevated track. Fig. 8 is a top view of the carrier-delivery cradle. Fig. 9 is a side view of the mechanism for receiving the carrier from the track. Fig. 10 is an end view of the mechanism shown in Fig. 9. Fig. 11 is a sectional view longitudinally through the carrier when ready to be put upon the track. Fig. 12 is a view of the same when the carrier is being separated to introduce the parcel. Fig. 13 is a view of the end of the carrier in section, at right angles to the section shown in Fig. 11, with the parcel-pocket attached. Fig. 14 is an end view of a portion of the carrier to which the parcel-pocket is attached.

A, Fig. 1, represents a main track. B B are side tracks, connected to the main track A by what may be termed "frogs" C C. These frogs are formed by making opposite and parallel

grooves *c c* through the rails of the main track at the angle with relation thereto which the side track, B, makes at the point of juncture. One rail, *b*, of each side track is brought nearly up to the outside rail (with relation to track B) of the main track A. The other rail, *b'*, of track B is divided where it crosses the outside rail of the main track A, and at this point grooves *c' c'* are made in the main-track rail parallel to rail *b'*. The rails *b b'* have grooves or spaces *b²* between themselves and the main-track rails, where they adjoin or intersect, as shown in Fig. 1.

I now proceed to a description of the mechanism by which I shunt or divert the carrier from the main track to a side track. This portion of my invention is characterized by the combination, with the carrier provided with a circular flange, of a stationary flange fixed to or in the neighborhood of the main track in proximity to the point where the side track branches from the main track, in such position as to engage the flange upon the carrier, and to thereby divert it from the main track onto the side track. The flange with which the carrier is provided may be placed at any desired point upon it—that is to say, at one or the other of its ends, or encircling its body at a point between its ends. The latter arrangement, which is shown in Fig. 4 and also in Figs. 1 and 3, will first be described. Under this arrangement the stationary diverting-flange is secured to the track A at a point between the rails, as indicated at *d*.

The carrier, which is lettered D, is an improvement on the rolling carrier described in English Letters Patent No. 11,024, dated January 3, 1846. It consists of the cylindrical body *d³*, provided with double flange ends *d²*, resembling wheels, which fit upon the track-rails and guide the carrier as it rolls along. The body of the carrier is encircled by a projecting flange, *d⁴*, which is positioned to engage the stationary flange *d*, these two flanges constituting the mechanism by which the carrier is shunted or diverted from the main to the side track. The stationary flange, as indicated in Fig. 1, is formed with a shoulder or offset on the side engaging the carrier-flange, which offset comes just before or in advance of the frogs C. When the carrier, as it rolls along,

engages the stationary flange, it is thereby diverted in a direction to cause its flange ends d^2 to enter the grooves $c\ c'$ of the frogs. It is thus shunted onto the side track, B, and conveyed thereon to any desired point. By changing the position of the carrier-flange d^4 to any one of the positions indicated by the dotted lines $d^5\ d^6$ or d^7 or d^8 in Fig. 4 it may be caused to clear the stationary flange d and to continue along the track A until it arrives at the special side track on which it is to be shunted, at which point there will of course be a stationary diverting-flange similar to d , and properly positioned to engage the carrier. A modified contrivance for the same purpose and involving the same general principle is illustrated more particularly in Figs. 5 and 6. In this instance the circular flange is formed upon the end of the carrier, as indicated at e , and the stationary flange is fixed to the side of the track in a position to engage the flange on the carrier, as indicated at E . The stationary diverting-flange is provided on its top with an incline, e' , upon which the carrier-flange e runs with the effect of tipping or tilting the carrier D sufficiently to cause its flanged ends d^2 to enter the grooves $c\ c'$, and thus lead it upon the side track. The flange e may vary in size, as indicated by the dotted lines $e^2\ e^3$, &c., in Fig. 6, and thus can be shunted only upon the side track, which has a diverting-flange adjusted to engage a carrier-flange of that particular size.

In each of the arrangements above described it will be noted that there is combined with the moving carrier-flange a stationary track-flange, and that these two devices are so combined and arranged with relation to one another that by and during their engagement they deflect or divert the carrier from the main track onto the side track through the path afforded for this purpose by the frogs at the junction of the two tracks. In this way I am enabled to dispense with switches, which require to be shifted back and forth each time the carrier is shunted, and I avoid all complication of parts required for the operation of such switches, as well as the wear and tear attending the use of such mechanism.

I remark that I can, if desired, employ upon one and the same carrier both flanges d^4 and e , using, for example, the flange d^4 with its appropriate stationary flange, d , for diverting the carrier from the main track to the side track, and then using the flange e with its appropriate stationary flange, E , for diverting the carrier from this side track to any desired branch track leading therefrom. In this way any desired number of carriers can be diverted onto any one side track, and can thence be distributed to their appropriate branch tracks leading from the side track.

The track A may be suspended from the ceiling by rods, as shown in Fig. 2, and is held in stirrups E, to which the rods are fastened. Through these stirrups I pass rods E' at the

proper distance above the carrier D to prevent it from jumping off the track without interfering with it while traversing the latter. Fig. 3 shows track A and one of the stirrups E with the position of the rods E' passing through the stirrups.

In order to deposit the carrier D upon the elevated track A so that it will run down the incline, I use a cradle, F, supported by cords f , attached to the track A, and passing through holes f' in the projecting corners of the cradle and under rollers f^2 at its lower corners, and through elongated slots f^3 in arms f^4 , upward over a drum, f^5 , as shown in Figs. 7 and 8. The side bars, f^6 , of the cradle F are made concave to fit the track guiding-grooves of the carrier, and when the carrier is placed in the cradle F and raised by means of the cords f , drawn over drum f^5 , the cradle and carrier ascend and are tilted to the position shown in dotted lines in Fig. 7 by merely drawing on the cords f , which delivers the carrier D upon the track A quickly and certainly. For convenience, a drum, f^7 , is suspended in the bight of the cords f and provided with a downwardly-projecting rod, f^8 , by pulling downward on which the cradle F is raised and tilted, as described.

In Figs. 9 and 10, A represents the track, and the end where the carrier is received from it at any station, and the receiving apparatus, which is an automatically-operating counterweighted drop-cradle. It consists in this instance of the double cord h , passing over the pulley or drum $h'\ h'$, the two branches of the cord being made fast to the ends, respectively, of the two rails of the track A, and kept parallel and of the same width apart as the rails in passing over the pulley $h'\ h'$. By this arrangement the double cord h will receive and hold the carrier D in the rail-grooves of the carrier. When in position to receive the carrier the double cord h is drawn taut by the weight h^2 ; but when the carrier runs upon the cords h , by being heavier than the counter-weight it descends to the position shown in dotted lines in Figs. 9 and 10, drawing up the weight toward the pulley h' .

h^3 is a supplemental cord and tassel, which is to be taken hold of while the carrier is removed from the double cord h after having descended as far as it will drop. Upon removing the carrier and releasing the cord and tassel h^3 the weight h^2 will again draw the cord into position to receive another carrier.

h^4 is a handle attached to the cord h to draw it down by, if desired.

When a carrier has been received in the cord h and descended, as described, it may be desirable to prevent another carrier from reaching the end of the track A before the cord is again in position to receive it, and this is accomplished by an automatic-stop mechanism, consisting of the bell-crank lever h^5 , pivoted at h^6 , and having a bar, h^7 , crossing it, so that the double cord h passes behind the

bar as the carrier descends with it, and this tips the bell-crank lever into the position shown in dotted lines in Fig. 9, in which the free end projects above the surface of the track, so as to prevent another carrier from passing it until the first one is removed from the cord *h*, and the latter has reascended to its position to receive the next one.

The internal construction of the carrier is shown in Figs. 12, 13, and 14. It consists of a head and cylinder, *K*, fitted to the opposite head, *L*, like a box into its cover, so that the two parts may be separated, as shown in Fig. 12. To the cover end *L* is attached a flexible pocket consisting of two side pieces of metal, *l l*, hinged at *l'* to studs within the cover *L*. Through the plates *l l* extend the shanks *l² l²* of opposite jaws, *l³ l³*, and the plates *l l* and jaws *l³ l³* are held apart by the stout spiral spring *l⁴*, which, when the cover *L* is removed, causes the outer ends of the plates *l l* to expand. To the plates *l l* is riveted the leathern pocket *k*, made to fold up on the ends like the pocket of a porte-monnaie. When the cover *L* is removed and the pocket *k* opened, the article to be transported is inserted into its open end, and when the cover *L* is placed upon the cylindrical part *K* of the carrier the end of the cylinder passing over the inclined outer surface of the jaws *l³ l³* compresses them and the plates *l l* together, and thus closes the pocket, as shown in Fig. 11; and when the end of the cylinder part *K* has passed entirely within the cover *L* the expansion of the jaws *l³ l³* serves to hold the cover and body part of the carrier together while traversing the track and until forcibly separated, when the plates *l l* and pocket open and the article may be removed therefrom. By this construction the article carried is prevented from moving around in the carrier, and is easily and securely placed and held therein and easily and quickly removed therefrom.

What I claim as new and of my invention is—

1. The combination, with the main and side tracks, of a flanged carrier and a stationary diverting-flange arranged and operating to engage the carrier-flange, and to thereby divert said carrier from the main track onto the side track through the path afforded for this purpose by the frogs at the junction of the two tracks, substantially as hereinbefore set forth.

2. The combination, with the track, of an automatically-operating counterweighted drop or delivering cradle, substantially as hereinbefore set forth.

3. The combination, substantially as hereinbefore set forth, of the track, the automatically-operating counterweighted drop or delivery cradle, and stop mechanism arranged and operating substantially as described, to prevent the delivery of a carrier from the track upon the descent of the drop-cradle.

4. In combination with track *A*, the cradle *F* and elevating-cord *f*, substantially as described.

5. In combination with the cradle *F* and elevating-cord *f*, the elongated arms *f⁴*, provided with slots *f³*, substantially as described.

6. In combination with the cradle *F* and cord *f*, the anti-friction rollers *f² f²*, substantially as described.

7. In combination with track *A*, the double cord *h*, pulley *h'*, and weight *h²*, substantially as described.

8. In combination with track *A* and double cord *h*, the bell-crank lever *h⁵*, substantially as described.

9. The combination of the head and cylinder *K K* and cover part *L*, provided with track-flanges *d² d²*, and forming a rolling carrier, substantially as described.

10. In combination with the cylindrical rolling carrier, an internal pocket, *k*, placed centrally therein longitudinally, substantially as described.

11. In combination with the drum *K* and cover part *L* of the carrier, one or more compressing-jaws *l³ l³*, substantially as described.

12. In combination with the pocket *k*, the hinged plates *l l*, and compressing-jaws *l³*, substantially as described.

13. In combination with a folding pocket, *k*, pivoted plates *l l*, adjusted to close and hold the same centrally within the carrier, substantially as described.

14. The combination of the drum *K*, cover *L*, jaws *l³ l³*, pivoted plates *l l*, and pocket *k*, substantially as described.

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