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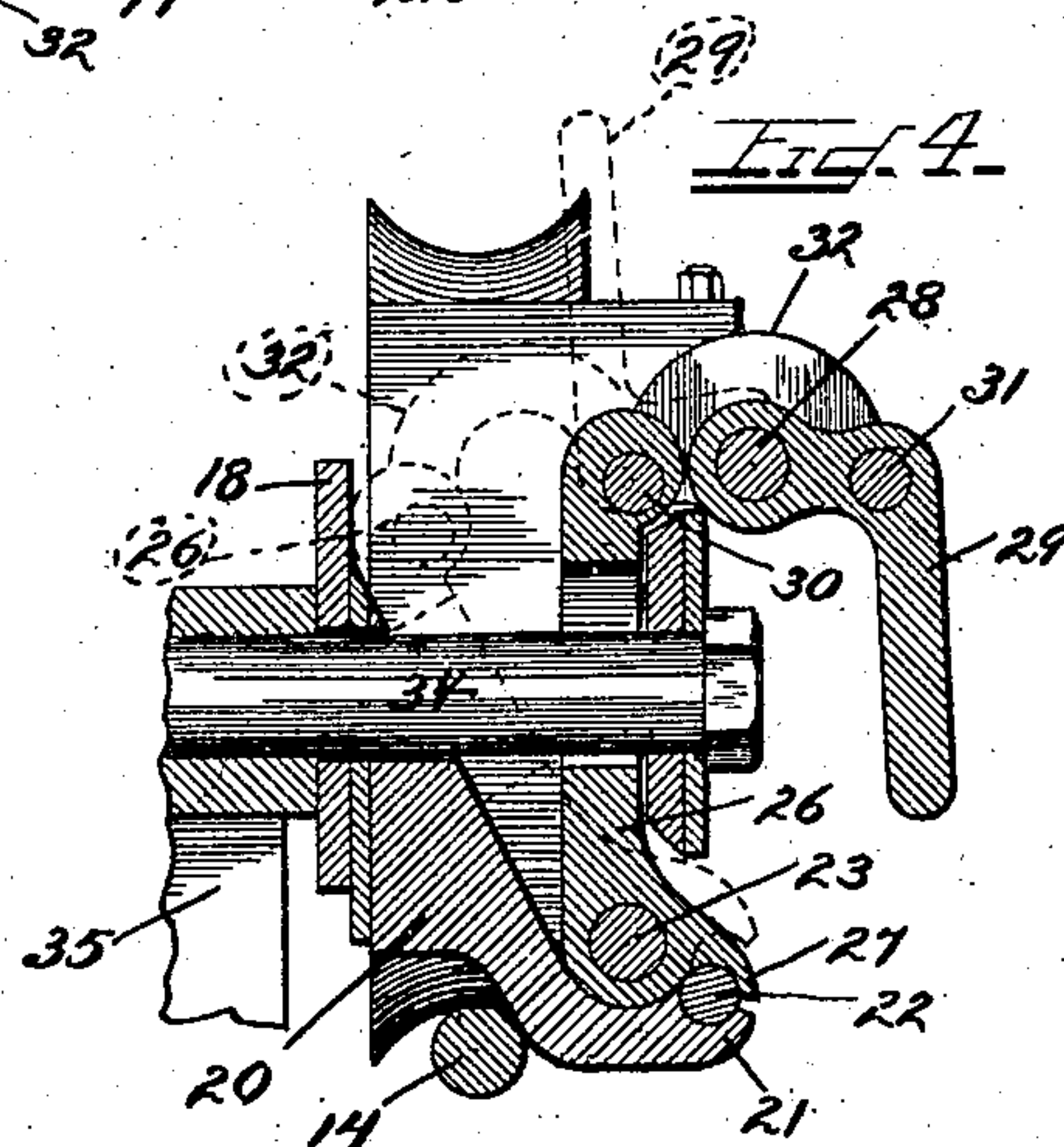
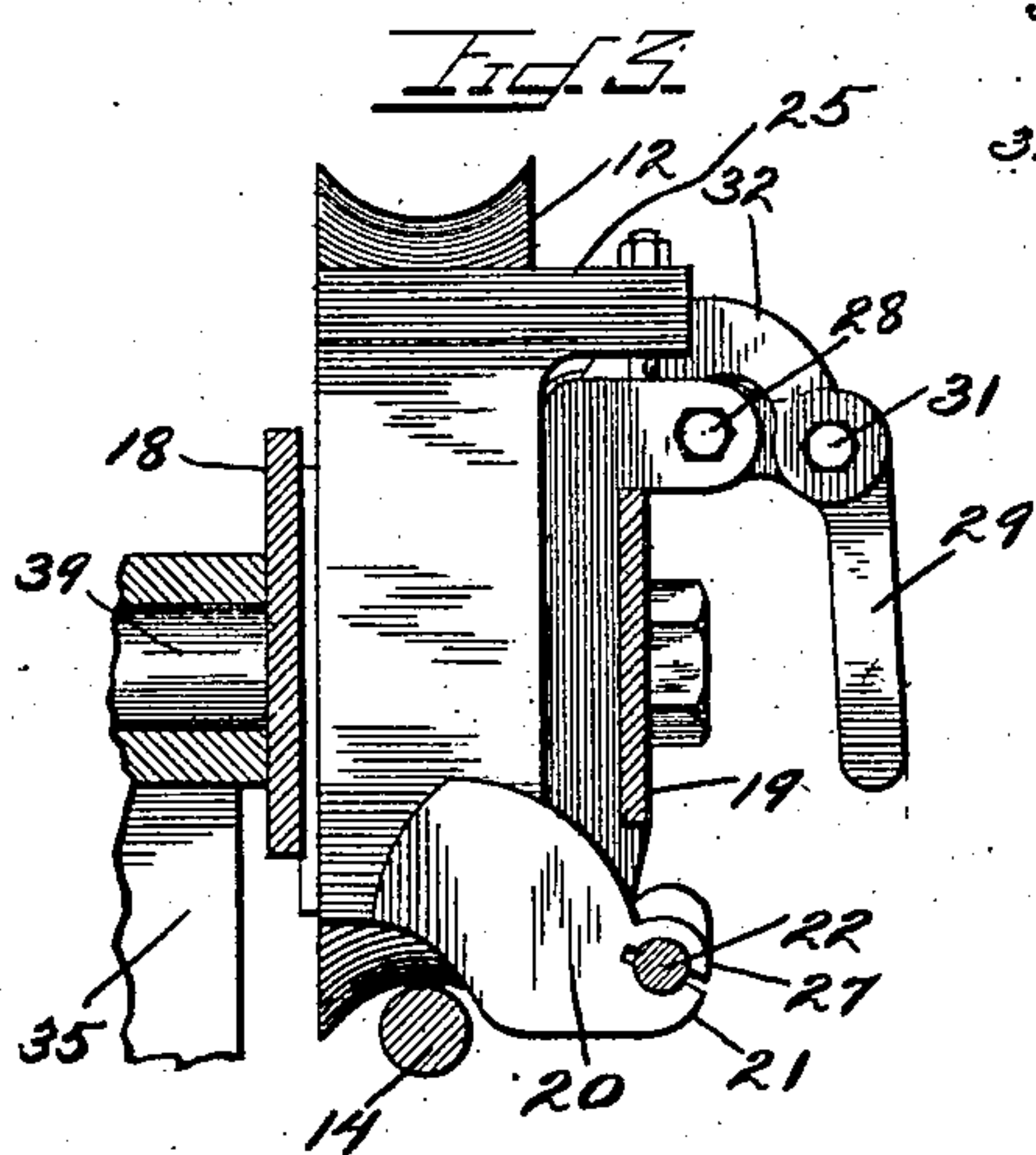
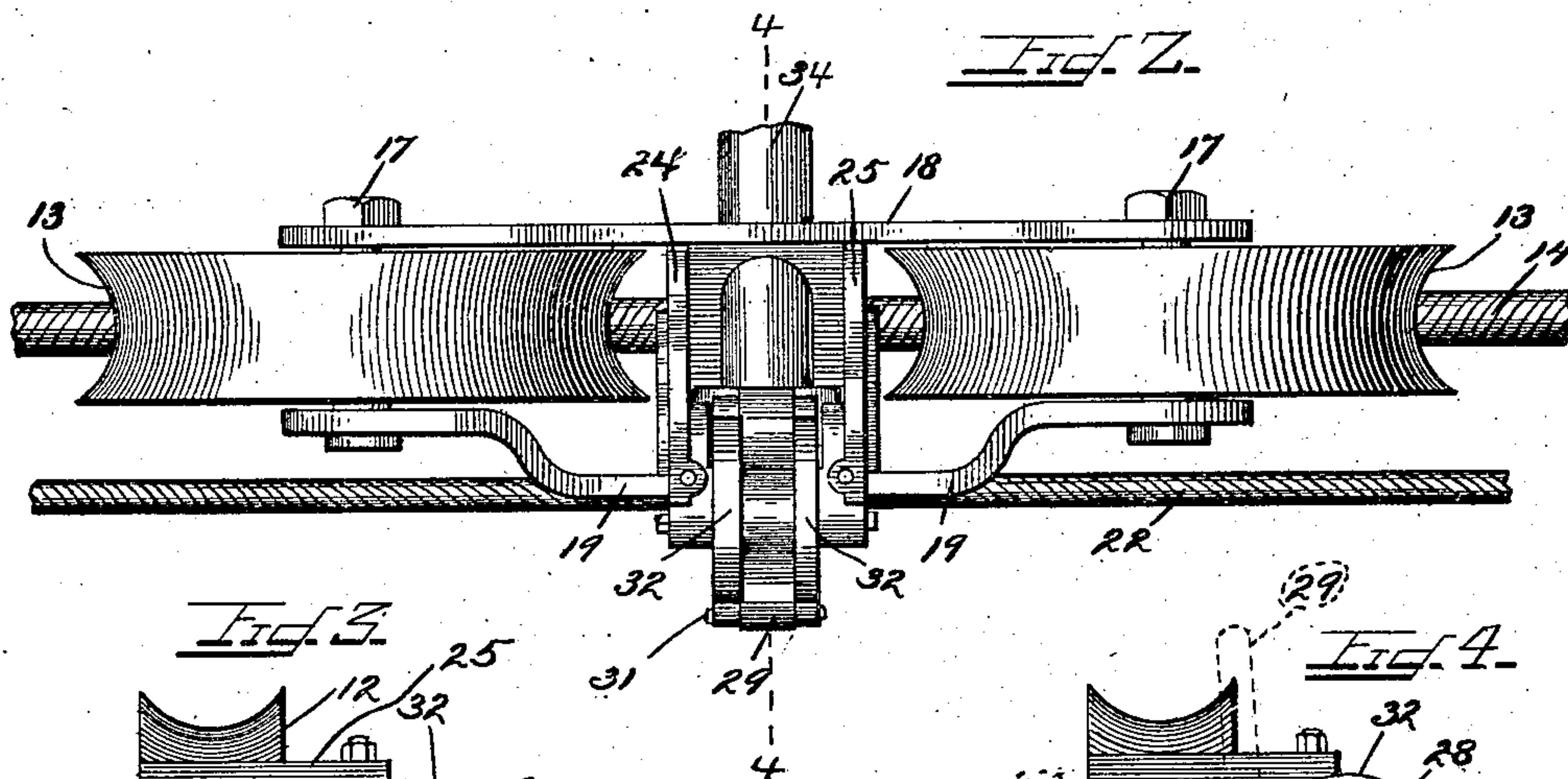
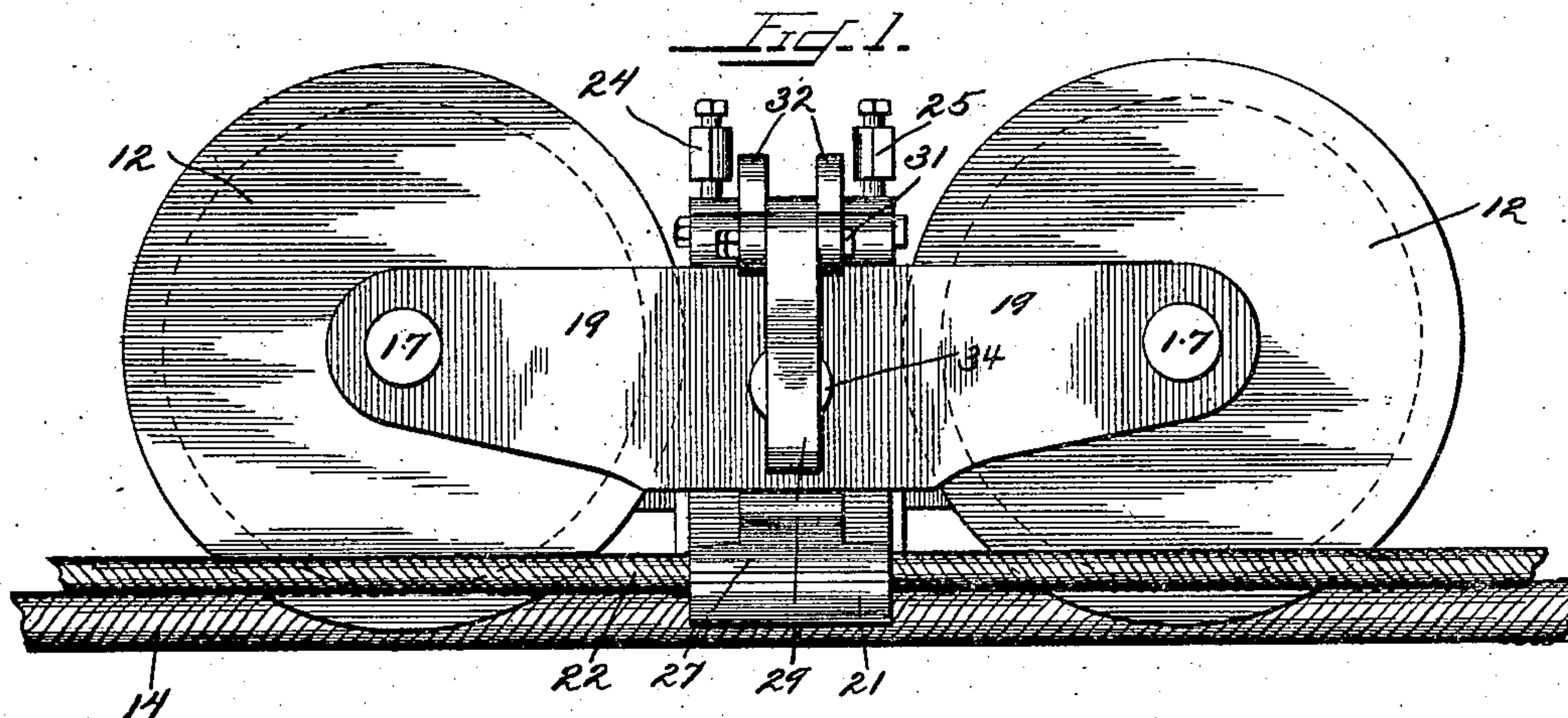
Patented Sept. 3, 1901.

R. D. SEYMOUR.
WIRE ROPE CONVEYER OR TRAM.

(Application filed June 3, 1901.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses—
Ira L. Perry
J. A. Weir

INVENTOR—
Rugeley D. Seymour
By *Dwight B. Cheever*
Att'y

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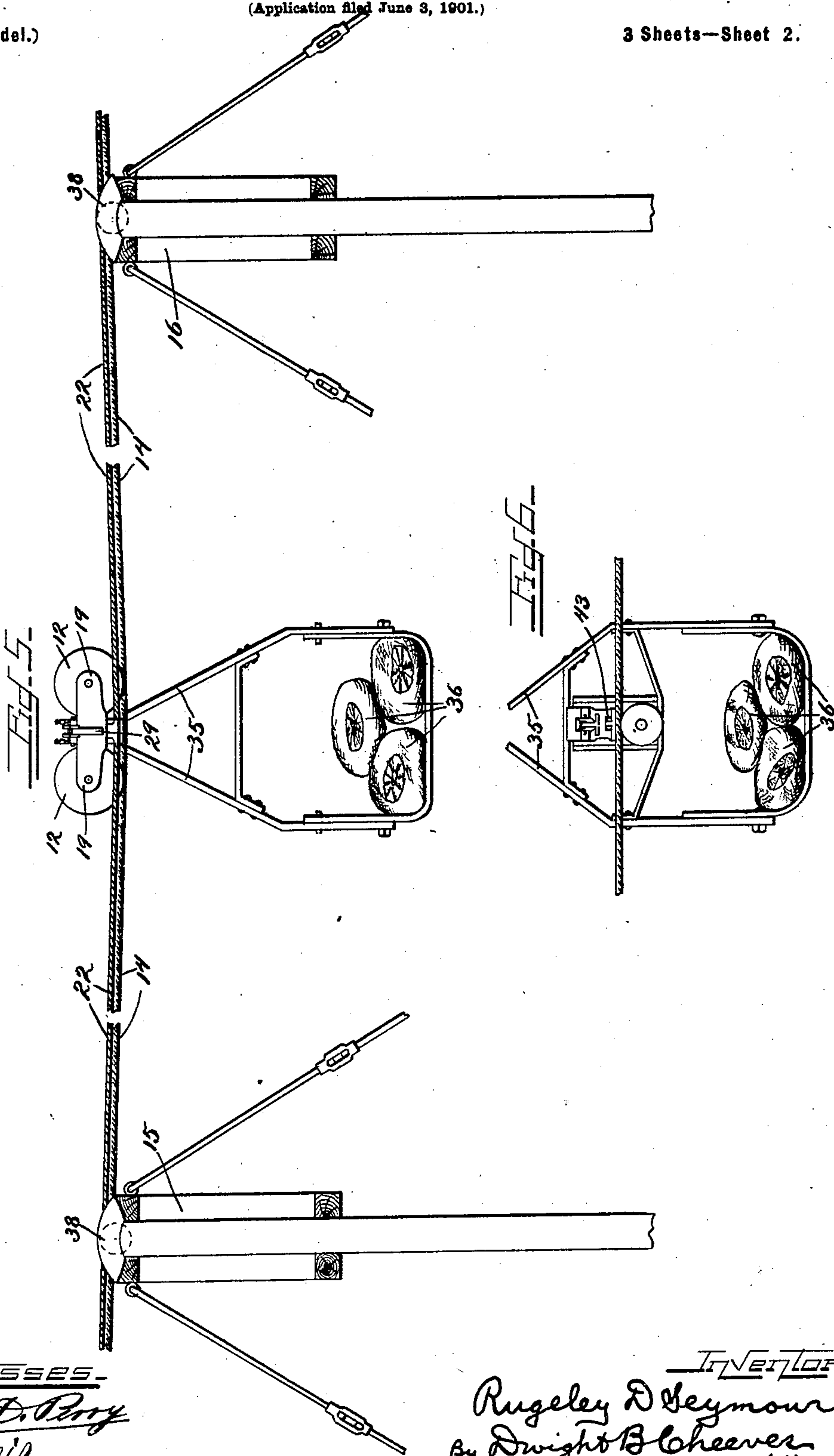
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WITNESSES-

Ira D. Perry
J. H. Veir

INVENTOR:
Rugeley D Seymour
By Dwight B Cheever
Atty.

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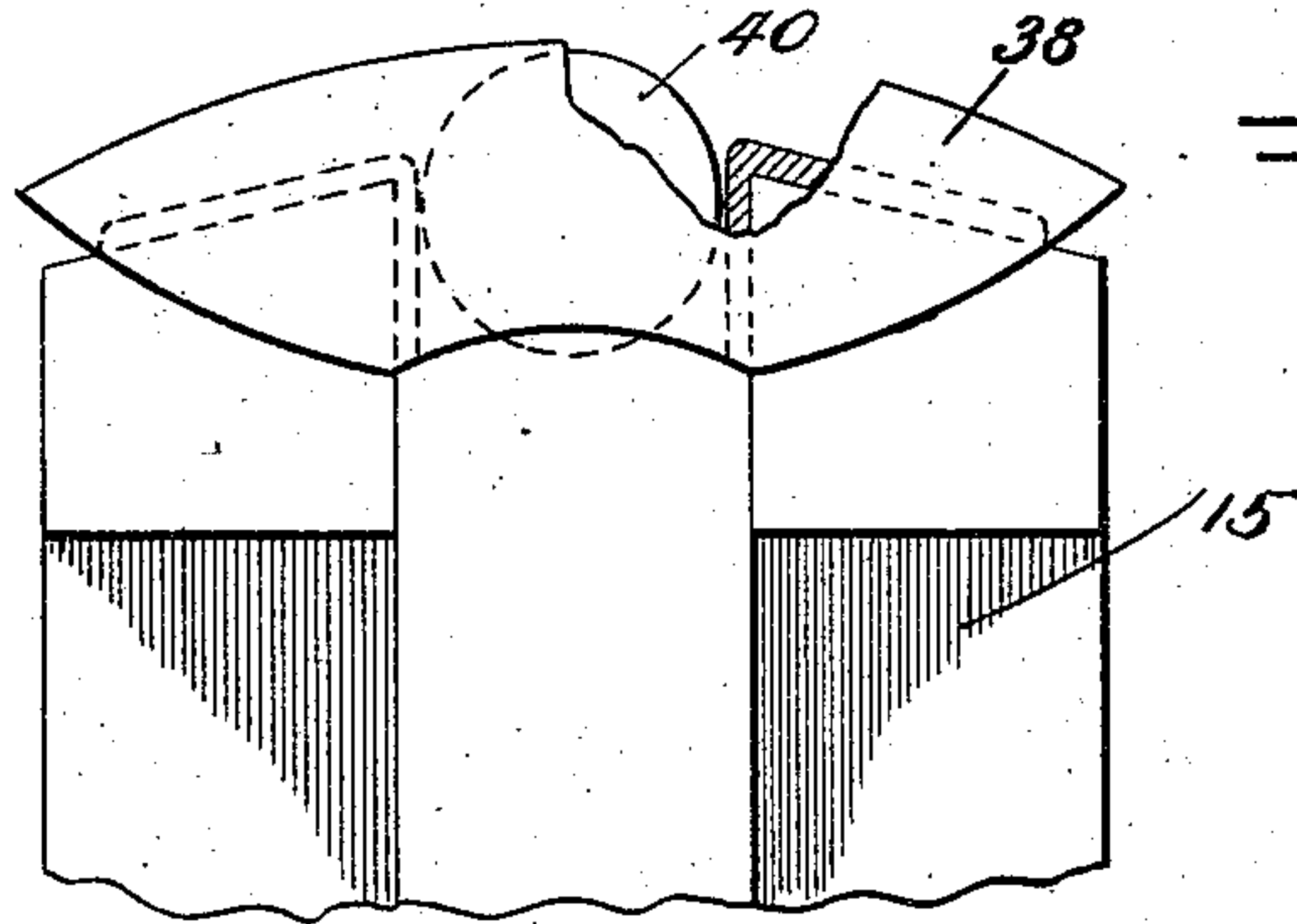


Fig. 7.

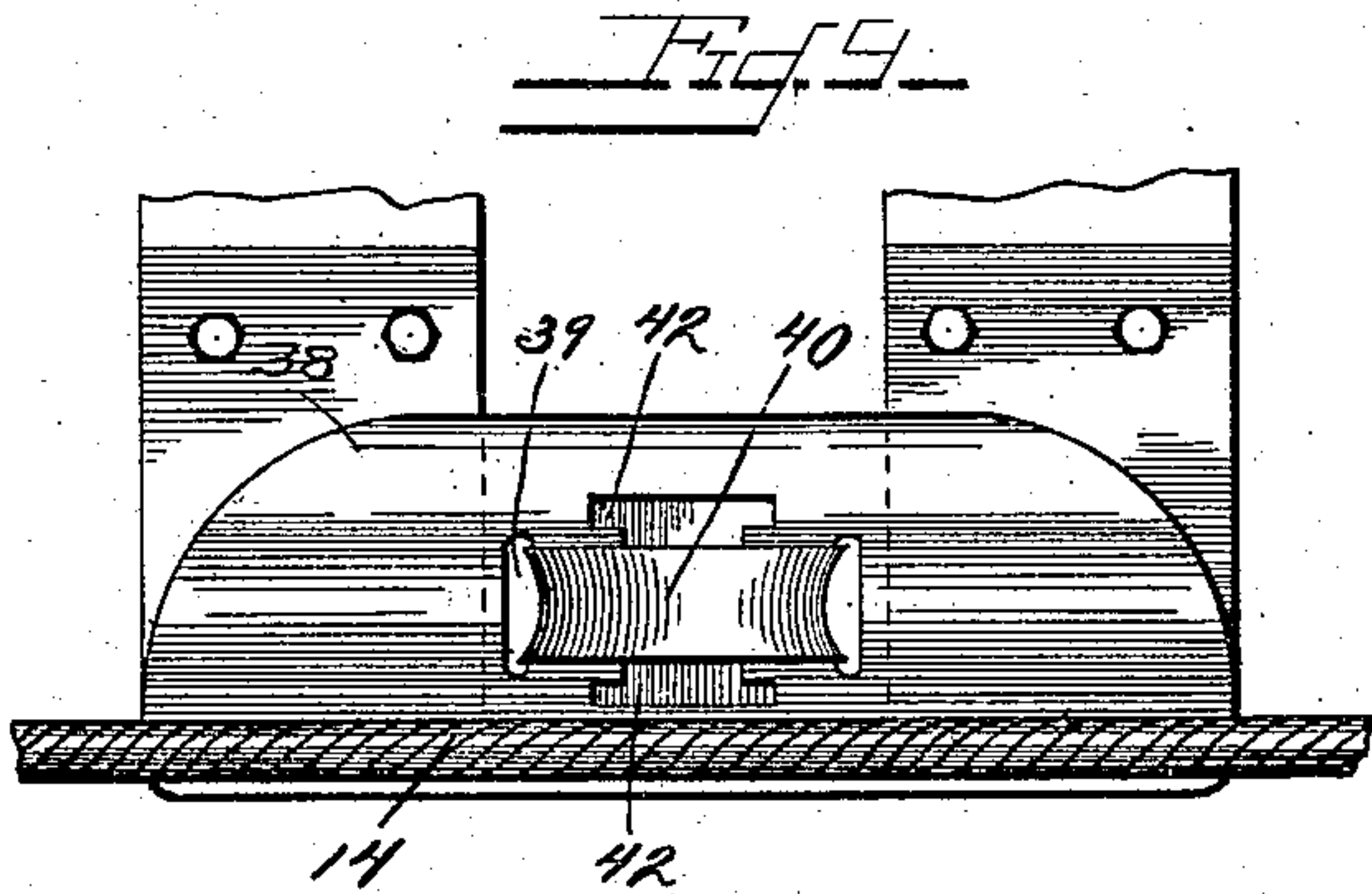
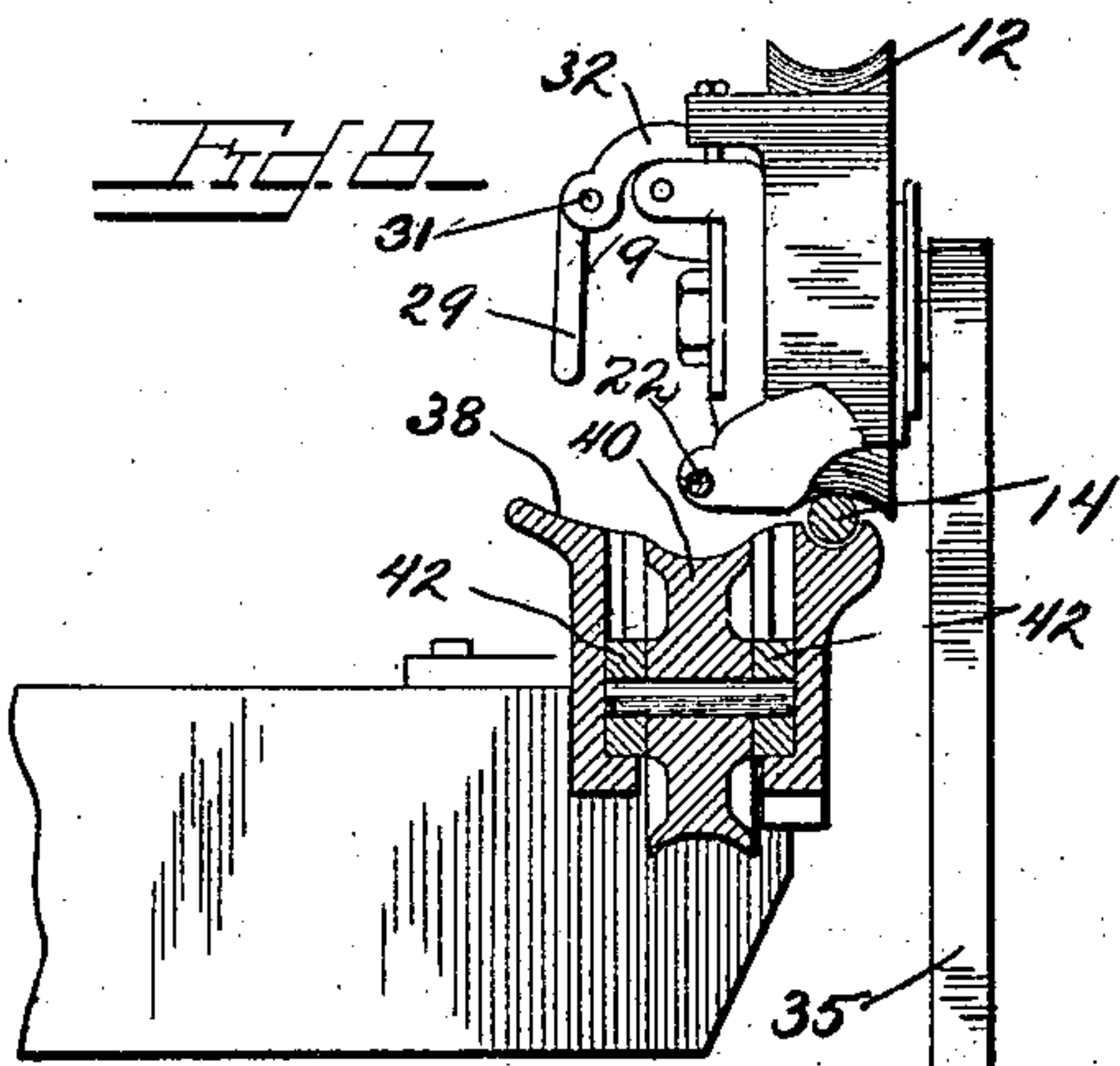


Fig. 9.

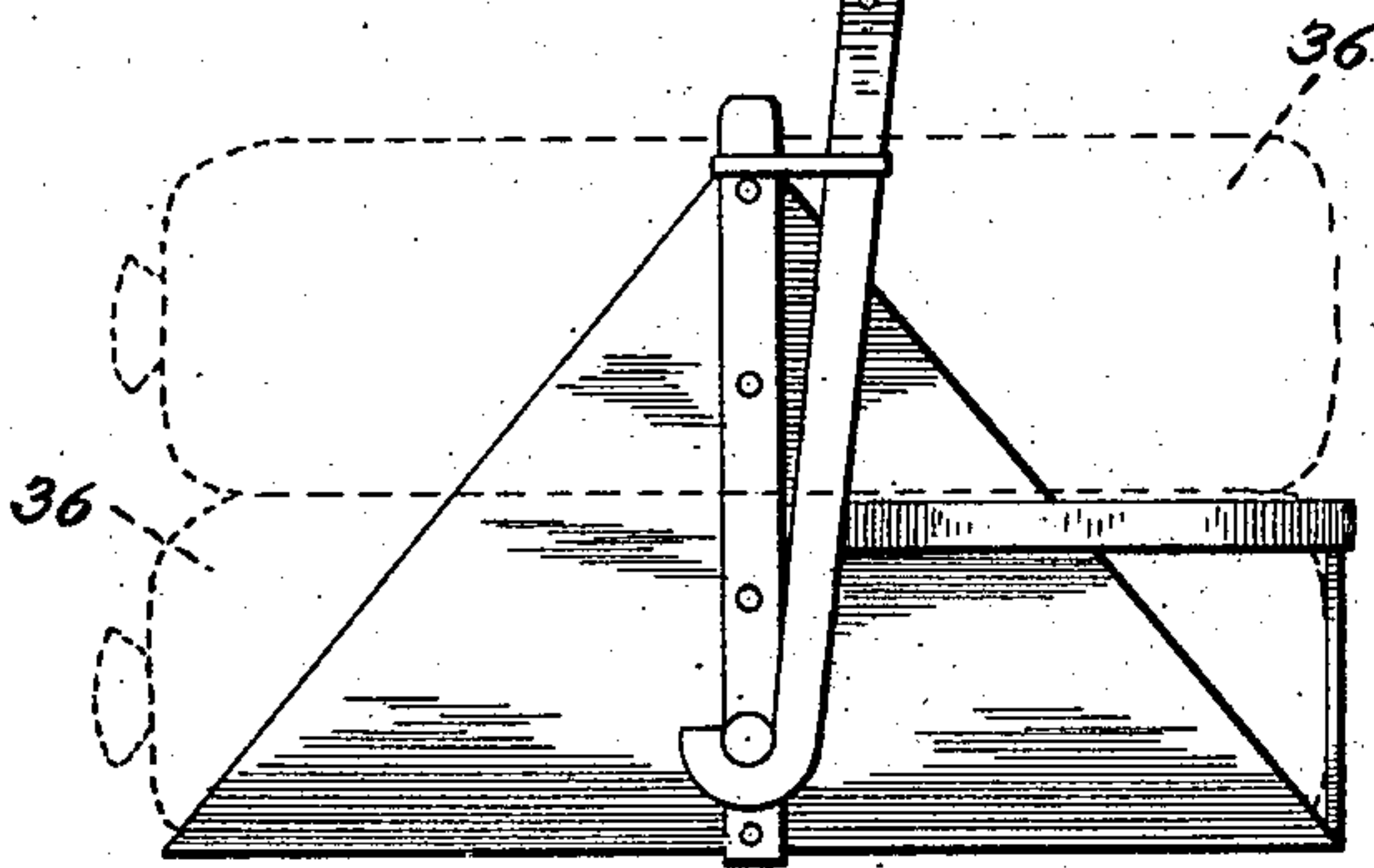


Fig. 10.

Witnesses—
Ora D. Perry
J. B. Weir

INVENTOR—
Rugeley D. Seymour
By Dwight B. Cheever
Att'y

UNITED STATES PATENT OFFICE.

RUGELEY D. SEYMOUR, OF CHICAGO, ILLINOIS.

WIRE-ROPE CONVEYER OR TRAM.

SPECIFICATION forming part of Letters Patent No. 681,888, dated September 3, 1901.

Application filed June 3, 1901. Serial No. 62,995. (No model.)

To all whom it may concern:

Be it known that I, RUGELEY D. SEYMOUR, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Wire-Rope Conveyers or Trams, of which the following is a specification in its best form now known to me, reference being had to the accompanying drawings, in which similar figures indicate the same parts throughout the several views.

My invention relates to wire-rope conveyers for use in mining, manufacturing, and other lines of business.

The object of my invention is to provide such a conveyer which can be easily and cheaply constructed, which shall be compact in form, efficient in operation, and not liable to get out of order, and in which the driving-cable shall be so attached to the carriage as to practically balance the load.

It also consists in a grip and carriage or trolley, a rope-saddle, a general arrangement of parts adapted to accomplish the above object, and in many details of construction hereinafter more fully described and claimed.

In the drawings, Figure 1 is a side, Fig. 2 a plan, and Fig. 3 an end view, of my improved grip and carriage. Fig. 4 is a sectional detail view on line 4 of Fig. 2. Fig. 5 is a side view of a conveyer system, showing my invention applied thereto. Fig. 6 is a side view of a conveyer-car, showing one of the old methods of attaching it to the carrying-cable. Fig. 7 is a side view of an improved form of saddle used in my complete invention. Fig. 8 is an end view showing a saddle in section with a carriage and load just about to pass over it. Fig. 9 is a plan view of the saddle, and Fig. 10 is a detail view of the bearing for the roller of my saddle.

My improved carriage consists, essentially, of a pair of wheels 12, having grooved peripheries 13, adapted to travel upon the rope or cable track 14, stretched upon the usual trestles and other supports 15 and 16. These wheels 12 are journaled on bolts 17, passing through frame-plates 18 and 19, and are placed far enough from each other to allow the grip or clutch mechanism to be placed between them, as shown in Figs. 1 and 2. This clutch consists, preferably, of a lower member 20,

rigidly secured to the back frame-plate 18 and extending outside and in front of the frame-plate 19 to form the lower concave jaw 21, adapted to receive the driving or traction rope 22. Pivoted at 23 to cross-frames 24 and 25 is a lever 26, having its lower end terminating in the upper jaw 27, inclosing the rope 22. Pivoted to the frame at 28 is an operating-lever 29. Pivoted at 30 to lever 26 and at 31 to lever 29 is a connecting-link 32, semicircular in form, so as to fit around the pivot 28. When the levers are in the position shown in Fig. 3 and in full lines of Fig. 4, the rope 22 is tightly grasped between the jaws 21 and 27. When the levers are thrown to the position shown in dotted lines of Fig. 4, the clutch is released from the rope. The lever 26, being fairly heavy and below the center of pivot 30, remains of its own weight in the dotted-line position, with the jaw open, without the aid of any springs, counterweight, or latch. The curvature of the link 32 is such that when the jaws are closed on rope 22 and the parts are in the full-line position of Fig. 4 the centers of the pivots 30 and 31 are below the center of pivot 28, thereby insuring the locking of the clutch-jaws.

Passing through the side frames 18 and 19 in the center of the carriage is a bolt 34, on which is journaled the hanger 35, to which is attached the bucket 36, which carries the load. This hanger 35 is carried on the opposite side of the carriage from the driving or traction rope 22, and both are preferably hung below the center of gravity of the carriage, so as to balance each other as perfectly as possible.

In the top of each trestle 15 or other support and at one side of the track-cable I place one of my improved saddles, consisting of a casting 38, shaped as shown in Figs. 7 and 8. In the top of this casting 38 is a recess 39, adapted to receive the traction-rope carrying roller 40, which is journaled in blocks 41, adapted to slide or slip into the guides 42. This saddle is broad enough, as shown in Fig. 8, and there is sufficient curvature toward the center, so that if the traction-rope tends to travel off from wheel 40 it will slide back again. It has a distinct advantage in that it can be made and put in place without the use of bolts or screws.

In wire-rope conveyers heretofore in use the

driving or traction rope has usually been hung on pulleys attached to the trestle at some distance below the track-cable and to the bucket by a clutch 43, located as shown in Fig. 6. In order to allow for clearance of the bucket, this clutch has usually been some distance above the rollers carrying the traction-rope, with the result that the weight of a long length of rope, particularly in passing over the top of a hill, is carried by the bucket instead of on the rollers attached to the trestle. With my improved carriage and my improved saddle used together I put the traction-rope up by the side of the track-cable and only have to lift it a very few inches off from the roller 40 in passing over the trestle. Another advantage of my improved construction is that I have a greatly-increased clearance, permitting larger bulk of load, such clearance being limited in the old construction by the position of the traction-cable roller. My carriage has a great advantage in its being neat and compact, so that it can be covered and the operating mechanism thus protected from snow and ice.

At each end of the wire track-cable I provide cam-switches of the ordinary form, adapted to bear against the lever 29 and throw the clutch mechanism to the position shown in dotted lines, Fig. 4, when the load comes in and adapted to throw the clutch back to the original position when the carriage has been switched to the outgoing cable and it is desired to start it out.

In the operation of my invention I provide a long track-cable 14, stretched over a series of trestles equipped with my improved saddles, over which the driving or traction rope 22 passes. At each end of the track I place automatic switches, adapted to operate the lever 29, and consequently the clutch 21 27, as heretofore described. I now place upon the track a carriage such as heretofore described, with the clutch in the dotted-line position of Fig. 4. I attach to the carriage a load to be transported and shove it by hand along the track-cable 14 until the automatic switch swings the clutch to the full-line position of Fig. 4, when it grips the continuously-moving driving or traction rope 22. This moving rope 22 carries the trolley or carriage, and with it the load, out over the line, the rope being lifted from each successive saddle 38 as the various trestles are passed. When the end of the line is reached, the lever 29 is engaged by the automatic switch, the clutch thrown to the dotted-line position, the carriage stopped, and the load removed. The carriage is now switched so that the clutch will engage a driving-rope 22, running in the opposite direction, and be sent back to the starting-point.

I do not wish to be understood as limiting myself to the details of construction described and shown, as these may be varied without departing from the spirit of my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a conveyer a carriage adapted to run upon a track, means for securing a load to one side of said carriage, a clutch or grip adapted to take hold of a driving or traction cable running on the opposite side of the carriage at approximately the level of the track, for the purposes set forth.

2. In a conveyer a carriage adapted to run upon a track, means for securing a load to one side of said carriage, a clutch or grip mechanism mounted within and having jaws extending outside the carriage adapted to take hold of the driving or traction cable running on the opposite side of the carriage at approximately the level of the track, for the purposes set forth.

3. In a conveyer carriage or trolley, the combination of a pair of wheels in tandem journaled in a suitable frame, a rigid and a movable jaw mounted on the frame between the wheels and extending outside the frame so as to take hold of a driving or traction cable running approximately parallel to the bottom of the wheels, and mechanism connected to said movable lever adapted to pass over automatic cam-switches and open and close said jaws for the purposes set forth.

4. In a conveyer carriage or trolley, the combination of a pair of tandem wheels journaled in a frame, a rigid jaw secured between the wheels extending outside the frame at approximately the level of the bottoms of the wheels, a lever pivoted to the frame having one end in the form of a jaw extending outside the frame adapted to clamp a driving-rope between itself and said fixed jaw, and the other end extending within the frame between the wheels, another lever pivoted to the outside of the frame adapted to engage a cam-switch, and a connection between said levers for the purposes set forth.

5. In a conveyer carriage or trolley, the combination of a pair of tandem wheels journaled in a frame, a rigid jaw secured between the wheels extending outside the frame at approximately the level of the bottoms of the wheels, a lever pivoted to the frame having one end in the form of a jaw extending outside the frame adapted to clamp a driving-rope between itself and said fixed jaw, and the other end extending within the frame between the wheels, another lever pivoted to the outside of the frame adapted to engage a cam-switch, and a link connection between said levers, the proportions of the various parts being such that when the jaws are closed or open the points of connection of said link to said lever will be below the pivoted point of the second lever to the frame whereby said jaws are locked in either position, substantially as described.

6. In a conveyer carriage or trolley the combination of a pair of tandem wheels journaled

in a frame, a rigid jaw 20, a pivoted jaw 26, a pivoted lever 29, and a link 32 connecting said levers, substantially as described.

5 7. In a conveyer system, a saddle shaped as shown, adapted to fit into the top of a trestle, a carrying-roller for the traction-rope let into the top of said saddle, and journal-blocks slidably mounted in recesses in said saddle adapted to support said pulley, sub-
10 stantially as described for the purposes set forth.

8. In a conveyer system the combination of a series of trestles, a track-cable over said

trestles, a saddle on each trestle at or near the level of the track, a driving or traction 15 rope traveling over said saddles, a carriage or trolley adapted to run upon said track, a grip or clutch mounted in said carriage adapted to grasp said driving-rope, and means for securing a load to said trolley on the oppo- 20 site side from said driving-rope for the purposes set forth.

RUGELEY D. SEYMOUR.

Witnesses:

DWIGHT B. CHEEVER,
HENRY GOLDMARK.