

No. 720,443.

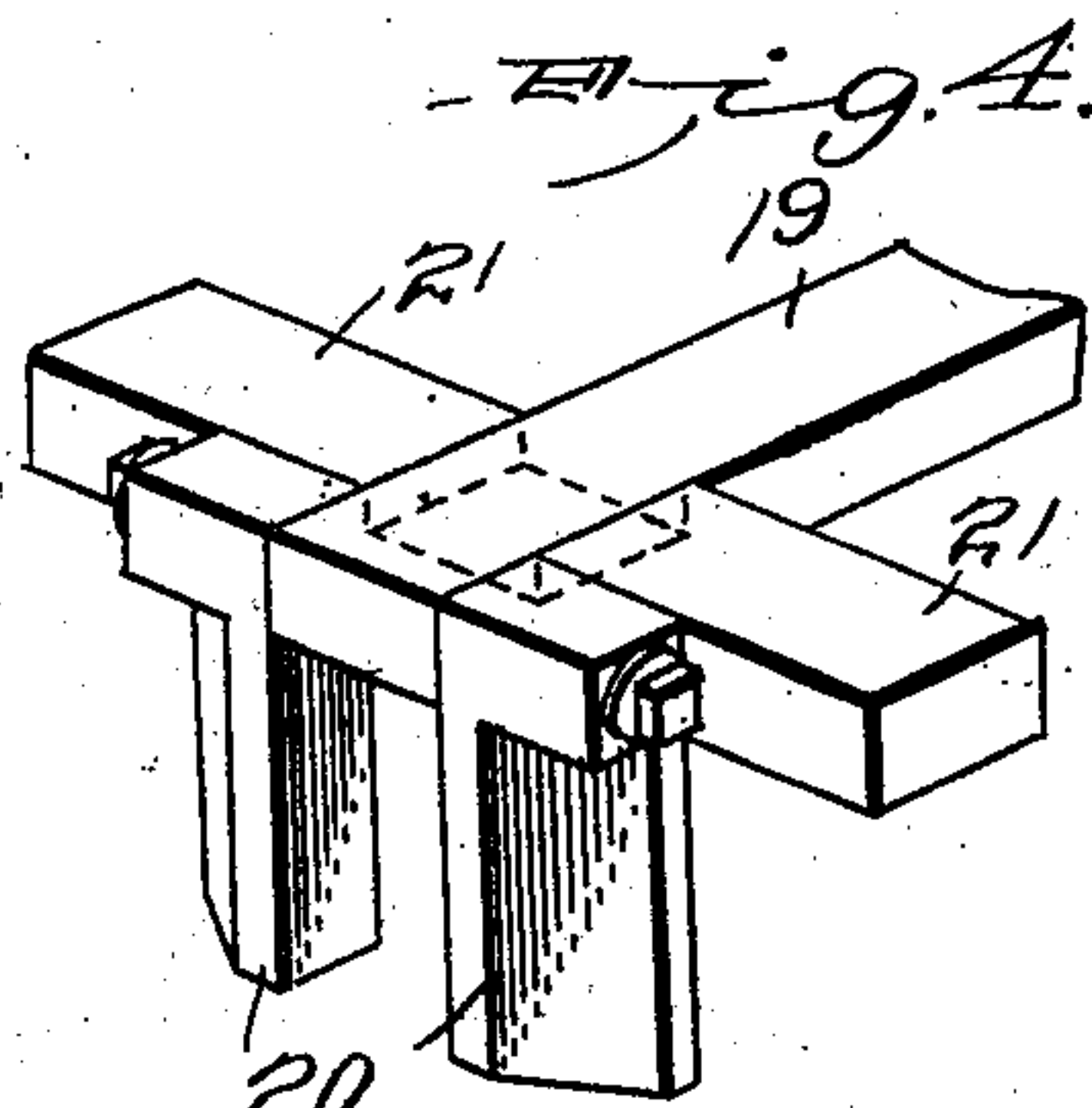
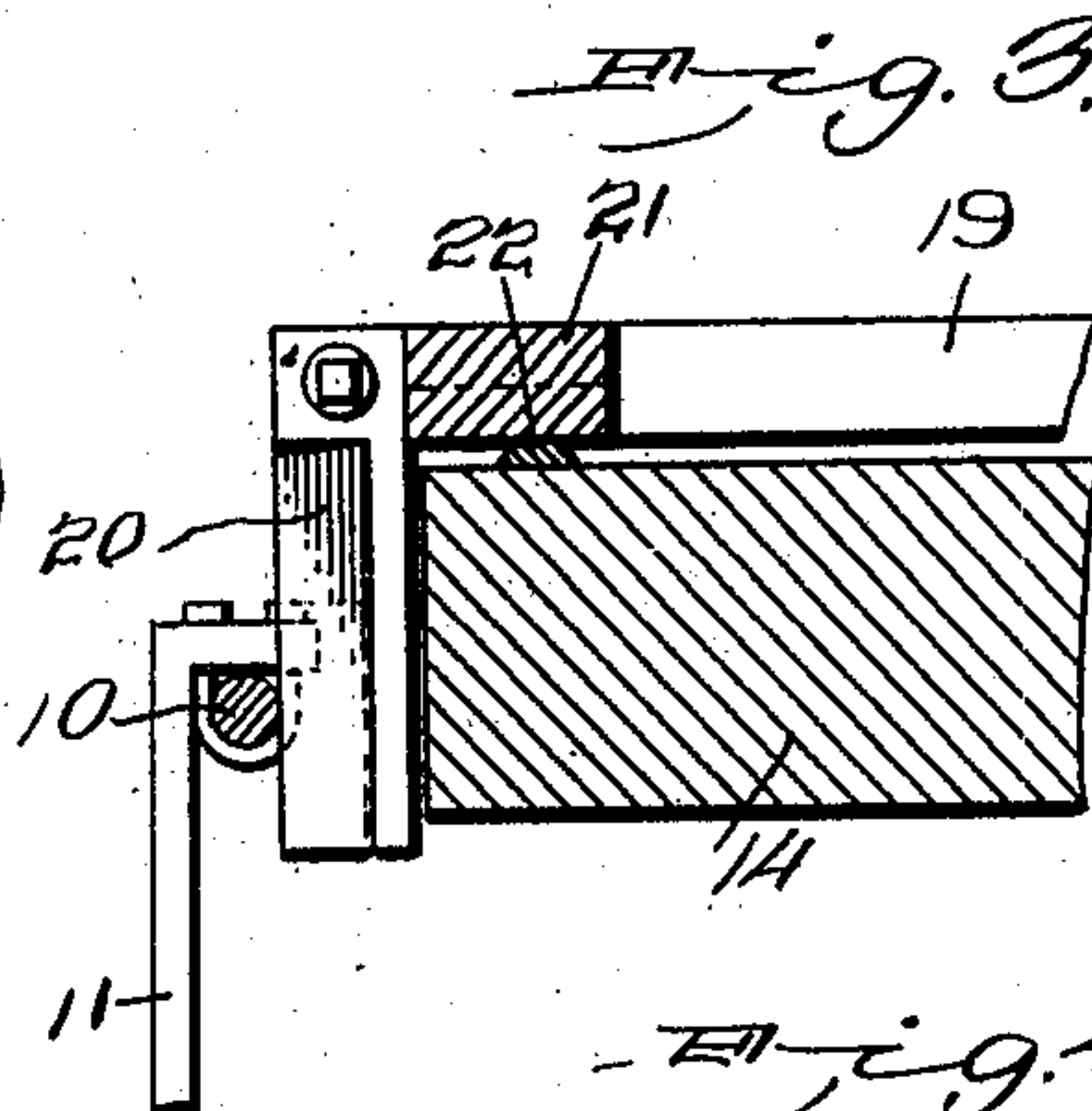
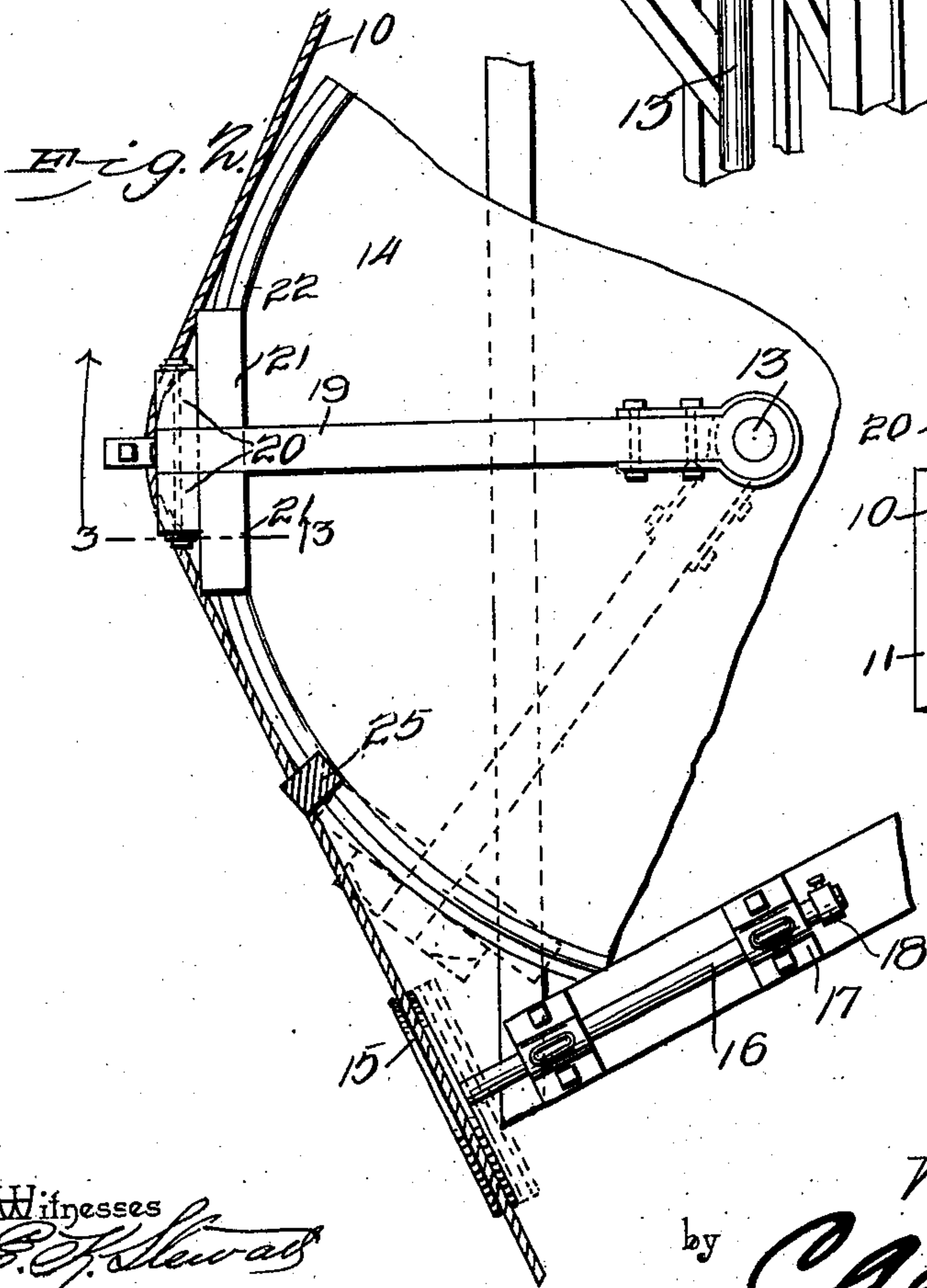
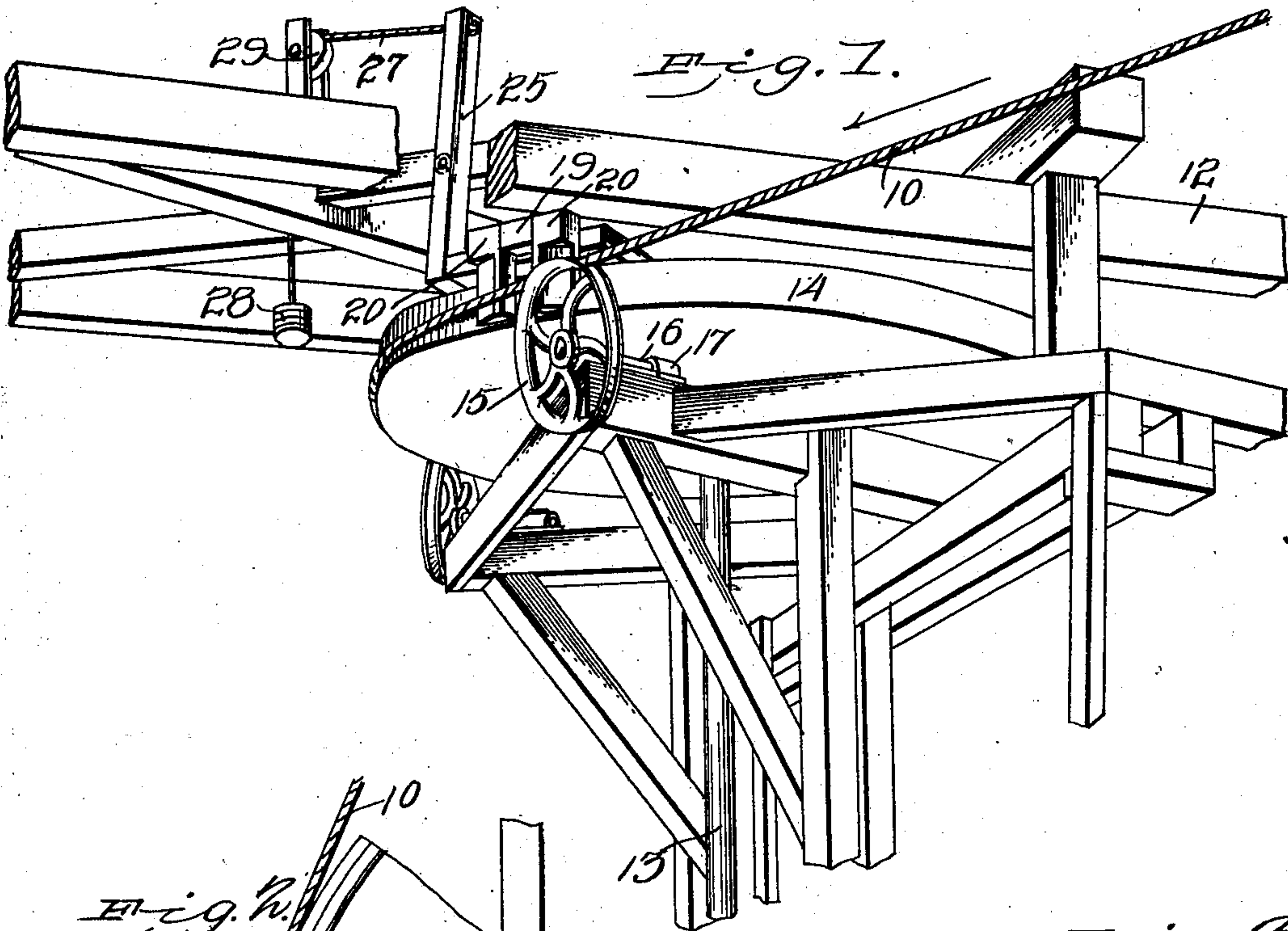
PATENTED FEB. 10, 1903.

W. KIRRY.
ELEVATED CABLEWAY.

APPLICATION FILED SEPT. 17, 1902.

2 SHEETS—SHEET 1.

NO MODEL.



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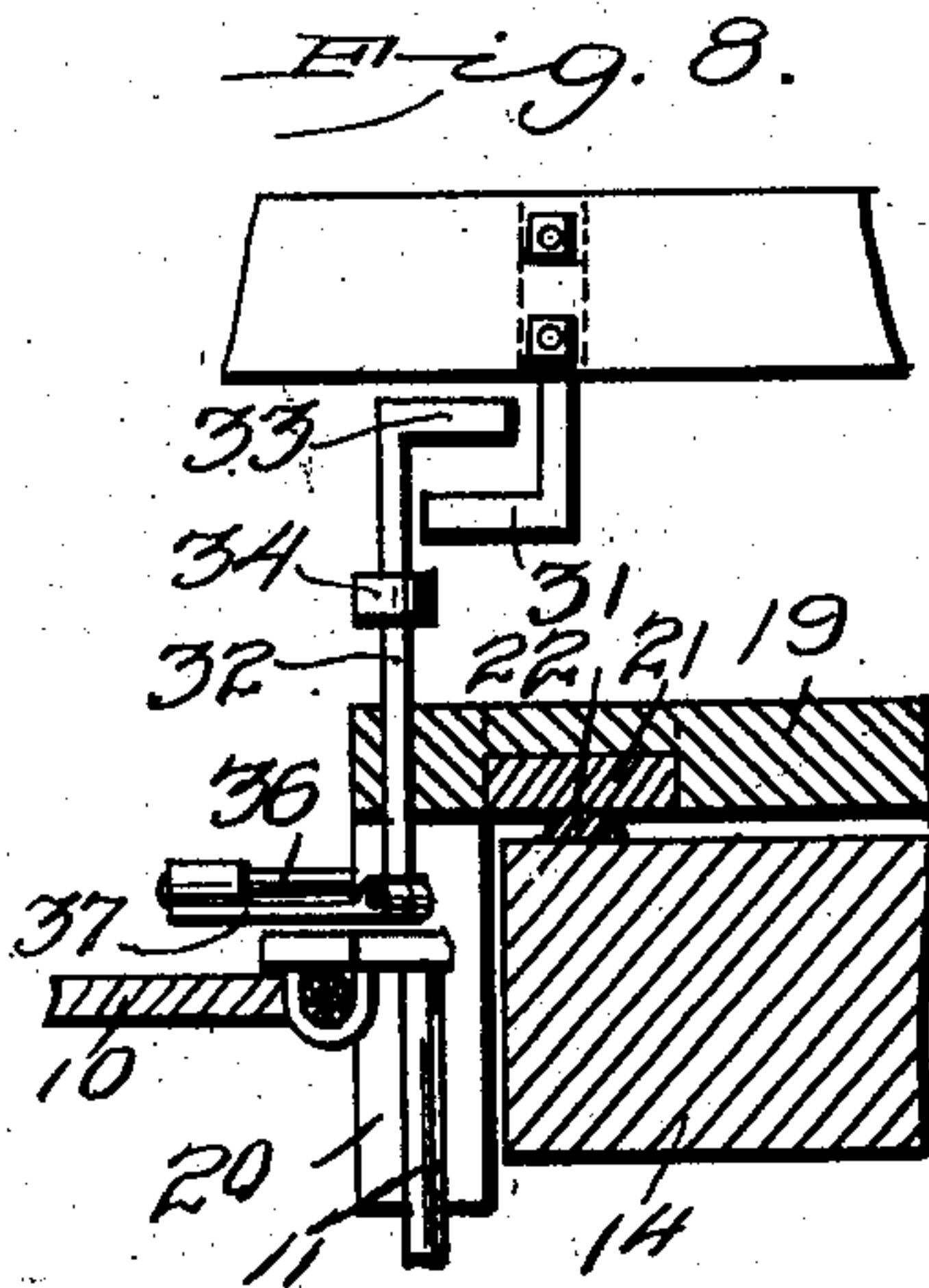
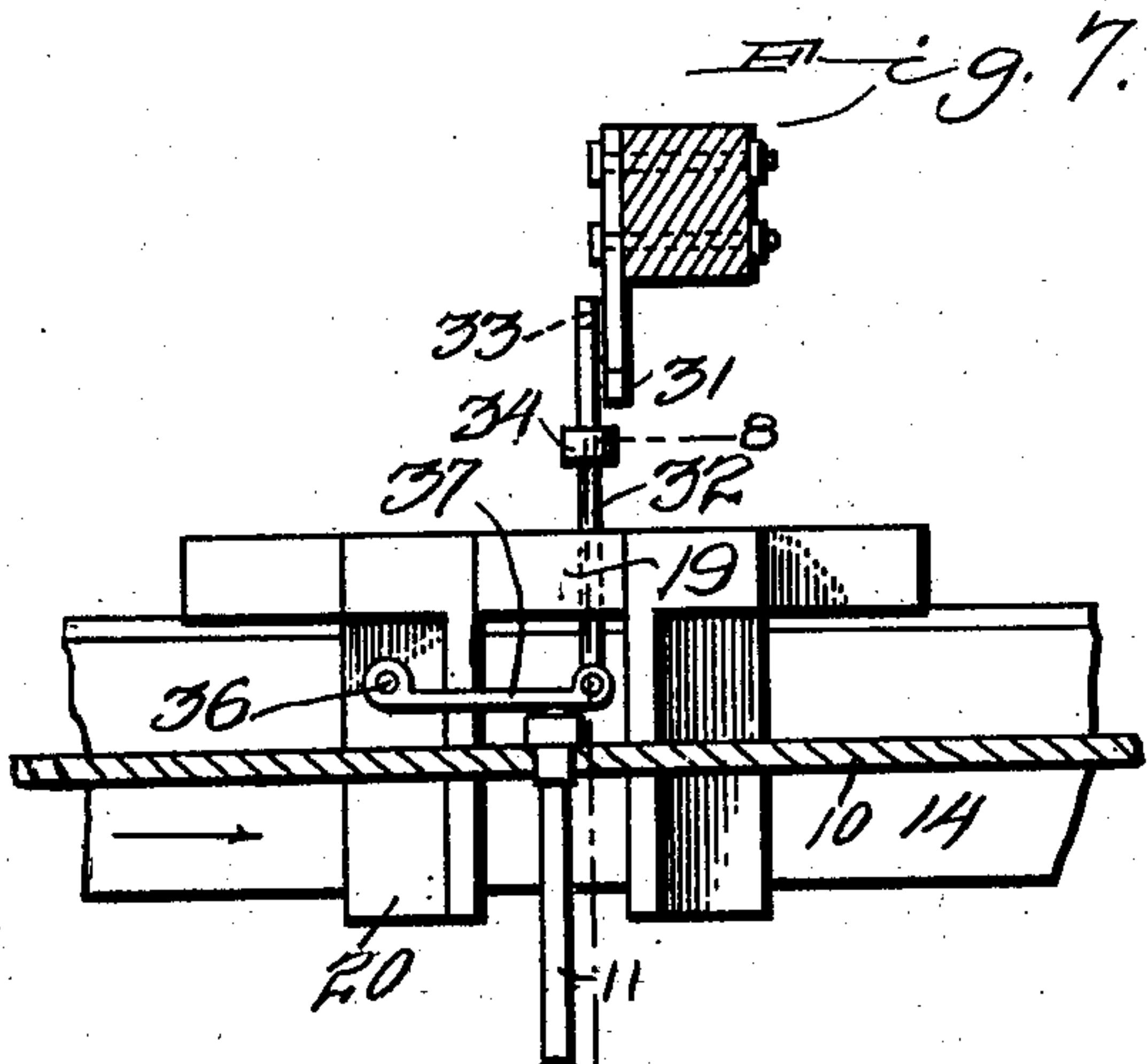
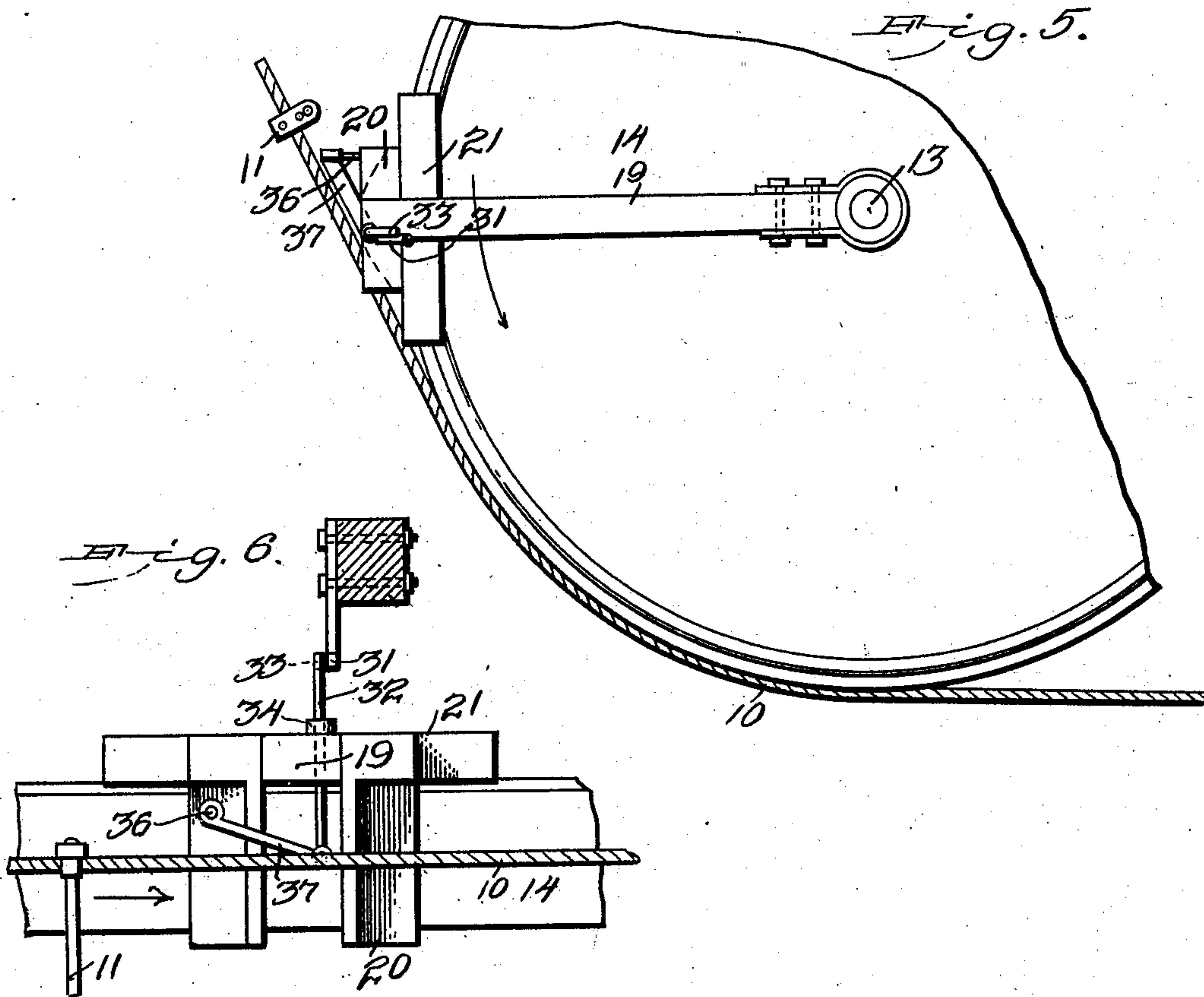
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ELEVATED CABLEWAY.

APPLICATION FILED SEPT. 17, 1902.

2 SHEETS—SHEET 2.

NO MODEL.



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UNITED STATES PATENT OFFICE.

WALTER KIRRY, OF BLUE LAKE, CALIFORNIA.

ELEVATED CABLEWAY.

SPECIFICATION forming part of Letters Patent No. 720,443, dated February 10, 1903.

Application filed September 17, 1902. Serial No. 123,756. (No model.)

To all whom it may concern:

Be it known that I, WALTER KIRRY, a citizen of the United States, residing at Blue Lake, in the county of Humboldt and State of California, have invented a new and useful Elevated Cableway, of which the following is a specification.

This invention relates to certain improvements in elevated cableways of that class in which an endless cable or wire rope is employed for conveying purposes; and its principal object is to provide an improved mechanism for changing the direction of the cable without rendering it necessary to detach the carriers or similar devices supported by the cable.

The invention is also applicable to cableways of all descriptions, such as tramways where the cars are provided with cable-engaging grips, or on other cable systems where the cable is provided with carriers detachably or permanently connected thereto, or in cases where the cable is employed as a support for a gravity-propelled trolley.

In all devices of this class as heretofore constructed much difficulty has been experienced in changing the course of the cable without interfering with the carriers, grips, or other devices connected thereto. In carrying out my invention this difficulty is overcome by the employment of an auxiliary guard or carrier which automatically engages with the grip or other device on the cable and permits the movement of the same around the cable-guiding wheel without coming into contact with said wheel and rendering it unnecessary to detach the grips or carriers from the cable.

A further object of the invention is to construct a device of this character which shall be entirely automatic and in which the parts assume operative position after each movement and are held in readiness for operation without regard to any variation in the distance between the grips or supports connected to the cable.

With these and other objects in view the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that va-

rious changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a perspective view illustrating a portion of an elevated cableway provided with mechanism for changing the course of the cable. Fig. 2 is a partial plan view of the horizontal wheel over which the cable travels and illustrating the operation of the auxiliary arm for engaging the grips or carriers on the cable. Fig. 3 is a sectional elevation of the same on the line 3 3 of Fig. 2. Fig. 4 is a detail perspective view of one end of the grip or carrier engaging arm. Fig. 5 is a detail plan view similar to Fig. 2, illustrating a slight modification of the mechanism employed for maintaining the carrier-engaging arm in operative position. Fig. 6 is an elevation of the same, showing the carrier-holding mechanism in locked position. Fig. 7 is a similar view of the parts when moved to unlocked position. Fig. 8 is an elevation, partly in section, on the line 8 8 of Fig. 7.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The device illustrated in the accompanying drawings represents a portion of an elevated cableway employed for conveying articles, such as logs, from one point to another, and the cable 10 is provided at intervals with a number of permanently-secured carriers 11, which may take the form of log-engaging grapples or may serve as supports for cars or containing or engaging devices of any character. The carriers may represent the detachable grips of tramway-cars or similar devices, the term "carrier" being employed in the specification and claims to designate a cable-engaging device of any description or character.

At the point where it is desired to change the course of the cable is a suitable frame 12, carrying bearings for the support of a vertical spindle or shaft 13, on which is secured a horizontally-disposed wheel 14, the cable engaging the periphery of the wheel and its course being changed to any desired extent. In order to assist in supporting the cable and

maintaining the same in contact with the periphery of the wheel, I employ one or more sheaves 15, secured to shafts 16, adapted to bearing-boxes 17 on the frame 12, the shafts 5 being free to move longitudinally to any extent for a purpose hereinafter described and the extent of outward movement being limited by a collar 18, adjustably secured to the end of the shaft and adapted to come into 10 contact with one of the boxes when the shaft has reached the limit of outward movement. The periphery of each shoe is provided with an annular groove, and the carriers 11 are preferably provided with yoke-shaped bolts 15 or clamping members 19, which will ride over the sheaves without materially affecting the position of the cable.

To the upper portion of the shaft or spindle 13, at a point above the horizontal wheel 14, 20 is pivoted the inner end of a radially-disposed arm 19, provided at its outer end with a pair of spaced blocks 20, having their outer faces inclined or rounded in order that the blocks may be moved closer to the cable and held in 25 operative position without coming into contact therewith. The arm 18 is further provided with a pair of laterally-extended blocks 21, which rest on an annular rib 22 on the upper surface of the wheel, said rib being 30 preferably formed of leather or some similar material, which by reason of its frictional contact with the blocks will rotate the arm with the wheel 14, although this is not at all times necessary.

35 In Fig. 1 the arm 19 and its spaced blocks are illustrated in the initial position in readiness to be engaged by one of the traveling carriers on the cable, the arm being held in this position by a pivoted stop-lever 25, hav- 40 ing its lower end engaging one of the blocks 21 and its upper end being connected by a flexible cord or chain 27 to a counterweight 28, the cord or chain passing over a small guiding-sheave 29 and the weight 28 being 45 sufficient to maintain the arm in the position shown against the friction of the rib 22 and the blocks 21.

In the operation of the device a carrier 50 traveling in the direction indicated by the arrows in Figs. 1 and 2 will first pass over one of the sheaves 15 and will then engage in the space between the depending blocks 20. The blocks and arm 19 being thus locked to the cable the stop-lever 25 is tripped against 55 the tendency of the counterweight and the arm is traveled around with the cable in the manner shown in Fig. 2, the carrier 11 being held out of contact with the periphery of the wheel 14 and the cable being in en- 60 gagement with the curved or inclined surfaces of the depending blocks 20. The cable is moved slightly out of contact with the wheel 14, and in order to prevent it from riding off the guiding-sheaves 15 the shafts 16 65 of the latter are allowed to move longitudinally, the cable fitting within the annular groove of the sheaves and moving the same

back and forth in accordance with the position of the cable. When the depending blocks 20 have been moved for a distance suf- 70 ficient to disengage from the cable, the carrier leaves the space between the blocks, and the cable again comes into contact with the periphery of the wheel 14. The friction be- 75 tween the block 21 and the rib 22 is now sufficient to revolve the arm 19 until one of the blocks 21 again comes into contact with the stop-lever 25, which has been restored to its locking position by the counterweight, and the arm is again locked in a position in readi- 80 ness to receive the next carrier.

The arm-locking mechanism may be of a modified construction. (Shown in Figs. 6, 7, and 8.) In this case one of the members of the supporting-frame is provided with a de- 85 pending finger 31, and the outer end of the arm 19 is provided with a guiding-opening for the reception of a vertically-movable bar 32, having a mating finger 33, said bar 32 being further provided with a counterweight 90 34, which serves to move the bar down to locking position and to maintain the same in its position by contact with the top of the radial bar 19. From one of the blocks 20 pro- 95 jects a pin 36, carrying a link 37, pivoted at its opposite end to the bar 32 and adapted to be engaged by the carrier as the latter is traveled in the position indicated by the arrows in Figs. 6 and 7. When the carrier engages the link 37, the latter is raised and the finger 100 33 is moved out of alinement with the locking-finger 31, the parts assuming the position shown in Figs. 7 and 8 and permitting free rotative movement of said arm when the car- 105 rier enters the space between the two blocks. After the disengagement of the carrier from the blocks the weight 34 restores the finger 33 to locking position, and after a complete revolution of the radial arm 19 the two lock- 110 ing-fingers again come into contact and hold the radial arm in position for the next operative movement.

Having thus described my invention, what I claim is—

1. The combination with a cable, of the car- 115 rier, a revoluble wheel for changing the course of the cable, a radial arm adapted to be engaged by the carriers and to maintain the latter out of contact with the wheel, and means for locking said arm in position to be engaged 120 by the carriers.

2. The combination with a cable, of a car- 125 rier, a revoluble wheel for changing the course of the cable, a radial arm having a depending portion extending beyond the periphery of the wheel and adapted to be engaged by said carrier and to hold the carrier out of contact with the wheel, means for returning the arm to an initial position, and means for lock- 130 ing said arm in position to be engaged by the carriers.

3. The combination with a cable, of the car- rier, a cable-guiding wheel, a radial arm piv- 135 oted at the center of rotation of the wheel and

having a portion projecting beyond the periphery thereof for engagement with the carrier to thereby maintain the carrier out of contact with the periphery of the wheel.

5 4. The combination with a cable, of a carrier, a cable-guiding wheel, a radial arm pivoted at the center of rotation of the wheel, a pair of spaced blocks depending from said arm at a point beyond the periphery of the wheel and adapted to receive the carrier, said blocks engaging the cable on each side of the carrier and maintaining the latter out of contact with the periphery of the wheel.

15 5. The combination with a cable, of a carrier, a cable-guiding wheel, a radial arm pivoted at the center of rotation of the wheel, a pair of depending blocks carried by the arm at points beyond the periphery of the wheel, said blocks being spaced from each other and having inclined cable-engaging surfaces, a locking device for maintaining the blocks in position to be engaged by the carrier, and means for completing the revoluble movement of the arm after the carrier is disengaged from the block.

25 6. The combination with a cable, of a carrier, a pivoted arm, a pair of spaced blocks depending from said arm at a point beyond the periphery of the cable-guiding wheel, an auxiliary cable-supporting sheave movable laterally with the cable, and means for lock-

ing the arm in position for engagement by the carrier.

7. The combination with a cable, of a carrier, a cable-guiding wheel, a pivoted arm, a pair of spaced blocks depending from said arm at a point beyond the periphery of the wheel and adapted to be engaged by the carrier, an auxiliary cable-supporting sheave, a longitudinally-movable shaft carrying said sheave, and bearings for the support of said shaft.

8. The combination with a cable, of a carrier, a cable-guiding wheel, a pivoted arm adapted to be engaged by the carrier, means for holding the arm in position to be engaged by the carrier, and a rib or flange on the upper surface of the wheel for frictional engagement with said arm.

9. The combination with a cable, of a carrier, a cable-guiding wheel, a pivoted arm adapted to be engaged by the carrier, a pivoted locking-lever for engaging and holding the arm in position, and a counterweight connected to said locking-lever.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WALTER KIRRY.

Witnesses:

GEO. H. NEWELL,
HUGH SMITH.