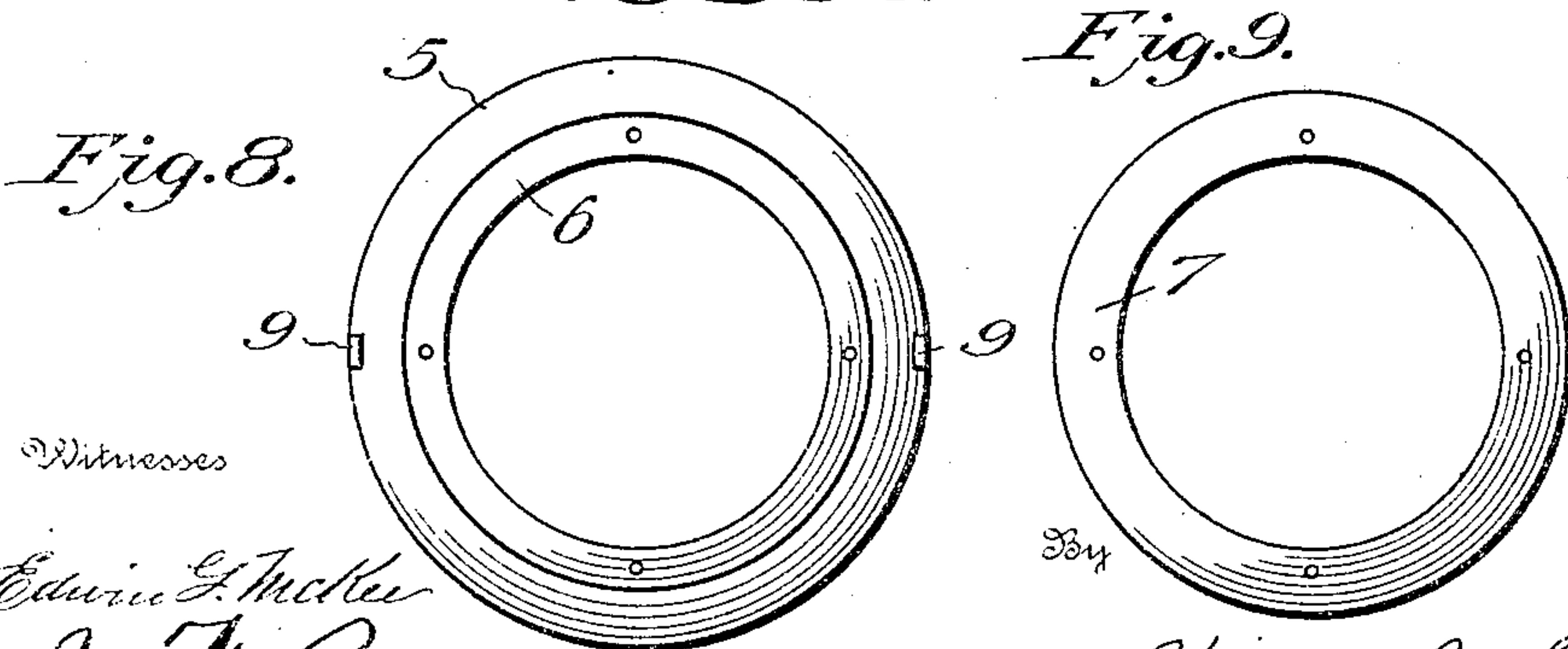
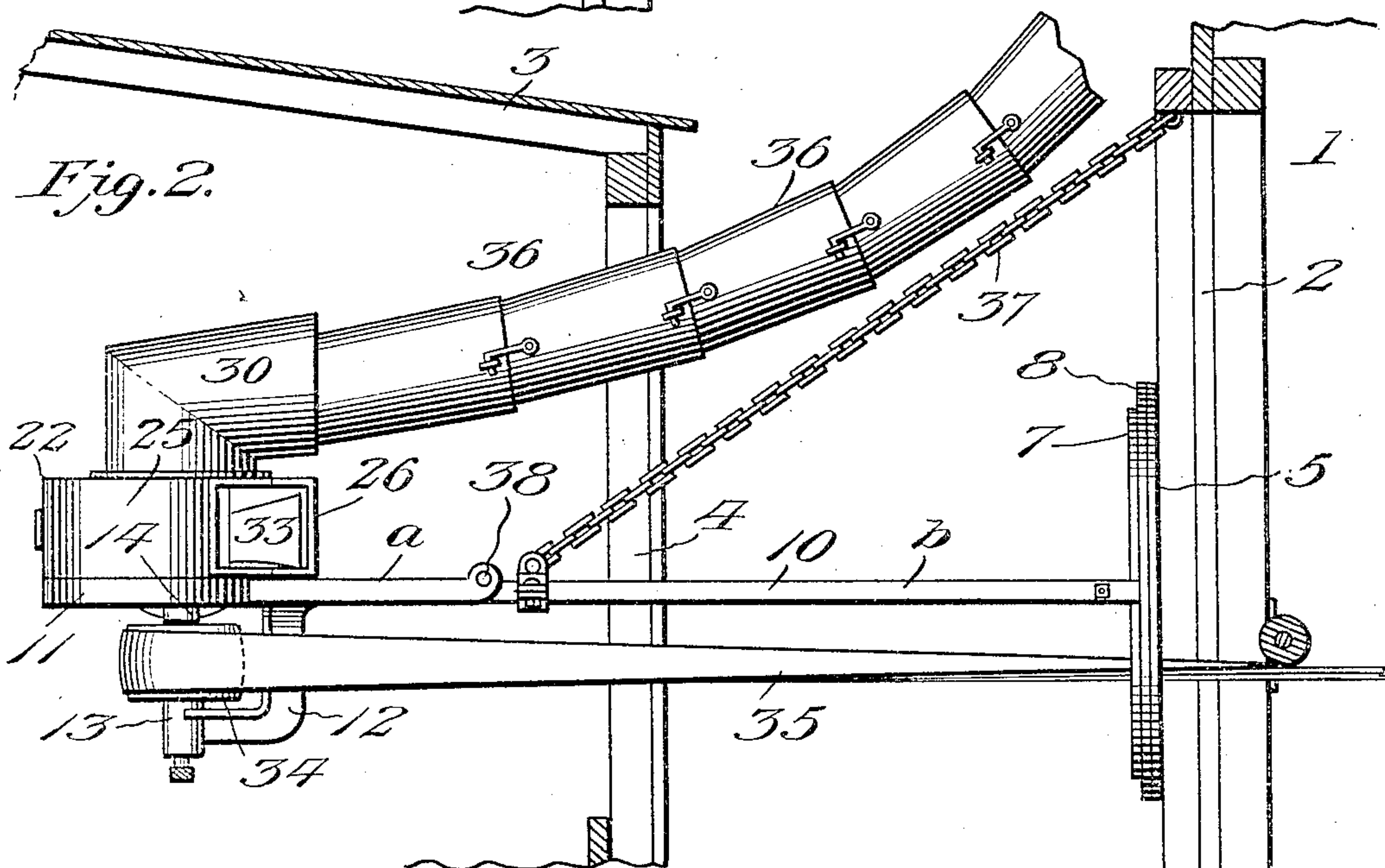


PATENTED DEC. 27, 1904.

2 SHEETS—SHEET 1.



Witnesses

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By

Victor J. Evans Attorney

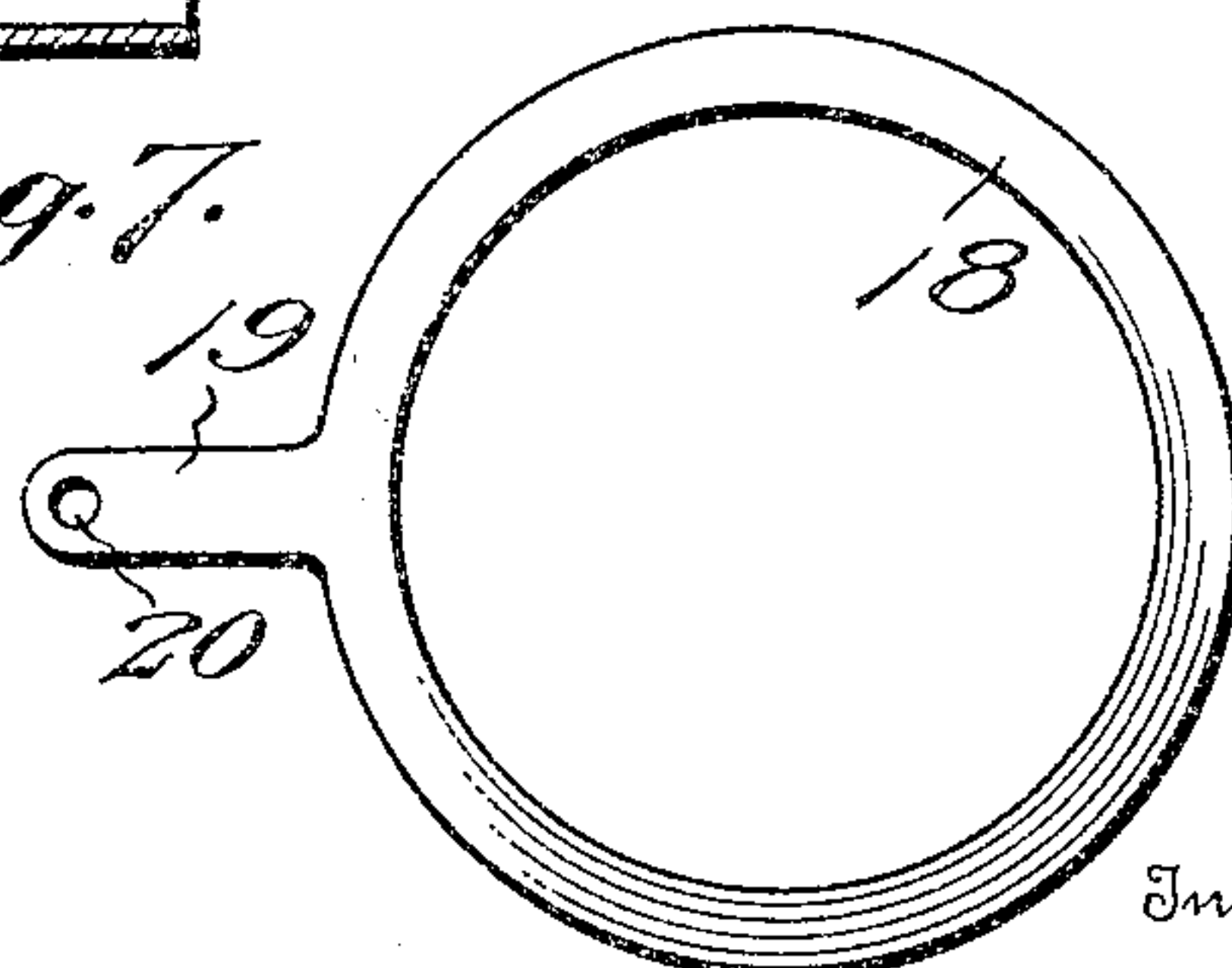
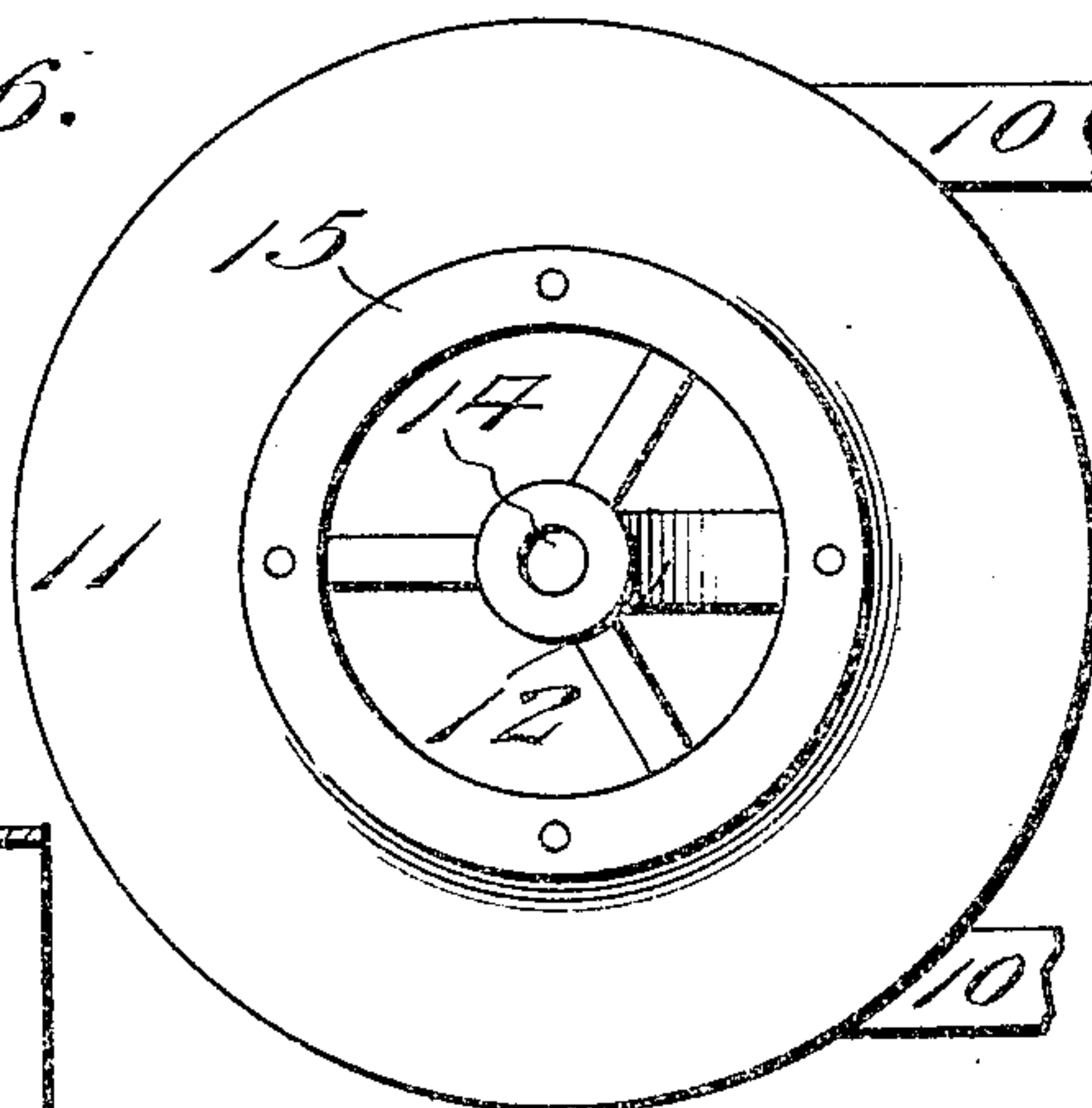
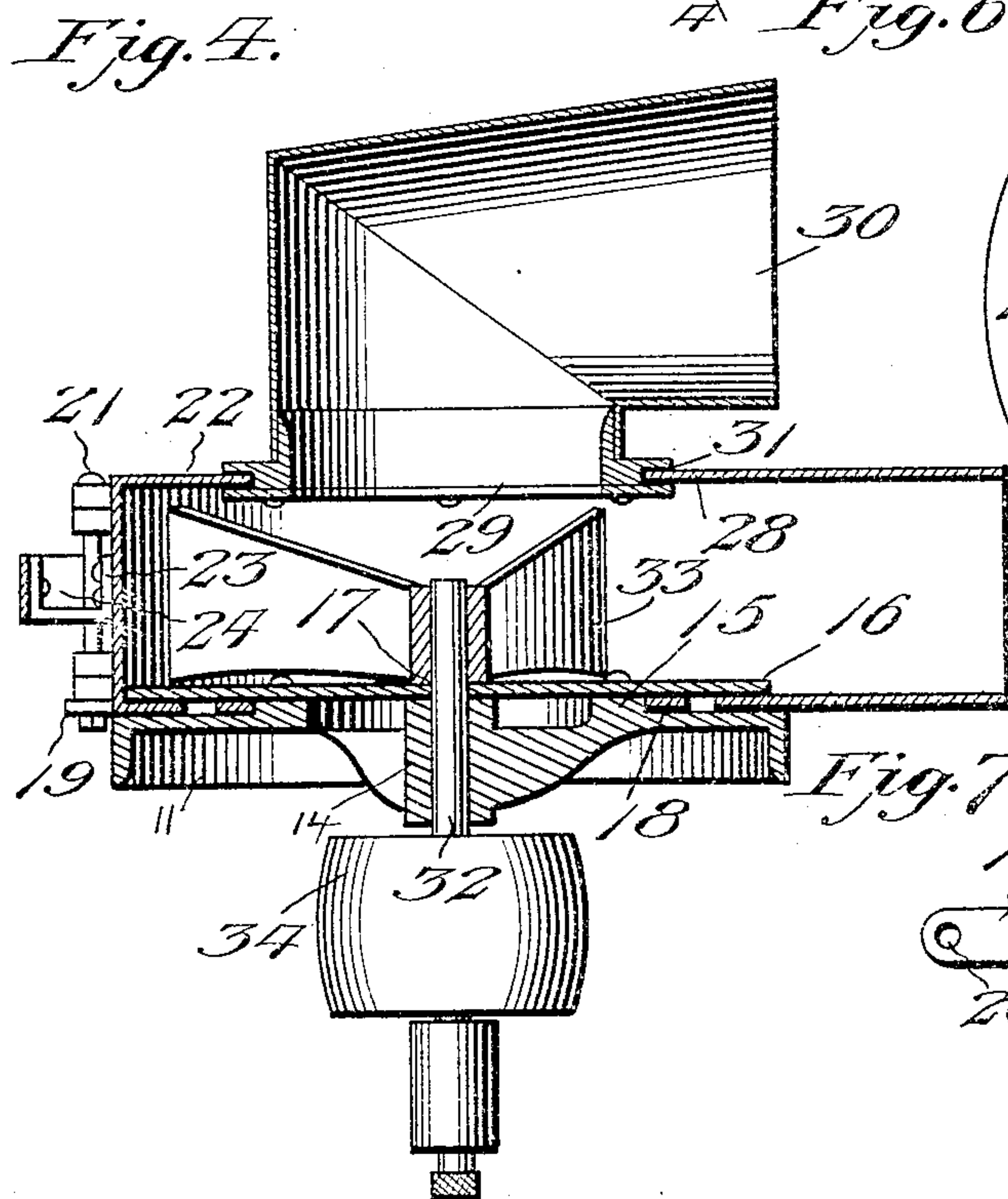
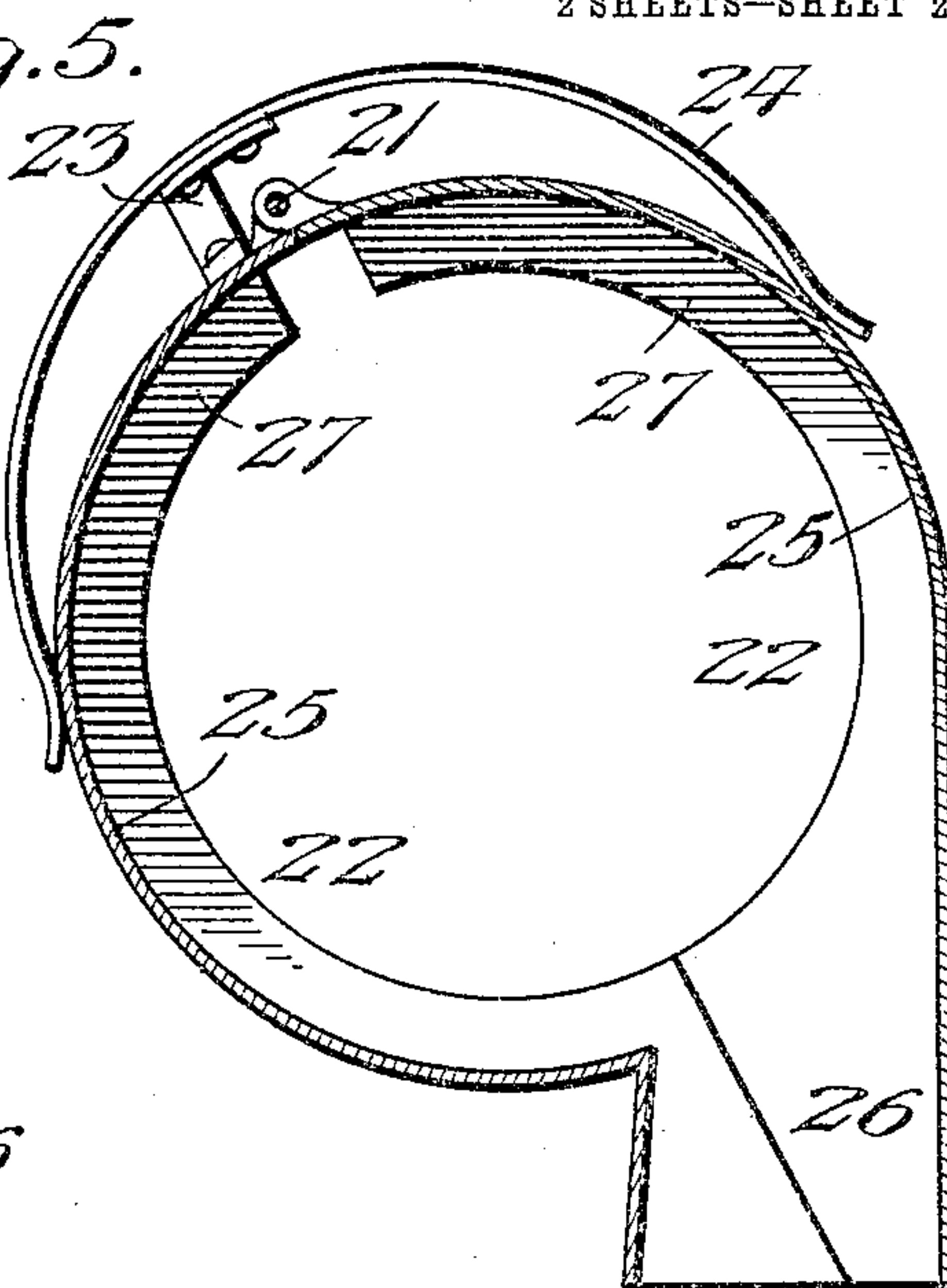
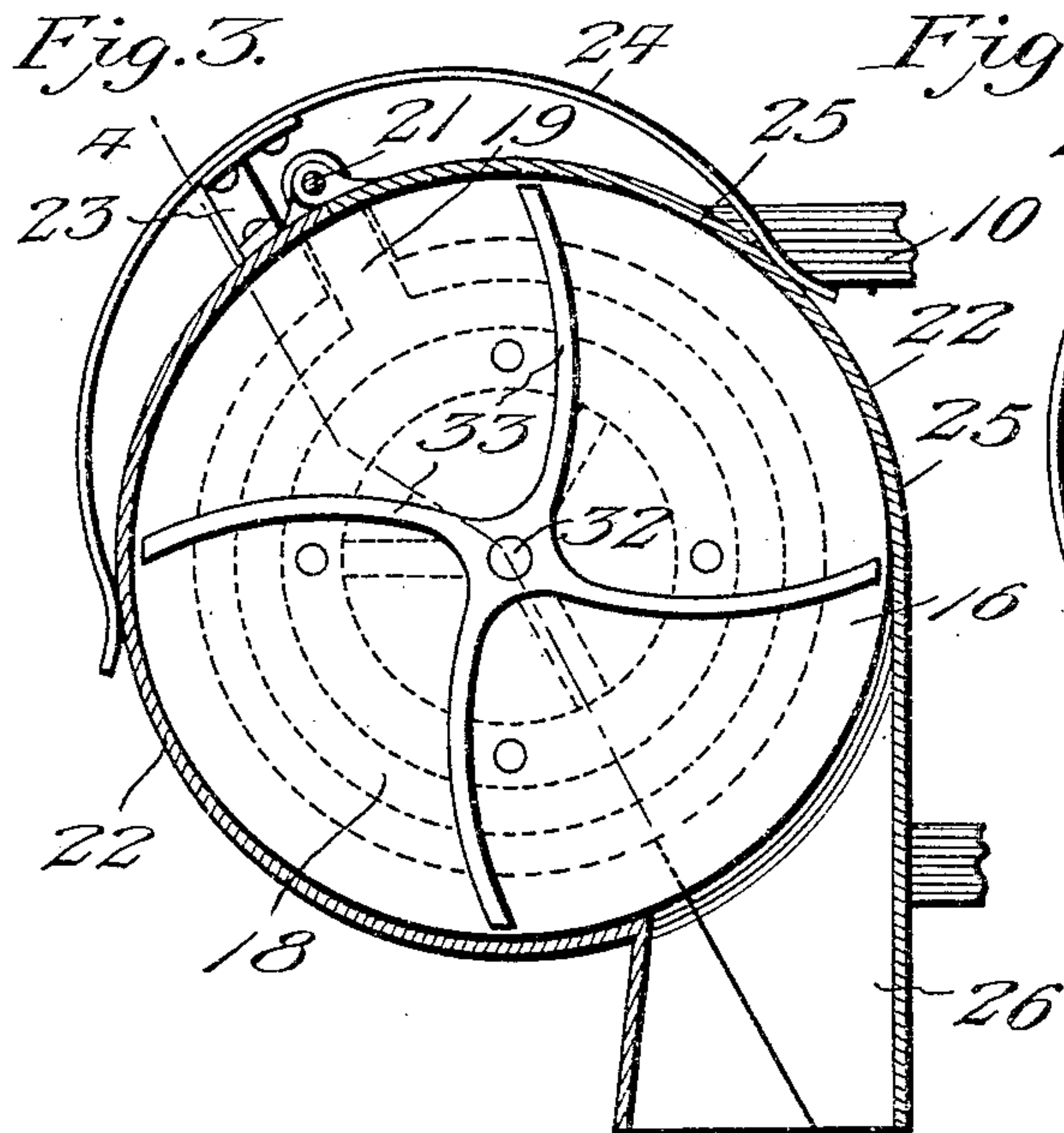
No. 778,699.

PATENTED DEC. 27, 1904.

E. B. NELSON.  
LOADING DEVICE.

APPLICATION FILED APR. 7, 1904.

2 SHEETS—SHEET 2.



Witnesses

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Attorney



# UNITED STATES PATENT OFFICE.

ERNEST B. NELSON, OF BURCHINAL, IOWA.

## LOADING DEVICE.

SPECIFICATION forming part of Letters Patent No. 778,699, dated December 27, 1904.

Application filed April 7, 1904. Serial No. 202,110.

*To all whom it may concern:*

Be it known that I, ERNEST B. NELSON, a citizen of the United States, residing at Burchinal, in the county of Cerro Gordo and State of Iowa, have invented new and useful Improvements in Loading Devices, of which the following is a specification.

My invention relates to devices for loading cars with grain from elevators; and its primary object is to provide a novel distributor so arranged at the discharge end of a conveyer leading from the elevator to the interior of the car that it may be adjusted to direct grain at any point within the car to evenly distribute the same therein, whereby a car may be quickly and effectually loaded.

A further object of the invention is to provide a novel means for supporting the distributor within the car in applied position.

The invention consists in the construction, combination, and arrangement of parts hereinafter fully described, claimed, and illustrated in the accompanying drawings, which disclose the preferred form of my invention, and in which—

Figure 1 is a top plan view of the device constructed in accordance with my invention, the same being shown in operative relation to a car and elevator. Fig. 2 is a side elevation of the same. Fig. 3 is a horizontal sectional view through the distributor. Fig. 4 is a sectional view on line 4 4 of Fig. 3. Fig. 5 is a horizontal sectional view of the casing of the distributor. Fig. 6 is a top plan view of the outer end of the support upon which the distributor is adapted to be mounted. Fig. 7 is a detail view of the securing member for the casing of the distributor. Figs. 8 and 9 are detail views of the swivel.

Referring to the drawings by reference-numerals, 1 designates a wall of an elevator; 2, an opening therein; 3, a car, and 4 the door-opening of the car.

5 designates an annular base-plate having its inner edge provided with an outwardly and inwardly directed flange 6, adapted to receive an annular securing-plate 7, providing a space therebetween for the reception of an annular supporting-plate 8. The plate 5 may be secured about the opening 2 in any approved

manner. The plate 8 is journaled between the plates 5 and 7 in such manner that it may be freely rotated, and said plate is provided with lugs 9, diametrically opposed and adapted to have pivotally secured thereto the inner ends of a support 10 to permit said support to be turned in a vertical plane, so as to direct the discharge end of the distributor at higher or lower points within the car. The outer or free end of the support is provided with an annular head 11, adapted to have the distributor mounted thereon in such a manner that it may be turned in a horizontal plane to direct its discharge end at any point horizontally within the car. An L-shaped bracket 12 is secured to the under side of the head and has the extremity of its horizontally-disposed portion provided with a thrust-bearing 13, arranged in alinement with a bearing 14, centrally located in the head. The upper surface of the head 11 is provided with an annular shoulder 15, to which is rigidly secured a circular plate 16, provided with an aperture 17, communicating with the bearing 14. Mounted upon the head 11 to be rotated about the shoulder 15 is a securing member or ring 18, said ring being provided with a laterally-projecting arm 19 of a length sufficient to dispose its outer extremity beyond the edge of the head 11.

The arm 19 is provided near its outer extremity with an aperture 20, adapted to receive a bolt 21. This bolt is adapted to have pivotally secured thereto the sections 22 of the distributor, which are adapted to swing laterally away from each other for a purpose hereinafter fully pointed out. A bracket 23 is secured to one of the sections and carries a spring 24, adapted to have its extremities engage the edges of the sections to normally retain them in relative position. The sections comprise semi-annular side walls 25, from which project a discharge-spout 26. The lower edges of the sections are provided with horizontally-disposed flanges 27, adapted to engage the under side of the plate 16, which plate is adapted to close the under side of the distributor. The upper edges of the sections are provided with flanges 28, which are adapted to close the upper side of the distributor



with the exception of a centrally-located aperture 29. A hopper 30 is adapted to be secured to the distributor in such a manner that the distributor may be freely revolved without disturbing the position of the receiving end of said hopper, and to accomplish this I provide the lower edge of the hopper with an annular recess 31, adapted to receive the edges of the flanges 28. A shaft 32 is mounted in the bearings 13 and 14 to position its upper extremity within the distributor, said upper end being adapted to receive the blades 33 of the distributor. The shaft is provided with a pulley 34, adapted to receive a belt 35, passing through the opening 2 from a suitable source of power arranged within the elevator. The conveyer is composed of a plurality of sections 36 and has its discharge end mounted within the receiving end of the hopper 30.

It is apparent when motion is imparted to the shaft 32 that the blades 33 are caused to revolve and force the grain which comes down through the conveyer out through the spout 26 with sufficient force to cause it to be deposited at any point within the car. It often occurs that foreign matter will become intermingled with the grain and cause damage to the blades 33 as a result of being wedged between the extremities of the blades and the sides of the distributor. This will not occur in my device, for the reason that the sections of the casing will readily give away under pressure, and thereby prevent the foreign substance from becoming wedged between the extremities of the blades and the sides of the distributor. As the distributor is revolvably mounted upon the support and as it may be freely turned without disturbing the position of the hopper 30, it is apparent that its discharge end may be moved to cause the grain to be deposited at any point on both sides of the longitudinal and transverse centers of the car. It is also apparent, as the support is mounted to be turned in a vertical plane, that the discharge end may be moved to position it in a higher or lower plane for the purpose of distributing the grain at a far or near point in the car.

In order to prevent the support from gravitating, I provide a chain 37, which has one of its ends secured to the elevator and its opposite end secured to the support. The support comprises pairs of sections *a* and *b*, which are hingedly connected, as at 38, to permit sections *a* being thrown upon sections *b* to facilitate the application and removal of the distributor. When it is desired to remove the distributor from the car, the support is turned to a vertical position and the sections *a* are folded over sections *b*, and then the support is swung upon its pivot, which causes it to assume a position substantially parallel with the outer wall of the elevator.

It is presumed that the operation of the de-

vice is sufficiently set forth in the above specification to obviate the necessity of further description.

Having thus described the invention, what is claimed as new is—

1. In a device of the character specified, the combination with a stationary structure, as the wall of an elevator, of a support movably connected at one end to said structure to be moved in a vertical plane, and having its free end extended beyond the latter and provided with an annular shoulder, a securing member mounted upon the support to be rotated about the said shoulder in a horizontal plane, and a distributor rotatable with said securing member, whereby the discharge end of the distributor may be positioned at any point in a horizontal or vertical plane.

2. In a device of the character specified, the combination with a stationary structure, as the wall of an elevator, of a support movably connected at one end to said structure and having its free end extended beyond the latter, and provided with an annular shoulder, a securing member mounted upon the support to be rotated about the said shoulder, and a distributor rotatable with said securing member, the said distributor comprising sections adapted to swing apart and provided with yieldable devices normally maintaining the same in close relation.

3. In a device of the class set forth, the combination with an elevator and a car, of a support secured to the elevator and having its free end disposed within the car, said free end being provided with an annular shoulder and bearings, a securing member mounted upon the support to be rotated about said shoulder, a distributor secured to the securing member, whereby it may be rotated upon the support, said distributor comprising yielding sections, a hopper secured to said distributor to permit of the latter being moved independently thereof, a shaft journaled within said bearings, blades secured to said shaft and disposed within the distributor, and means for imparting motion to said blades.

4. In a device of the character specified, the combination with a stationary structure, as the wall of an elevator, of a support movably connected at one end to said structure, to be moved in a vertical plane, and having its free end extended beyond the latter and provided with an annular shoulder, a securing member mounted upon the support to be rotated about said shoulder in a horizontal plane, a distributor rotatable with said securing member, whereby the discharge end of said distributor may be positioned at any point in a horizontal or vertical plane, and a hopper directly secured to the distributor to permit the latter to be revolved without disturbing the former.

5. In a device of the character specified, the combination with a stationary structure



as the wall of an elevator, of a support mov-  
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5 vided with a head having an annular shoul-  
der and a bearing, an L-shaped bracket se-  
cured to the head and provided with a bear-  
ing in alinement with the first-named bear-  
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10 head to be rotated about the said shoulder in  
a horizontal plane, a distributor rotatable

with said securing member, whereby the dis-  
charge end of the distributor may be posi-  
tioned at any point in a horizontal or vertical  
plane, a shaft journaled in said bearings, and 15  
blades secured to said shaft.

In testimony whereof I affix my signature in  
presence of two witnesses.

ERNEST B. NELSON.

Witnesses:

C. H. McNIDE,  
R. P. TRAETH.