

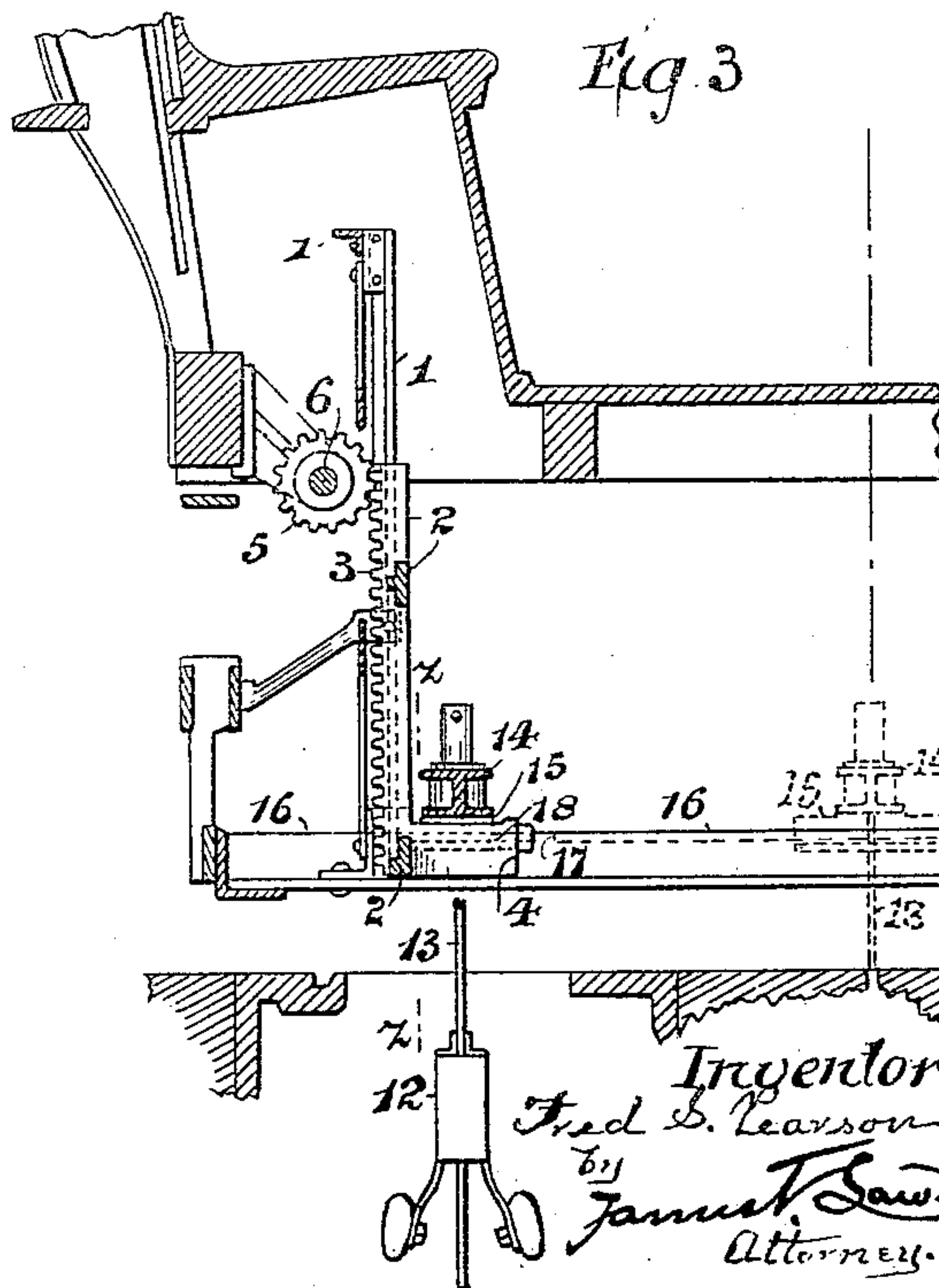
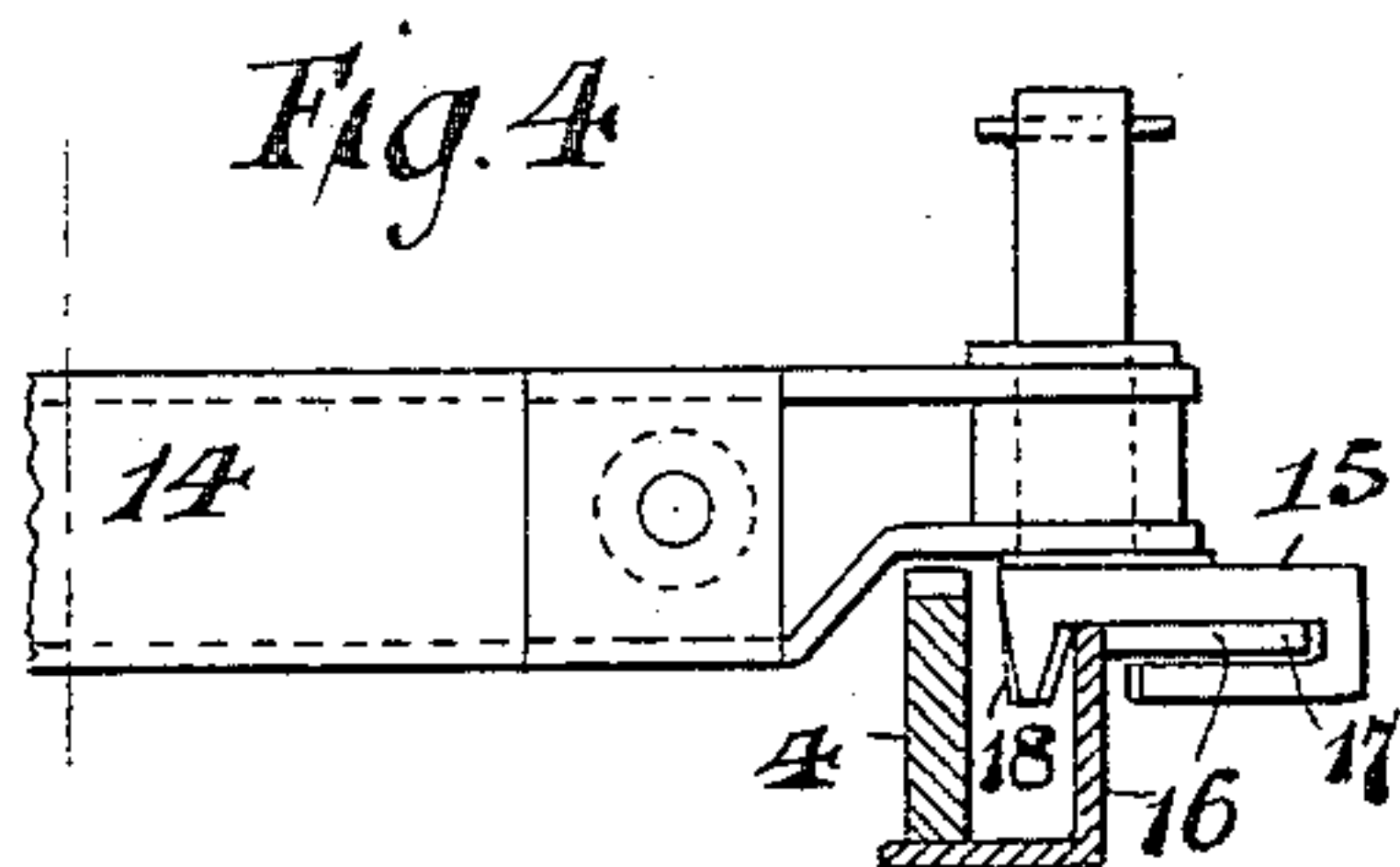
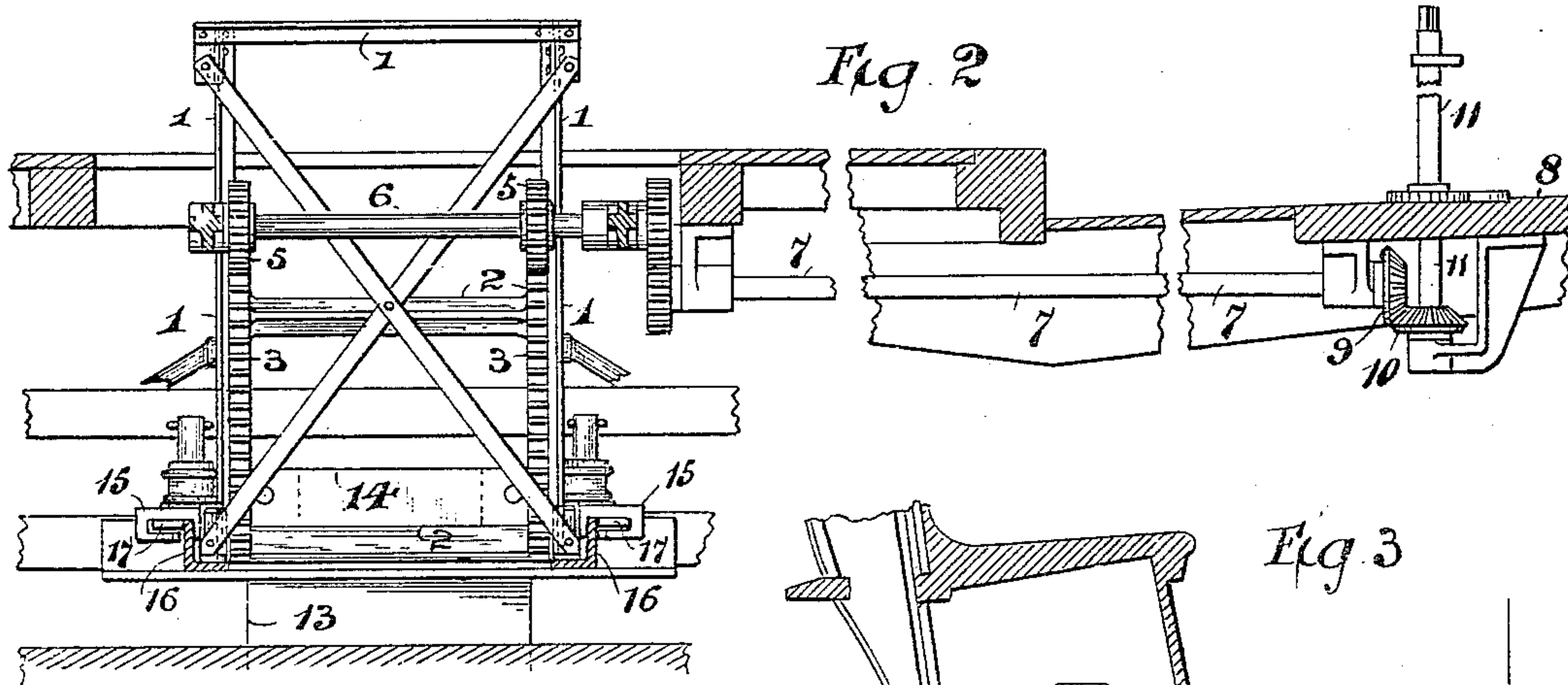
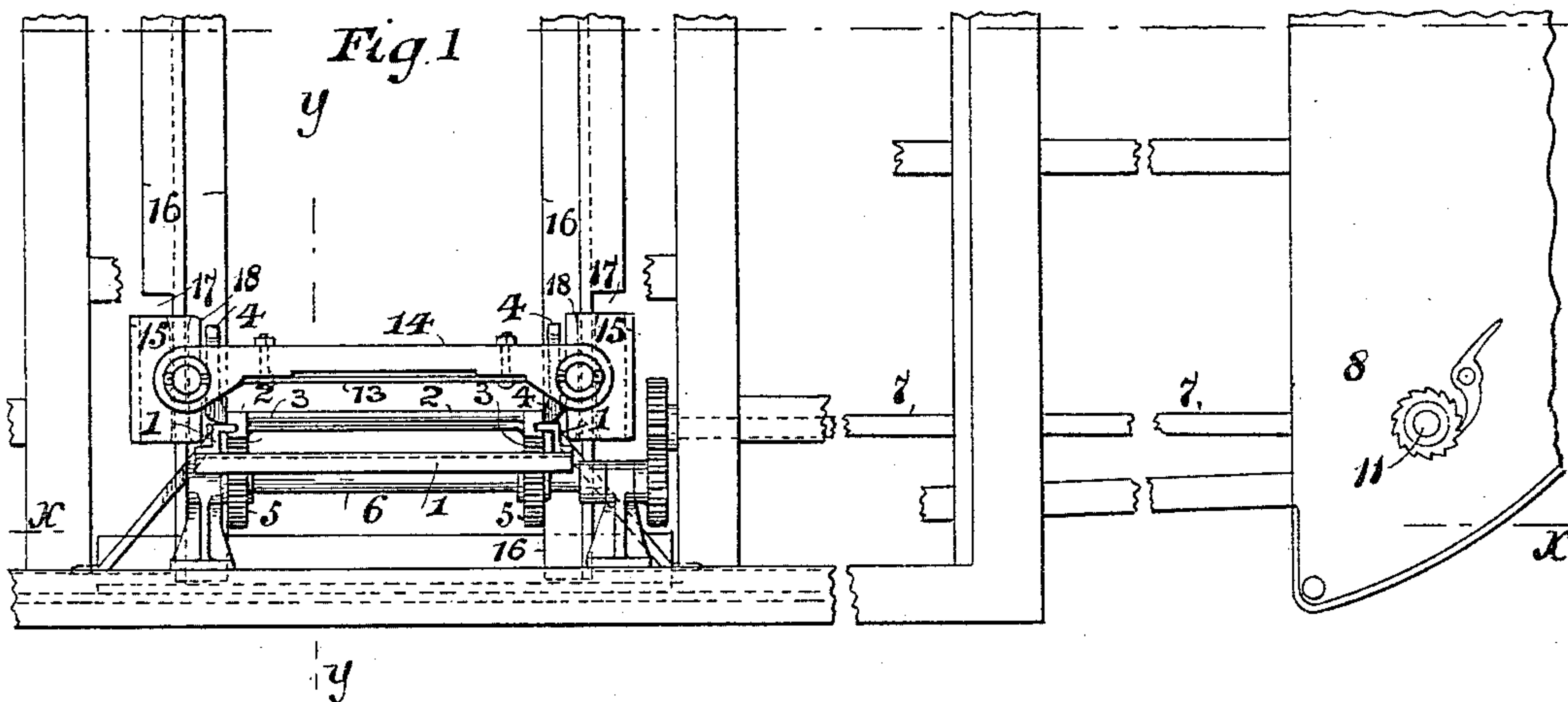
No. 616,585.

Patented Dec. 27, 1898.

F. S. PEARSON.
MECHANISM FOR STREET CARS.

(Application filed Sept. 14, 1897.)

(No Model.)



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UNITED STATES PATENT OFFICE.

FRED S. PEARSON, OF BOSTON, MASSACHUSETTS.

MECHANISM FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 616,585, dated December 27, 1898.

Application filed September 14, 1897. Serial No. 651,585. (No model.)

To all whom it may concern:

Be it known that I, FRED S. PEARSON, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State
5 of Massachusetts, have invented certain new and useful Improvements in Mechanism for Street-Cars, of which the following is a specification.

My improvement relates to those electric
10 railroads having the electric conductors in conduits or subways beneath the surface of the road and in which the electricity is conveyed to the motor on the car by plows or collectors depending from the car into the
15 conduits.

It sometimes occurs that the conduits do not extend the entire length of the road and that only a portion of the road is thus provided with the underground system of electrical propulsion, the other portion having the overhead-trolley system. In such case it is very desirable to run the same car over the entire road, over the section having the underground system as well as that having
25 the overhead-trolley system, and thus to transfer from one system of propulsion to the other. To accomplish this and run the car from the section having the conduit to that without the conduit, it is necessary to remove the electric plow or collector which hangs down into the conduit from the bottom of the car; and my improvement consists in mechanism for lifting and storing the collector on the car when the car is to be used on
30 a road not having the conduit or subway.

My improvement is designed particularly for use with those conduits having the improved trap or door described in my applications for Letters Patent filed September 14,
40 1897, Serial No. 651,584, and February 11, 1898, Serial No. 669,909, and in which the trap is situated near the side of the conduit and is opened automatically by the car the moment the collector is in position to be lifted up from the conduit onto the car.

In the accompanying drawings, illustrating my improvement, Figure 1 is a plan view of the lifting apparatus on the side of the car. Fig. 2 is a side elevation, partly in section,
50 through the line $x x$, Fig. 1. Fig. 3 is an end elevation, partly in section, through the line

$y y$, Fig. 1; and Fig. 4 is a detail, partly in section, through the line $z z$, Fig. 3.

On the floor of the car, under the seat, is erected a frame having the upright guide-
55 pieces 1 1. Across this frame and arranged to slide on the guide-pieces 1 is the carriage or lift by which the plow is raised, which consists of the upright sides 2, having the pinion-rack 3 on one edge, and the horizontal
60 arms 4 extending inward toward the center of the car or toward the plow-support 15. The lift is raised and lowered on the frame by the pinion-wheels 5 5, mounted on the shaft 6, journaled in the frame near its up-
65 per end, which gears into and is turned by the shaft 7, extending under the platform 8 of the car and operated through the bevel-gear 9 and 10 by the vertical shaft or spindle 11, placed on the end or platform of the car in
70 position to be operated by the driver or motorman.

As will be understood by the drawings, as the spindle 11 is turned in either direction the pinion-wheels 5 5 are correspondingly
75 turned on the shaft and engaging with the rack 3 on the sides 2 of the carriage move the latter up or down on the frame as is desired to raise or lower the plow or collector.

The electric plow or collector 12 is sus-
80 pended by the plate 13 from the cross-head 14, which rests at each end on the carriages 15, arranged to be supported and slide on the angle-slideways 16. As will be seen from Fig. 4, the under side of the carriages 15 infold
85 and inclose the upper flanges of this slideway, by which the carriages are held in place on the slideway and made to move evenly on the latter. To enable the carriages with the cross-head 14 to be lifted from the slideway
90 when the plow is to be raised, the upper flange is cut away, as shown at 17, at the end next to the lift 2, and at the same time to keep the carriage on the slideway and insure its sliding on the arms 4 the bottom of the carriage
95 is provided with a beveled projection 18, which rests against the side of the slideway 16.

The operation of the mechanism is as follows: When it is desired to lift the electric plow or collector from the conduit, the car-
100 riages 15, with the cross-head 14, from which the plow is suspended, are slid along the slide-

way 16 toward the side of the car and onto the arms 4 on the lift 2. The driver or motorman on the platform of the car, by means of the spindle 11, which engages with the shafts 7 and 6, then turns the pinions 5 5 in the rack 3 and raises the lift and with it the cross-head 14, resting on the arms 4, and thus lifts the plow or collector from the conduit and into the car. To lower the plow when the car is to be propelled by the underground system, it is only necessary to turn the spindle 11 in the proper direction and drop the plow into the conduit and then slide the cross-head and carriages along the slideway to the middle of the conduit.

When used with the conduits having my improved trap or door, the plow-support is automatically moved over to the side of the car, so as to rest on the arms 4 by the slot-rail, which branches off toward the side of the track; but the plow may be slid to the side of the conduit and of the car by any means found desirable.

With this improvement the plow or collector is readily raised from the conduit and stored under the seat of the car, where it is

out of the way until again lowered into the conduit for use.

What I claim is—

1. In street-cars, in combination, an elevator situated within the car at the side thereof, arranged to receive and hold the electric plow or cable-grip, by which the car is propelled, and mechanism by which the elevator is raised from either end of the car, whereby the plow or grip is raised from the conduit into the car, substantially as described.

2. In street-cars, in combination, an elevator situated within the car at the side thereof, arranged to receive and hold the electric plow or cable-grip by which the car is propelled; mechanism by which the elevator is raised from either end of the car; and means whereby the plow or grip is placed on the elevator, substantially as described.

Signed at New York city, in the county of New York and State of New York, this 3d day of August, A. D. 1897.

FRED S. PEARSON.

Witnesses:

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