

No. 776,615.

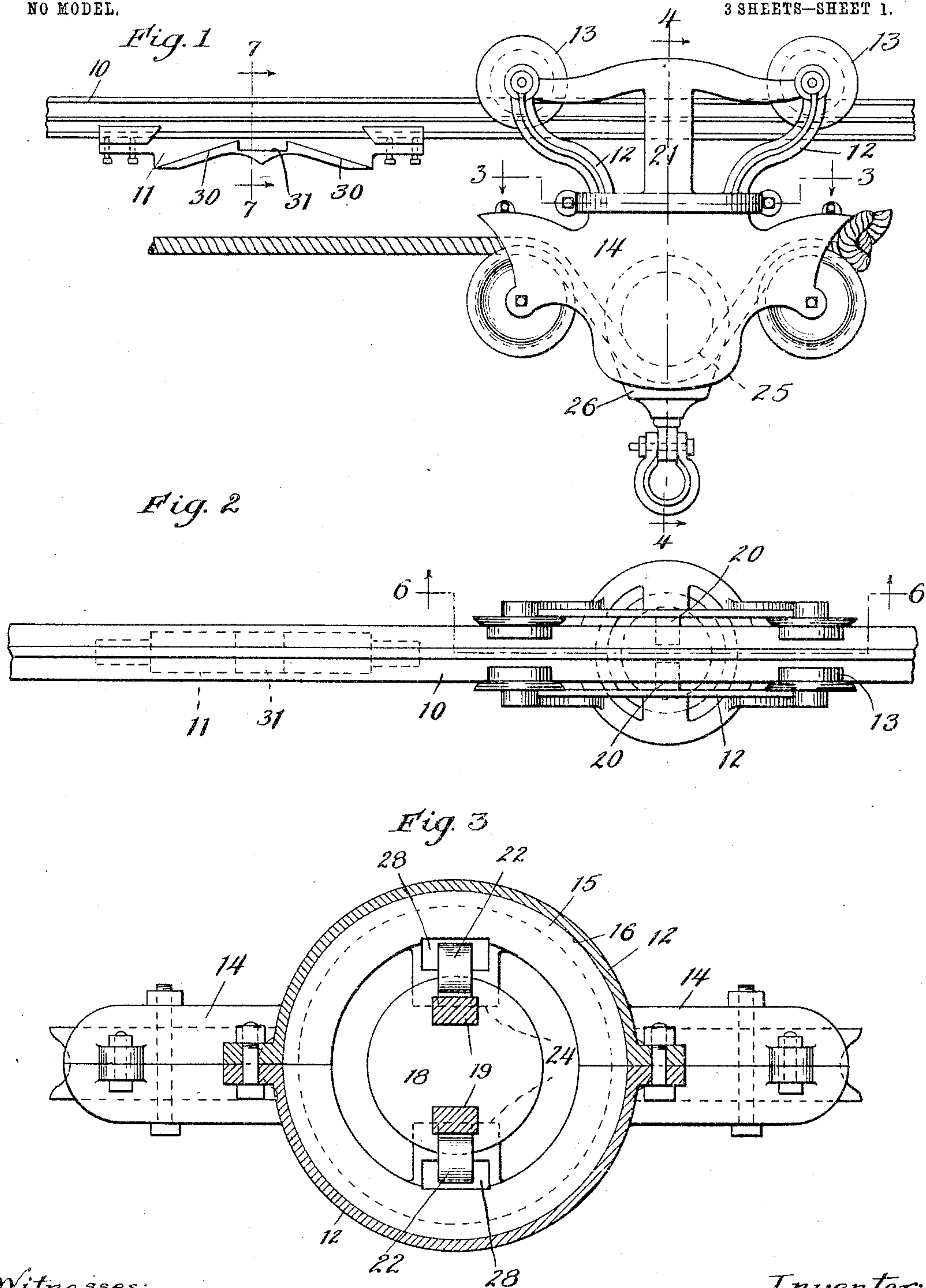
PATENTED DEC. 6, 1904.

L. E. PORTER.
HAY CARRIER.

APPLICATION FILED JULY 5, 1904.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses:

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3 SHEETS—SHEET 2.

Fig. 4

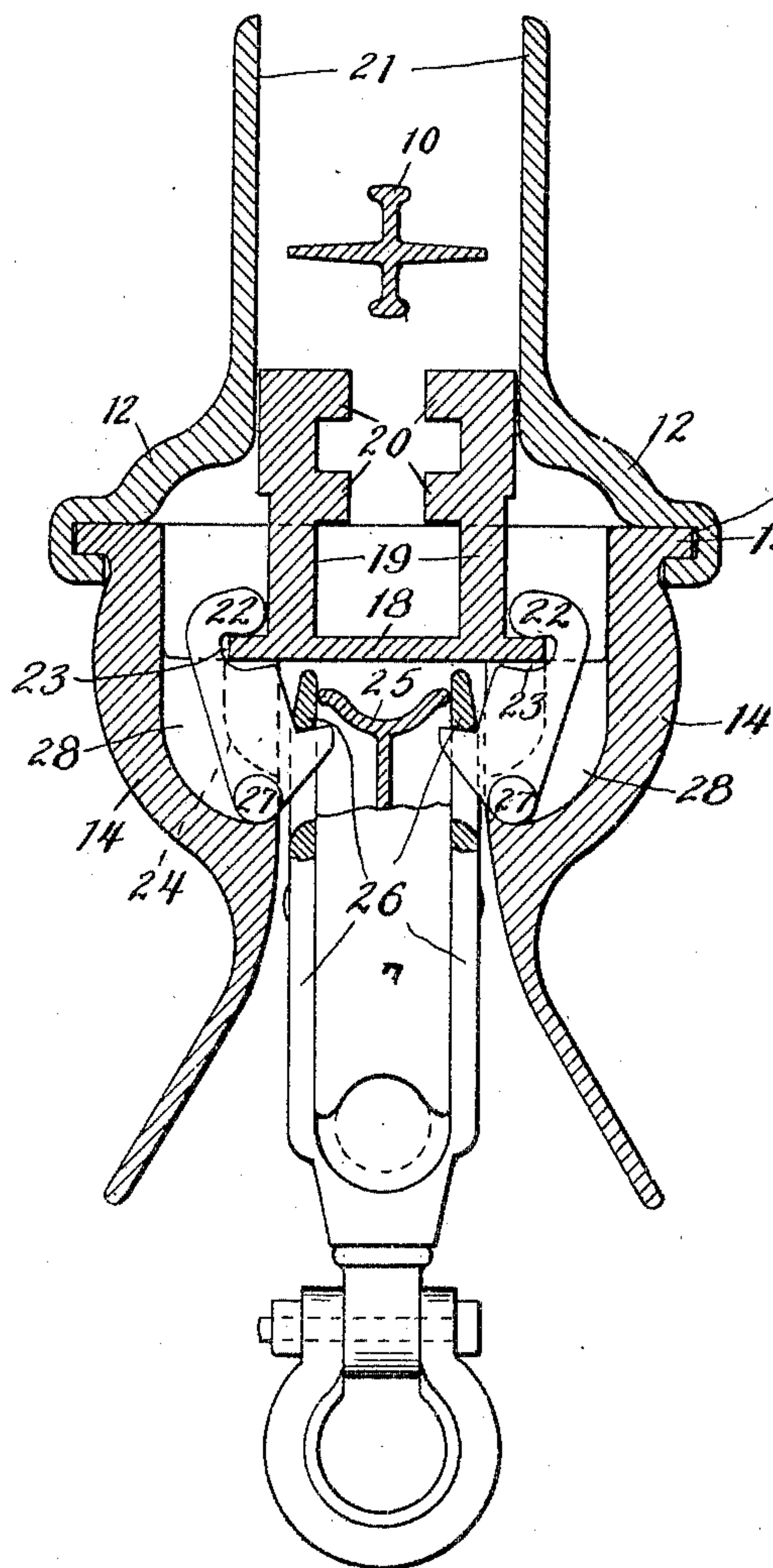
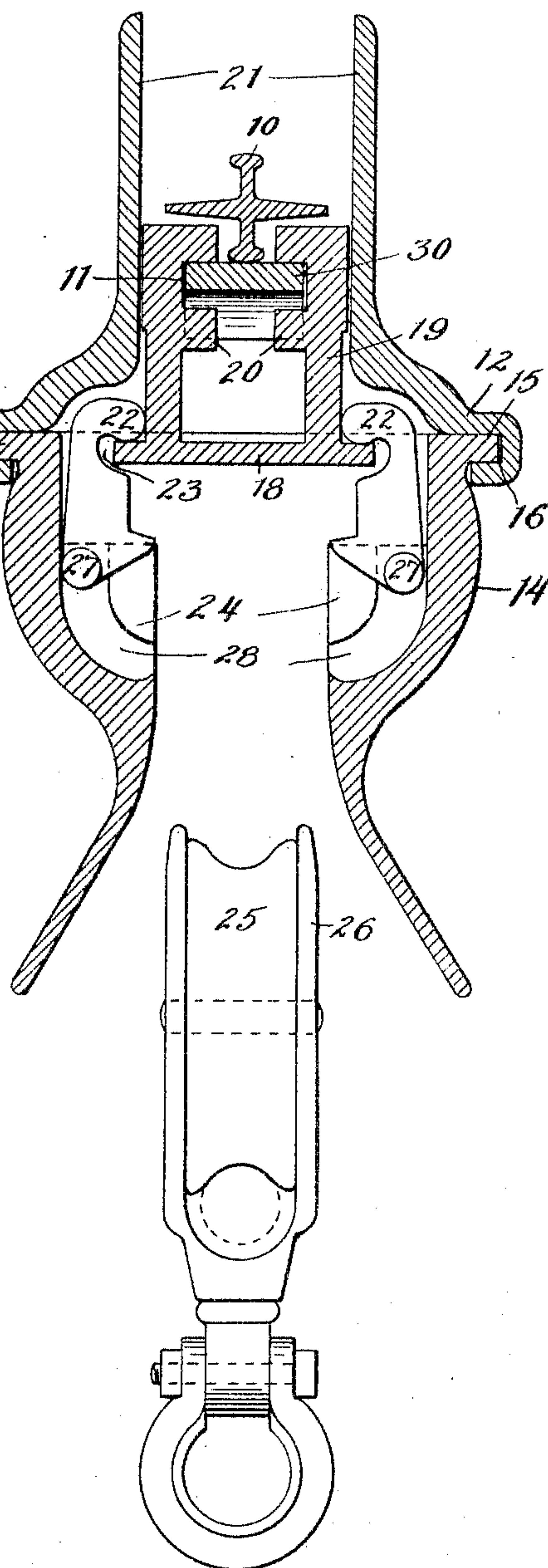


Fig. 5



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3 SHEETS—SHEET 3.

Fig. 6

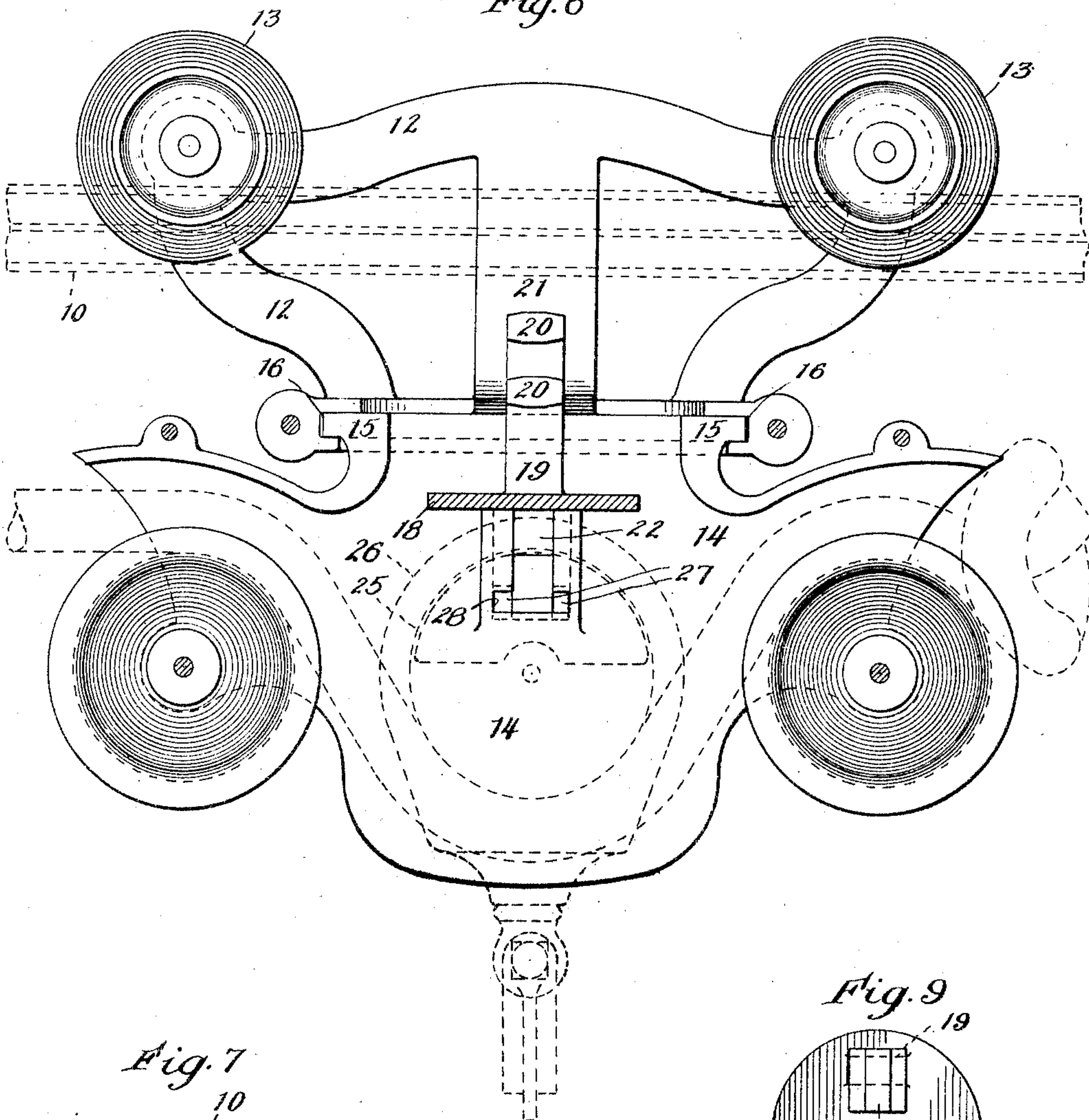


Fig. 7

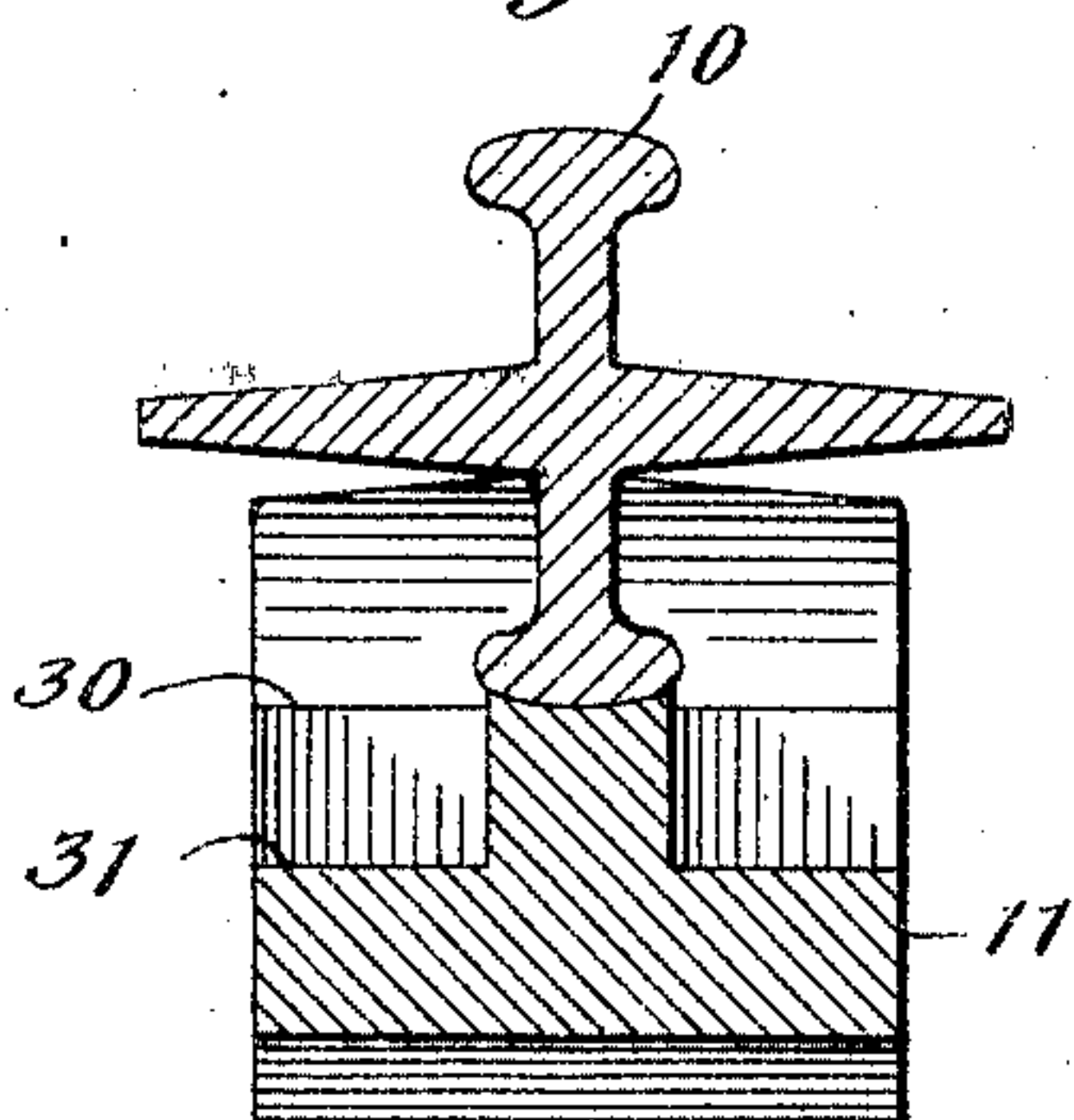


Fig. 8

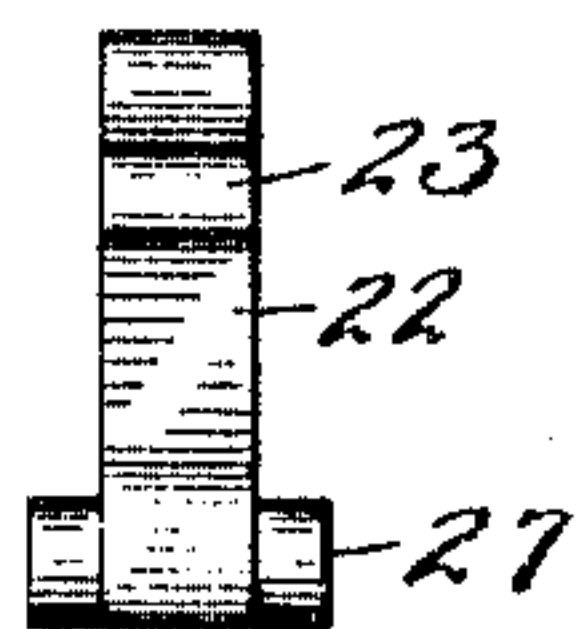
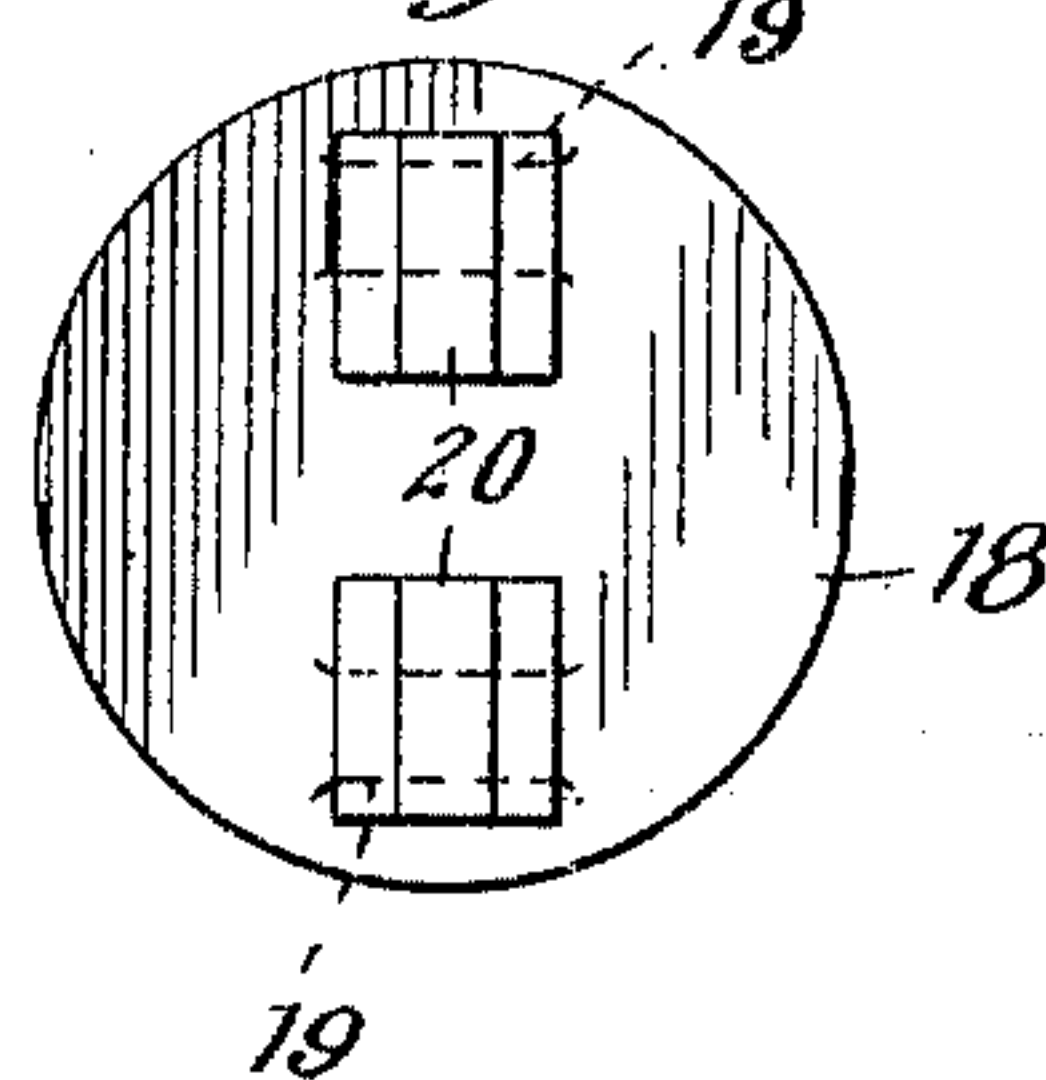


Fig. 9



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UNITED STATES PATENT OFFICE.

LINCOLN EWING PORTER, OF OTTAWA, ILLINOIS.

HAY-CARRIER.

SPECIFICATION forming part of Letters Patent No. 776,615, dated December 6, 1904.

Application filed July 5, 1904. Serial No. 215,384. (No model.)

To all whom it may concern:

Be it known that I, LINCOLN EWING PORTER, a citizen of the United States, residing in Ottawa, in the county of LaSalle and State of Illinois, have invented a new and useful Improvement in Hay-Carriers, of which the following is a specification.

This invention relates to the construction of hay-carriers and is an improvement upon previous constructions thereof.

In my improved carrier the rope-pulley frame or "turn-table," as it is sometimes called, is swiveled to the car or supporting part of the carrier in the usual manner and is permitted to turn to any angle desired, and the grappling-dogs by which the fork-pulley is engaged when carrying the load instead of being pivoted to the rope-pulley frame and swung on their pivots into and out of their acting positions are loosely confined between the drop-lock and the surrounding portions of the rope-pulley frame and are not attached to the latter in any way, but are supported by and move vertically with the drop-lock, which is provided with an outstanding rim or flange adapted to enter notches formed in the inner faces of the dogs. The dogs rest on the rim at all times, and they are shifted around the drop-lock with the swiveling of the rope-pulley frame, the latter being provided with guides adapted to compel such shifting and also being adapted when the drop-lock falls to force the lower end of the dogs into engagement with the fork-pulley.

The nature of the invention is fully disclosed in the accompanying drawings, in which—

Figure 1 is a side elevation, and Fig. 2 is a plan. Figs. 3 and 4 are sections on the lines 3 3 and 4 4 of Fig. 1. Fig. 5 is a section on the same line as Fig. 4, showing the parts in different positions from those given in said figure. Fig. 6 is a section on line 6 6 of Fig. 2. Fig. 7 is a section on line 7 7 of Fig. 1. Fig. 8 shows one of the dogs detached, and Fig. 9 is a plan view of the drop-lock.

In said drawings, 10 represents the track and 11 the trip-block or releasing device attached to the track. The car or supporting part of the carrier is shown at 12 and is sup-

ported upon wheels 13, running on the side flanges of the track. The rope-pulley frame is shown at 14 and is supported from the car by the engagement of its centrally-located outstanding circular rim 15 with the circular groove 16, formed in the depressed portion of the car. This swiveling attachment is adapted to permit the frame 14 to swing entirely around horizontally or to make any portion of a turn desired or necessary when loading or unloading.

The drop-lock consists of a circular disk or bottom 18 with upstanding arms 19, the latter having pairs of inwardly-extending projections 20, adapted to engage the trip-block. The horizontal side members 21 of the car-frame bear against the outer surfaces of the arms 19, and thus prevent any turning movement by the drop-lock. The bottom projects beyond the arms 19, as clearly shown at Figs. 4 and 5, and is preferably formed without any central opening.

Upon the outer edge of the bottom 18 and at opposite sides thereof I place the loose dogs 22, by which the fork-pulley or fork-pulley frame may be engaged when the load has been raised. The dogs are provided with notches 23 on their inner faces, adapted to set over the projecting edge of the bottom. By this construction the dogs are not only supported by the drop-lock, but they are compelled to move up and down with it in all its changes of position, the dogs being so confined by the surrounding rope-pulley frame that they cannot get off the rim, but remain constantly engaged and supported thereby.

In the swiveling movements of the rope-pulley frame the dogs are shifted around on the rim of the drop-lock, so they may perform their office no matter what the relative position of the drop-lock and rope-pulley frame may be at the time. This shifting is caused by the guides 24 forming vertical ways upon the inner surface of the rope-pulley frame adapted to move the dogs with them in whichever direction the swiveling occurs. The acting ends of the dogs are moved inward to engage the fork-pulley 25 or the frame 26 of that pulley by providing them with lateral studs 27 at each side and forming

corresponding grooves 28 in the guides 24, in which said studs may travel and which curve inward, as seen at Figs. 4 and 5. When the drop-lock moves down, the studs 27 and grooves 28, it will be seen, will force the lower ends of the dogs inward to their acting positions, and when the drop-lock moves upward the same ends will be withdrawn from their acting positions.

It will be noted that the inclined flanges 30 of the trip-block, upon which the projections 20 of the drop-lock ride, are cut away at 31. The purpose of this feature is to allow the drop-lock to fall back part way after it has been raised by the flanges and be locked in that position, so that the carrier cannot be moved in either direction until the fork-pulley is again raised and by its contact with the bottom 18 lifts the drop-lock sufficiently to release it from the depression 31. Any undesired movement of the carrier at times when it should be stationary is prevented by this construction.

It will be understood that the dogs fit the edge of the drop-lock bottom with sufficient looseness to permit the rocking movement taking place when they engage the fork-pulley and when they are disengaged therefrom.

I claim—

1. The combination in a hay-carrier, of a car, a rope-pulley frame swiveled to the car, a vertically-movable drop-lock, a fork-pulley, and dogs supported by the drop-lock and movable into engagement with the fork-pulley or its frame.

2. The combination in a hay-carrier, of a car, a rope-pulley frame swiveled to the car, a vertically-movable drop-lock, a fork-pulley, and dogs supported by the drop-lock and movable into engagement with the fork-pulley or its frame, said dogs being movably confined on a projecting part of the drop-lock by the rope-pulley frame.

3. The combination in a hay-carrier, of a car, a rope-pulley frame swiveled to the car, a vertically-movable drop-lock, a fork-pulley, and dogs for engaging the fork-pulley, such dogs being loosely confined between the drop-lock and the rope-pulley frame, and being supported by the former and positioned in part by the latter.

4. The combination in a hay-carrier, of a car, a rope-pulley frame swiveled to the car, a vertically-movable drop-lock, a fork-pulley, and dogs for engaging the fork-pulley, such dogs being loosely confined upon the projecting edge of the bottom of the drop-lock by the rope-pulley frame.

5. The combination in a hay-carrier, of a car,

a rope-pulley frame swiveled to the car, a vertically-movable drop-lock, a fork-pulley, and dogs supported by and receiving their vertical movement from the drop-lock, and means for forcing the dogs into engagement with the fork-pulley or its frame.

6. The combination in a hay-carrier, of a car, a rope-pulley frame swiveled to the car, a vertically-movable drop-lock, a fork-pulley, and dogs supported by and receiving their vertical movement from the drop-lock, and guiding devices upon the rope-pulley frame for putting the dogs into and out of engagement with the fork-pulley or its frame.

7. The combination in a hay-carrier, of the drop-lock, the swiveled rope-pulley frame, the fork-pulley and the dogs for grappling such fork-pulley, such dogs being carried by the drop-lock and movable around the same by the rope-pulley frame.

8. The combination in a hay-carrier, of the drop-lock, the swiveled rope-pulley frame, the fork-pulley and the dogs for grappling such fork-pulley, such dogs being carried upon the edge of the drop-lock bottom, and being shifted around such edge by the rope-pulley frame.

9. The combination in a hay-carrier, of the drop-lock, the swiveled rope-pulley frame, the fork-pulley and the dogs for grappling such fork-pulley, such dogs being carried by the drop-lock upon a projecting edge formed on the latter, and being shifted around such edge and also forced into action by the rope-pulley frame.

10. The combination in a hay-carrier, of a vertically-movable drop-lock, a fork-pulley, and dogs for grappling such pulley, such dogs moving vertically with the drop-lock, and means for forcing such dogs into and out of action.

11. The combination in a hay-carrier, of a vertically-movable drop-lock, a fork-pulley, and dogs for grappling such pulley, such dogs being vertically movable with the drop-lock, and means whereby such vertical movement causes the dogs to engage and disengage the fork-pulley.

12. The combination in a hay-carrier, of a vertically-movable drop-lock, a fork-pulley, and dogs for grappling such pulley, such dogs being vertically movable with the drop-lock, and a swiveled surrounding rope-pulley frame carrying means whereby the vertical movement of the dogs causes them to engage and disengage the fork-pulley.

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