

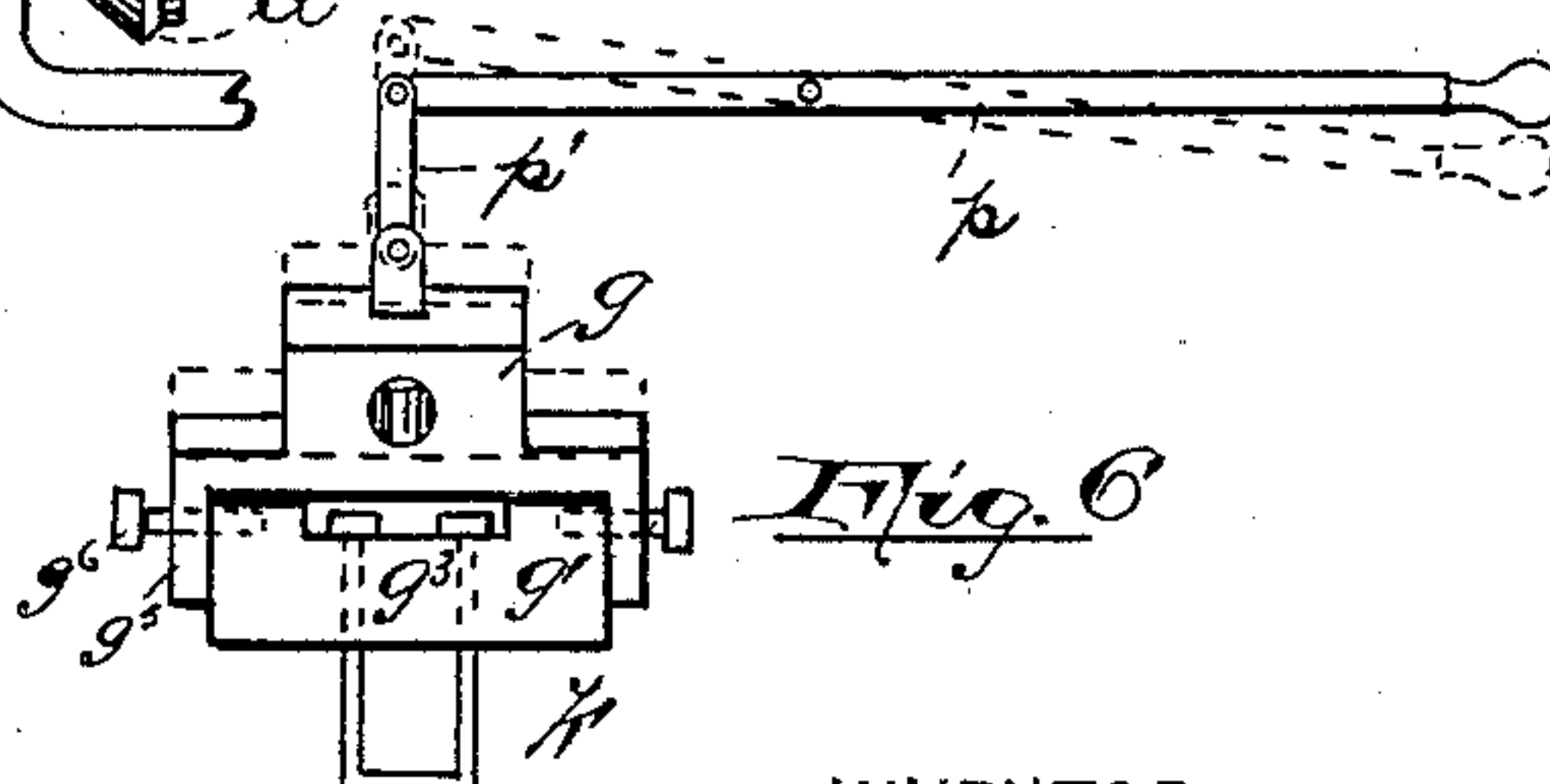
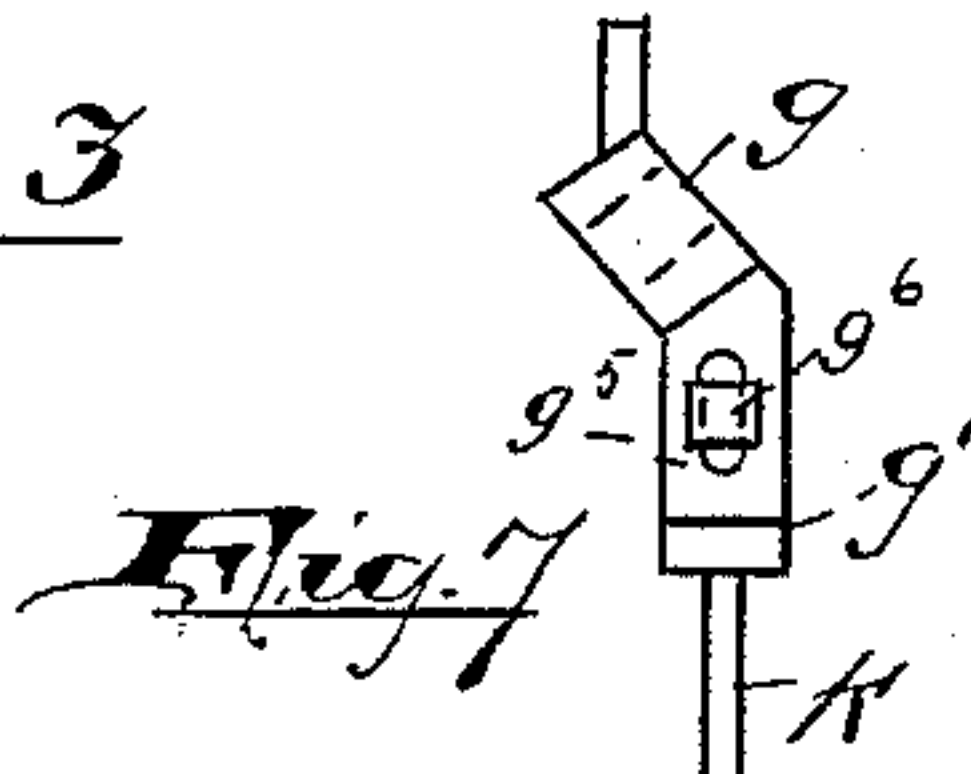
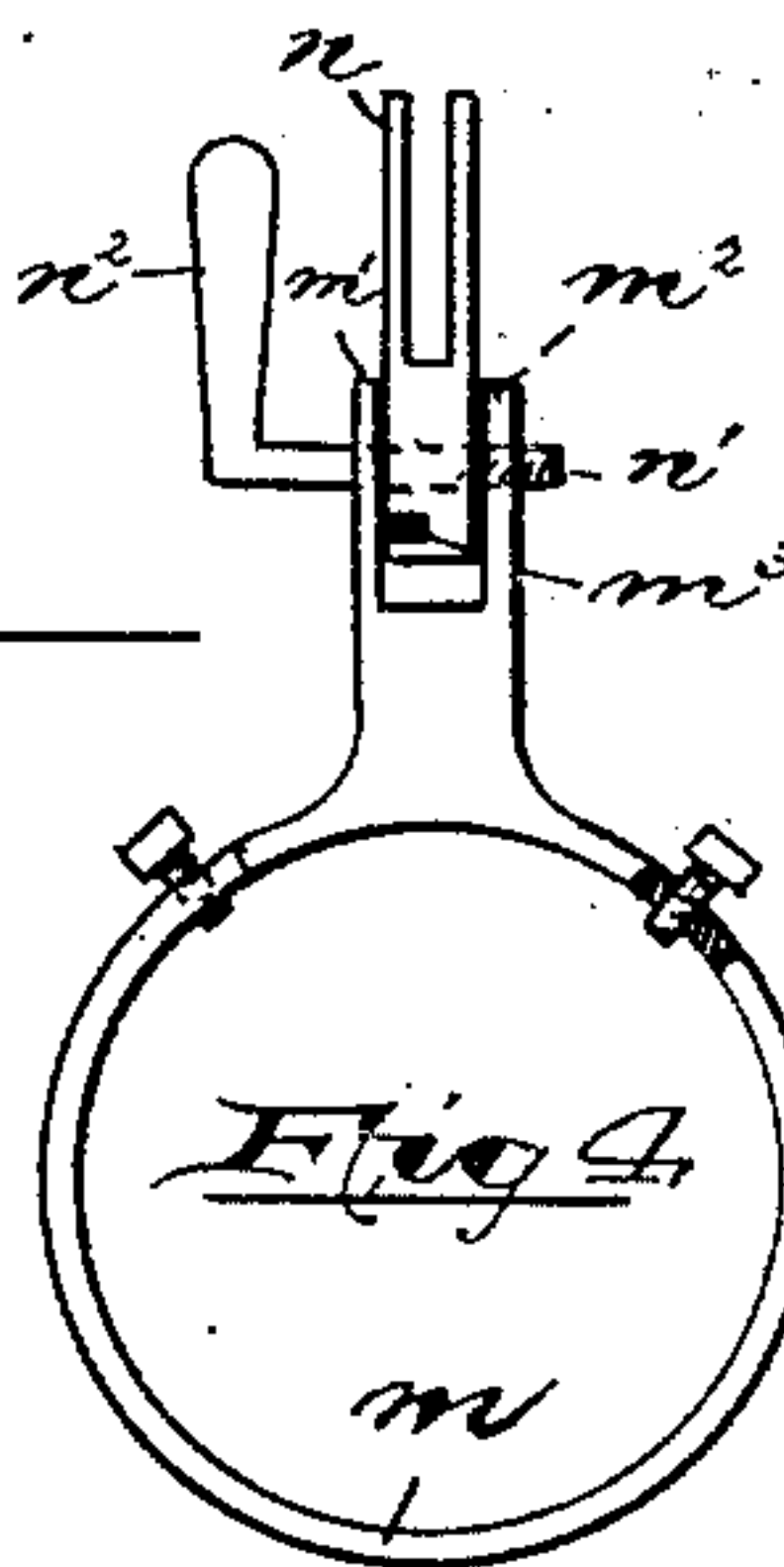
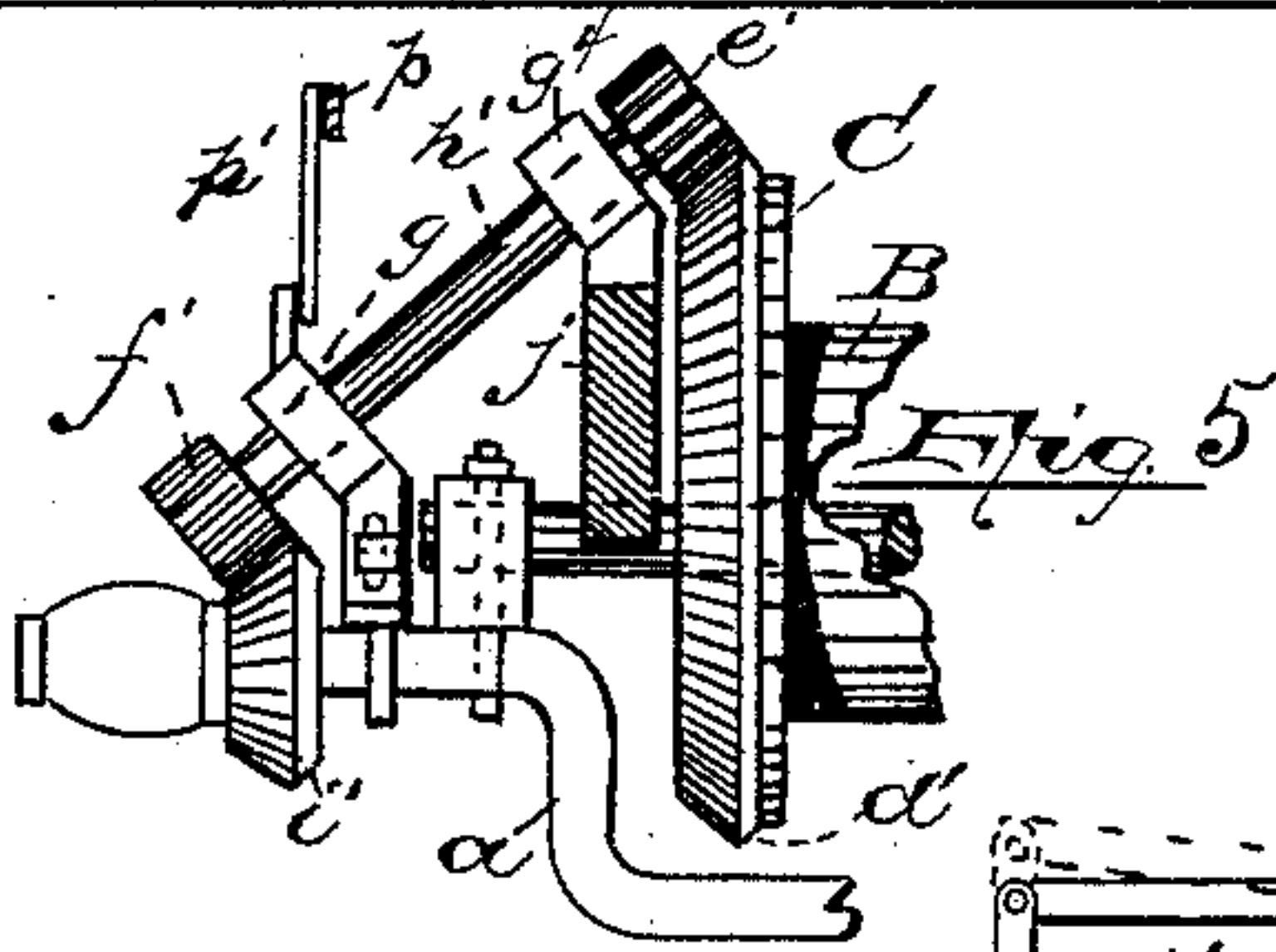
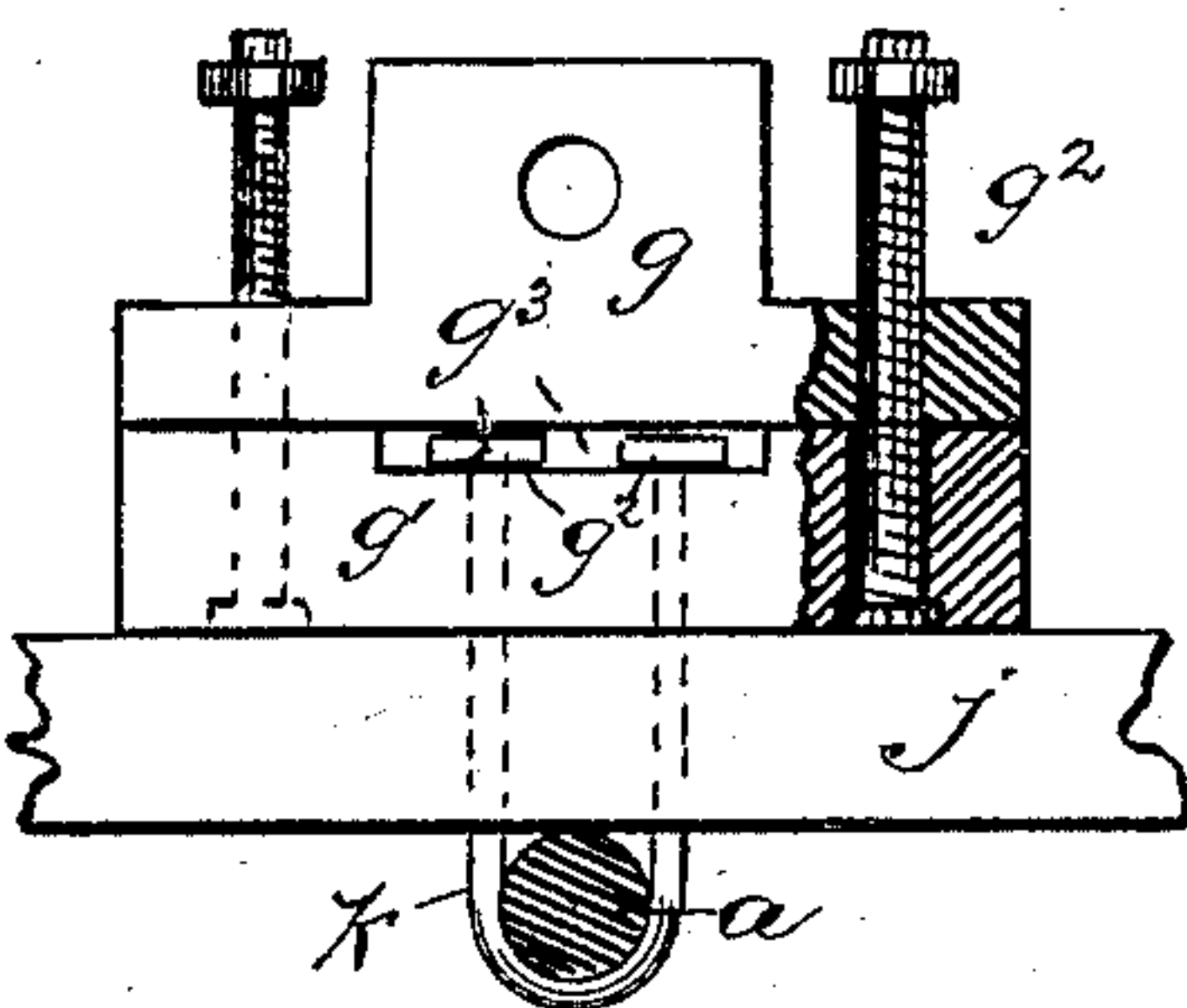
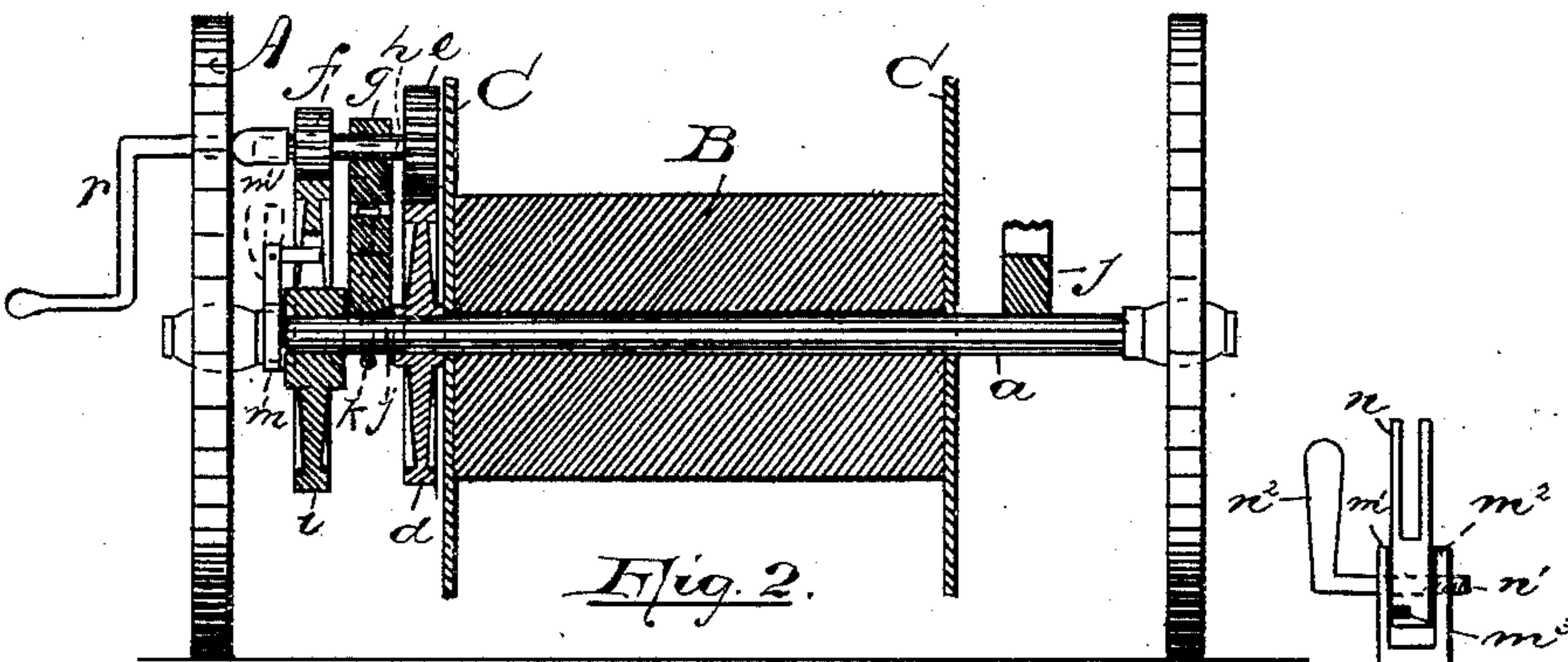
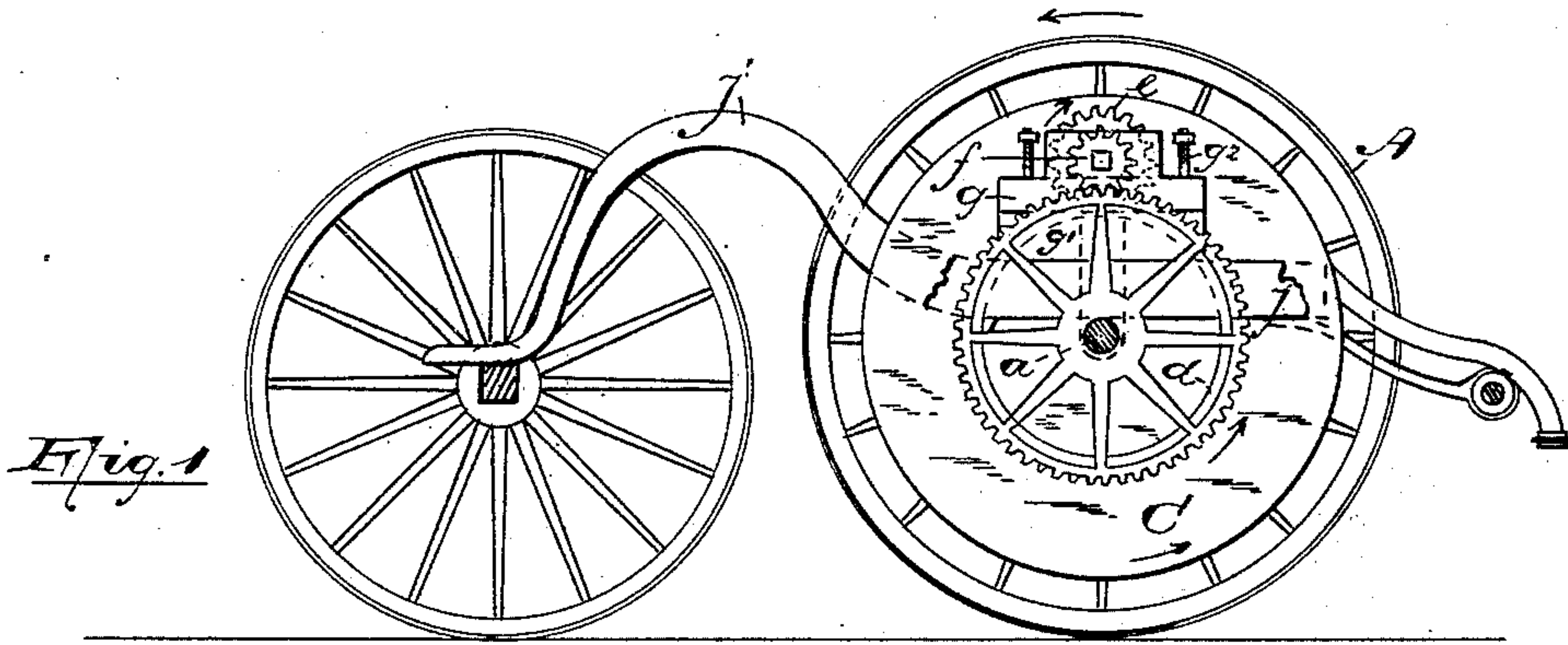
(No Model.)

E. S. McNAMARA.

HOSE CARRIAGE.

No. 354,205.

Patented Dec. 14, 1886.



WITNESSES:

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EDWARD S. McNAMARA, OF BELLEVILLE, NEW JERSEY.

HOSE-CARRIAGE.

SPECIFICATION forming part of Letters Patent No. 354,205, dated December 14, 1886.

Application filed April 3, 1886. Serial No. 197,665. (No model.)

To all whom it may concern:

Be it known that I, EDWARD S. McNAMARA, a citizen of the United States, residing at Belleville, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Hose-Carriages; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide a hose-carriage in which the ordinary forward motion of the wheels thereof as it is drawn by the horse is transmitted to the hose-reel, causing the same to turn in the same direction as the wheels.

The invention is further designed to secure a simple and cheap device by means of which the above result is accomplished, and which may be readily applied to any hose-carriage already in use without necessitating any radical change in its construction.

The said invention consists of a series of gear-wheels and pinions suitably journaled and arranged between the hose-reel and one of the wheels of the carriage, and adapted to cause the said reel to turn in the same direction as the actuating-wheel, and means whereby either the actuating carriage-wheel or the hose-reel, or both, are thrown into engagement with and disengaged from said gearing.

In the accompanying drawings, Figure 1 is a side elevation of the transmitting mechanism attached to a carriage, from which the wheels on one side are removed to more clearly show the relation of the parts of my invention. Fig. 2 is a section through the reel and gearing. Fig. 3 is a front elevation of the double journal-box. Fig. 4 is an elevation of the chuck or catching device. Fig. 5 is a view illustrating one arrangement and construction of the device when the hose-reel is placed above the axle or off the axial line thereof. Fig. 6 is a front elevation of the adjustable box shown in Fig. 5, and Fig. 7 is a side elevation of Fig. 6.

Similar reference-letters are used to designate like parts in each of the above-described views.

A in said drawings indicates the wheels of the carriage; B, the hose-reel, and C the side disks thereof.

Adjacent to one of the side disks is arranged a gear-wheel, *d*, turning loosely on the axle *a*, and meshing with said wheel is a pinion, *e*, placed preferably above the same, as indicated in Figs. 1 and 2. A second pinion, *f*, is arranged on the opposite side of the box *g*, being keyed on the shaft *h*, to which the pinion *e* is also keyed. A second gear-wheel, *i*, meshes with said pinion *f* and turns loosely on the shaft or axle *a*, similar to the inner gear-wheel, *d*. The box *g*, which is arranged between the gears *d* and *i*, consists of an upper portion, *g*, in which the shaft *h* is journaled, and a lower portion, *g'*, to which said upper portion is secured by bolts *g²*. The portion *g'* is firmly secured upon the frame *j*, as indicated in Figs. 1 and 2, or upon the axle, as in Fig. 5, by a strap, *k*, which passes through the frame and encircles the shaft or axle. The top of the lower portion, *g'*, is recessed at *g³*, to receive the nuts *g²* on the ends of the strap. The object of thus dividing the box is to facilitate its adjustment to the carriage; but any box of suitable construction may be used in lieu of that described above.

An oil-cup may be arranged upon the box to lubricate the shaft *h*.

By means of the gear-wheels and pinions and their arrangement the movement of one gear-wheel, as *i*, causes a corresponding movement in the other of said gear-wheels, as *d*, and thus is adapted to transmit the motion of the carriage-wheels to the hose-reel.

To connect and disconnect the transmitting-gearing with the carriage-wheel A, the device shown in Figs. 1, 2, and 4 may be used, consisting of a collar, *m*, adapted to encircle the wheel-hub and provided with arms *m'* *m²*, made preferably of spring metal, between which a bifurcated fork or catch, *n*, is pivoted on a pin, *n'*, provided with a handle, *n²*, by means of which the said fork is turned. A pin or projection, *m³*, limits the movement of the catch. As hereinbefore stated, the gear-wheels are preferably placed between the reel and one of the wheels A of the carriage, and when the collar *m* is adjusted on the hub of said wheel, as indicated in Fig. 2, the gear-wheel *d* is sufficiently near said collar to enable the bifur-

cated fork to engage with one of the spokes of said gear-wheel when turned down, as indicated in said Fig. 2. As the collar and pivoted fork are secured to and turn with the carriage-wheel when said fork is thrown into engagement with the wheel *i*, the movement of the said carriage-wheel is communicated to the wheel *i*, and through the pinions *f* and *e* to the gear-wheel *d*, the wheel *d* turning in the same direction as the gear *i* and the carriage-wheel.

To communicate the movement of the gear-wheel *d* to the reel, a device similar to the pivoted fork, or operating for the same purpose, may be used; or said wheel may be bolted permanently to the reel or the side disks thereof.

The construction hereinbefore described is especially adapted for hose-carriages in which the reel turns on or in a line with the axle of the carriage; but in those carriages in which the reel is placed above the axle it is necessary to change the construction of the transmitting mechanism to meet the change of position of the reel.

In Figs. 5, 6, and 7 is shown one method of construction by which the motion of the wheel is communicated to the reel when off the axial line. In said figures, *d'* and *i'* indicate bevel-gearing, the larger of which, *d'*, is attached to or connected with the reel, the smaller wheel, *i'*, being keyed on the hub of one of the carriage-wheels. Connecting said bevel-gearing is a shaft, *h'*, carrying pinions *f'* *e'*, that mesh with the wheels *i'* *d'*, and journaled in boxes *g g'*, one of which is adjustable, to enable either of said pinions to be disengaged from said bevel-gearing.

Figs. 6 and 7 illustrate in detail one form of an adjustable box, in which the upper portion, *g*, in which the shaft is journaled, is provided with slotted arms *g^s* and bolts *g^b*, screwed into the lower portion, *g'*, through said slotted arms. The lower portion, *g'*, is securely bolted to the axle by the strap *k*, and the upper portion adjustably secured thereto, as above described, so that when desirable the parts may be thrown into operative engagement.

Instead of the large bevel gear-wheels, spur-gearing may be used and bevel-gear pinions substituted for the spur-pinions.

To raise and lower the adjustable portion of the box, a lever, *p*, pivotally secured to the carriage and extending to within convenient reaching distance of the driver, may be employed, the said lever being connected with the box by a link, *p'*.

I am aware that many variations may be made in the construction of my device, and therefore do not wish to limit the same to the exact forms illustrated in the drawings or described herein.

The great advantage of my improved hose-carriage is that the ordinary forward motion of the same is utilized in reeling on the hose, the carriage passing over or alongside of the hose when on the ground; or the hose may be reeled by being drawn over the ground behind

the carriage, as by varying the relative proportions of the gear-wheels considerable power is obtained. As indicated in Fig. 2, the end of the shaft *h* is squared to receive a crank, *r*, by means of which the hose may be reeled while the carriage is housed.

As the idea of employing the motion of the wheels of a hose-carriage to reel on the hose is not entirely original with me, I do not therefore claim, broadly, means for communicating any movement of said wheels to the reel, but wish to claim such devices as will communicate the motion of the wheels to the reel when the carriage is moving forward only, so that it will not be necessary to back the cart under any circumstances, either to reel or unreel the hose.

In unreeling the hose from my carriage the reel turns freely, the wheel being disconnected from the gearing, which, as the hose is unreeling, preferably turns with the reel, and provides enough friction and resistance to prevent the reel from turning too rapidly. By simply holding one end of the hose or attaching the same to a fixed object and moving the carriage forward, the hose is unreeling with great facility. To reel on the hose, the carriage is turned around, the wheel and gearing thrown into engagement, and by attaching one end of the hose to the reel and moving back over or alongside of the hose as it lies upon the ground the same forward motion of the carriage causes the reeling of the hose upon the reel. Thus it will be apparent that there is no inconvenience attending either the reeling or unreeling of the hose, as is found in those carriages which can only reel on the hose by backing the carriage, which is necessarily very slow, and where saving of time is important, and especially so at a fire, it is essential that no obstacle interfere with the movements of the firemen, and that the hose be readily and quickly transported from place to place.

Another advantage which results from my construction is that when necessary the length of hose may be dragged bodily over the ground, the hose being reeled at the same time and the carriage moving forward. This is specially useful in separating lengths of hose that have become somewhat tangled together.

Having thus described my invention, I desire to claim the following:

1. In a hose-carriage, in combination, a hose-reel, gear-wheels *d i*, one of which is secured to said reel, a journal-box arranged between said gear-wheels, pinions *f e*, meshing with said gear-wheels and journaled in said box, and means for connecting the other of said gear-wheels with one of the carriage-wheels and disconnecting said gear-wheel therefrom, for the purpose set forth.

2. In a hose-carriage, in combination, a reel, a cog-wheel secured to said reel, a cog-wheel arranged independently of said reel, pinions meshing with each of said cog-wheels, a shaft on which each of said pinions is keyed, and a pivoted catch connected and turning with a wheel

of said carriage, and adapted to be thrown into engagement with and disengaged from said independent cog-wheel, substantially as and for the purposes set forth.

- 5 3. In a hose-carriage, in combination, a reel, a cog-wheel secured to said reel, a cog-wheel arranged independently of said reel, a double journal-box arranged between said cog-wheels, consisting of an upper and lower portion, sub-
10 stantially as set forth, pinions meshing with said oppositely-arranged cog-wheels and journaled in the upper portion of said box, a collar

secured to the hub of one of the carriage-wheels and turning therewith, and a bifurcated fork pivotally secured to said collar, all said parts 15 being arranged for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of March, 1886.

EDWARD S. McNAMARA.

Witnesses:

FREDK. F. CAMPBELL,
DANIEL J. McMAHON.