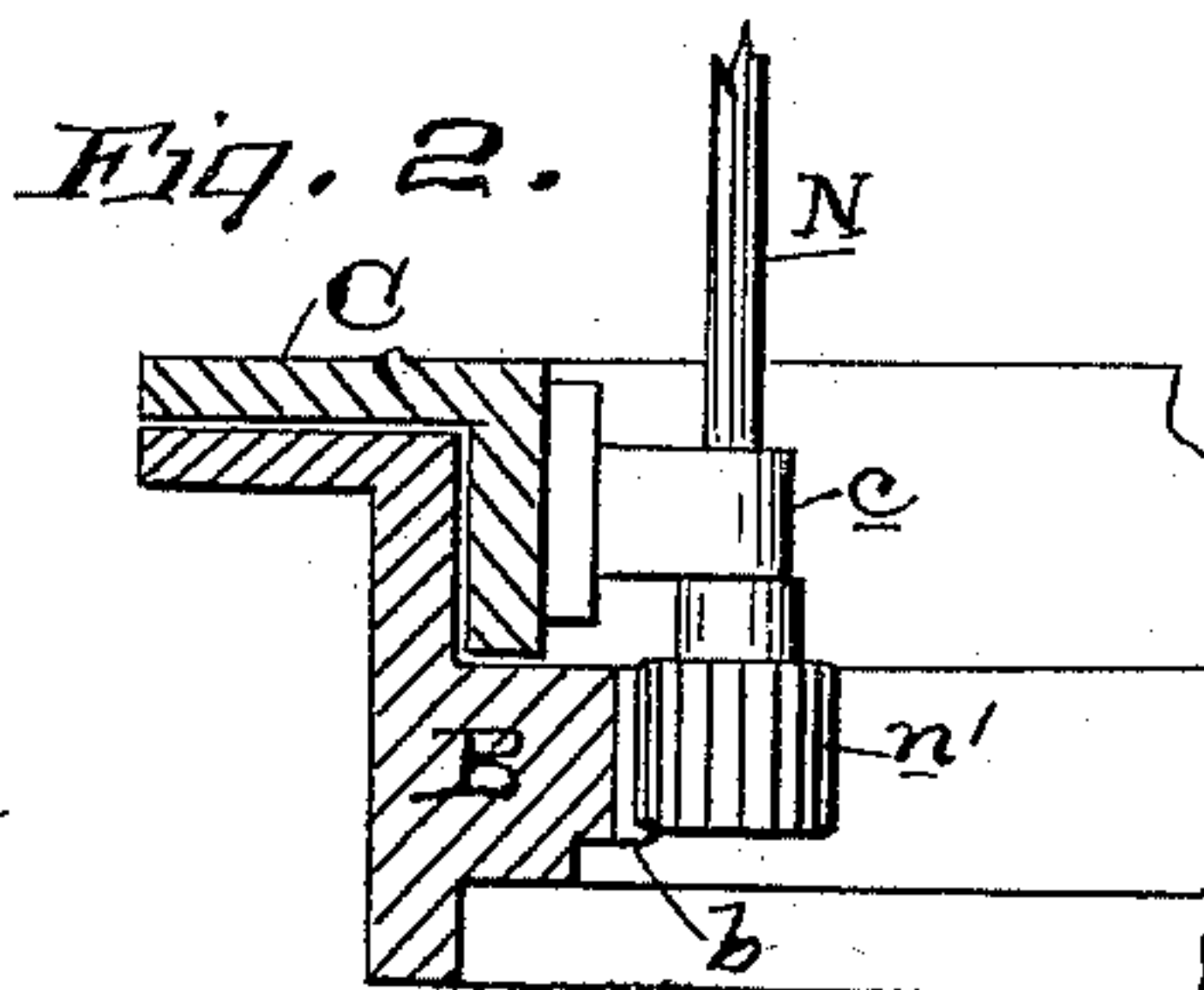
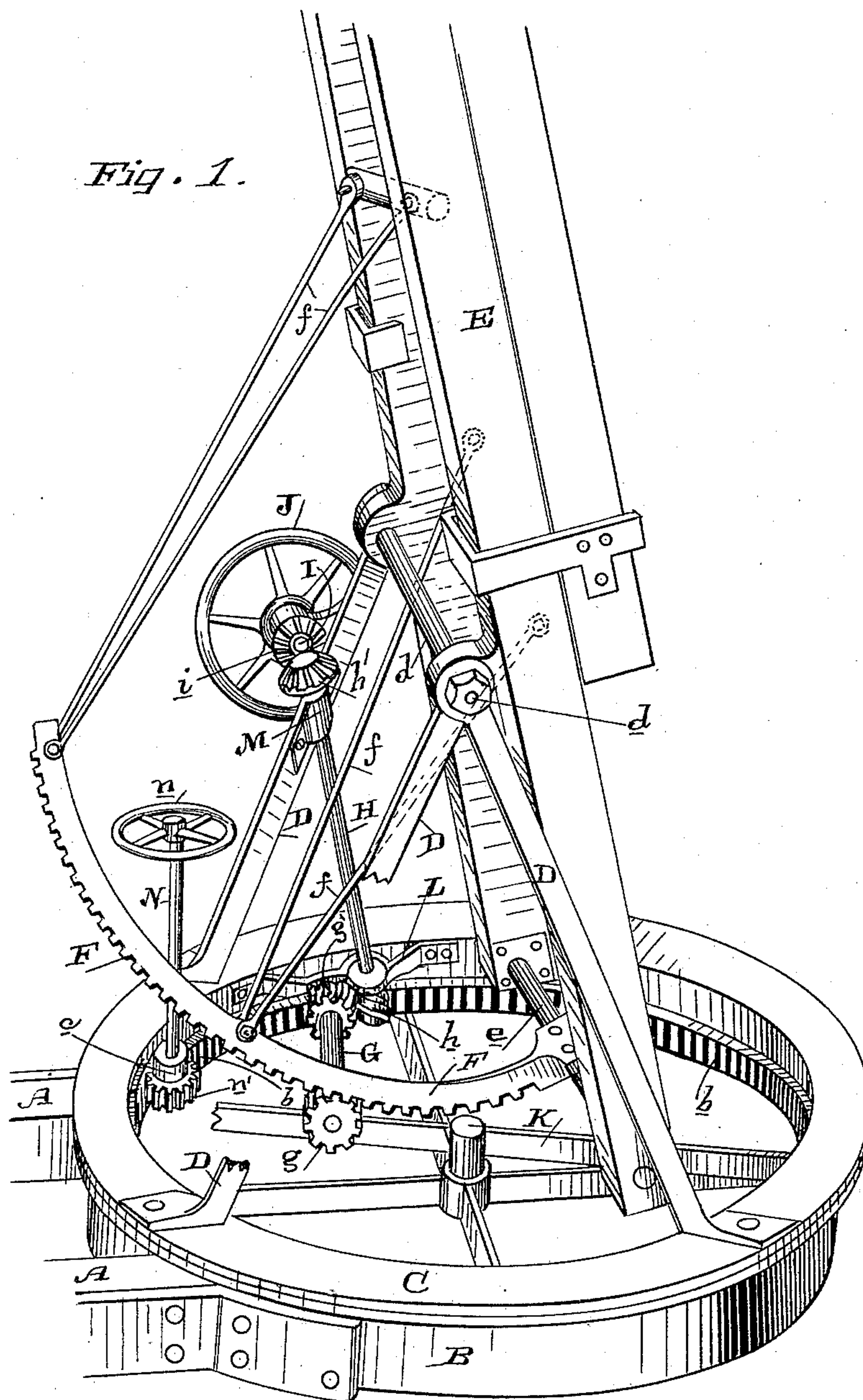


(No Model.)

J. E. FURRY.
FIRE LADDER TRUCK.

No. 409,835.

Patented Aug. 27, 1889.



Witnesses,
Geo. H. Strong
J. H. Nurse

Inventor,
John E. Barry,
By Dewey & Co. attys

UNITED STATES PATENT OFFICE.

JOHN ELLROY FURRY, OF STOCKTON, CALIFORNIA.

FIRE-LADDER TRUCK.

SPECIFICATION forming part of Letters Patent No. 409,835, dated August 27, 1889.

Application filed April 24, 1889. Serial No. 308,484. (No model.)

To all whom it may concern:

Be it known that I, JOHN ELLROY FURRY, of the city of Stockton, county of San Joaquin, State of California, have invented an Improvement in Fire-Ladder Trucks; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of fire-ladder trucks in which the main ladder is hinged to a turn-table and is adapted to be raised by means of suitable power-transmitting mechanism.

My invention consists in the novel manner of mounting the ladder, the novel mechanism for raising and lowering it, and the novel mechanism for turning it to required position, all as hereinafter fully described.

The object of my invention is to provide simple and effective mechanism for handling the main ladder of a fire-truck, one man only being required to manipulate it, both to raise and lower it and to turn it to required position.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a perspective view of my invention. Fig. 2 is a detail section showing how the fixed table-support and the turn-table are united and the latter operated.

A is a portion of the truck-frame, to one end of which is fixed the table-support B. Upon this is mounted, as shown in Fig. 2, the turn-table C. From the turn-table rise the standards D, in the upper portion of which is pivoted or hinged at *d* the ladder E. The lower end of this ladder extends below its pivotal center and has a cross-bar or shaft *e*, to which is firmly fixed one end of a curved rack or toothed segment F, which is further connected with the ladder by the braces *f*. Now, by engaging this curved rack or toothed segment by suitable gearing so as to move it back and forth the ladder will be raised or lowered. This engagement may be direct, or it may be, as here shown, by means of a pinion *g* on a counter-shaft G, the other end of which carries a worm-gear *g'*, with which meshes a worm *h* on the lower end of a shaft H, the upper end of which carries a bevel-pinion *h'*, with which meshes a bevel-pinion *i* on a shaft I, the outer end of which has a

crank-wheel J. The counter-shaft G is mounted at its inner end upon a cross-bar K, carried by the turn-table C, and its outer end, as well as the lower end of the shaft H, is carried in a bearing-bracket L, secured to the inner surface of the rim of said turn-table. The upper end of shaft H is carried by a bearing M on one of the standards D. Thus by operating the crank-wheel J the ladder may be raised or lowered. In order to turn it to proper position, I have a vertical shaft N mounted in a bearing *c* on the turn-table. This shaft has on its upper end a crank-wheel *n* and on its lower end a pinion *n'*, which engage a fixed rack *b* on the fixed table-support B. By operating the crank-wheel *n* the table C is turned, carrying the ladder with it, and as all the operative mechanism is carried by the turn-table everything moves with it and all the parts remain in relative position, allowing one man to manipulate the whole device and without changing his position.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a fire-ladder truck, the hinged or pivoted ladder, in combination with the curved rack or toothed segment secured to the ladder, and gearing for operating said rack or segment, consisting of the counter-shaft with its pinion and worm-gear, the shaft H, with its worm and pinion, and the shaft I, with its pinion and crank-wheel, substantially as described.

2. In a fire-ladder truck, the turn-table, the standards thereon, and the ladder pivoted to said standards, in combination with the curved rack or toothed segment secured to the ladder, the counter-shaft G, mounted in bearings on the turn-table and having a pinion on one end and a worm-gear on the other end, the shaft H, mounted in bearings on the turn-table and standards thereof and having a worm on one end and a bevel-pinion on the other end, and the shaft I, mounted on the standard and having a bevel-pinion on one end and a crank-wheel on the other end, substantially as described.

3. In a fire-ladder truck, the combination of the fixed ladder-support having the fixed rack on its inner surface, the turn-table mounted

on said support, the standards on the turn-
table, the ladder pivoted to the standards, the
curved rack or toothed segment secured to the
ladder, the shafts G, H, and I, carried by the
5 turn-table and having the pinions, worm-gear,
worm, and crank-wheel, whereby the ladder
is raised and lowered, and the shaft N, car-
ried by the turn-table and having the pinion
and crank-wheel, whereby the ladder is turned

to position, all arranged and adapted to op- 10
erate substantially as described.

In witness whereof I have hereunto set my
hand.

JOHN ELLROY FURRY.

Witnesses:

F. E. DUNLAP,
A. S. VISCHER.