

No. 724,881.

PATENTED APR. 7, 1903.

O. O. JONES.  
ELEVATED CARRIER.

APPLICATION FILED MAY 5, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

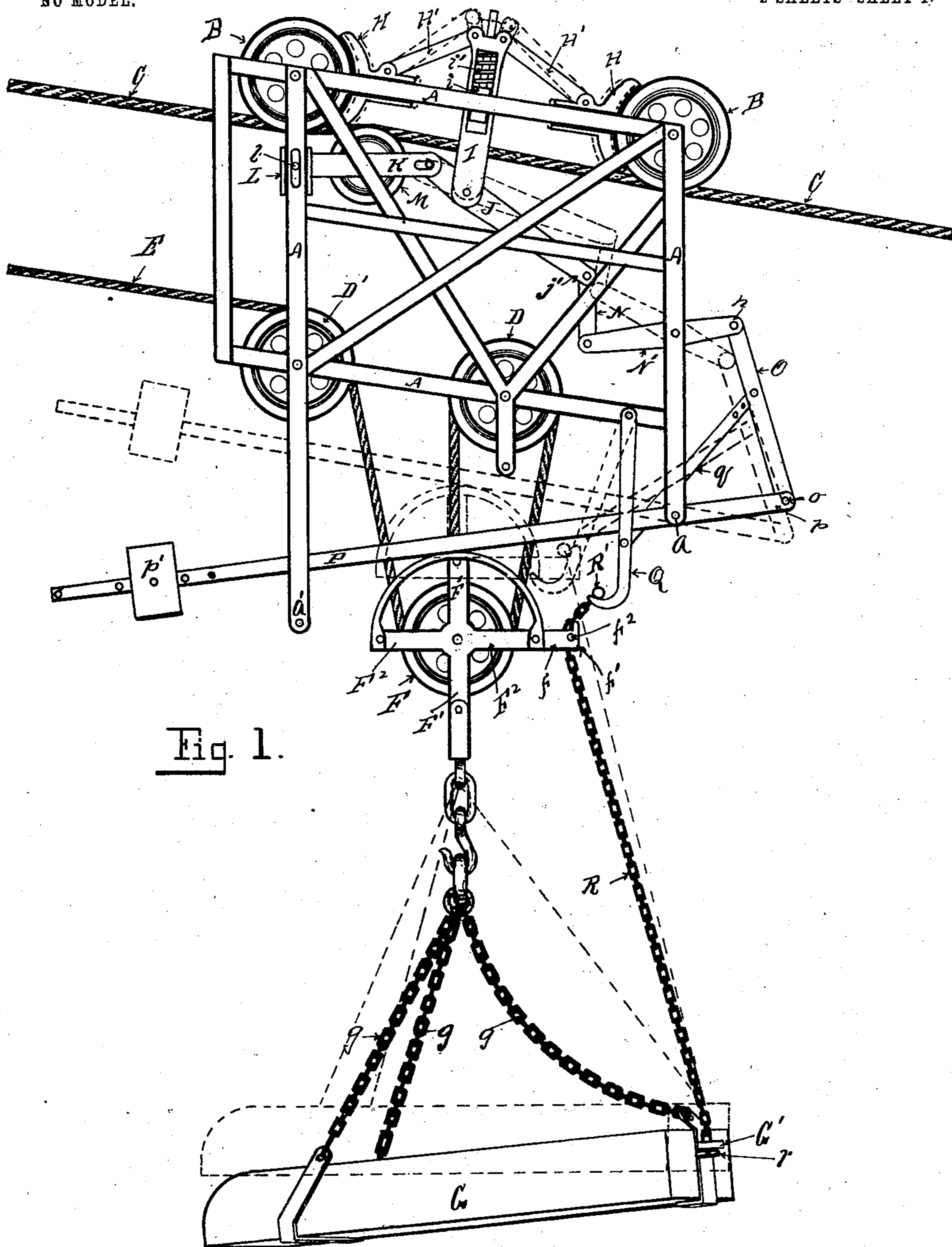


Fig. 1.

Witnesses.  
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Inventor.  
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By *H. Sturgeon*  
*Atty.*

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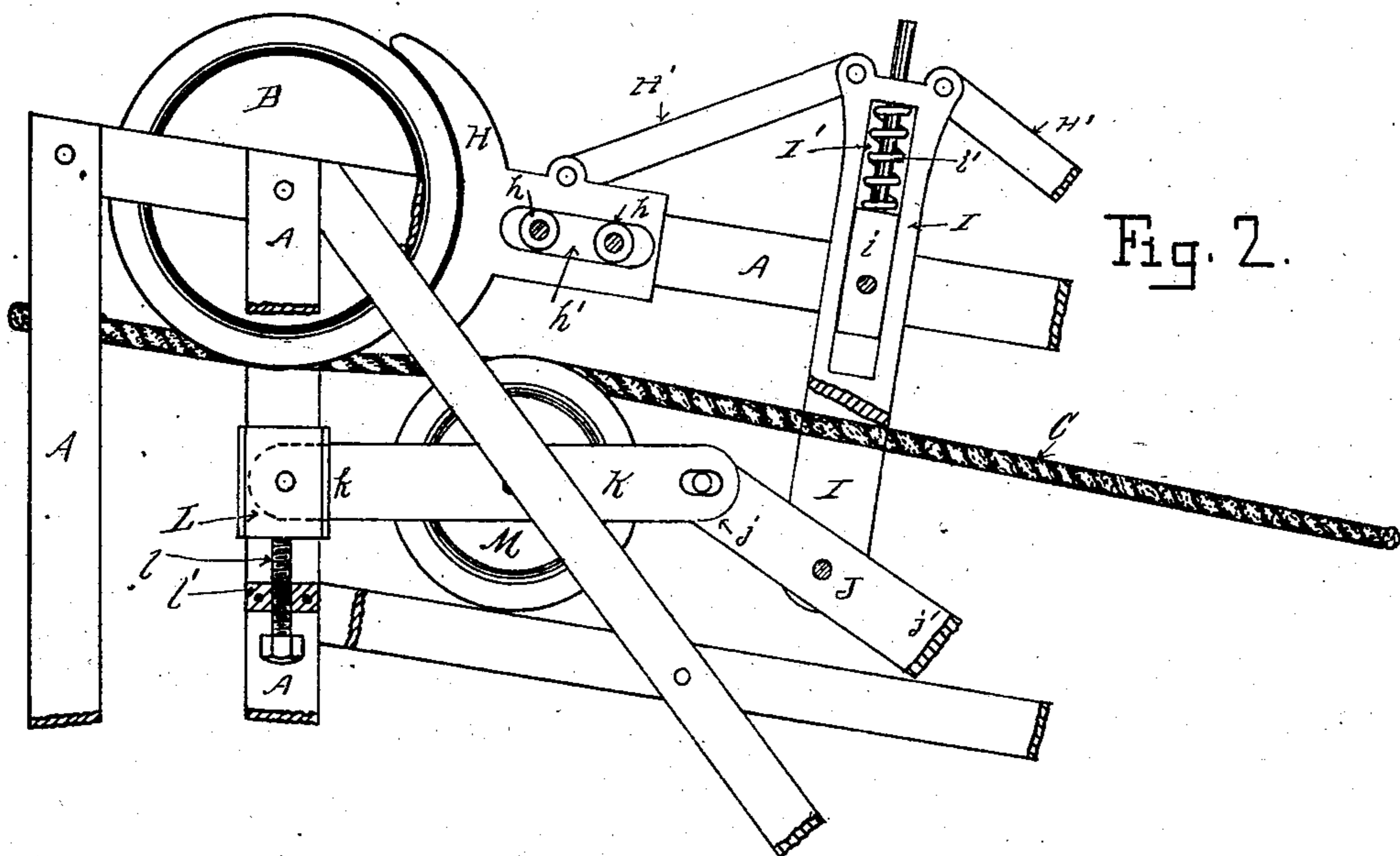
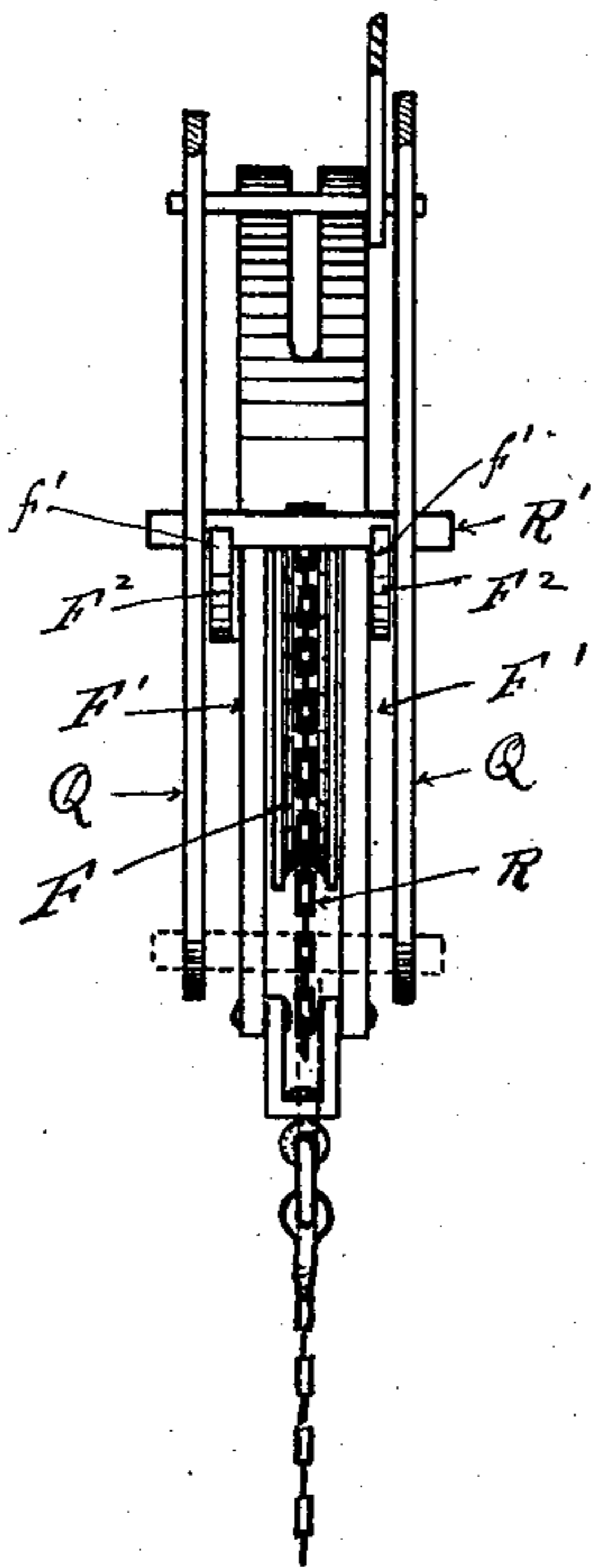


Fig. 3.



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# UNITED STATES PATENT OFFICE.

OWEN O. JONES, OF POULTNEY, VERMONT.

## ELEVATED CARRIER.

SPECIFICATION forming part of Letters Patent No. 724,881, dated April 7, 1903.

Application filed May 5, 1902. Serial No. 106,052. (No model.)

*To all whom it may concern:*

Be it known that I, OWEN O. JONES, a citizen of the United States, residing at Poultney, in the county of Rutland and State of Vermont, have invented certain new and useful Improvements in Elevated Carriers; 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 the letters of reference marked thereon, forming part of this specification.

My invention relates to improvements in elevated-carrier mechanism, and has for its object the construction of elevated carriers with toggle-joint and compression-brake mechanism adapted to be automatically released by the contact of the traveling hoisting-pulley with lever mechanism connected therewith.

Another object of my invention is to construct the mechanism of the carrier so that the load may be automatically dumped by the lowering away of the hoisting-pulley.

These and other features of my invention are hereinafter fully set forth and described, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in side elevation of my improved elevated-carrier mechanism. Fig. 2 is an enlarged view, partially in section and partially in elevation, of a portion of the same. Fig. 3 is an enlarged detail view of a portion of my device.

In the drawings illustrating my invention, A is the frame of the carrier, made of two like side sections secured together and between the upper parts of which are mounted two peripherally-grooved carrier-wheels B B, adapted to travel on a cable C, passing between the sides of the frame, and support the carrier thereon. In the lower part of the frame A, I mount near the center thereof a pulley D, and in one edge of the lower part of the frame I mount a second pulley D', over which pulley D' a hoisting-rope E passes down around a traveling hoisting-pulley F and thence up over the pulley D and back down to the frame F' of the pulley F, from which frame a load-carrier G is suspended by suit-

able chains g. In the upper part of the frame A, between and adjacent to the wheels B B, I mount brake-shoes H H, adapted to contact therewith. These brake-shoes are each preferably mounted on friction-rollers h h, passing through slots h' therein. Pivoted to these brake-shoes H H are links H' H', the inner ends of which are pivoted to a vertically-moving bar I, provided with a slot I', within which slot there is a block i, secured between the sides of the frame A, upon which the bar I travels. Above the block i there is a compression-spring i', which operates to normally raise the bar I and operates through the links H' H' to withdraw the brake-shoes H H from contact with the wheels B B. Below the block i the bar I is bifurcated, so that it passes over the cable C, and pivoted in the lower end thereof there is a lever J, and to the end j of this lever I pivot a pair of arms K, the opposite ends k of which are pivoted to a vertically-moving block L in the side of the frame A. This block L is adjustable vertically by means of a set-screw l, which passes through a nut l', secured in the frame A. Between the arms K, I pivot a sheave M, adapted to be forced upward against the under side of the cable C when the end j' of the lever J is moved downward. To the end j' of the lever J there is pivoted a link N, the other end of which is pivoted to the lever N', pivoted in the side of the frame A, and to the end n of the lever N', I pivot a link O, the lower end of which is pivoted to the end p of the operating-lever P, pivoted in the lower part of the side of the frame A at a, the opposite end of which lever P extends through a prolongation a' of the other side of the frame A, where it is provided with an adjustable weight p'. Pivoted to the lower part of the frame A, near one side thereof, there are a pair of hooks Q, which hang down below the part F<sup>2</sup> of the traveling hoisting-pulley F, when it is raised, as illustrated in Fig. 1, and from these hooks Q a brace q is pivoted thereto, and adjustably pivoted to the central part of the link O extends so that as the lever P and the link O are moved as illustrated in the dotted lines in Fig. 1, the hooks Q are thrown forward under the end f of the part F<sup>2</sup> of the traveling pulley-frame, as illustrated by the dotted lines thereof in said figure.

On the pulley-frame  $F'$  there is a semicircular guard  $F^3$  over the upper half of the pulley  $F$ , adapted to contact with and raise the lever  $P$ , as illustrated in the dotted lines in Fig. 1. From the lower end of the hoisting-pulley frame  $F'$  the load-carrying mechanism is suspended. In this case I have shown a box  $G$  suspended by chains  $g$  to a hook on the pulley-frame, and for automatically dumping the box  $G$ , I provide a chain  $R$ , the lower end of which passes through an eye  $G'$  in the back of the box  $G$  and is provided with a cross-bar  $r$ , so that the chain  $R$  will slide freely up and down through the eye  $G'$ . On the upper end of the chain  $R$  there is a cross-bar  $R'$ , which lies upon the top of the projections  $f$  of the side bars  $F^2$  of the hoisting-pulley frame  $F'$ , while the chain  $R$  is retained between the outer ends of the extensions  $f$  of the side bars  $F^2$  by a transverse pin  $f^2$  therein, and the outer ends  $f'$  of which extensions  $f$  have also small hook-like projections on their upper edges to prevent the cross-bar  $R'$  slipping off therefrom until it is lifted off by the hooks  $Q$  as the hoisting-pulley  $F$  is lowered from the position shown by the dotted lines in Fig. 1.

In operation, when the hoisting-pulley is raised, as illustrated by the dotted lines in Fig. 1, the lever-and-link mechanism  $P$ ,  $O$ ,  $N'$ ,  $N$ ,  $J$ , and  $K$  take substantially the positions shown in dotted lines in said figure and operate on the bar  $I$ , spiral spring  $i'$ , and links  $H' H'$  to withdraw the brake-shoes  $H H$  from the wheels  $B B$ , while at the same time the arms  $K$  have lowered the sheave  $M$  out of contact with the cable  $C$ , so that the carrier will travel freely upon the cable. The load can then be moved along the cable to any point at which it is desired to dump the box  $G$ . If the load is now lowered away, the brakes are immediately set, and as the hoisting-pulley frame moves downward the hooks  $Q$  engage the cross-bar  $R'$  of the chain  $R$  and lift it off of the pulley-frame and the chain  $R$  being retained between the extensions  $f$  of the side bars  $F^2$  by the pin  $f^2$ , and as the hoisting-pulley  $F$  is lowered away farther the chain  $R$  suspends the rear of the box  $G$  from the hooks  $Q$ . Meanwhile the front end of the box  $G$  moves on downward until its contents are dumped, after which as the hoisting-pulley continues to lower the hooks  $Q$  move farther back, which finally allows the bar  $R'$  to slip off of the hooks  $Q$ , so that the mechanism is again ready for operation.

I have thus shown and described my invention and convenient mechanism for utilizing the same, so that others skilled in the art to which it appertains can construct and utilize the same. I am, however, aware that certain features of the invention can be considerably modified without departing from the spirit thereof.

Therefore what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination in an elevated carrier, of a frame, carrier-wheels mounted therein, adapted to travel on a cable, brake-shoes adapted to engage said wheels, toggle-joint links between said brake-shoes, sliding bar and lever mechanism for operating said toggle-joint links, and a brake-sheave below the cable mounted on arms pivoted at one end to the frame and at the other to the toggle-joint-operating lever, substantially as and for the purpose set forth.

2. The combination in an elevated carrier, of a frame, carrier-wheels mounted in the upper part thereof, load-hoisting pulleys in the lower part thereof, a vertically-traveling hoisting-pulley, brake-shoes sliding in the frame between the carrier-wheels, toggle-links between said brake-shoes, a bar sliding in the frame to which said toggle-links are pivoted, a retracting-spring in said bar, lever-and-link mechanism connected with said toggle-link bar and adapted to be engaged and raised by the hoisting-pulley so as to release said brake-shoes, and a brake-sheave below the plane of the travel of the carrier-wheels, mounted upon arms pivoted at one end to an adjustable block in the side of the frame and at the other end to the toggle-joint lever mechanism, substantially as and for the purpose set forth.

3. The combination in an elevated carrier, of a frame, carrier-wheels mounted in the upper part thereof, load-hoisting pulleys mounted in said frame, a vertically-traveling hoisting-pulley, brakes operating on the carrier-wheels, lever-and-link mechanism for operating the brake mechanism adapted to be operated by the upward movement of the traveling hoisting-pulley, a dumping-chain leading from the back of the load-carrying receptacle to a cross-bar resting upon the frame of the vertically-moving hoisting-pulley, and hook mechanism suspended from the frame adapted to engage and detach said cross-bar from the hoisting-pulley frame, substantially as and for the purpose set forth.

4. The combination in an elevated carrier, of a frame  $A$ , carrier-wheels  $B B$  mounted in the upper part of said frame, brake-shoes  $H H$  mounted on said frame between the wheels  $B B$ , a vertically-sliding bar  $I$  mounted in said frame, a retracting-spring  $i'$  for raising said bar, links  $H' H'$  from said bar  $I$  to the brake-shoes  $H H$ , a lever  $J$  pivoted to the lower end of the bar  $I$ , arms  $K$  pivoted at one end to the end  $j$  of the lever  $J$  and at the other to an adjustable block  $L$  in the side of the frame  $A$ , a brake-sheave  $M$  mounted in said arms  $K$ , a lever  $N'$  pivoted in one side of the frame  $A$ , a link  $N$  connecting the end of the lever  $J$  with one end of the lever  $N'$ , a lever  $P$  pivoted at  $a$  in the lower part of the frame  $A$ , a link  $O$  connecting the end  $n$  of the lever  $N'$  with the end  $o$  of the lever  $P$ , a pair of hooks  $Q$  pivoted to the lower part of the frame, a link  $g$  pivoted between the hooks  $Q$  and the link  $O$ , stationary hoisting-pulleys  $D$  and  $D'$

5 pivoted in the lower part of the frame A, a vertically-moving hoisting-pulley F mounted in a frame F' F<sup>2</sup>, a hoisting-box G connected with the vertically-moving hoisting-pulley frame F', a chain R, extending from the back of the hoisting-box G to an extension *f* on the part F<sup>2</sup> of the movable hoisting-pulley frame, and a cross-bar R' on said chain resting upon

the top of said extension *f*, all substantially as and for the purpose set forth.

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

OWEN O. JONES.

Witnesses:

WILLIAM H. ROWLAND,

DAVID O. JONES.