No. 865,689. PATENTED SEPT. 10, 1907.

H. L. FERRIS.

HAY CARRIER.

APPLICATION FILED JULY 11, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

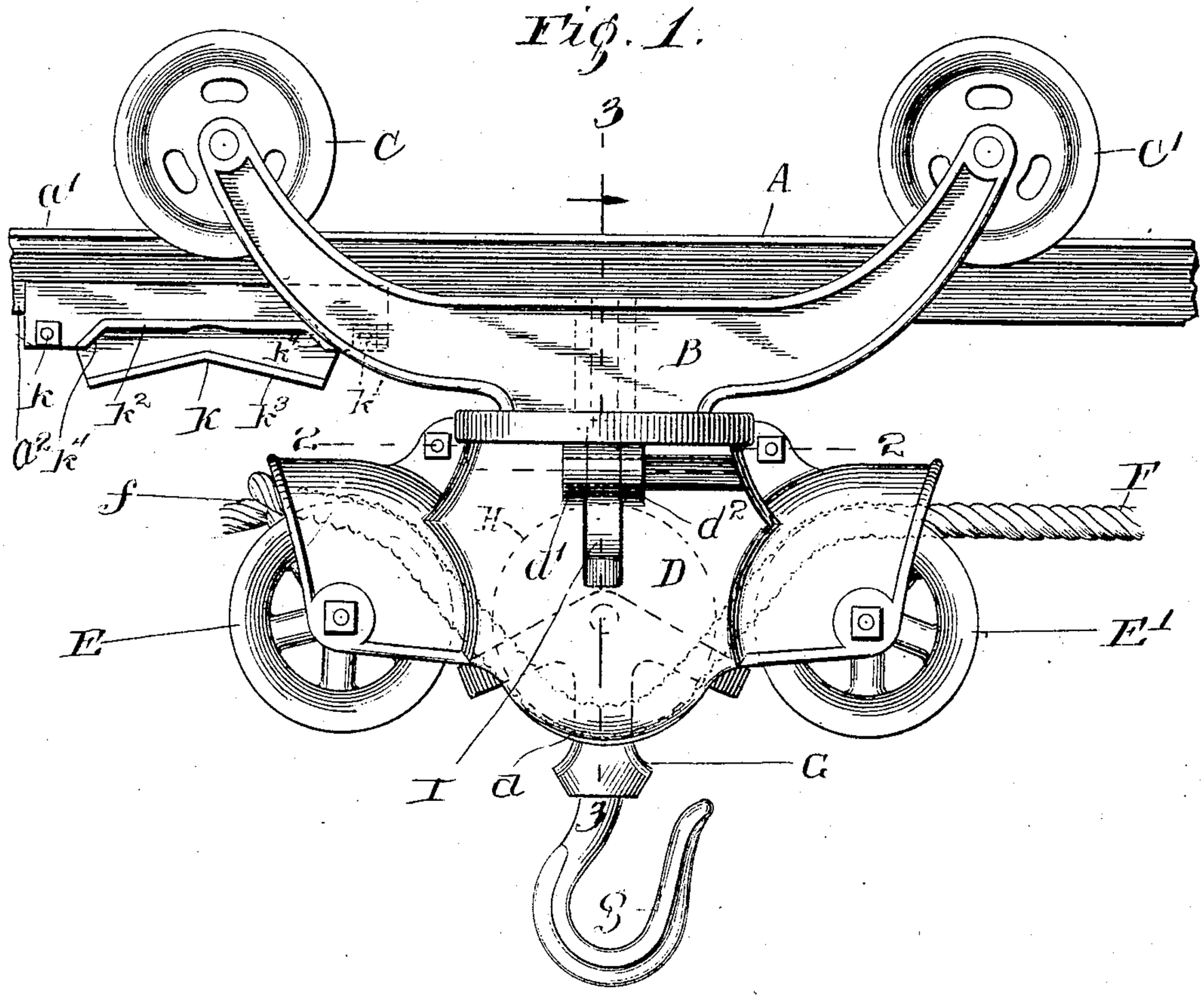
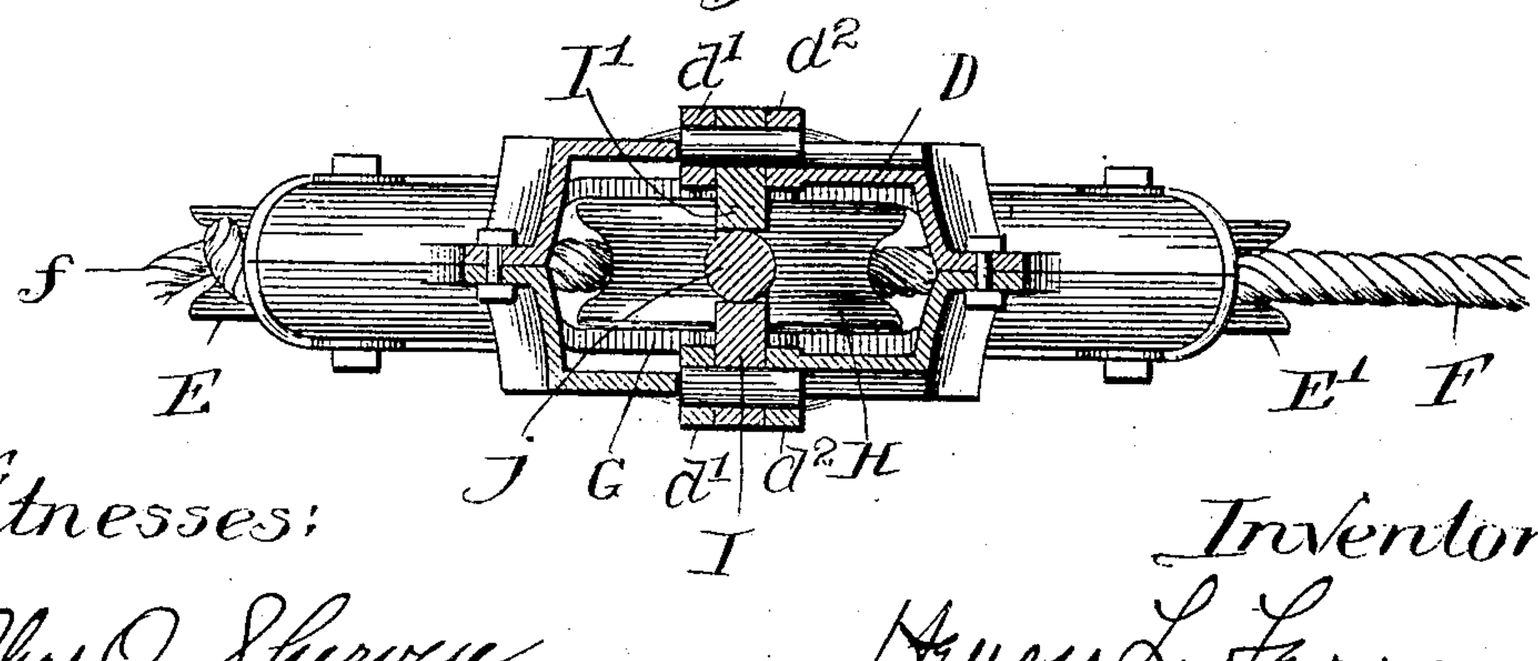


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

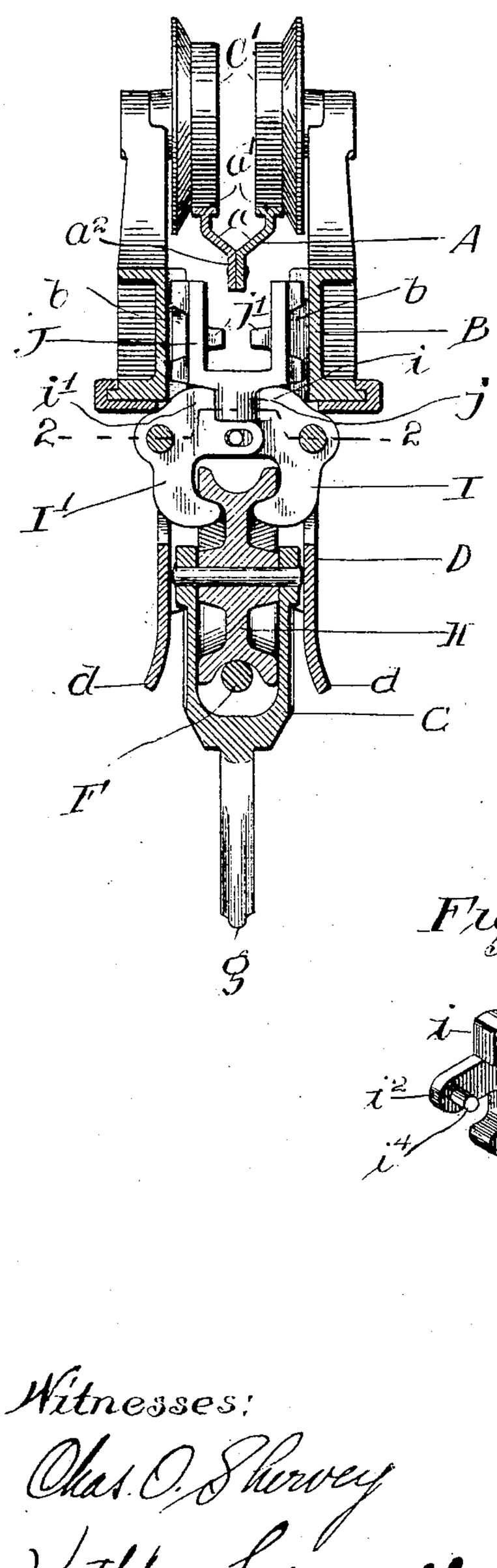

Fig. 4.

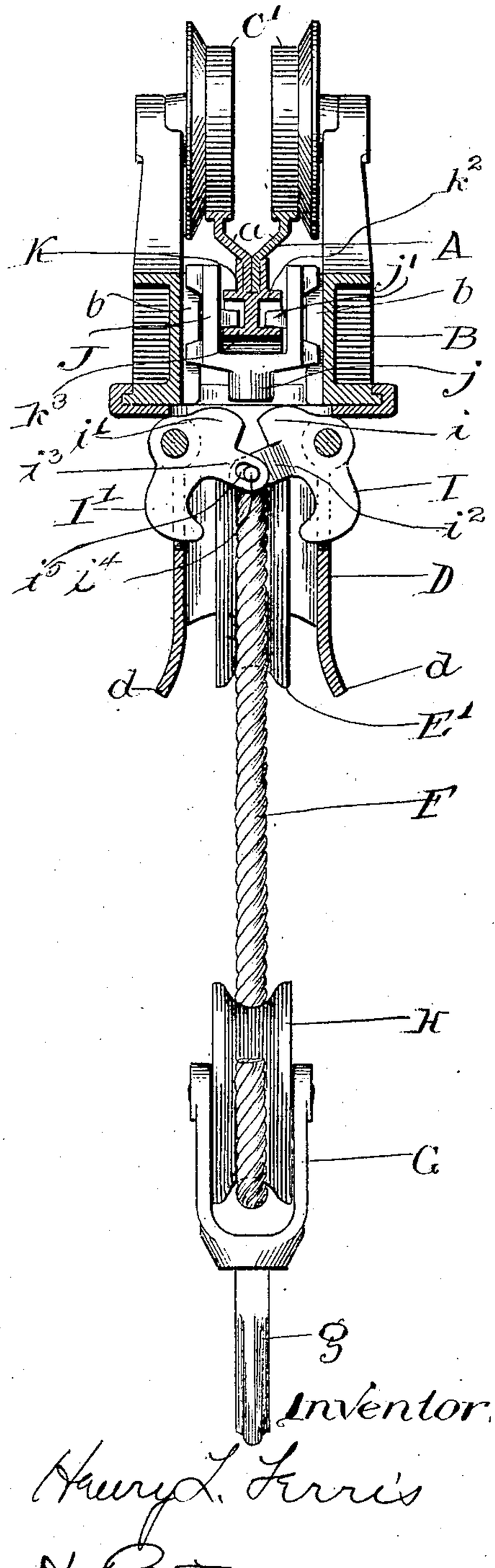

Fig. 5.

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UNITED STATES PATENT OFFICE.

HENRY L. FERRIS, OF HARVARD, ILLINOIS, ASSIGNOR TO HUNT, HELM, FERRIS & COMPANY, OF HARVARD, ILLINOIS, A CORPORATION OF ILLINOIS.

HAY-CARRIER.

No. 865,689. Specification of Letters Patent. Patented Sept. 10, 1907.

Application filed July 11, 1904. Serial No. 216,058.

To all whom it may concern:

Be it known that I, HENRY L. FERRIS, a citizen of the United States of America, residing at Harvard, in the county of McHenry and State of Illinois, have invented certain new and useful Improvements in Hay-Carriers, of which the following is a specification.

My invention relates to certain improvements in hay carriers having for their purpose the production of a device of this class in a compact, cheap and efficient form, having a number of important advantages, the parts being so constructed and arranged as to attain these advantages without unnecessary or unsightly parts and without sacrificing the strength, attractive appearance, or simplicity of the device.

The preferred form of my invention will be described in detail in the specification and the essential features pointed out in the claims at the end thereof.

In the drawings Figure 1 is a side elevation of a hay carrier and track therefor, showing the carrier upon the track at a short distance from the track stop, the parts being in the positions assumed after the carrier has left the stop and is moving along the track with the fork-pulley gripped securely in the frame so as to carry the load directly therefrom and relieve the elevating rope of its weight. Fig. 2 is a horizontal section looking downwards upon the plane 2—2 of Fig. 1, the parts being in the same position as in the former figure. Fig. 3 is a vertical section looking from left to right in Fig. 1 and taken in the plane 3—3 of that figure. Fig. 4 is a section similar to Fig. 3 but showing certain parts in a different position, namely, that in which the carrier is held by the track stop and the fork-pulley on its way toward or from the carrier; and Fig. 5 is a perspective view of one of the pulley grips.

Referring to these drawings, A, is a track, B, the upper portion of the carrier frame, C, C^1, track wheels journaled upon the upper portion of the carrier frame, D, the lower portion of the carrier frame swiveled to the upper portion, E, E^1, rope pulleys or wheels over which the elevating rope, F, may run. The rope, F, is shown as knotted at, *f*, so as to bind between the pulley, E, and the frame, the effect being to secure the rope against movement in the frame at this end.

G, is a fork-pulley frame having a hook, *g*, by means of which it may be secured to a fork or other suitable device carrying the load.

H, (Fig. 3) is a fork pulley journaled in the fork-pulley frame beneath which the rope, F, passes and under which it runs in elevating the load. The lower portion of the frame, D, is outwardly flared at, *d*, to guide the fork-pulley to its place. This lower portion of the carrier frame is also provided at, d^1, d^2, upon both sides with knuckles between which are pivoted a pair of fork-pulley grips, I, I^1, adapted to reach beneath the rim of the fork-pulley and securely hold the same as seen in Fig. 3. These pulley grips are normally held in the position here shown, while the carrier is traveling along the track, by means of a locking dog, J, which has a downwardly-extending round stud or pin, *j*, fitting between shoulders, *i*, i^1, upon the pulley grips, I, I^1.

The upper portion of the dog, J, is vertically guided between suitable vertical ribs, *b*, extending inwardly from the upper portion of the frame and this portion of the dog is forked so as to straddle the track stop, K. Said track stop is clamped upon the track as shown in Fig. 1 by means of bolts, *k*, k^1, and has laterally extending flanges, k^2, k^3, the former being turned down at each end as shown at k^4. The dog, J, has two inwardly-extending lugs, j^1, adapted to engage with these flanges, the lower flange acting to lift the dog from its locking position and the downwardly-turned ends of the upper flange serving to prevent movement of the carrier on the track when the dog is in a raised position. As will be noticed in Fig. 3 the centers of gravity of the pulley grips are so disposed that said grips tend to take the position seen in Fig. 4 when not restrained. Also when in said position, they prevent the dog, J, from dropping far enough to clear the down-turned ends of the flanges, k^2. The pulley grips, I, I^1, have inwardly-extending arms, i^2, i^3, one of which has a pin, i^4, and the other a slot, i^5, into which the pin projects so that the two grips must move simultaneously from one position to the other.

The operation of the above device is as follows: Starting with the parts in the position shown in Fig. 4, a pull upon the rope will first move the carrier until the locking dog engages the down-turned ends of the upper flanges of the track stop after which the carrier will be held stationary, a further pull upon the rope will lift the fork-pulley with its frame and whatever is hung thereon until the pulley proper strikes the inwardly-extending arms of the gripping dogs and forces them upward into the position seen in Fig. 3 in which the hooked portions of the grips swing beneath the rim of the pulley and the stud, *j*, drops between the shoulders, *i*, i^1. This locks the fork-pulley securely to the frame and at the same time permits the dog to clear the track stop and the carrier to move along the track. It should be noticed that the fork-pulley frame hangs directly upon the pulley axle and swings with perfect freedom in the plane of the track. Also that the rounded stud, *j*, upon the lower end of the locking dog is operative no difference how the lower portion of the carrier frame turns on the upper portion. Also that the parts are so constructed and disposed as to make up a device compact in form while at the same time of great strength and simplicity of construction. This feature of the device is aided materially by the form of the track here shown which consists of an upwardly-extending U-shaped rail, *a*, the two members of which carry flat thread

portions, a^1, upon which the track wheels run and the middle portion of which affords a downwardly-extending flange, a^2, adapted to receive and hold the track stop, K. The latter need not be of excessive width and all of the working parts may be brought within a lateral extent no greater than that which is desirable for other reasons.

More or less variation is possible in the exact form and arrangement of the parts, and I therefore do not limit myself to the specific construction in this respect.

I claim as new, and desire to secure by Letters Patent:—

The combination with a track and track stop beneath the same, of a carrier having wheels running on said track and composed of two portions swiveled together in a horizontal plane, a locking dog supported and vertically movable in the upper portion of the frame, having means of engagement with the track stop, an elevating rope and pulley therefor journaled in the lower portion of the frame, a fork-pulley on the elevating rope, a frame therefor extending but slightly above the journal of the pulley, a pair of pulley grips pivoted upon opposite sides of the lower portion of the carrier frame substantially in line with the sides of the fork-pulley frame, said grips having hooked lower ends swinging directly beneath the rim of the fork pulley, inwardly extending fingers engaging each other against independent oscillation, and shouldered upper portions adapted to engage the locking dog when the latter is down, substantially as described.

In witness whereof I have signed the above application for Letters Patent at Harvard, in the county of McHenry and State of Illinois, this 8 day of July, A. D. 1904.

HENRY L. FERRIS.

Witnesses:
E. B. HUNT,
BLAKE B. BELL.