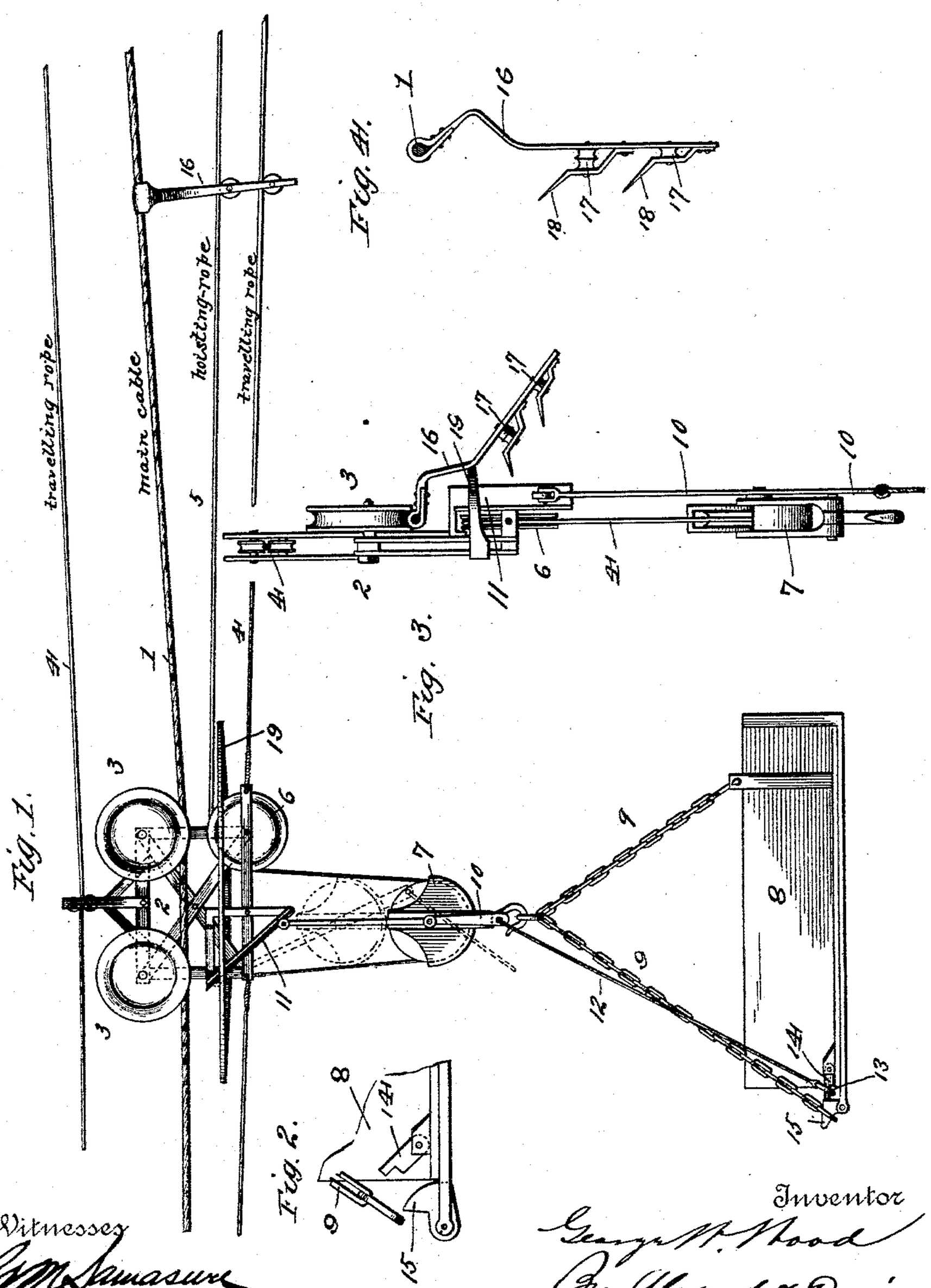
(No Model.)

G. W. WOOD.

ELEVATED CARRIER.

No. 533,769. Patented Feb. 5, 1895.



Witnesses:
C. M. Lamasure
Chas. A. Murray

Inventor
George W. Wood
By Alexander & Davis
Attorneys

UNITED STATES PATENT OFFICE.

GEORGE W. WOOD, OF LOCKPORT, ILLINOIS.

ELEVATED CARRIER.

SPECIFICATION forming part of Letters Patent No. 533,769, dated February 5, 1895.

Application filed June 1, 1894. Serial No. 513,196. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. WOOD, a citizen of the United States, residing at Lockport, in the county of Will and State of Illinois, have invented certain new and useful Improvements in Elevated Carriers, of which the following is a specification, reference being had therein to the accompanying drawings.

In the drawings, Figure 1 designates a side elevation showing my improved carriage suspended from the cable and in position ready to be dumped; Fig. 2, a detail view showing the manner of releasing the front end of the skip in the act of dumping; Fig. 3, an edge elevation of the carriage and fall block, the skip or car being omitted, and Fig. 4 a detail view of the pivoted fall-rope carrier.

This invention relates to that class of elevated carriers in which the carriage is drawn back and forth upon a stationary cable by means of an endless traveling rope, the skip being suspended from the carriage and being adapted to be raised and lowered by means of a suitable fall-block and hoisting rope.

The object of the present improvements is to provide simple devices whereby the material may be deposited at any point along the line of the cable at the will of the operator, as fully hereinafter described and claimed.

Referring to the drawings by numerals, 1 designates the usual stationary main cable; 2, the carriage-frame suspended from the cable by grooved wheels 3; 4, the traveling rope for drawing the carriage back and forth upon the cable; 5, the hoisting rope connected to the forward end of the carriage and passing over a sheave 6 journaled at the rear end of the carriage; 7, the usual fall block suspended within a loop formed in the hoisting rope between its point of connection to the carriage and the sheave 6; 8, the skip suspended from the fall-block by means of the chains 9.

Pivoted on one side of the fall block is a lever 10 which carries a roller at its upper end, which roller is adapted to impinge against a cam or flange 11 rigidly secured to the carriage, said flange being inclined upwardly and forwardly. The lower end of lever 10 has connected to it a chain rope or rod 12, which carries a ring 13 at its lower end, said ring engaging over the projecting end of a bolt 14 pivoted on the skip near its front end. The front chain 9 engages over a hook or horn 15 pivoted upon a projecting part of the skip frame, below the bolt 4, said hook 15 being prevented from swinging upwardly and releasing the chain by means of the bolt 14.

The operation of the dumping mechanism will be readily understood. While the load is being transported, the fall block is suspended a short distance below the carriage, and when it is desired to deposit the load the engineer simply raises the fall block a sufficient distance to cause the cam 11 to force the upper end of lever 10 forward far enough to swing up the bolt 14 from behind the hook 15, whereupon said hook will swing backward and release the chain 9, thereby permitting the front end of the skip to swing down and quickly dump the material. The main advantages of this construction are that the engineer may dump the material at any point along the cable, and also that a separate dumping rope is avoided by the use of the hoisting rope.

The dumping devices are very simple in construction and may be used on any carriage without changes in the hoisting and traveling ropes and drum, &c., and cause the engineer no extra work or care excepting that when he stops the carriage he must raise the load a short distance before returning the skip to the pit.

It will be observed that the carriage frame is suspended from one side only of the traveling wheels, whereby there may be used any number of intermediate supports for the main cable. By supports is meant towers or any other framework between the end-towers. Thus permitting the use of any number of intermediate supports enables a much longer span to be used and heavier loads to be carried, as is evident.

The numeral 16 designates one of the fall-rope carriers, which are adapted to be suspended from the main cable at suitable points along its length. Each support carries one or more pulleys to support the fall and traveling ropes, and the bracket of each pulley is inclined upwardly and outwardly, as at 18. The carrier is pivotally suspended from the cable in order that it may swing out laterally, as shown in Fig. 3, as the carriage passes it. Secured to the carriage below the main cable

is a frame or bow 19 which projects beyond the carriage both forwardly and rearwardly and is adapted to impinge against the fall-rope carriers and swing the same out laterally far enough to permit the carriage to freely pass. When the carriage passes each carrier the same swings back and its inclined arms 18 engage under the ropes and direct them onto their respective pulleys.

It will be seen that the bow 19 extends out sidewise from the carriage and toward the side of the cable opposite to that from which the carriage-frame is suspended, whereby the rope-carriers shall be swung out entirely free from the hoisting and traveling ropes as the carriage passes. This construction permits the rope carriers to be swung out as far as may be desirable and also permits the carrier to be adapted for carrying as many ropes as may be desired.

The drawings show the skip as dumping under the forward end of the carriage. This is not necessary and in some cases might be objectionable. I therefore wish it understood that I may arrange the skip to make it dump either way, that is to say, have it tip in dumping toward or from the pit. Should the skip be arranged to dump or tip in the opposite direction to that shown, it is obvious that the inclined cam must be reversed so as to incline upwardly and rearwardly.

Having thus fully described my invention, what I claim is—

1. The combination of a main cable a fall block suspended from the carriage, means for raising and lowering the fall-block and for moving the carriage, a skip suspended from the fall block, means for retaining the skip in a substantial horizontal position, a releasing device carried by the fall block and devices for operating the releasing device by the continued upward movement of the fall-block, substantially as and for the purpose described.

2. The combination of a main cable or track, a carriage suspended therefrom, means for moving the carriage along the cable, a fall block and skip suspended from the carriage, means for raising and lowering the fall-block, releasing and retaining devices carried by the fall-block and skip, and a part on the carriage for operating said releasing devices, substantially as described.

3. The combination of a main cable, a carriage thereon, means for moving the carriage, a fall block and skip suspended from the carriage, a hoisting rope for raising and lowering the fall block, releasing and retaining devices carried by the fall block and skip, and an inclined part carried by the carriage and adapted to operate the releasing devices, substantially as described.

4. The combination of a main cable and carriage and means for operating the carriage, a fall block and skip suspended from the carriage, a hoisting rope for raising and lowering the fall block and skip, a swinging lever carried by the fall block, a device on the skip for retaining the same, this device being connected to said swinging lever, and a part on the carriage for swinging said lever when the fall block is raised, substantially as described.

5. The combination of a main cable and carriage, means for moving the carriage, a fall block and skip, chains suspending the skip from the fall block, a pivoted bolt carried by the skip, means carried by the fall block for operating the bolt, a pivoted hook bearing against said bolt and being adapted to receive the lower end of one of the suspending chains, substantially as described.

6. The combination of a main-cable, traveling wheels thereon, a carriage frame depending from one side only of the wheels, means for moving the carriage, a fall-block and hoisting rope, a bow or frame projecting out laterally from the carriage toward the side opposite to that from which the carriage is suspended, and a fall-rope carrier pivotally suspended from the main-cable and carrying a roller supporting the hoisting rope, substantially as described.

7. The combination of a main cable and a traveling rope, a rope carrier consisting of an arm pivotally suspended from the main cable and carrying a pulley adapted to support said traveling rope and an upwardly and outwardly inclined arm 18 adapted to engage under said rope and direct it onto the pulley, substantially as described.

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

GEORGE W. WOOD.

Witnesses:
H. B. ALEXANDER,
N. E. MURRAY.