

(No Model.)

3 Sheets—Sheet 1.

W. DÜSEDAU.

CABLE HOISTING AND CONVEYING APPARATUS.

No. 566,849.

Patented Sept. 1, 1896.

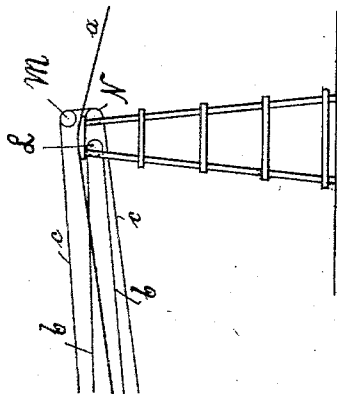


Fig. 1.

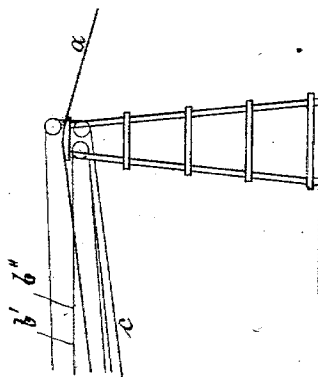
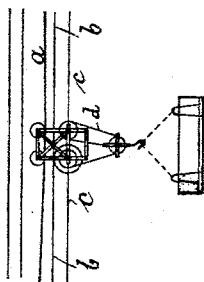
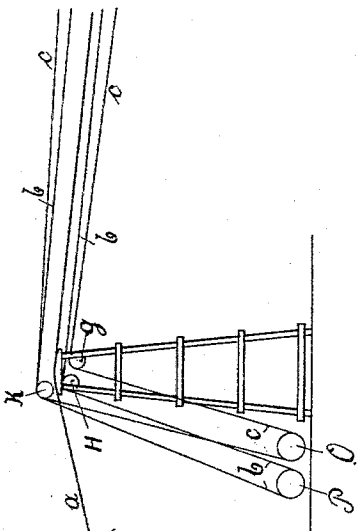
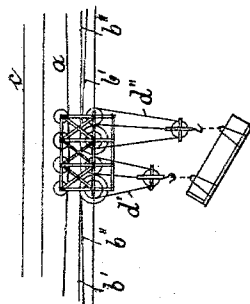
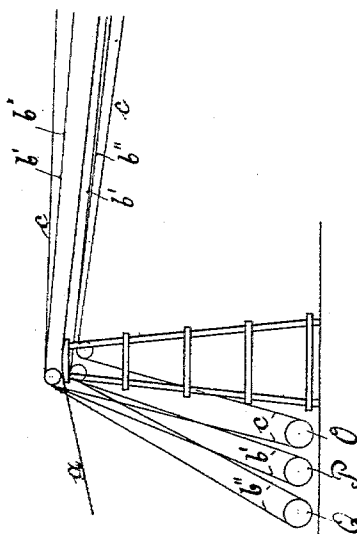


Fig. 2.



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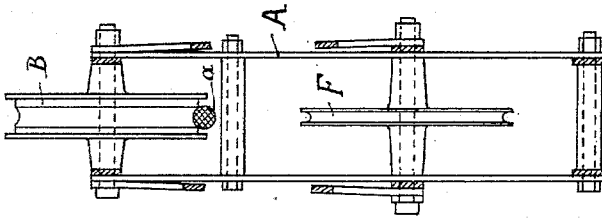


Fig. 5.

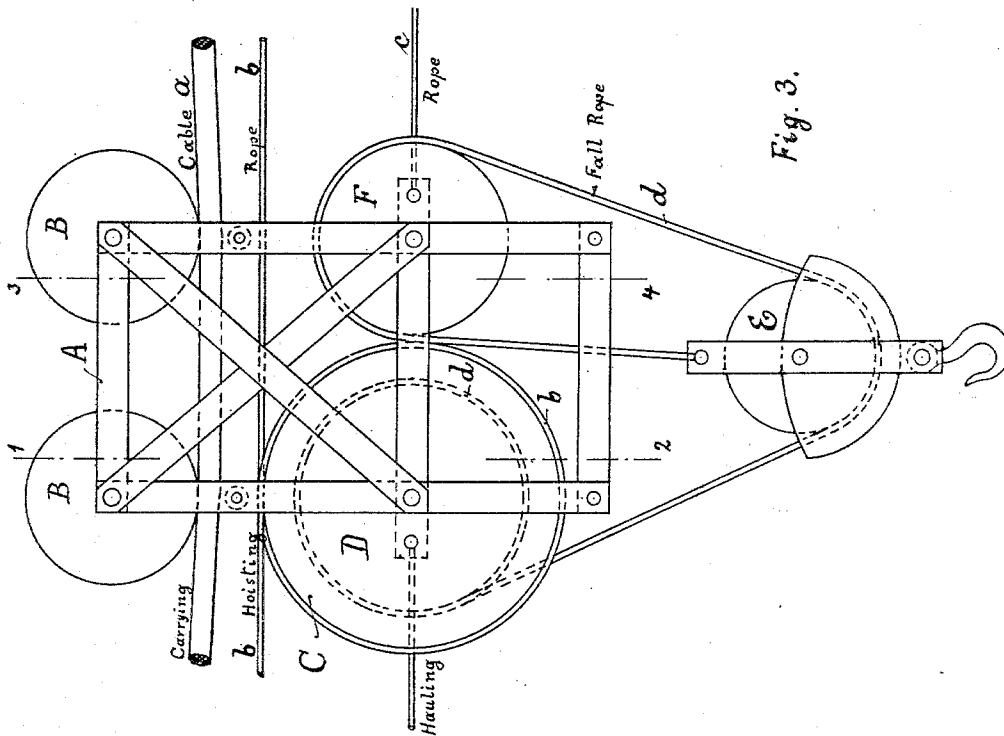


Fig. 3.

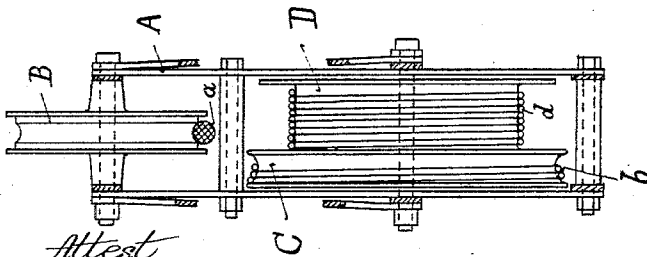


Fig. 4.

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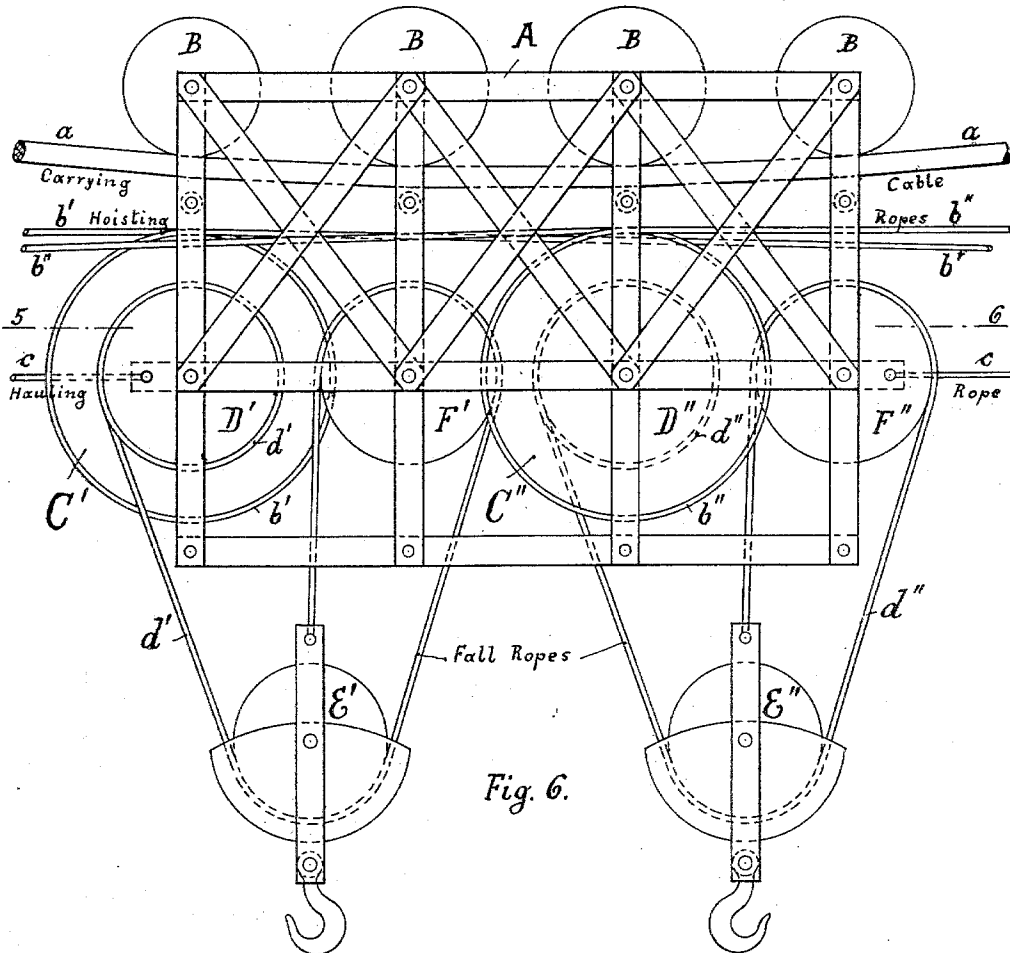
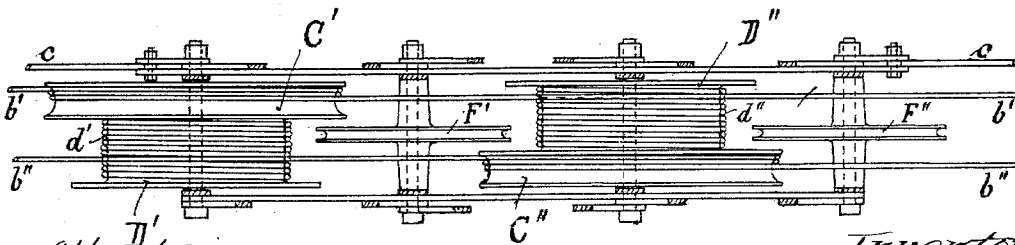


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILHELM DÜSEDAU, OF TRENTON, NEW JERSEY.

CABLE HOISTING AND CONVEYING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 566,849, dated September 1, 1896.

Application filed January 2, 1896. Serial No. 574,146. (No model.)

To all whom it may concern:

Be it known that I, WILHELM DÜSEDAU, a citizen of Prussia, residing at Trenton, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Cable Hoisting and Conveying Apparatuses, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to that particular class of cable hoisting and conveying apparatuses in which there is used a suspended carrying-cable, upon which travels a suspended carriage that is moved by a hauling-rope, and attached to said carriage is another rope that is known as the "hoisting-rope." In operation the carriage moves out upon the carrying-cable by motion imparted to it by the hauling-rope, and as the carriage moves out upon the carrying-cable there trails along after it the hoisting-rope. Should any considerable strain be put upon the hoisting-rope, it would interfere with lowering the load. Hence the hoisting-rope is always a slack rope, sagging considerably. As heretofore such cableways could not be operated without supports for the hoisting-rope. Hence, prior to my invention, it has been absolutely necessary to use carriers to support the hoisting-rope. Upon these carriers solely depend the operation of the cableway, and they frequently become deranged, causing great damage in some instances, and a suspension of the working of the line until they are repaired.

The object of my invention is to avoid the use of these carriers by the employment of a carriage with hoisting-gear driven by an endless rope, and when self-dumping is required with two independent hoisting-gears driven by two endless ropes.

The conditions and the special devices and arrangements I have fully explained herein-after and have illustrated in the accompanying drawings, in which—

Figures 1 and 2 represent in side elevation a general view of my invention. Fig. 3 shows in side elevation the carriage on a larger scale. Fig. 4 shows a section at line 1 to 2 of Fig. 3; Fig. 5, a section at line 2 to 3 of the same. Fig. 6 shows in side elevation a form of the carriage adapted to dump a skip or

load. Fig. 7 shows a section at line 5 to 6 of Fig. 6.

The carriage, Fig. 3, has a suitable frame A, on the upper part of which are journaled grooved wheels B B, which run one behind the other on the cable *a*. Suspended in the frame below is the grooved sheave C, and fixed to this sheave is the drum D. The hoisting-rope *b* is wound upon the sheave C sufficiently to secure the required friction. The fall-rope *d* winds itself upon drum D with one end, and the other end is carried over a fall-block E, up around another sheave F in the frame A, thence down to the strap of block E, thus giving three parts to the fall-rope *d* to suspend the load. More or less parts can be used by varying the number of sheaves E and F. Any exertion of hoisting-rope *b* will be transmitted to fall-rope *d* through sheave C and drum D. The fall-rope *d* will wind or unwind upon drum D, and thus raise or lower the load, which will be suspended by the hook of fall-block E.

The carriage, Figs. 6 and 7, has two independent hoisting-gears, each one consisting of the same parts as that shown in Fig. 3. Two hoisting-ropes *b'* and *b''* are necessary. The hoisting-rope *b'* winds upon the grooved sheave C', and the hoisting-rope *b''* winds upon the sheave C''. Fall-block E' is suspended by fall-rope *d'*, and fall-block E'' is suspended by fall-rope *d''*. The skip or bucket will be suspended at one end by a hook of the fall-block E' and the other end by hook of the fall-block E''.

The cable hoisting and conveying apparatus shown in Fig. 1 consists of the supporting-cable *a*, the endless hoisting-rope *b*, and the hauling-rope *c*. The cable is stretched and supported in the usual manner, and the hauling-rope being connected to the carriage at one end runs over sheave *g*, around driving-drum O, thence over sheaves K, M, and N, and being connected to the carriage at the other end. The arrangement of this rope is as heretofore employed. The hoisting-rope being endless is wound upon the grooved sheave C sufficiently to secure the required friction. The hoisting-rope extends in both directions from the hoisting-sheave C to the sheaves H and L at the ends of the way, at one end going around sheave L and returning

over sheave K at the other end of the way and down the driving-drum P. The driving-drums O and P may be of any suitable construction.

5 The cable hoisting and conveying apparatus shown in Fig. 2 has two endless hoisting-ropes *b* and *b''*. It will be understood that the hoisting-ropes *b'* and *b''* are wound upon hoisting-sheaves C' and C'', respectively, of
10 the carriage and are operated separately by means of independent driving-drums P and Q. The advantage of the two endless hoisting-ropes *b'* and *b''* and duplicate hoisting-sheaves C' and C'' and hoisting-drum D' and
15 D'' with their fall-ropes *d'* and *d''* and fall-blocks E' and E'' is an important one, and with them the skip or bucket is under perfect control. By an even pull upon the two ropes the bucket may be raised, and then by an uneven
20 pull may be dumped at the will of the operator at the hoisting-machine. The hooks on the lower side of the fall-blocks E' E'' are shown for connection with the skip or load. With this arrangement the endless hoisting-
25 rope is maintained constantly taut, and the hoisting and lowering of a load are not affected by the sag of the hoisting-rope, and I am enabled entirely to dispense with the carriers for the hoisting-rope always used prior to my
30 invention in connection with hoisting-ropes of cable hoisting and conveying apparatuses.

I claim—

1. In a cable hoisting and conveying apparatus the combination with a carrying-cable;
35 of a carriage depending therefrom; a hauling-rope to move the carriage back and forth; and an endless rope for hoisting or lowering the load.

2. In a cable hoisting and conveying apparatus the combination with a carrying-cable;
40 of a carriage depending therefrom, and provided with hoisting-gear for hoisting and lowering a load; a hauling-rope to move the car-

riage back and forth; and an endless hoisting-rope, to impart motion to said gear.

3. In a cable hoisting and conveying apparatus the combination with a carrying-cable; of a carriage depending therefrom, and provided with two independent hoisting-gears for hoisting and lowering a skip or load where-
50 by said skip can be tripped by hoisting one end higher than the other; a hauling-rope to move the carriage back and forth; and two endless hoisting-ropes to impart motion to said gears.

4. In a cable hoisting and conveying apparatus, a carriage having grooved wheels arranged to run upon said cable, said carriage depending therefrom, a hoisting-sheave in the carriage-frame below the cable, said sheave
60 being connected with the hoisting-drum, a fall-rope, a hauling-rope, and an endless hoisting-rope below the cable and wound upon the hoisting-sheave, and mechanism for operating the hoisting and hauling ropes, the
65 parts being combined and operating, substantially as described.

5. In a cable hoisting and conveying apparatus, a carriage having grooved wheels arranged to run upon said cable, said carriage
70 depending therefrom, a hauling-rope, two independent hoisting-sheaves in the carriage below the cable, said sheaves being connected with hoisting-drums, two fall-ropes, and two
75 endless hoisting-ropes each one connected with a hoisting-sheave below the cable and mechanism for operating the ropes, the parts being combined and operating substantially as described.

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

WILHELM DÜSEDAU.

Witnesses:

DANIEL LODOR,
W. C. TITUS.