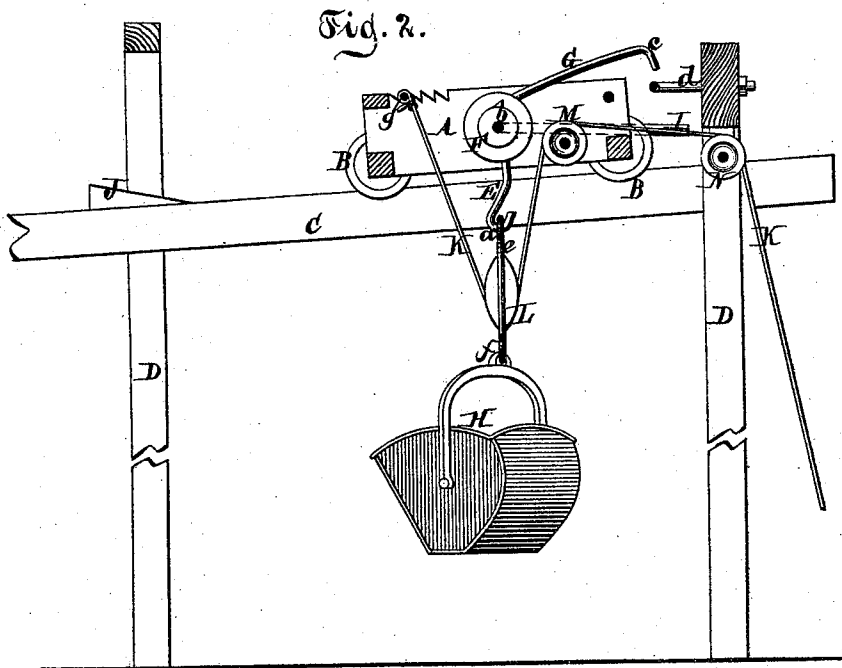
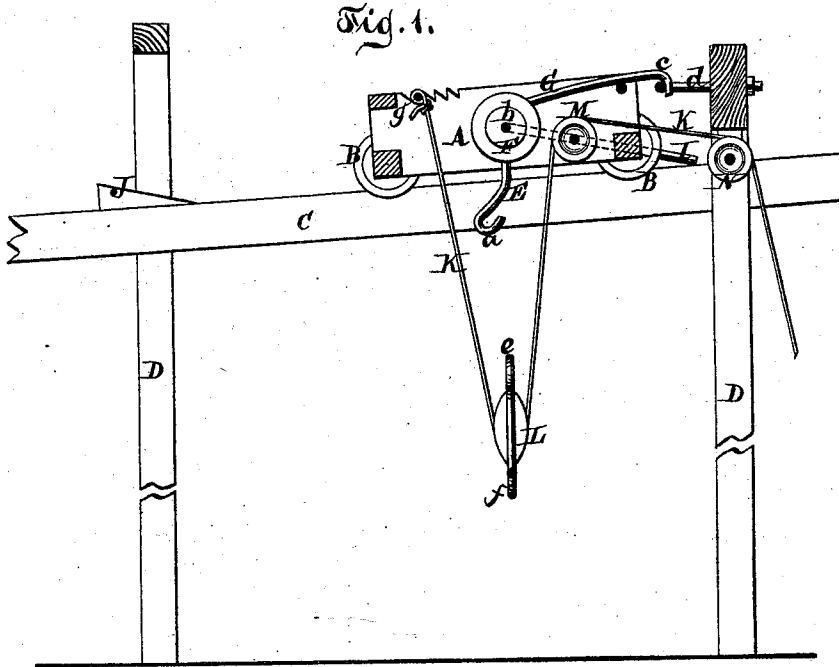


F. SCHOLES.

HOISTING AND CONVEYING APPARATUS.

No. 177,572.

Patented May 16, 1876.



Witnesses.
Otto Hufeland
Robt. E. Miller.

Inventor.
Frederick Scholes
per
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Attorneys

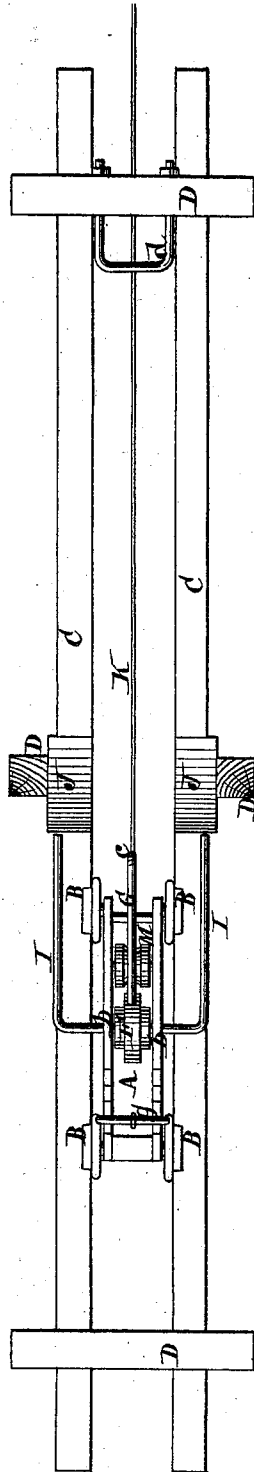
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Fig. 3.



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UNITED STATES PATENT OFFICE.

FREDERICK SCHOLES, OF BROOKLYN, E. D., NEW YORK.

IMPROVEMENT IN HOISTING AND CONVEYING APPARATUS.

Specification forming part of Letters Patent No. **177,572**, dated May 16, 1876; application filed April 12, 1876.

To all whom it may concern:

Be it known that I, FREDERICK SCHOLES, of the city of Brooklyn, E. D., county of Kings, and State of New York, have invented a new and Improved Apparatus for Hoisting and Conveying, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a longitudinal section of my apparatus when the truck is fast. Fig. 2 is a similar section when the truck is released. Fig. 3 is a plan or top view.

Similar letters indicate corresponding parts.

My invention relates to certain improvements in apparatus for hoisting and conveying various materials, such as coal, ores, minerals, earth, merchandise, &c., when placed in buckets or in a sling; and it consists in a wheeled truck, which is adapted to be placed on an elevated railway, and which carries a swinging arm having a hook or other catching device formed on it for the attachment thereto of a bucket or sling, such swinging arm being made to project in a downward direction, and having combined with it a weight or spring which has a tendency to retain it at an angle to a perpendicular line or plane, so that when a bucket or sling, after having been hoisted, is attached to the arm, the latter is brought in a perpendicular plane or nearly so, while for the purpose of detaching the bucket or sling, after it has been conveyed to the desired spot it is only necessary to lift it a sufficient distance to clear the hook or other device by which it is attached to the arm, when by the action of its weight or spring the arm is swung back to its original position and the bucket or sling may be lowered or deposited without obstruction. The tub or sling containing the material to be conveyed is hoisted by means of a rope, one end of which is fastened to the truck, and which carries a hoisting-block of ordinary form, while it is passed over a pulley mounted in the truck. This rope serves also to propel the truck along the railway.

The weight or spring, combined with the swinging arm for the purpose of retaining it at an angle to a perpendicular line or plane, in this example, has the form of a secondary

arm extending in a horizontal plane, or nearly so, and which has a hook or other catching device formed on it to engage with a stop affixed to one end of the aforesaid railway for the purpose of securing the truck in place, the two arms being so connected with each other that when the spring or weight arm engages with its stop the other arm stands at an angle, and if a bucket or sling is attached to this last-named arm, and it is thereby brought in a perpendicular line, the spring or weight arm is automatically brought out of engagement with its stop and the truck is released.

With the two arms above named are combined two other and parallel arms, one situated on each side of the truck, which are intended to rest on the railway on which the truck is placed, and by striking against suitable stops placed near the end of the railway opposite to the end above mentioned, prevent a forward movement of the truck, these two parallel arms being connected to each other and with the spring or weight arm as well as the supporting arm in such a manner that the several arms are actuated by a single movement, and the parallel arms are also raised when the supporting-arm is moved in a perpendicular line.

In the drawing, the letter A designates a truck constructed according to my invention, the same being provided with wheels B B, and being, moreover, placed on two rails, C C, which, together with posts D, form an elevated way or track. This railway is preferably inclined, as shown. The letter E designates the arm which serves to receive and support the material to be conveyed by the truck. This arm is bent at one end to form a hook, *a*, and at the other end is secured to the circumference of a disk, F, which is secured to the truck by pivots *b*, so that the arm E swings on said pivots. The arm projects downward, as shown. To the circumference of the disk F is secured a secondary arm, G, which, like the swinging arm E, is bent at one end to form a hook, *c*. The primary object of this arm G is to form a spring or weight by whose action the swinging arm E shall be moved to and retained at an angle to a perpendicular line, as will be presently explained; but I do not wish to be restricted to the use of such

arm, as any other form of spring or weight may be substituted for it—as, for instance, an eccentric wheel, to the circumference of which the swinging arm is secured. Such arm G, besides forming a weight or spring, forms a device for the fastening of the truck A at one end of its railway, the arm being so arranged that when the truck is moved to the upper end of the railway its hook *c* catches over a stop in the form of a staple, *d*, affixed to the adjacent post D, as seen in Fig. 1. The end of the railway at which the truck is thus fastened is intended to form the loading-place.

The two arms E and G are arranged at such an angle to each other that when the hook *c* of the weight-arm G is allowed to catch over the stop *d*, the swinging arm E is brought out of a perpendicular line, as clearly shown in Fig. 1, and when a coal-bucket, H, or a sling containing a package is attached to the arm E, the weight of such bucket or package tends to bring the said arm E in a perpendicular line, as seen in Fig. 2. When the swinging arm E is thus brought in a perpendicular line, the arm G is raised so as to bring its hook *c* out of engagement with the stop *d*, and hence the truck is automatically released. Inasmuch as by the weight or spring of the arm G a tendency is given to the arm E to occupy an inclined position, the bucket or other article can be readily detached from the arm E by simply lifting the article a sufficient distance to clear and allow such arm to move back, which it does automatically when the article is lifted, whereupon the article may be lowered or deposited in the desired spot. The letters I I designate two parallel arms, one situated on each side of the truck A, which serve to prevent a forward movement of the truck after it has been moved to the lower end of the track C, as represented in Fig. 3. These arms I I are bent inward and pass through the sides of the truck, while they form the pivots on which the disk F turns. Such arms I I consequently partake of the movement of the disk and of the arms E and G. The parallel arms I I act in conjunction with stops J J, secured to each of the rails C C, in hindering a backward movement of the truck, and it is obvious that when the supporting-arm E is in a perpendicular position, the arms I I are raised from the track, and thus when a coal-tub or other weight is suspended from the swinging arm E, the movement of the truck is unobstructed. K designates a rope, which serves to elevate the coal-tub or other article to be conveyed or transported by the truck A. One end of this rope is fastened to the truck; the rope is thence passed through a hoisting-block, L, and over a pulley, M, mounted in the truck to a pulley, N, arranged in the adjacent post D; thence to

a drum or windlass. (Not shown.) The hoisting-block L is provided with a loop, *e*, whereby it may be connected to the swinging arm E, and with a hook, *f*, for the attachment of the selected article. If the article to be transported is attached to the block L, and the block is thereupon raised by the rope K, the block can readily be attached to the arm E so as to release the truck. When the truck is released it may be propelled over the tracks C C in one direction by its own weight, provided the track is inclined, and in the other direction by the rope K.

It is apparent that the block L can be connected to the swinging arm E by simply lifting the block a sufficient distance and then allowing its loop to drop into the hook of the arm.

The end of the rope K is secured to the truck A by means of a cross-piece, *g*, which is made adjustable by being set in notches formed in the upper edge of the truck, as shown, and by this means the end of the rope can be adjusted to different parts of the truck. The object of this arrangement is to permit of accommodating the rope to the degree of inclination of the truck or of its railway.

It may be remarked that for the hooks on the ends of the arms E and G, loops or various other devices may be substituted. The arms, moreover, may be connected with each other in various other ways besides by the disk F, and, if desired, may be formed in one piece with each other.

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

1. A wheeled truck, carrying a swinging arm, E, which is provided with a hook or other equivalent device, and combined with a weight or spring, by the action of which it is held at an angle to a perpendicular line or plane, substantially as described.

2. The combination of a wheeled truck, the swinging arm E, and truck-fastening arm G, the whole being arranged to operate substantially as described.

3. In combination with a wheeled truck and the arms E and G, the parallel arms I I, arranged and operating substantially as described.

4. The combination, with a wheeled truck and the arms E, G, and I I of the rope K, hoisting-block L and pulley M serving to elevate the goods, substantially as described.

In testimony that I claim the foregoing, I have hereunto set my hand and seal this 6th day of April, 1876.

FRDK. SCHOLES. [L. S.]

Witnesses:

W. HAUFF,

CHAS. WAHLERS.