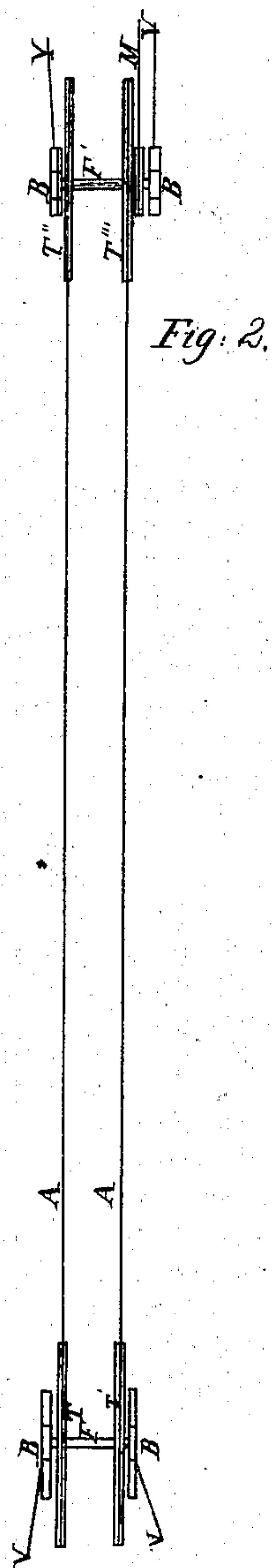
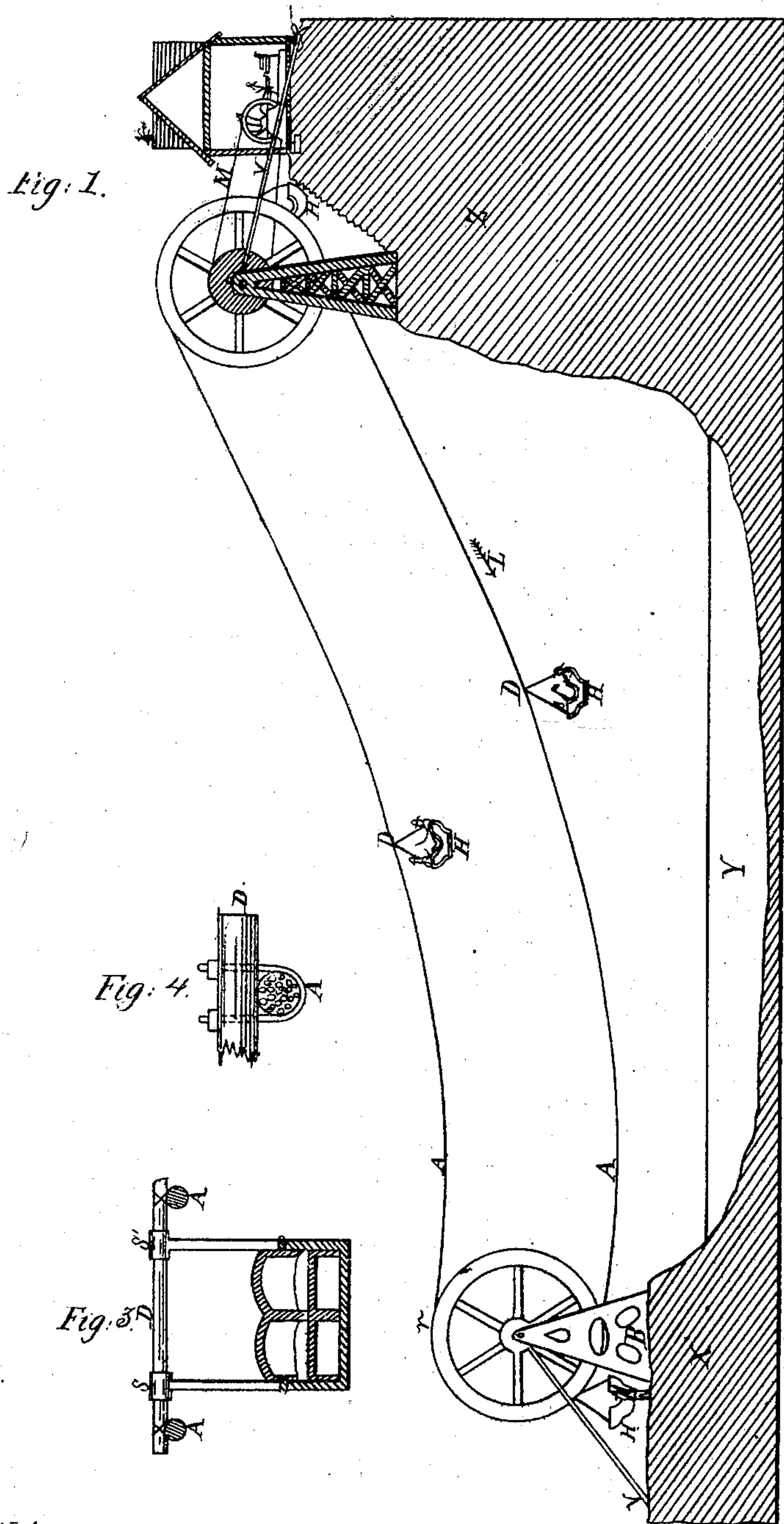


D. Towse.
Aerial Carriage & Way.
Nº 71921 *Patented Dec. 10, 1867.*



Witnesses:
James L. Clark
William Gerhard

Inventor:
Daniel Towse

UNITED STATES PATENT OFFICE.

DANIEL TOWSE, OF PITTSBURG, PENNSYLVANIA.

IMPROVED AERIAL CARRIAGE AND WAY.

Specification forming part of Letters Patent No. 71,921, dated December 10, 1867.

To all whom it may concern:

Be it known that I, DANIEL TOWSE, of the city of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain Improvements in Aerial Carriages and Ways; and I do hereby declare that the following is a full and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 represents a front elevation of my aerial carriage. Fig. 2 is a top view of the same. Fig. 3 is a detailed view of one of the carriages, on a large scale, and shown in section through the line *xx* of Fig. 1; and Fig. 4 is a detail of the rope *A* and cross-bar *D*.

The nature of my invention consists in a combination of wire ropes, grooved pulleys, and suitable piers with suspended carriages, arranged and operating as hereafter described, so that they can serve to transport passengers or freight over a river, valley, or other impediment to travel, thereby obtaining a means of transit which I term "aerial traveling."

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

B B B' B' are piers erected at each end of the space through which it is desired to establish an aerial-carriage line. These piers are strongly built, and are tied with anchors and chains *V V V V*, to resist any strain which may be put upon them tending to bring them together.

X is the bank of a river. *Y* is the river, and *Z* is the bluff or hill on the other side of the river *Y*.

T T T' T'' are four large-sized grooved pulleys mounted on the shafts *F F'*, and driven by the bearing *M*, which may be steam, horse, or any other power.

A A are two endless wire ropes which run in the grooved pulleys *T T' T T'*.

D D are cross-pieces, fastened to the ropes *A A* by straps or bolts, as seen in Fig. 4.

H H H H are carriages, suspended by chains or bars to the cross-bars *D D*, in such a manner that, the points *S S* acting as journals, the

carriages can be revolved around the bars *D D*.

As many carriages are thus placed on the wire ropes *A A* as are required in the apparatus for the purpose intended.

In case the carriages are intended to carry freight, mineral, or other heavy articles from the hill *Z* to the bank *X*, no motive power will be required, as the loaded carriages, in going in the direction of the arrow *L*, would drive the apparatus and bring back the empty carriages on the top rope.

I can also use one endless rope with a single grooved pulley at each end, and two carriages, one on the upper and one on the lower rope, with a reverse movement, the carriages crossing and recrossing the river without passing over or around the wheel.

Operation.

The operation of my aerial carriage is so simple that after the description and inspection of my drawings little has to be added. When the pulleys *T T* are put in motion by the motive power *M*, the wire ropes *A A* will act as a belt on two pulleys, and the carriages, suspended at intervals, will be brought in rotation from the piers *B B* to the piers *B B'*. As the ropes pass over the pulleys *T T*, the carriages will pass between said pulleys, hanging always plumb, their lower part just clearing the axles *F*, and landing opposite to platforms located for the purpose of loading or unloading. With a single wire rope the carriages will not pass over or around the grooved pulleys, but will be operated with a go-and-come movement, having landings at the upper and lower sides of the pulleys.

What I claim as my invention, and desire to secure by Letters Patent of the United State, is—

The combination of the endless wire rope or ropes *A A*, pulleys *T T T' T''*, and piers *B B B' B'* with the suspended carriages *H H H H*, arranged and operating as specified.

DANIEL TOWSE.

Witnesses:

FRANCIS L. CLARK,
J. DONALDSON.