

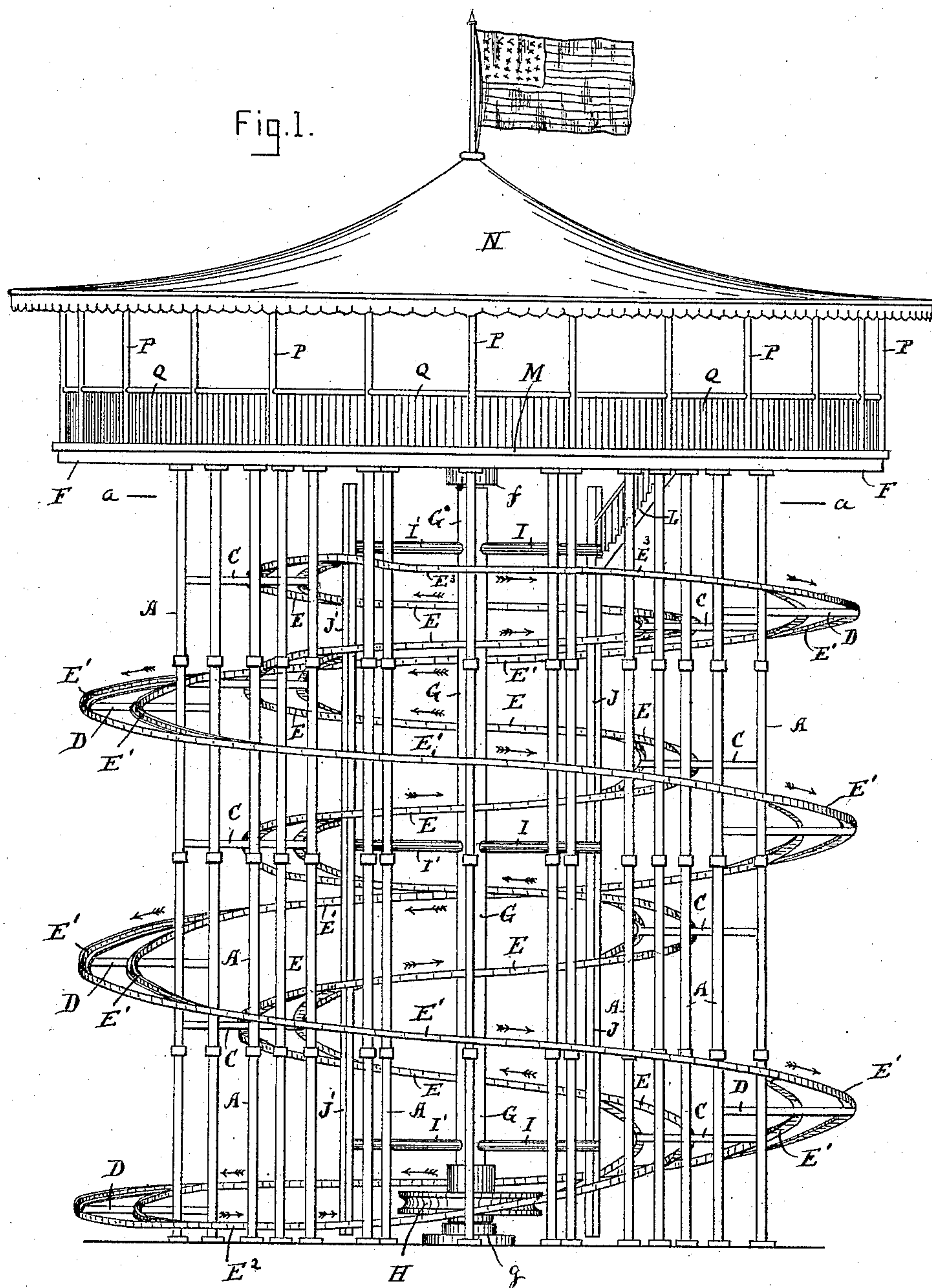
(No Model.)

2 Sheets—Sheet 1.

L. D. B. SHAW.
SLIDING HILL OR CHUTE FOR CARRIAGES.

No. 468,553.

Patented Feb. 9, 1892.



Witnesses.

Winifred G. Kerwin.
John J. Moore

Inventor.

Lorenzo B. Shaw
by Edwin Planta
attorney.

(No Model.)

2 Sheets—Sheet 2.

L. D. B. SHAW.
SLIDING HILL OR CHUTE FOR CARRIAGES.

No. 468,553.

Patented Feb. 9, 1892.

Fig. 2.

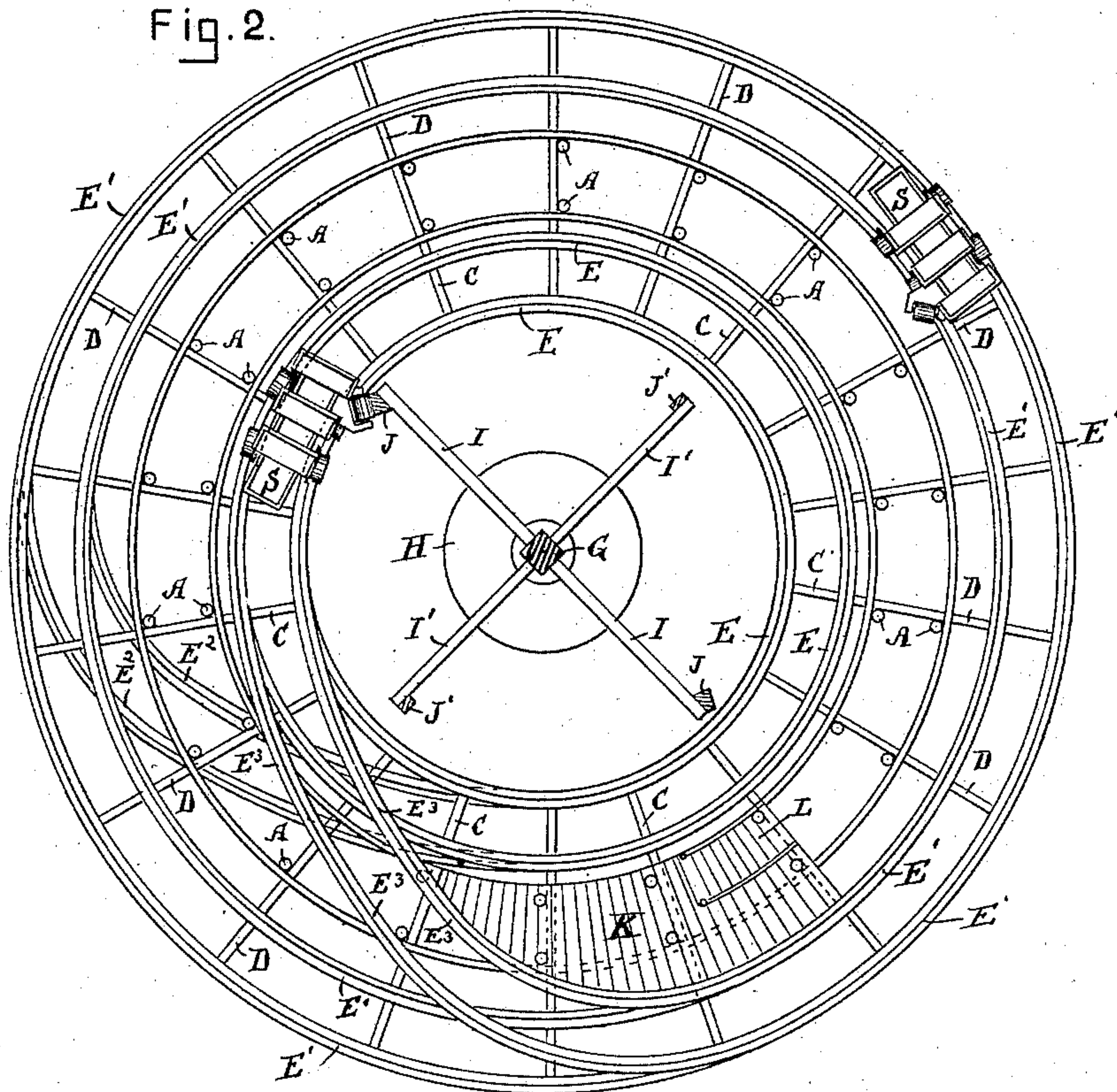


Fig. 3.

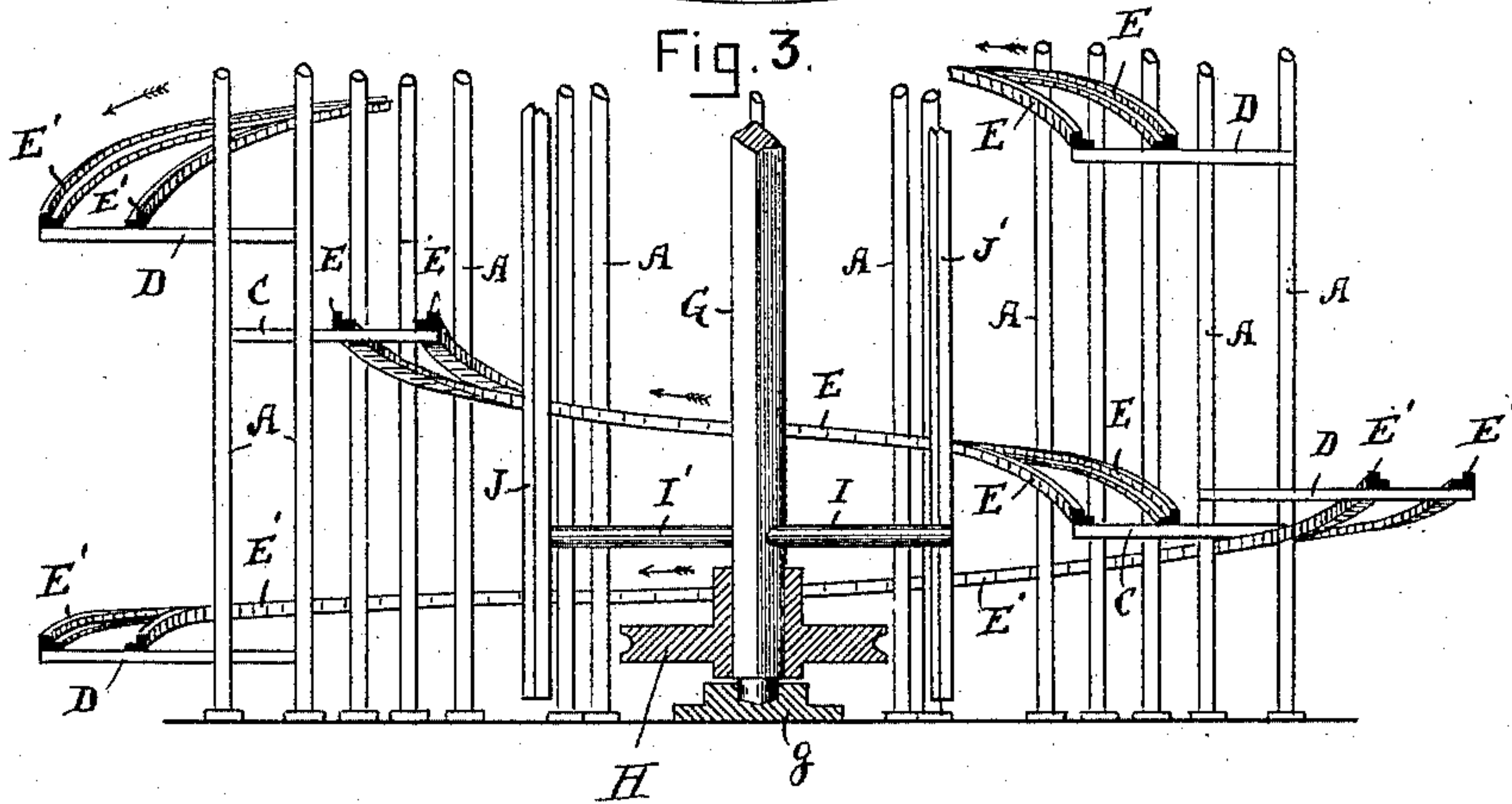


Fig. 4.

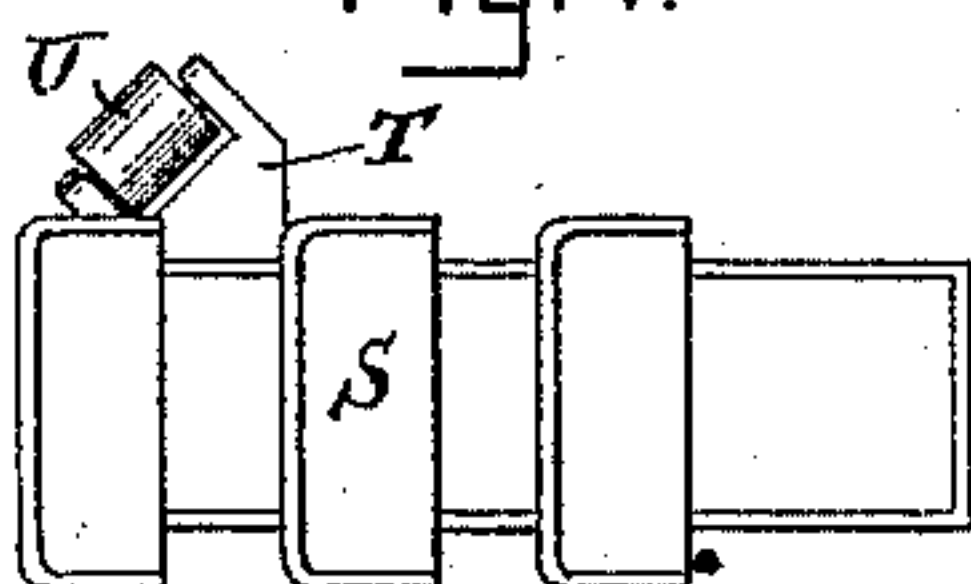
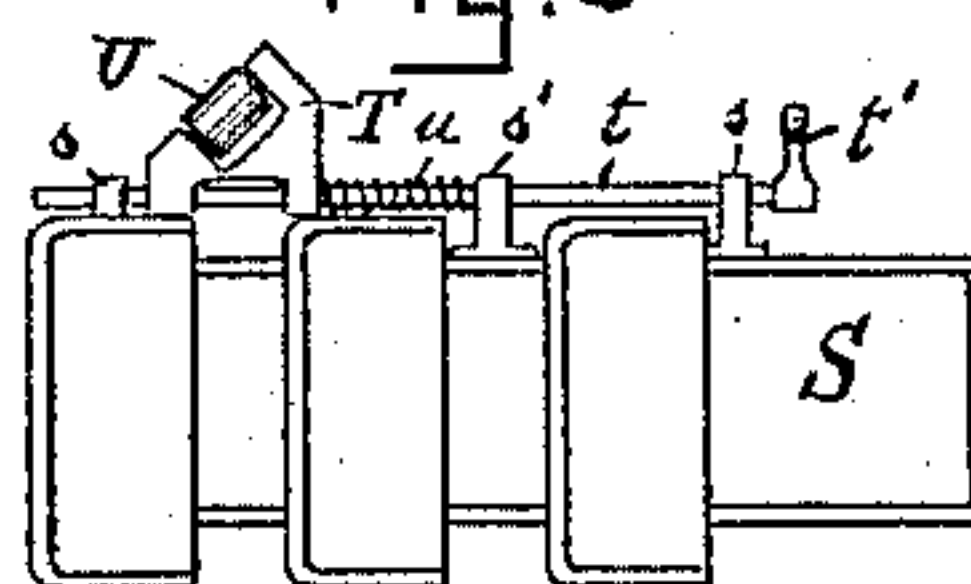


Fig. 5.



Witnesses.
Wm. G. Kerwin
John J. Moore

Inventor
Lorenzo B. Shaw
by Edwin Blanta
Attorney.

UNITED STATES PATENT OFFICE.

LORENZO D. B. SHAW, OF CONEY ISLAND, NEW YORK.

SLIDING HILL OR CHUTE FOR CARRIAGES.

SPECIFICATION forming part of Letters Patent No. 468,553, dated February 9, 1892.

Application filed February 16, 1891. Serial No. 381,559. (No model.)

To all whom it may concern:

Be it known that I, LORENZO D. B. SHAW, a citizen of the United States, residing at Coney Island, in the county of Kings and State of New York, have invented certain new and useful Improvements in Sliding-Hills and in Carriages to be used therewith, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to certain improvements in what are known as "sliding hills or chutes" and in carriages to be used therewith, the object being to provide a perfectly-safe means for raising the carriages and also to provide an outlook at the top of the structure.

The invention consists of an inner spiral track and a vertically-rotating shaft provided with arms that come into contact with a roller on the side of the carriage and force the same up the said spiral track and also in certain details of construction, as hereinafter fully described, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 represents a side view of a sliding-hill embodying my invention. Fig. 2 is a horizontal section taken on line *aa* of Fig. 1. Fig. 3 is a vertical section of the lower portion of the sliding-hill, taken through the center of the same. Figs. 4 and 5 are each a plan or top view of one of the carriages.

A represents standards arranged in a circular form, as shown. These standards I prefer to make of metal tubes connected together by collars or other suitable means. To these standards are secured cross pieces or beams C D, the cross-pieces C projecting inward toward the center and the cross-pieces D projecting outward. To the cross-pieces C are secured rails E E, that form an inner spiral track up which the carriages are to be forced, and to the cross-pieces D are secured rails E' E', that form an outer spiral track, down which the carriages run. The two tracks are connected at their lower ends by rails E² E² and at their upper ends by rails E³ E³, thus making a continuous double spiral, up one of which the carriages are first raised and then run down the other, the carriages traveling in the direction of the arrows.

To the upper ends of the standards A are secured cross-beams F, in the center of which is fitted a bearing *f*, in which the upper end

of a vertical shaft G is journaled, its lower end running in a step *g*. A rotary motion is imparted to this shaft by any suitable means. In the drawings I have shown a pulley H secured upon the shaft, which may be driven by a rope or chain. To the shaft are secured four sets of arms I I'. The arms I extend out so as to nearly touch the inner rail E. Upon the ends of these arms are secured bars J, that extend the whole height of the track, and to the arms I' are secured bars J'. These arms are not quite so long, as they are only intended to counterbalance the other arms I and bars J. At the lowest point where the two tracks join each other the rails are level for a short distance to form a station where the passengers enter or leave the cars, and at the upper part of the track there is also a level portion that forms a station. At this part is provided a platform K, where the passengers may alight, and from this platform a flight of steps L lead to a platform M, that extends over the entire top of the spirals and forms an observatory, and over this platform is a roof N, supported from the platform M by standards P. A railing Q is placed around the platform to prevent persons falling off.

A plan view of one of the cars S is shown at Fig. 4. To the inner side of the rear of the car is secured a bearing T, the outer face of which is at about an angle of forty-five degrees to the side of the car, and is provided with bearings in which are mounted the journals of a roller U; but instead of a rigid bearing I prefer to mount the roller as shown in Fig. 5, in which the bearing T, carrying the roller U, is secured to a shaft *t*, mounted in bearings *s s'*, secured to the side of the car, and between the bearing T and the bearing *s'* is interposed a spiral spring *u*, so that when the bar J comes into contact with the roller U all sudden jar will be prevented, as the spring will yield, and on the end of the rod *t* is secured a handle *t'*, which is under the control of the brakeman, so that should it be desired for any reason to throw the roller U out of contact with the bar J it can be readily accomplished by the movement of the handle *t'*.

The body of the car may be of any desired form or design.

The operation is as follows: Supposing the

shaft G to be rotated and a car is at the lowest point, the passengers enter the same and it is pushed forward by an attendant until one of the bars J comes in contact with the roller U upon the side of the car and forces it forward. It is thus caused to travel up the inner spiral, and when it arrives at the highest point the car runs forward a short distance (as the track is there slightly inclined) and leaves the bar J. The car is now upon the level portion at the top of the track, where the passengers can alight upon the platform K and by the steps L ascend to the platform M, where they can obtain an extended view of the surrounding scenery, and when they wish to return they pass down the steps L to the platform K and enter a car, which is then by an attendant pushed forward off the level portion of the track, and the car, by its own gravity, descends the outer spiral until it reaches the lowest point, where the passengers leave the car.

It will be seen that the means of raising the carriages herein described is perfectly safe, and at the same time the passengers have a view of the surroundings as they are being raised, and they have also the advantage of a temporary stay upon the elevated platform, thus affording a fine opportunity of viewing the surrounding scenery.

What I claim as my invention is—

1. In combination with a spiral track, a reel consisting of a central shaft and radial arms carrying bars arranged parallel with the shaft, said reel being supported upon its end, means for rotating said reel, and a roller secured to the side of the car, substantially as and for the purpose set forth.

2. In combination with a sliding-hill having an inner or ascending spiral track and an outer or descending spiral track, said tracks being connected together at the top and bot-

tom, a platform supported above said tracks, and a flight of steps leading from a platform at the highest part of said tracks to the platform above, substantially as and for the purpose set forth.

3. A carriage having a roller secured to one side on a suitable angle, in combination with a spiral track and means for engaging said roller and forcing the carriage up the said track, substantially as set forth.

4. A spiral track, in combination with a vertical shaft having arms carrying bars, said shaft having a rotary motion imparted thereto, whereby carriages are forced up the said spiral track, as set forth.

5. In combination with a sliding-hill, a spiral track upon which the carriages are raised and a central shaft having arms and bars for engaging with a roller secured to the side of the carriage, substantially as set forth.

6. In a sliding-hill, the combination of an outer track, an inner spiral track, the two tracks being connected together at the top and bottom, and a central shaft having arms carrying bars that engage with a roller on the side of the carriage for forcing it up the inner spiral track, substantially as set forth.

7. In combination with a carriage for a sliding-hill, a roller U, mounted in bearings secured to a rod *t*, mounted in bearings secured to the side of the car, a spiral spring *u*, and handle *t'*, all arranged and operating substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 2d day of February, A. D. 1891.

LORENZO D. B. SHAW.

Witnesses:

L. W. HOWES,
EDWIN PLANTA.