(No Model.)

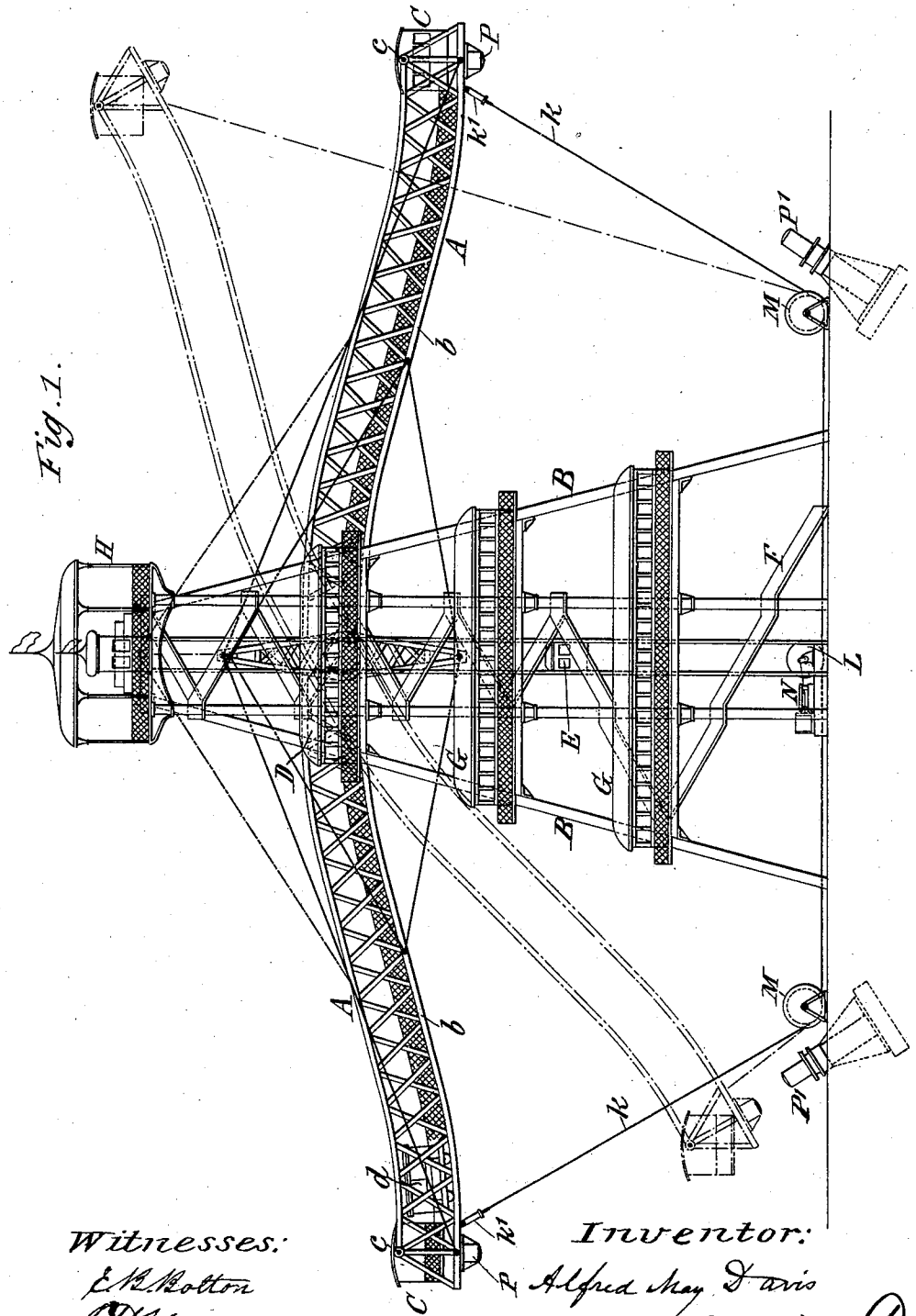
3 Sheets—Sheet 1.

A. M. DAVIS.

SEESAW.

No. 599,833. Patented Mar. 1, 1898.

Fig. 1.



Witnesses:
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By Howard & Howard
his Attorneys.

(No Model.)

3 Sheets—Sheet 2.

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SEESAW.

No. 599,833. Patented Mar. 1, 1898.

Fig. 4.

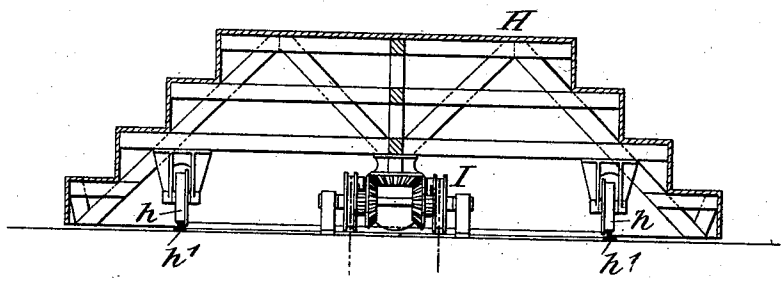
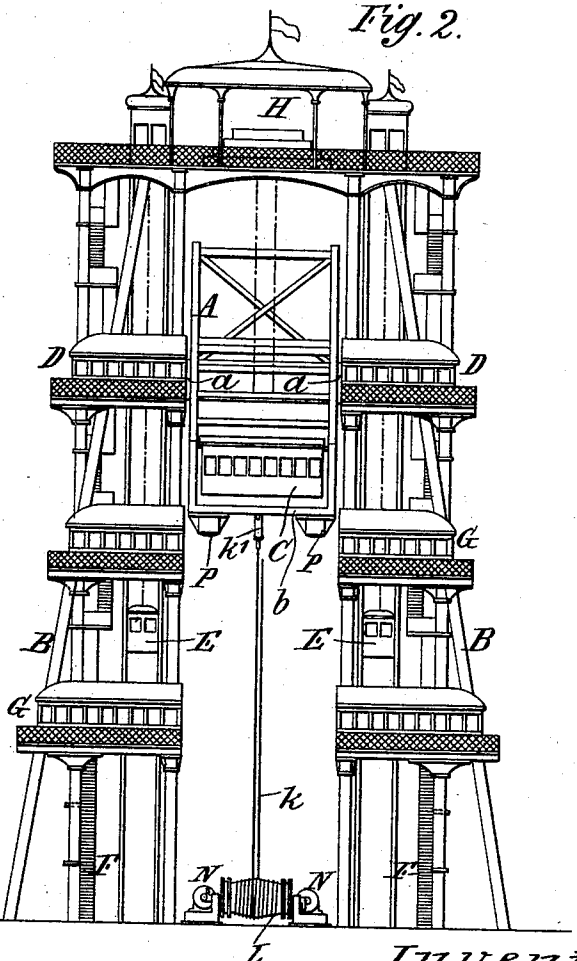


Fig. 2.



Witnesses
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Otto Munn

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(No Model.)

3 Sheets—Sheet 3.

A. M. DAVIS.

SEESAW.

No. 599,833. Patented Mar. 1, 1898.

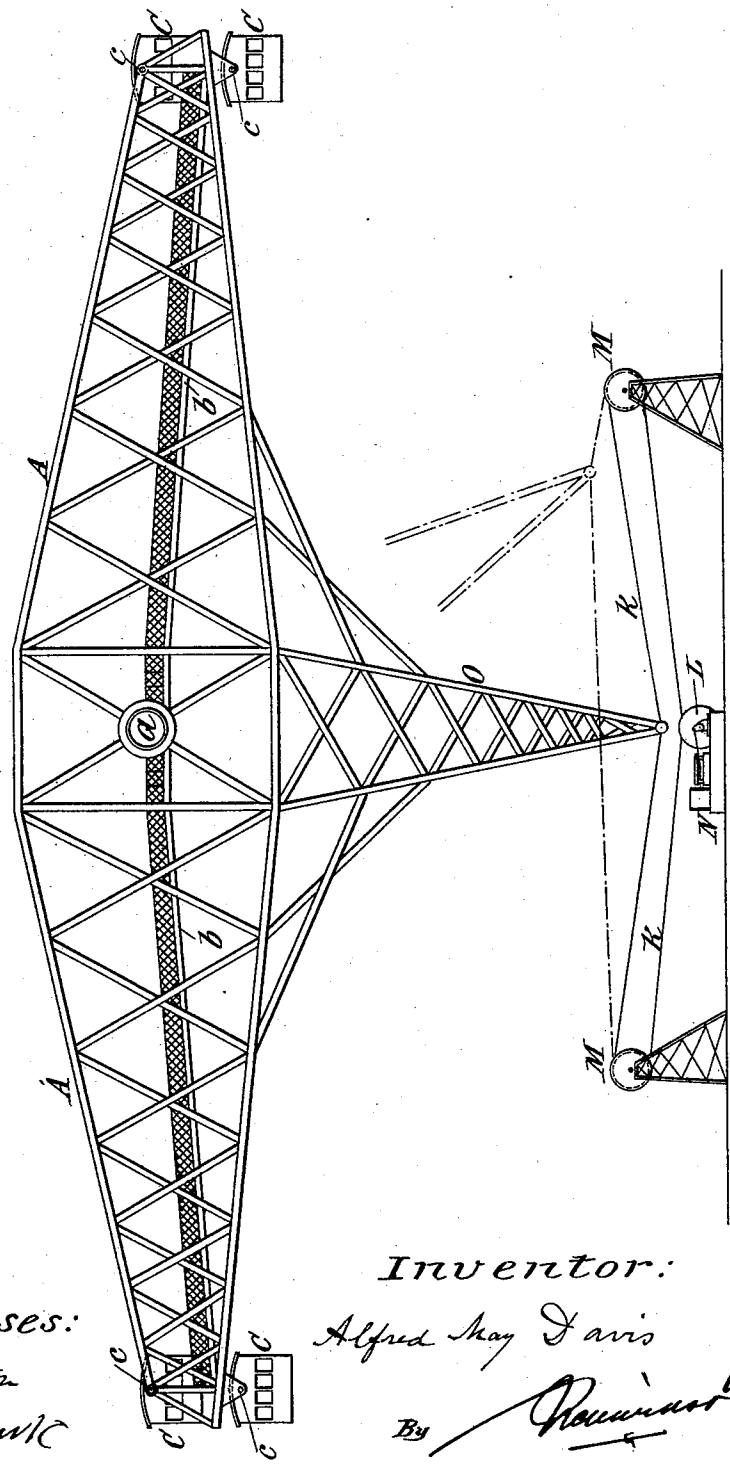

Fig. 3.

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UNITED STATES PATENT OFFICE.

ALFRED MAY DAVIS, OF LONDON, ENGLAND.

SEESAW.

SPECIFICATION forming part of Letters Patent No. 599,833, dated March 1, 1898.

Application filed April 29, 1897. Serial No. 634,430. (No model.)

To all whom it may concern:

Be it known that I, ALFRED MAY DAVIS, mineral-water manufacturer, a subject of Her Majesty the Queen of Great Britain and Ireland, residing at Esher street, Westminster, in the city of London, England, have invented certain Improvements in Seesaws for Recreation and Observation, of which the following is a specification.

This invention relates to gigantic seesaws for recreation and observation and will be clearly understood by referring to the accompanying drawings, wherein—

Figure 1 is a side elevation of a gigantic seesaw constructed according to my invention. Fig. 2 is an end view of Fig. 1. Fig. 3 is a side elevation of a modified form of seesaw, the supporting structure being omitted; and Fig. 4 is a detail.

Similar letters refer to corresponding parts in all the figures.

Referring to Figs. 1 and 2, the seesaw consists of a girder A, of lattice or other suitable construction, mounted on pivots or trunnions *a*, which work in roller, ball, or other suitable bearings carried by the supporting-piers B, or in lieu of trunnions I may employ knife-edges or rockers on the girder, resting on suitable bearing-blocks carried by the piers or towers. The girder A may suitably be from three hundred to four hundred feet long and may be built in position upon the cantaliver principle. For strength and lightness it would preferably be constructed of steel. At each end of the girder saloons or cages C are suspended pendulum fashion from pivots *c*, so as to be self-leveling during the oscillations of the girder. These saloons will be fitted with chairs, seats, or lounges and may each accommodate, say, one hundred or more people. They would preferably be constructed of steel and may be glazed or merely surrounded by a railing or otherwise constructed, as preferred. By deflecting the girder A downward toward either end, as shown in Fig. 1, I am enabled to carry the load above the floor thereof without raising the center of gravity, as would be the case with a straight girder. A suitable floor or roadway *b* extends from end to end of the girder, and upon the floor or roadway I may lay rails for electric or cable cars *d* to run upon, by which passengers may be conveyed from the center of the girder to the saloons at the ends thereof. The piers B would preferably be of steel or iron and may be of any suitable construction, and at or about the level of the girder covered platforms or waiting-rooms D are built, to which access is gained by the lifts E or staircases F. Other saloons or structures G may also be built on the piers at different elevations and may be fitted up as refreshment-bars, dining-rooms, smoking-rooms, drawing-rooms, and the like. The piers or towers B and their lifts or staircases are continued up past the level of the girder to a height approximating to the greatest elevation of the ends of the girder A when in action. Here a saloon or observatory H is built for watching the motion of the girder and for observation generally. The saloon or observatory H may be mounted on rollers *h*, (or balls,) running on circular rails or tracks *h'*, Fig. 4, and may be slowly revolved by suitable gearing I, actuated by any convenient motor, or connected with the girder, so as to be operated by the oscillations thereof through the medium of a ratchet and pawl or equivalent mechanical device.

The oscillation of the girder may be effected by any suitable and convenient machinery or apparatus actuated by steam, hydraulic, electric, or other motive power.

In Fig. 1, *k* is a wire rope which, taking one or more turns round a drum L, passes under guide-pulleys M, fixed to the ground, and is secured to each end of the girder through the medium of spring connections *k'*, whereby sudden jars or shocks in starting or stopping are avoided. The drum L is intended to be rotated from a convenient motor N by clutch or equivalent gear, whereby it can be instantly thrown into and out of gear with the motor, as desired. The drum being placed in gear with the motor by the clutch, an impulse in one direction will be imparted to the girder by the rope *k*. The drum is then thrown out of gear with the motor, so as to be free to revolve independently thereof, and the girder permitted to swing in the reverse direction by its own momentum. These operations are repeated until the girder is in full swing, the duration of the impulses depending upon the judgment of the engineer.

When the girder is oscillating to its full extent, further impulses may be imparted thereto at intervals, as found necessary. I prefer to construct the drum of double conical form, as represented, with a spiral groove for the reception of the rope running from end to end thereof, this construction enabling me to give to the girder a pull having its greatest power at the start, when the rope encircles the least diameter of the drum, and gradually increasing in speed until the girder reaches the center of its arc of movement, when the rope surrounds the greatest diameter of the drum. Then as the rope descends from the center to the other end of the drum its speed decreases with the lessening momentum of the girder.

In Fig. 3, which shows a modified form of girder, the rope *k*, in lieu of being connected with the ends of the girder, is attached by spring connections to the end of a dependent lever O, of suitable construction, built on or secured to the girder. A large brake-drum should be mounted on the drum L to overcome the motion of the girder and assist in bringing it to rest.

If desired, saloons or cages C may be suspended beneath as well as above the floor of the girder, as shown in Fig. 3, access to the lower saloons being gained by suitable stairs dependent from the girder and not illustrated in the drawings.

It is not intended that the girder should make contact at any time when in motion; but in order to avoid serious consequences should this accidentally occur I provide buffers P beneath each end of the girder, adapted to engage with hydraulic or spring buffers P′, fixed in the ground.

If desired, in substitution for or as an addition to the cages or saloons C, I may employ self-leveling platforms or a number of pendulous chairs or seats suspended above the floor of the girder near the ends from suitable supports.

Safety on the girder may be insured by inclosing the same with strong wire-netting.

Electric lights for spectacular and illuminating purposes may be placed at suitable points on the girder and piers or towers, and the electric main for these and for the electric cars (when employed) may be landed close to the axis of the girder.

In conclusion I would observe that I do not confine or restrict myself to the particular construction shown, which merely illustrates a suitable method of carrying my invention into effect.

It will be obvious that in my invention it is not necessary to entirely stop the oscillations in order that a passenger should reach either end of the beam or girder, inasmuch as the point where the passenger steps on the beam is the center of oscillation or near it, and consequently the movement there is a minimum.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. In combination, the tower, the seesaw pivotally suspended from said tower with means for operating it, the revolving observatory rotatably mounted upon the tower above the seesaw, and connections from the seesaw to the tower whereby the rocking of the latter will give a rotary motion to the observatory, substantially as described.

2. An improved seesaw adapted to be loaded from its center comprising the tower or support, the oscillating beam or girder supported thereon, cages or platforms at the ends of the beam, a suitable conveying-vehicle adapted to travel along said beam from the center to the edges, and means for positively moving said vehicle independent of the movement of the seesaw, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 13th day of April, 1897.

ALFRED MAY DAVIS.

Witnesses:
A. E. ALEXANDER,
H. W. KNOTT.