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MECHANICAL TOY.

APPLICATION FILED JUNE 16, 1917.

1,258,845.

Patented Mar. 12, 1918.

2 SHEETS—SHEET 1.

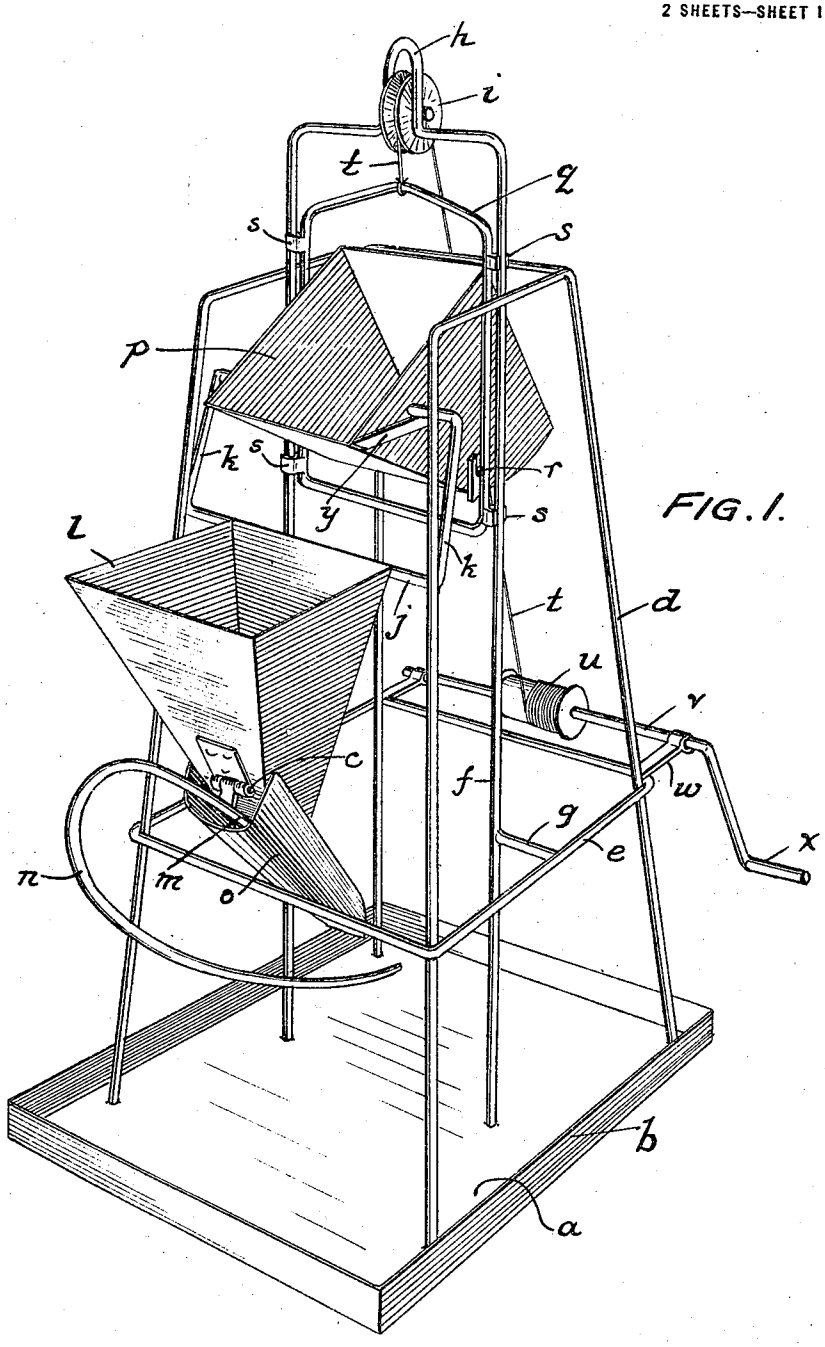


FIG. 1.

WITNESS:

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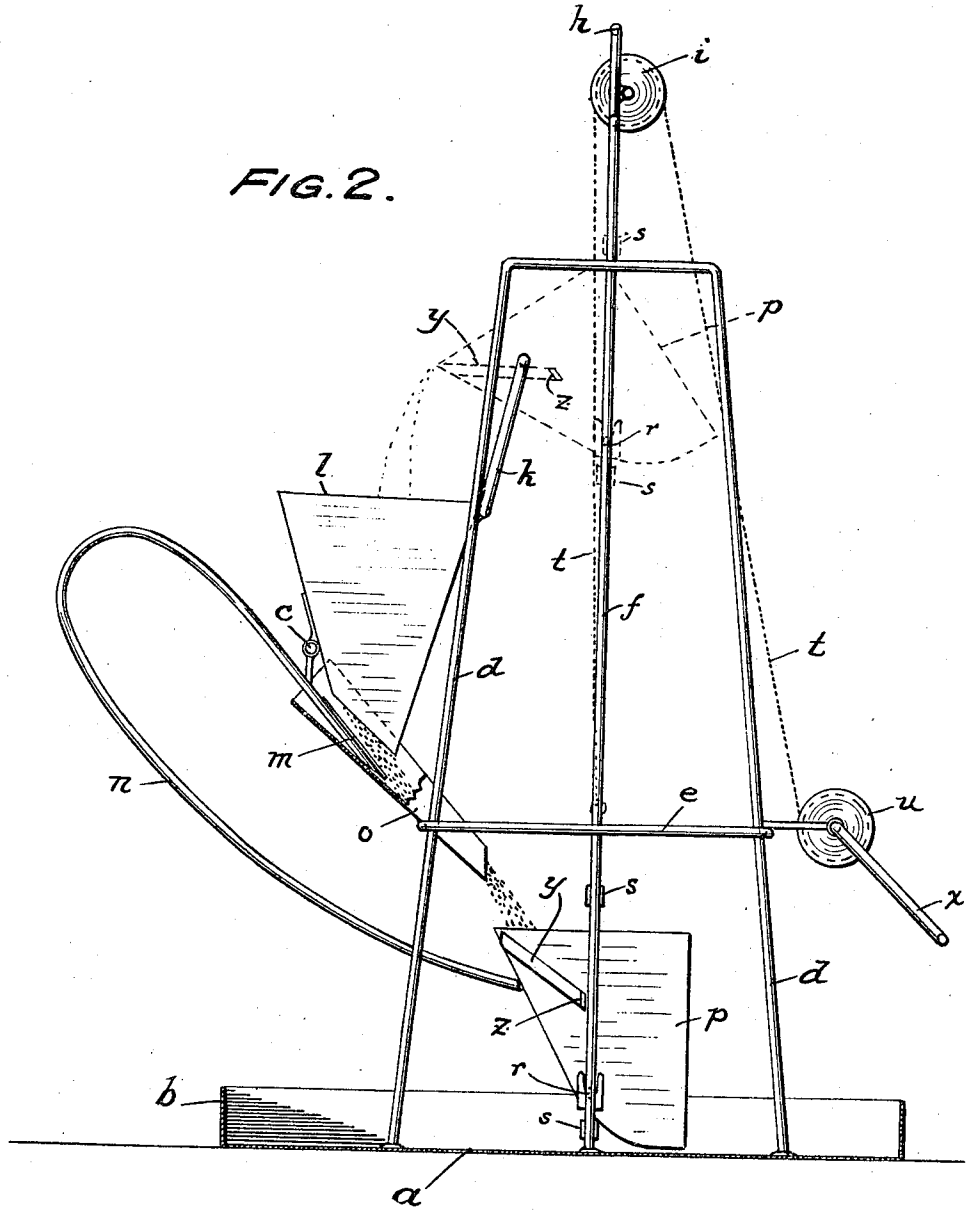
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2 SHEETS—SHEET 2.

FIG. 2.



WITNESS:

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MECHANICAL TOY.

1,258,845. Specification of Letters Patent. Patented Mar. 12, 1918.

Application filed June 16, 1917. Serial No. 175,068.

To all whom it may concern:

Be it known that I, ALFRED T. WILKINS, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Mechanical Toys, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

The object of my invention is to provide a mechanical toy of the type popularly known as sand elevators and dumpers, which will be of simple and durable construction and at the same time afford amusement and instruction to children.

A further object of my invention is to so construct the toy that the initial supply of sand will suffice for its continuous operation, using the sand over and over repeatedly, and thus obviating the necessity of a large supply of sand, the necessity for which is a great disadvantage to toys of a similar type.

Finally, I so construct the toy that there will be no waste of sand and consequent untidiness in the place where the toy is used.

Referring to the accompanying drawings, in which I have illustrated a preferred embodiment of my invention—

Figure 1 illustrates a perspective view of the toy.

Fig. 2 illustrates a side elevation of the toy.

The base or pan *a* is provided about its edges with the upturned flange *b*. Extending upward from the base *a* and suitably fastened thereto is the framework comprising the inwardly inclined posts *d* and the braces *e*. Fastened to the base and extending vertically is the guide comprising two rods *f* which extend a short distance above the top of the framework. The braces *g* extend from the framework to the guide members to insure its rigidity. The top of the guide is bent to form a loop *h* and a pulley *i* is journaled therein. A short distance from the top of the framework is fastened the cross piece *j* having the upwardly extending arms *k*, the ends of which are bent at right angles toward each other. Positioned outside of the framework and fastened to the cross piece *j* is the hopper *l* provided with the gate or trap *m* suitably hinged thereon as at *c* and adapted to close the bottom of the hopper. To the hinged trap is fastened the lever *n* which extends upwardly, outwardly and downwardly to a point inside of and near the lower part of the framework. The chute *o* is suitably fastened beneath the hopper and inclines downwardly to a point within the framework.

The bucket *p* is provided with the bail *q*, which extends all around it and to which it is pivoted as at *r*. On the sides of the bucket are placed the diagonal cleats *y* which extend from the upper corners downwardly toward the rear; at their ends are placed the stops *z*. The bail is provided with shoes *s* which are adapted to slide on the guide rods *f*. To the top of the bail is fastened the string *t* which passes up and over the pulley *i* and thence down and is fastened to the windlass drum *u* which is carried on the rod *v* journaled in the brackets *w* which extend from the framework; one end of the rod is bent downwardly and outwardly to form the handle *x*.

In operation, the bucket is filled with sand or other fine material. The windlass is turned and the bucket drawn up toward the top of the framework. As it nears the top, the cleats *y* come in contact with the ends of the arms *k;* as the bucket continues upward, the ends of the arms *k* slide inwardly along the cleats and upset the center of gravity of the bucket, so that the bucket dumps, its contents falling into the hopper *l*. The bucket is now lowered and, as it descends, it assumes its normal upright position, being tipped back by contact of its lip with the cross piece *j*. The stops *z* contact with the bail *q* and prevent the further backward tipping of the bucket.

As the bucket nears its lowered position, its bottom contacts with the end of the lever *n* and as it completes its descent it pushes the lever down, which causes the trap to be opened and permits the sand to run down into the bucket. When the bucket is again raised, the trap is automatically shut; the lever being so arranged that when freed of the pressure of the bucket it tends to close the gate.

It may readily be seen that the operation of the device may be kept up indefinitely, the sand being transferred from the bucket to the hopper and back to the bucket by merely operating the windlass.

Having now fully described my invention, what I desire to claim and protect by Letters Patent is:

1. A toy comprising a vertically movable bucket, a hopper, means controlled by the bucket to tilt the same as it approaches its upper limit of movement to effect the discharge of its contents into the hopper, a valve adapted to close the mouth of the hopper, and means operable by the bucket as it approaches its lower limit of movement to open the valve and permit the contents of the hopper to be discharged into the bucket.

2. A toy comprising a frame including an upwardly extending guide, a bucket movable along the guide, means to operate the bucket up and down along the guide, a hopper supported on the frame, a valve adapted to close the mouth of the hopper, coöperating members on the frame and bucket adapted as the bucket approaches its upper limit of movement to tilt the same and effect the discharge of its contents into the hopper, and means operable by the bucket as it approaches its lower limit of movement to open the valve and permit the contents of the hopper to be discharged into the bucket.

3. A toy comprising a frame including an upwardly extending guide, a bucket movable along the guide, means to operate the bucket up and down along the guide, a hopper supported on the frame, means controlled by the bucket as it approaches its upper limit of movement to tilt the same and effect the discharge of its contents into the hopper, a pivoted valve at the mouth of the hopper, an extension from the valve, said valve and extension arranged to normally close the valve and thus confine in the hopper its contents during the downward movement of the bucket, said extension being positioned to be operated by the bucket, as the bucket approaches its lower limit of movement, to swing the valve open and allow the contents of the hopper to be discharged into the bucket.

4. A toy comprising a frame including an upwardly extending guide, a bucket movable along the guide, means to operate the bucket up and down along the guide, a hopper supported on the frame, a cam on the bucket and a member on the frame adapted, as the bucket approaches its upper limit of movement, to coact to tilt the bucket and effect the discharge of its contents into the hopper, a pivoted valve at the mouth of the hopper, a rod extending from the valve and adapted, normally, by gravity to hold the valve closed, the free end of the rod being in line of travel of the bucket and operable thereby, as the bucket approaches its lower limit of movement, to swing the valve open and allow the contents of the hopper to discharge into the bucket.

In testimony of which invention, I have hereunto set my hand, at Philadelphia, on this 15th day of June, 1917.

ALFRED T. WILKINS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."