

July 13, 1926.

1,592,086

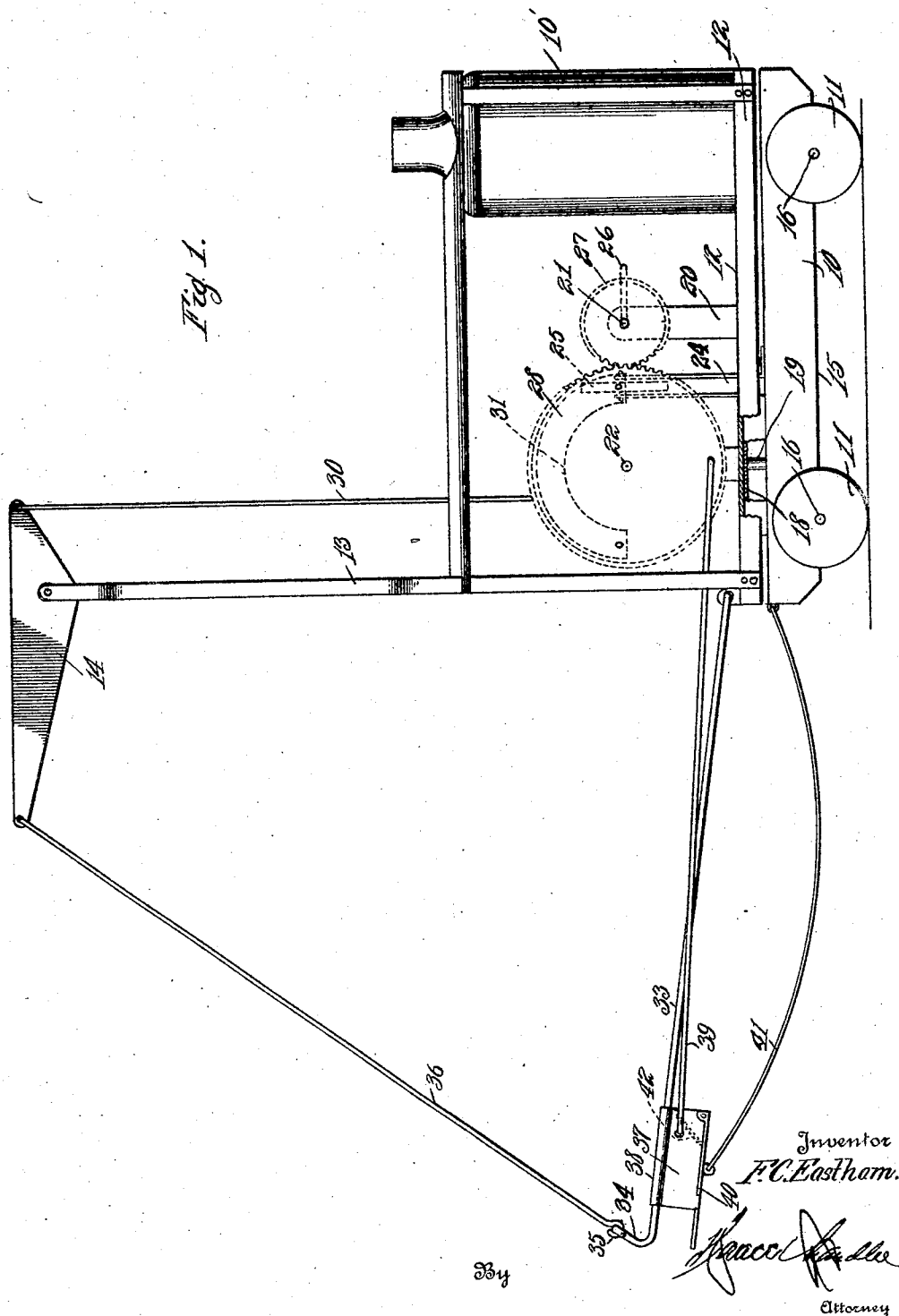
F. C. EASTHAM

TOY STEAM SHOVEL.

Filed July 11, 1925

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Fig. 1.



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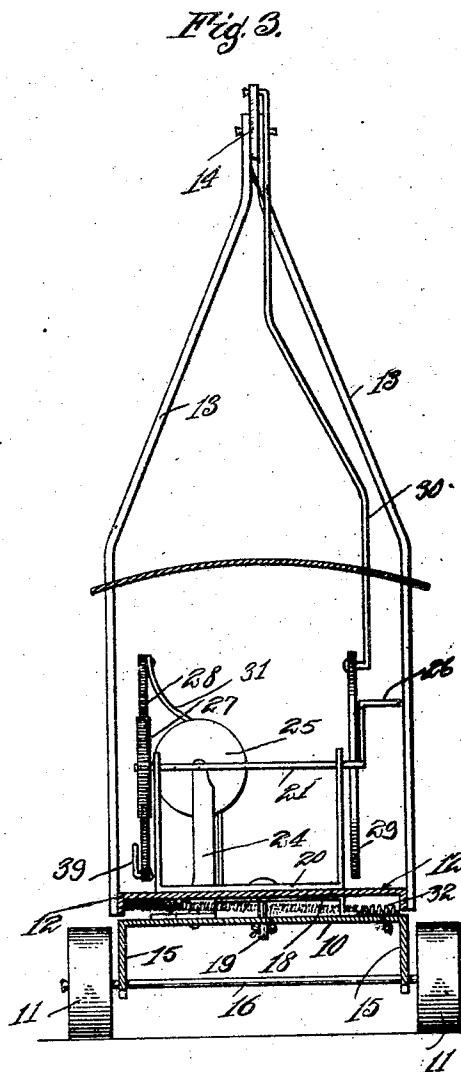
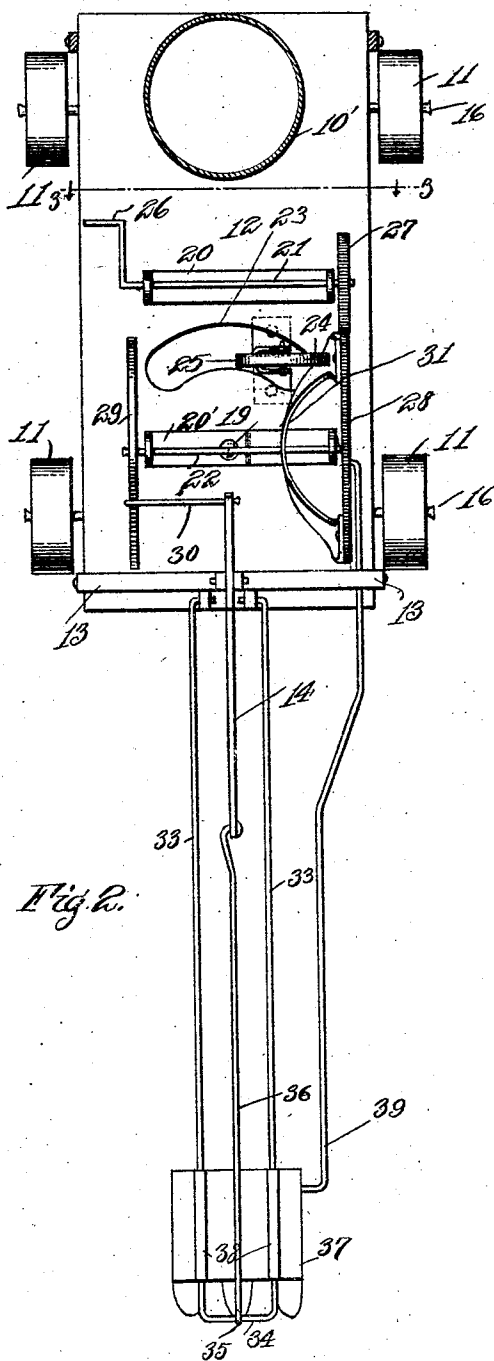
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TOY STEAM SHOVEL.

Application filed July 11, 1925. Serial No. 43,011.

This invention relates to new and useful improvements in toys, and particularly to toys which are built to simulate, as well as to operate, in the manner of the full sized machine.

One object of the invention is to provide a toy which is built to resemble the ordinary steam shovel, and which has mechanism for operating the shovel to perform the same motions that the full sized machine performs.

Another object is to provide a device of this character which is simple in construction, easy to operate, and which can be manufactured at a low cost.

Another object is to provide novel mechanism for actuating the shovel through its digging and lifting movements, and subsequently swinging the same toward one side and dumping the contents of the shovel.

Other objects and advantages will be apparent from the following description when taken in connection with the accompanying drawings.

In the drawings:

Figure 1 is a side elevation of a toy steam shovel made in accordance with the present invention.

Figure 2 is a top plan view of the same.

Figure 3 is a vertical transverse sectional view on the line 3—3 of Figure 2.

Referring particularly to the accompanying drawings, 10 represents a base which is mounted on the wheels 11. Pivotally mounted on the base, for horizontal swinging movement, is a platform 12, and mounted on the forward end of this platform are the uprights 13, the upper portions of which converge and pivotally support therebetween the walking-beam 14. The base is formed of sheet metal and has the downturned side portions 15, in which are supported the ends of the axles 16, on which the before-mentioned wheels 11 are mounted. Secured to the horizontal portion of the base 10, and at the forward end thereof, is an elevated table 18, through which the pivot 19 of the platform is disposed, and on which said platform turns. Properly secured to the upper face of the platform 12 are the angular U-shaped members 20 and 20', in the vertical arms of which are supported the ends of the shafts 21 and 22. Formed in the platform 12, in concentric relation to the pivot 19, is an arcuate slot 23, and secured

to the base 10, and extending vertically through said slot, is a post 24, having a roller 25 mounted in its upper end. Formed on one end of the shaft 21 is a crank handle 26, and fixed on the shaft, inwardly of the crank handle, is a small gear 27, which meshes with a larger gear 28, mounted on the adjacent end of the shaft 22. On the other end of the shaft 22 there is secured a disk wheel 29, to which is eccentrically pivoted one end of a link 30, said link having its other end pivotally connected with the adjacent end of the walking-beam 14. Formed on the inner face of the larger gear 28 is a cam face 31, which is adapted to intermittently engage with the roller 25, whereby to cause the platform 12 to swing on its pivot 19. Disposed beneath the platform 12, and connected at its opposite ends to one side of the platform, and to the opposite side of the base, respectively is a coil spring 32, which normally urges the platform 12 into central position with respect to the base, but which will permit the platform to swing. On the other end of the platform 12 is the boiler 10'.

Pivotally connected to the front end of the platform 12 are the arms 33, the outer ends of which are connected by an upturned bight portion 34, and engaged on this bight portion is the eye 35 of the lower end of the link 36, which has its upper end pivotally connected to the other end of the walking-beam 14. A scoop, or bucket 37 is provided with a pair of tubular members 38, on its upper side, which receive the arms 33 there-through, and whereby the bucket is adapted to slide toward and away from the platform 12. Pivotally connected to the bucket, at one end, and at its other end eccentrically pivoted to the larger gear 28, is a link 39, which causes the bucket to slide back and forth on the arms 33, as the gear 28 revolves. At the same time the link 30 is reciprocated by the disk wheel 29, to cause the walking-beam to be rocked, with the result that the arms 33 will be elevated and depressed in succession, to raise and lower the bucket. Pivotally mounted on the lower side of the bucket or scoop is a dumping door 40, and connected to the door, and to the base 10, is a cord 41. On the bucket and door are connected the ends of the coil spring 42, which yieldably maintains the door in closed position.

Upon rotating the crank handle the gears 27 and 28 will rotate the shaft 22, causing the link 30 to rock the walking-beam, which in turn raises and lowers the arms 33, through the medium of the link 36. At the same time, the link 39 causes the bucket to slide back and forth on the arms 33. It will be noted that when the arms 33 are being lowered the bucket is being projected outwardly on the arms 33, so that said bucket or scoop will dig into a pile of sand, filling the bucket. Further rotation of the shaft 22 causes the walking-beam to elevate the arms 33, lifting the bucket with its load of sand. At this time the cam face 31 will have engaged with the roller 25, with the result that the platform 12 will be swung around on its pivot 19, carrying the elevated arms 33 and bucket 37 with it, until the cord 41 becomes taut, when the door 40 will be swung downwardly to let the sand fall from the bucket. Immediately that the cam face 31 passes from the roller 25, the spring, which was placed under tension by the swinging of the platform toward the side, will restore the platform to its normal central position with respect to the base 10, and the cord to slack condition, permitting the spring 42 to close the door 40, ready for another operation.

Thus, upon continuously rotating the crank handle 26, the bucket will be projected forwardly to scoop sand, be elevated with its load, be swung to one side and its contents or load dumped, after which the parts will be brought to their normal position by the spring 32. These phases of the operation of the toy will continue as long as the crank is turned.

What is claimed is:

1. A toy digging machine including a base, a laterally swingable platform on the base, an upright on the base, a cam means on the platform, and means for rotating the cam means into engagement with the up-

right whereby to cause the lateral swinging of the platform.

2. A toy digging machine including a base, a laterally swingable platform mounted on the base, an upright on the base, a cam on the platform engaged with the upright, means for rotating the cam to cause the lateral swinging of the platform, and means for restoring the platform to normal position.

3. A toy digging machine including a base, a laterally swingable platform on the base, an upright on the base, a rotatable cam on the platform engaging with the upright, spring means for urging the platform in one direction, and means for rotating the cam to turn the platform in the other direction.

4. A toy digging machine including a base, a laterally swingable platform on the base and having an opening therein, an upright on the base extending through said opening, a gear on the platform, a cam on the gear engaging the upright, means for rotating the gear whereby to turn the platform in one direction, and a spring connected to the platform and base for returning the platform to normal position.

5. A toy digging machine including a base, a laterally swingable platform mounted on the base and having a slot concentric with the pivot of the platform, an upright mounted on the base and projecting upwardly through said slot, a gear mounted on the platform, a cam on one face of the gear bearing against said upright, a second gear meshing with the first gear, means for rotating the second gear, to cause the platform to swing in one direction, and a spring connected to the platform and base for swinging the platform in the other direction.

In testimony whereof, I affix my signature.

FRED C. EASTHAM.