Oct. 30, 1923. 1,472,733

D. G. MAXWELL

ADVERTISING DEVICE

Filed Jan. 3, 1922 3 Sheets-Sheet 1

Fig. 1

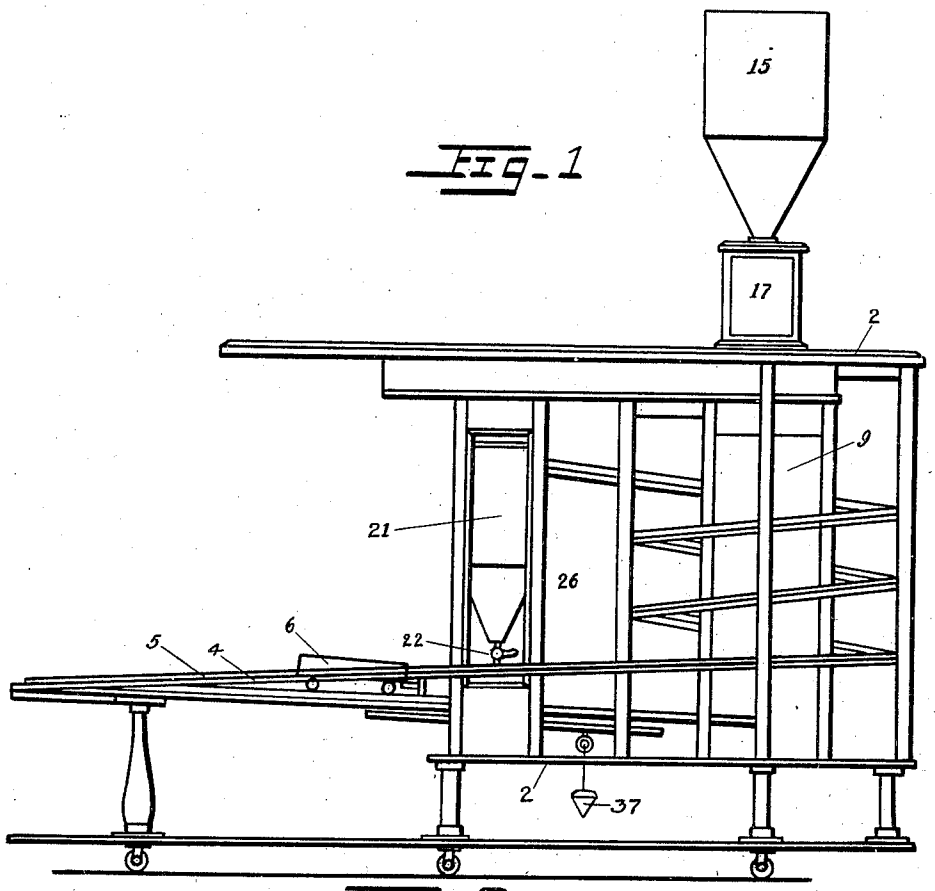
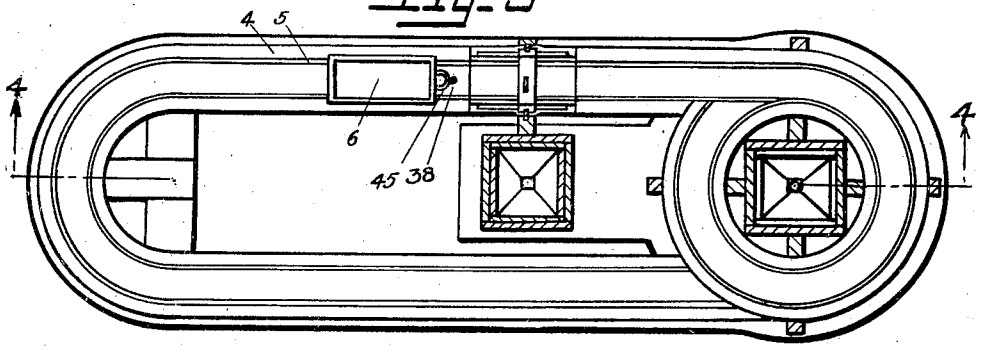


Fig. 3



INVENTOR

D. G. Maxwell

by Fetherstonhaugh & Co.

ATTYS.

Oct. 30, 1923.

1,472,733

D. G. MAXWELL

ADVERTISING DEVICE

Filed Jan. 3, 1922

3 Sheets-Sheet 2

Fig 2

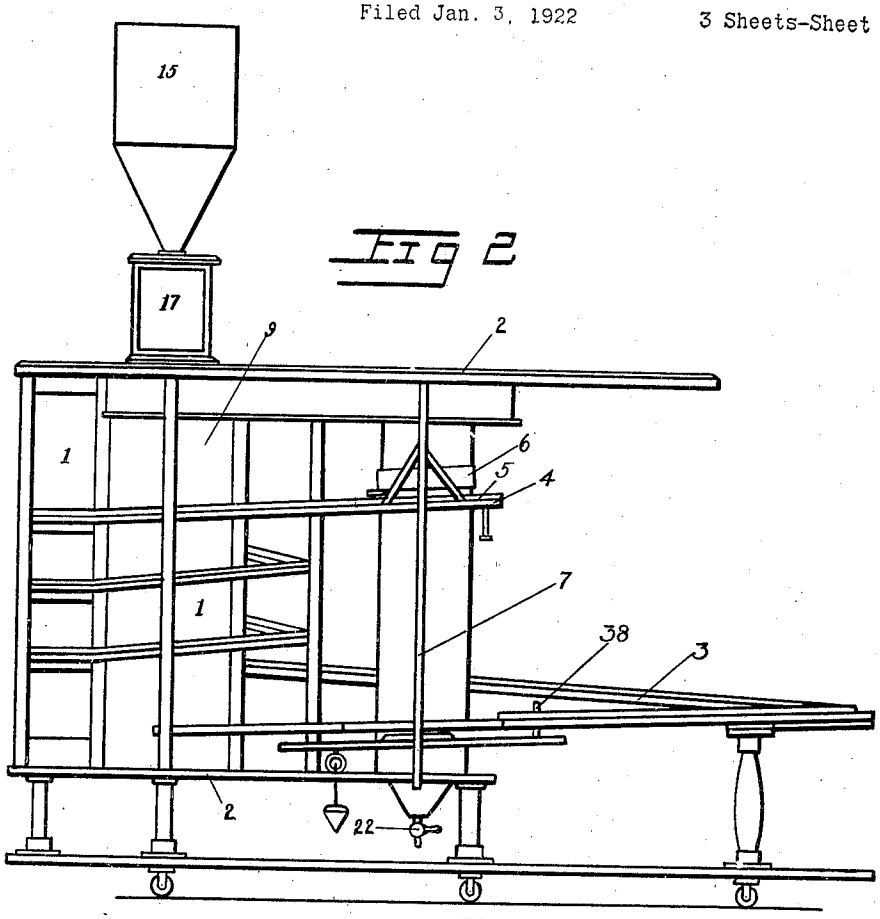
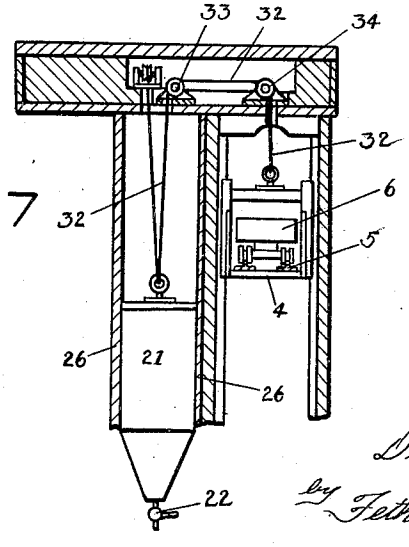


Fig 7



INVENTOR

D. G. Maxwell

by Fetherstonhaugh & Co.

ATTYS.

Oct. 30, 1923. 1,472,733

D. G. MAXWELL

ADVERTISING DEVICE

Filed Jan. 3, 1922 3 Sheets-Sheet 3

Fig. 8

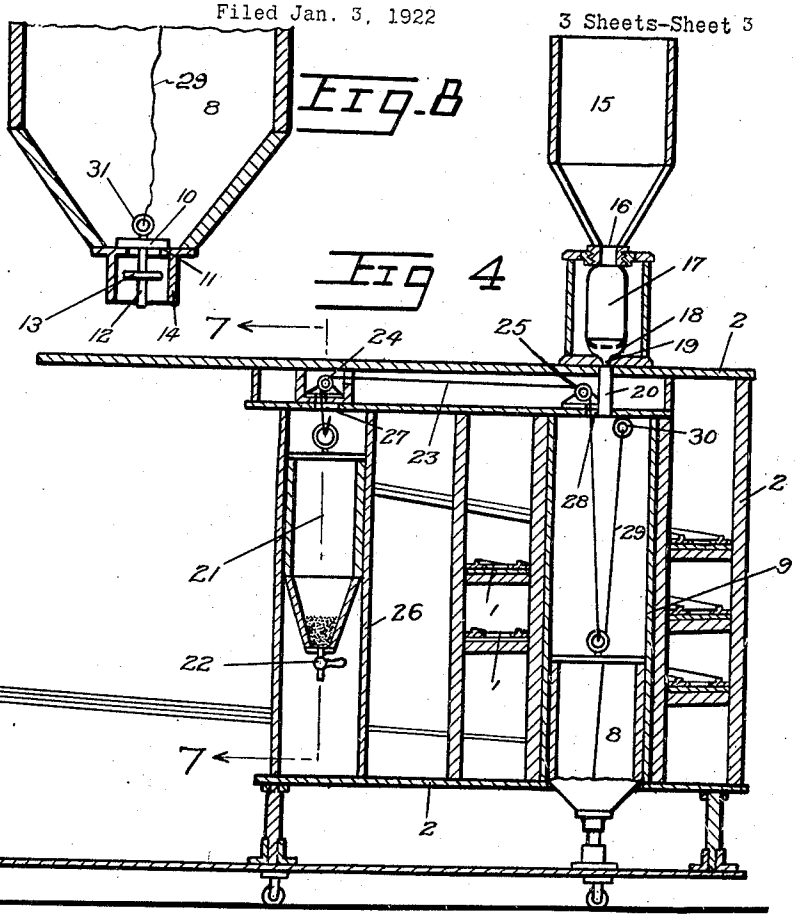


Fig 4

Fig 5

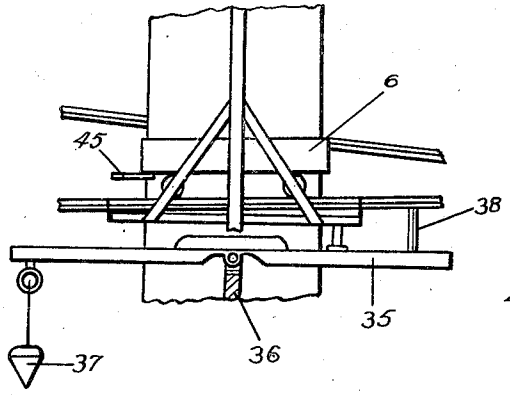
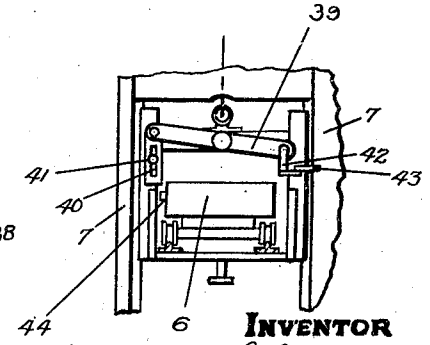


Fig 6



INVENTOR

D. G. Maxwell

by Fetherstonhaugh & Co.

ATTYS.

Patented Oct. 30, 1923. 1,472,733

UNITED STATES PATENT OFFICE.

DAVID GILLIES MAXWELL, OF TORONTO, ONTARIO, CANADA.

ADVERTISING DEVICE.

Application filed January 3, 1922. Serial No. 526,748.

To all whom it may concern:

Be it known that I, DAVID GILLIES MAXWELL, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Advertising Devices, of which the following is the specification.

My invention relates to improvements in advertising devices and the object of the invention is to construct a mechanical device in which the car will run by gravity down an inclined spiral track and be automatically elevated from the bottom of the track to the top of the same for repeating the above operation.

My invention consists of a device constructed and arranged substantially as hereinafter more particularly described and illustrated in the accompanying drawings in which:

Fig. 1 represents a side elevation of my device viewed from one side.

Fig. 2 is a similar elevation viewed from the other side of the device.

Fig. 3 is a horizontal section thereof.

Fig. 4 is a vertical section through the line 4—4 Figure 3.

Fig. 5 is an elevational detail of the elevating means and the means for actuating the car stop at the bottom of the track.

Fig. 6 is a cross sectional detail illustrating the car stop on the elevator.

Fig. 7 is a vertical cross sectional detail of the means for actuating the elevator, and

Fig. 8 is an enlarged vertical sectional detail of the valve at the bottom of the main bucket.

Like characters of reference indicate corresponding parts in the different views.

1 is an inclined spiral track suitably mounted on the frame 2 and having the looped lower end 3. 4 is a car elevator having a suitably mounted inclined track 5 thereon adapted to receive the car 6, said elevator slidably mounted in the vertical slides 7. 8 is the main bucket slidably mounted vertically in the casing 9, said bucket 9 having a lower end provided with a valve 10 seating on the seat 11, said valve having a valve stem 12 extending through a bearing 13 in the spout 14 at the lower end of said bucket. 15 is a hopper suitably mounted in the top of the frame 2 and having the reduced lower portion with an aperture 16 therein communicating with a chamber 17 detachably mounted on a cup-shaped member 18 having a spout 19 of reduced diameter at its lower end, said spout communicating with the tube 20 extending through the top of the casing 9.

21 is the elevator actuating bucket provided with a valve 22 in its lower end. 23 is a flexible cable connected at one end to the top of the bucket 21 and at the other end to the top of the main bucket 8, said cable extending over the pulleys 24 and 25.

The bucket 21 is vertically slidably mounted in the casing 26 and the pulley 24 is positioned above the top of such casing and a cable extends through an aperture 27 therein. The pulley 25 is positioned above the casing 9 and the cable extends through an aperture 28 in the top thereof. 29 is a flexible cable connected at its upper end to an eye 30 in the top of the casing 9 and connected at its lower end to an eye 31 on the top of the valve 10. 32 is a cable connected at one end to the upper end of the bucket 21 and at its other end to the top of the elevator 4, said cable extending over the pulleys 33 and 34 positioned above the casing 21 and elevator 4 respectively.

35 is a lever pivotally mounted on the pin 36 immediately below the lower end of the elevator slides 7 and provided with an upwardly extending stud 38 which freely extends through the track 3 in the vicinity of its lower end, said lever and stud being normally held in the operative position illustrated in Figure 2.

39 is a cross lever suitably pivoted intermediately of its length to the upper portion of the elevator 4 and provided with the downwardly extending slide plate 40 pivotally secured at its upper end to one end of the lever and adapted to slide on the pin 41 secured to the elevator 4. The other end of the lever is provided with a depending foot 42 having an outwardly extending end and adapted to engage an inwardly extending lug 43 on the elevator. 44 is an outwardly extending lug on the side of the car adjacent to the slide plate 40. 45 is a buffer provided on the forward end of the car.

The device is actuated as follows:

The hopper 15 is filled with sand and such sand passes through the lower end thereof through the chamber 17 into the cup member 19 and trickles through a spout thereof into the bucket 8, filling the same to the desired extent, it being understood that the bucket 8 is normally held in its uppermost position

by the bucket 21, said bucket 21 being filled with sand to weight it to counterbalance the weight of the bucket 8. The bucket 21 being heavier than the bucket 8, through the medium of the cable 23, draws the bucket 8 and elevator 4 into their uppermost positions.

When the sand from the hopper 15 weights the bucket 8 so that it is heavier than the bucket 21, such bucket 8 will slide down in the casing 9 and draw up the bucket 21. When the bucket 21 is drawn up the attached elevator 4 will slide down into the lowermost position illustrated in Figure 5. As the elevator 4 reaches the lower end of the slides 7 it engages the lever 35 and forces down the end of such lever provided with the stud 38. In this position the car 6 is at the lower end of the track as is illustrated in Figures 1 and 3. Upon the stud 38 being depressed the car will roll down onto the inclined track of the elevator which now registers with the end of the track on the looped lower end 3, such car being prevented from passing off the elevator by the lug 44 engaging the slide plate 40.

Now when the bucket 8 reaches the lower end of the casing 9 the cable 29 is pulled taut, jerking the valve 10 off its seat and allowing the sand in the bucket to pass out of the spout 14. Upon the sand being removed from the bucket owing to the heavier weight of the bucket 21 the bucket 8 will slide up to its uppermost position, and the bucket 21 will slide down to its lowermost position. As the bucket 21 slides down it draws up the elevator 4 and with it the car 6. When the bucket reaches its lower position the elevator 4 will have reached its uppermost position wherein the inclined track 5 thereof registers with the upper end of the track 1. As the elevator reaches such position the foot 42 on the lever 39 is engaged by the lug 43, depressing this end of the lever 9 and correspondingly elevating the end provided with the slide plate 40. As the slide plate 40 is drawn up it will be released from engagement with the stop 44 on the side of the car 6, and owing to the inclination of the track 5 the car will pass onto the track 1 and will roll down the same by gravity until it reaches the lower end of the loop 3 when it is stopped by the stud 38, which will be in the operative position. As long as there is sand in the hopper it will be seen that the above operation will be repeated.

The car is adapted to carry suitable advertising matter such as a sign.

From the above description it will be seen that I have devised a simple and effective mechanical device for advertising, which owing to the fact that the car will be continually in operation will hold the attention of the onlookers.

If desired a plurality of cars may be used in which case the buckets and elevator would be designed to function more quickly than is the case in the forms described above. Further if desired I could use water instead of sand.

It will also be seen that the weight of the buckets 21 can be varied by letting out sand through the valve 22 in the bottom thereof, the casing 26 being provided with a door on one side which may be opened to put sand into the bucket 21 for regulating the weight thereof. The door frame is illustrated in Figure 1, the door being removed to show such bucket.

What I claim as my invention is:

1. In an advertising device, the combination with an inclined track and a car running thereon, of a vertically slidable bucket, means for intermittently weighting the bucket, an elevator for elevating the car from the lower end of the track to the upper end of the track, a second vertically slidable bucket adapted to overbalance the aforementioned bucket when unweighted and means for actuating the elevator upon the second mentioned bucket being actuated.

2. In an advertising device, the combination with an inclined track and a car running thereon, of a vertically slidable car receiving elevator, a vertically slidable elevator actuating bucket, a vertically slidable weight receiving bucket, means connecting the two buckets together, means connecting the elevator actuating bucket with the elevator, means for introducing a weight medium into the weight receiving bucket at the upper end of its run, and means for releasing the weight medium therefrom at the lower end of its run.

3. In an advertising device, the combination with the inclined track and a car running thereon, of a vertically slidable elevator, means for stopping the car at the bottom of its run in the vicinity of the lower end of the track and means on the elevator reaching its lowermost position for releasing such car stopping means and permitting the car to run onto the elevator.

4. In an advertising device, the combination with the inclined track and a car running thereon, of a vertically slidable elevator, means for preventing the car running off the elevator during the upward movement thereof and means for permitting the car to run onto the upper end of the track.

DAVID GILLIES MAXWELL.