Dec. 1, 1931. P. W. YETT 1,834,670

ADJUSTMENT FOR PROPORTIONING MACHINES

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FIG. 1

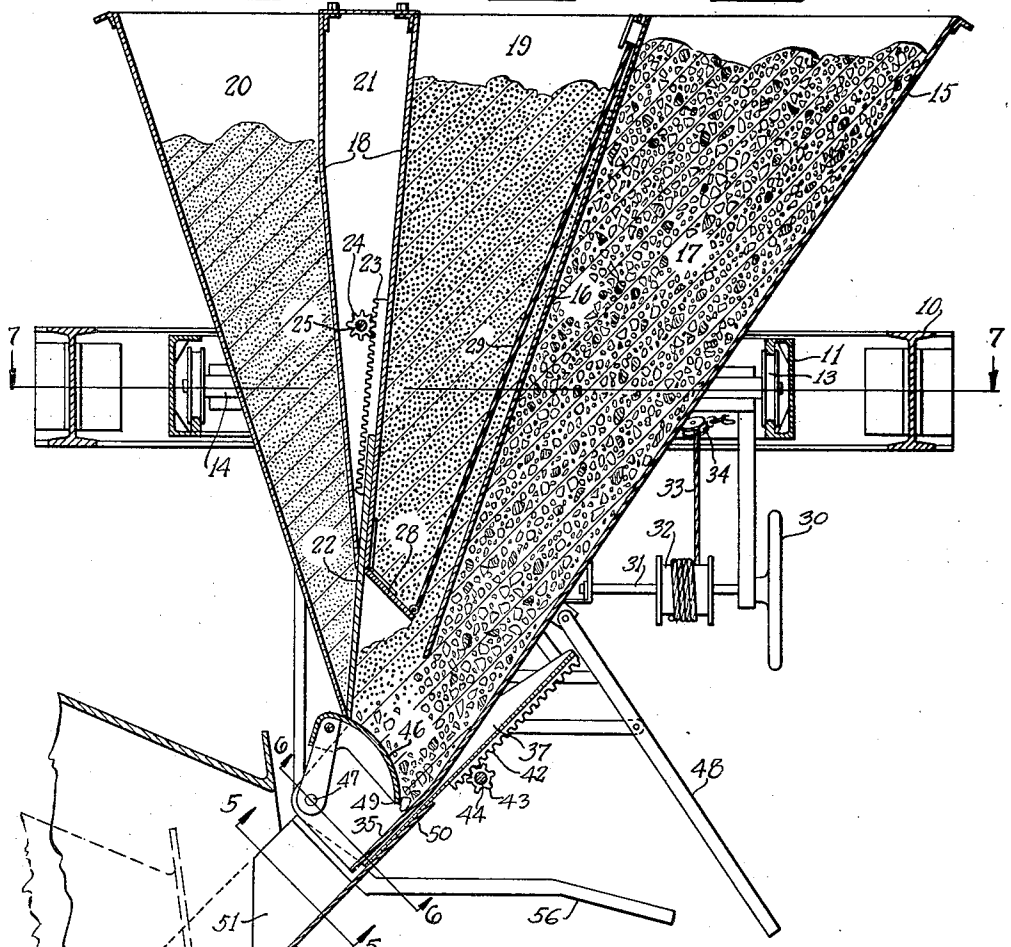



FIG. 2

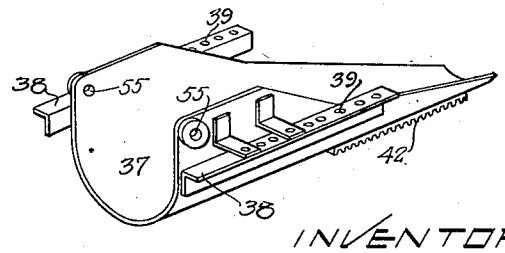
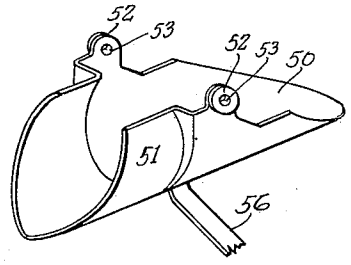



FIG. 3




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Fig. 4

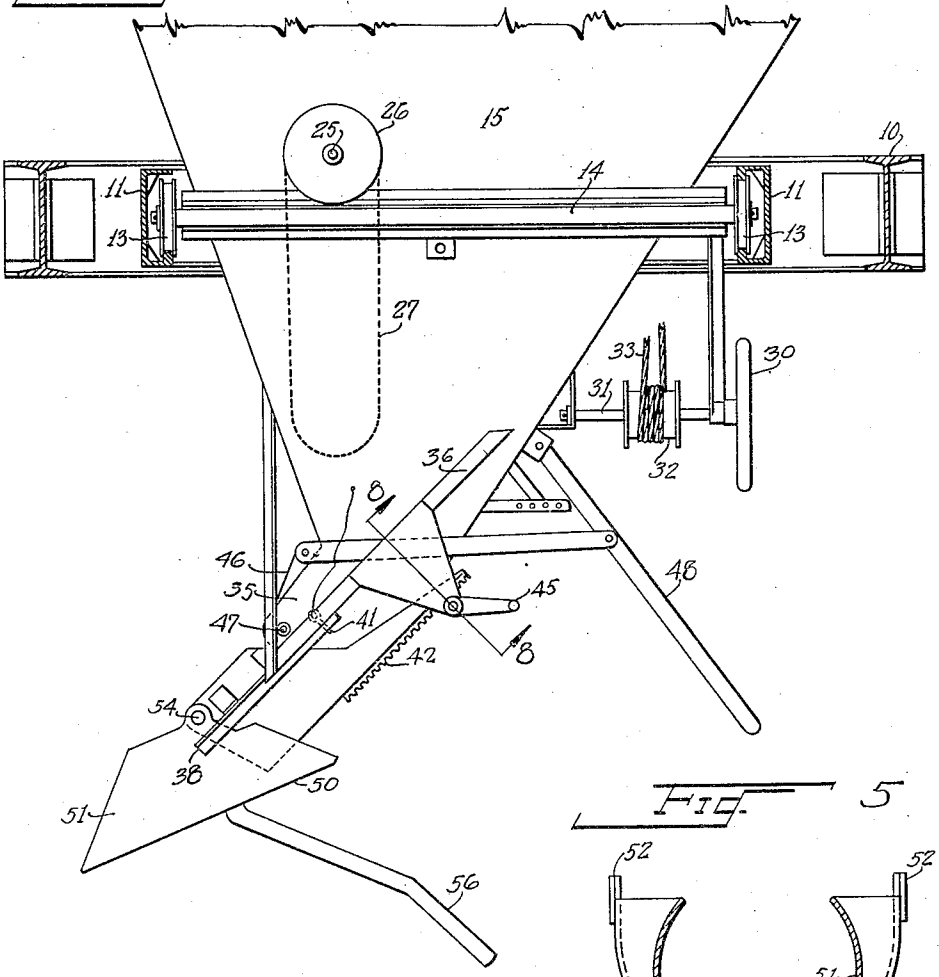
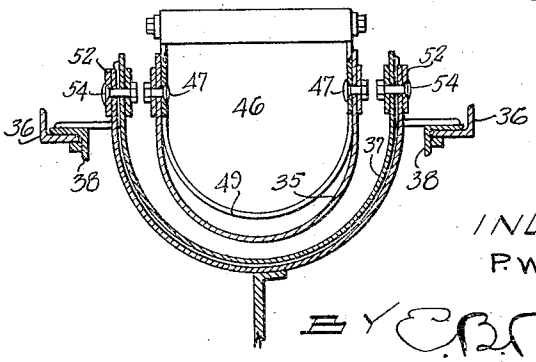



Fig. 5




Fig. 6




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FIG. 7

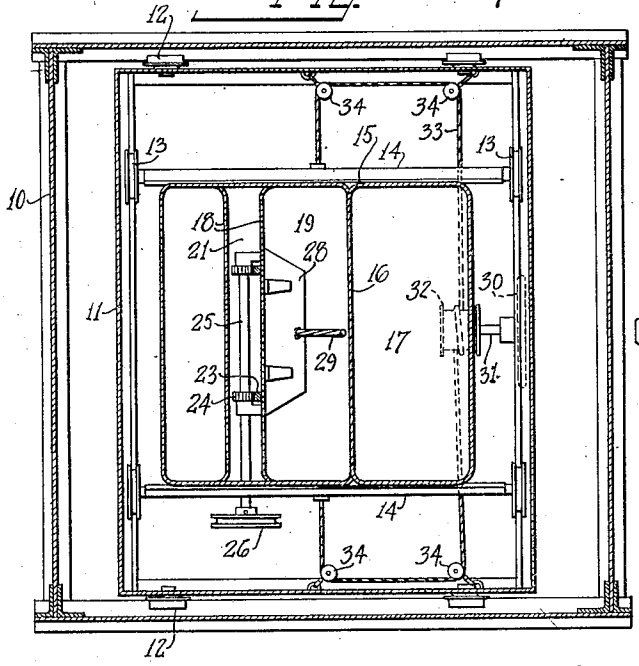



FIG. 8

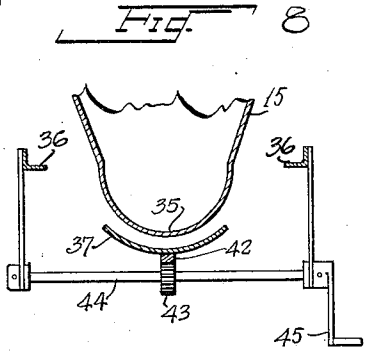
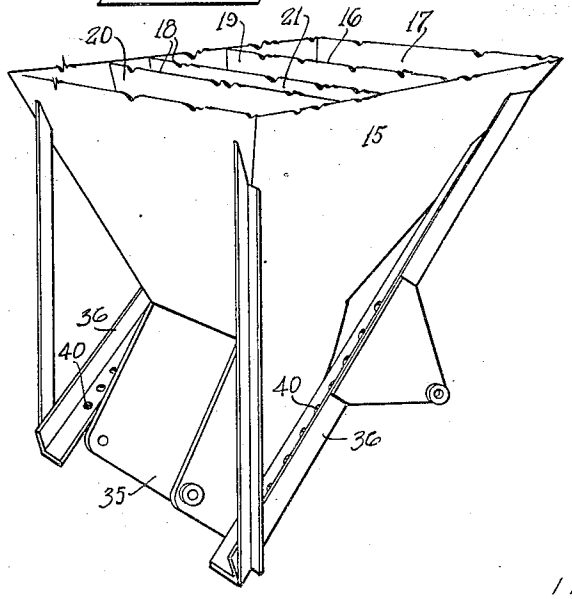



FIG. 9




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# UNITED STATES PATENT OFFICE

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## ADJUSTMENT FOR PROPORTIONING MACHINES

Application filed January 21, 1930. Serial No. 422,259.

This invention relates generally to the making of concrete, and particularly to an adjustment for the outlet of a proportioning machine for assembling the aggregates.

The main object of this invention is to provide an adjustment for the outlet of a proportioning machine intended to be used for charging portable concrete mixers in which the outlet is capable of lateral, longitudinal and vertical adjustment with relation to the horizontal axis of the mixing cylinder.

The second object is to make the proportioning machine readily adaptable to use with various heights of mixing cylinders, that is, the height of the axis above the ground, such variations being caused by different kinds of vehicles used for transporting the mixer, and also for varying diameters of mixing cylinders, which variations are caused by capacity requirements.

The third object is to provide a novel form of charging spout especially adapted for the charging of mixing cylinders.

These, and other objects, will become more apparent from the specification following as illustrated in the accompanying drawings, in which:

Figure 1 is a vertical section through the device.

Figure 2 is a perspective view of the slidable chute element.

Figure 3 is a perspective view of the tiltable chute element.

Figure 4 is a side elevation of the device showing certain of the supporting elements broken away in section.

Figure 5 is a section taken along the line 5—5 in Figure 1.

Figure 6 is a section taken along the line 6—6 in Figure 1.

Figure 7 is a plan.

Figure 8 is a section taken along the line 8—8 in Figure 4.

Figure 9 is a perspective view of the hopper outlet.

Similar numbers of reference refer to similar parts throughout the several views.

Attention is drawn to my copending application, Serial Number 364,654 for a portable proportioning machine, over which this device is an improvement.

Referring in detail to the drawings, there is shown an outer frame 10 preferably constructed of I beams and supported in any convenient manner, either on a wheeled support or on stationary foundations. Within the frame 10 is a frame 11 of rectangular shape having on opposite sides thereof the wheels 12 which employ the I beams of the frame 10 as a track. The frame 11, on the other hand, serves as a track for the wheels 13 which are normal to the wheels 12. On the axles 14 of the wheels 13 is mounted a hopper 15 having a fixed dividing partition 16 forming a gravel section 17.

Within the hopper 15 is placed a pair of converging partitions 18 which form the compartment 19 for sand and 20 for cement, and also an intermediate compartment 21 within which is placed a sliding gate 22 provided with a rack 23 which meshes with a pinion 24 on the shaft 25, on whose outer end is secured a chain wheel 26 around which passes the chain 27, a manual movement of which causes the gate 22 to vary the size of the outlet of the compartment 20 in which is stored the cement.

The compartment 19 contains the sand and has at the lower end thereof a hinged gate 28 which is operated by a cable 29 for the purpose of regulating the sand to secure the desired flow, regardless of its moisture content. Lateral movement is supplied to the hopper 15 by means of the hand wheel 30 on the shaft 31 which carries the drum 32 around which is wound the cable 33 whose opposite ends pass around the pulleys 34 and fastened to the hopper 15. In other words, a movement of the wheel 30 to the right or left causes the hopper 15 to move correspondingly.

The hopper 15 converges downwardly to form an inclined curved spout 35 on each side of which is mounted an inclined angle bar 36 both of which are supported from the hopper 15 and are parallel to each other forming a guide for the slidable chute element 37 on the sides of which are secured the angle bars 38 provided with a series of

perforations 39. The guides 36 are provided with perforations 40 through which is passed a holding pin 41 which also passes through one of the holes 39, thereby locking the slidable chute 37 against a sliding movement. On the under side of the slidable chute 37 is secured a rack 42 which meshes with a pinion 43 on the shaft 44 which is operated by a crank 45, the rotation of which will cause the chute 37 to slide longitudinally.

Across the spout 35 is hinged the curved gate 46 on the shaft 47 which is operated by the hand lever 48. The bottom edge 49 of the gate 46 need not come in contact with the bottom of the spout 35 in order to completely close same against the flow of gravel from the compartment 17.

The tilting spout section consists of a curved rearmost portion 50 which merges into a somewhat smaller foremost portion 51 and is integral therewith. The tilting spout section is provided with the bosses 52 through whose openings 53 pass the bolts 54 which also pass through the openings 55 on the sliding spout section 37. The bolts 54 form the hinge connection for the tilting spout section. A hand lever 56 is attached to the tilting spout section at its rearmost portion 50 by means of which its inclination can be varied to suit requirements.

There is also indicated the charging inlet 57 of a portable concrete mixer, and in dotted lines the position of a similar charging inlet 58 of less height than the inlet 57, due either to a smaller capacity or lower mounting for the mixer, and it is for the purpose of adapting the charger to varying heights of charging inlets 57 and 58 that this device has been constructed.

Briefly reviewing the foregoing structure it will be seen to provide a charging hopper in which the outlet therefor can be inserted into the charging inlet of a mixer, and for the purpose of facilitating such insertion the outlet has been made movably longitudinal with the mixer, as well as laterally with relation thereto and vertically with relation thereto. The vertical adjustment is secured to either or both by a sliding as well as a swinging movement.

The operation of the device is as follows: Assuming that a charge of aggregates occupies the hopper 15 and it is desired to place same within a portable mixer, the mixer is first backed up to the device (as shown in Figure 1 of the drawings) and the spout 51 is moved into the charging inlet by one or all of several movements. It is first aligned laterally and longitudinally by moving the hopper 15 on the wheels 12 and 13, first by means of the hand wheel 30 and second by manually moving the entire hopper to one side. In some cases it is desirable to provide a slight slope to the track members 10 so that if the truck should back into the spout it will merely move it out of the way without injuring same. The same result could of course be accomplished by means of a spring.

The spout 51 is then steered into the inlet opening 57 under the control of the lever 48, after which it is moved further into the inlet opening by the crank 45. The various ingredients from the compartments 17, 19 and 20 are then allowed to flow through the hopper outlet, under the complete control of the operator.

The exact manner of varying the controls will depend upon the proportions and conditions of the various ingredients being handled.

I claim:

A charging unit having in combination a hopper having wheeled supports allowing horizontal movement for the hopper in two perpendicular directions, said hopper having inclined guides formed thereon at its lower end adjacent to the outlet thereof, a slidable spout adjustably mounted on said guides having means for moving same thereon, and a tiltable spout hinged to said slidable spout having lever means thereon for varying the degree of inclination thereof.

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