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ELEVATOR LEG

Filed April 20, 1929

Fig. 1

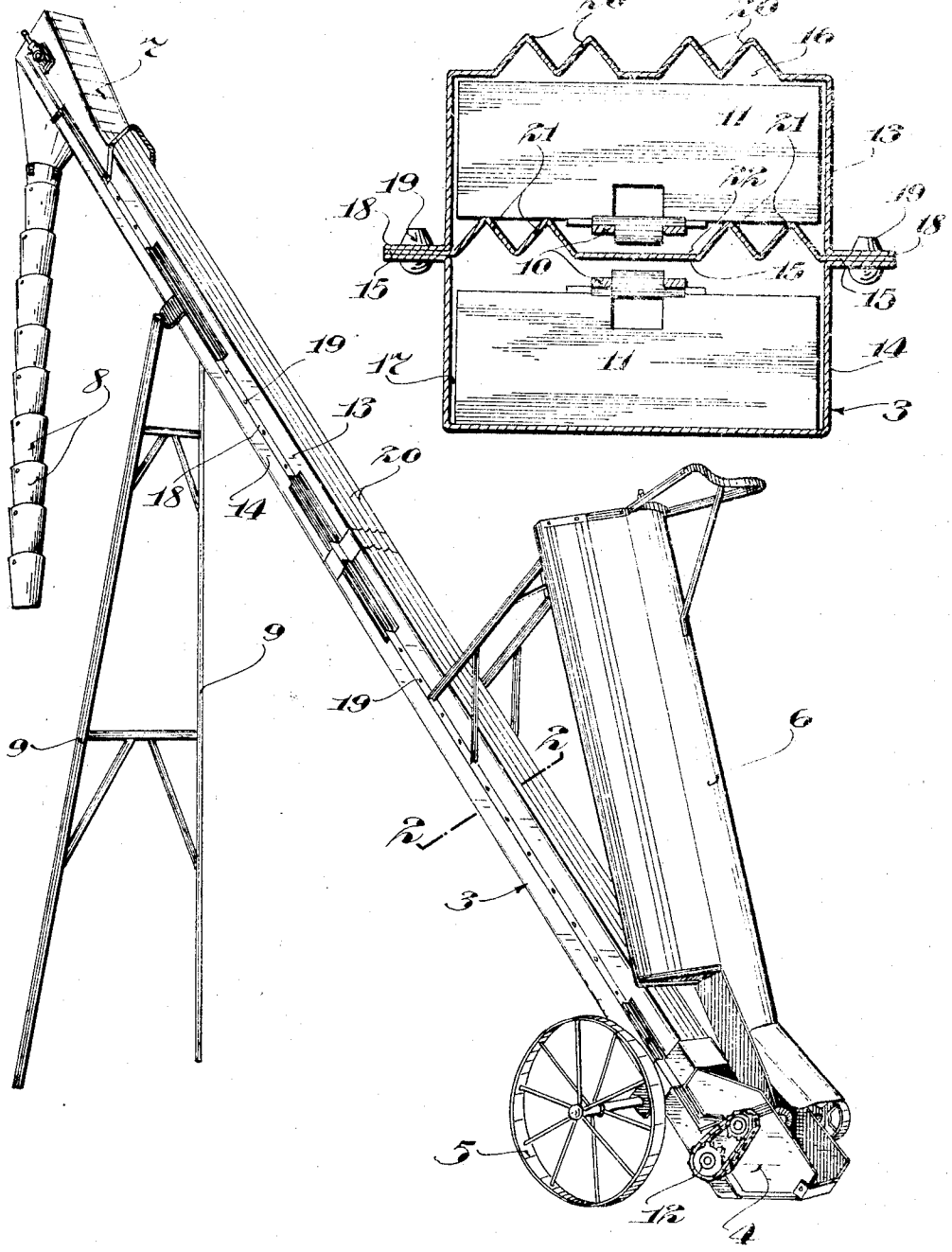


Fig. 2

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UNITED STATES PATENT OFFICE

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ELEVATOR LEG

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Our present invention has for its object to provide a simple, strong, and durable conveyor or elevator leg intended for general use but especially well adapted for use in connection with a portable grain or other elevator.

To the above end, generally stated, the invention consists of the novel devices, and combinations of devices hereinafter described and defined in the claim.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings:

Fig. 1 is a perspective view of a portable grain elevator having the invention embodied therein; and

Fig. 2 is a view in transverse section taken on the line 2—2 of Fig. 1 on an enlarged scale.

The improved conveyor or elevator leg 3, as shown, is embodied in a portable elevator of the type commonly used for loading cars, filling bins, and the like.

Of the parts of the grain elevator illustrated, apart from the leg 3, it is only necessary to note the receiving hopper 4, supporting wheels 5, trough 6, head 7, flexible delivery spouts 8, and supporting legs 9. The trough 6 which, as shown in the drawings, is in an inoperative position is hinged to the receiving hopper 4 for movement to or from an operative position in which it rests on the roadbed to receive grain as the same is discharged from a wagon or truck.

A conveyor, not shown, is mounted in the trough 6 for delivering grain discharged therein to the receiving hopper 4. The elevator working in the leg 3 includes an endless belt 10 and a plurality of longitudinally spaced flights 11 which extend transversely of said belt and are secured thereto at their longitudinal centers, see Fig. 2. This belt 10 is arranged to run over sprocket wheels, not shown, journaled in the receiving hopper 4 and the head 5. Driving connections, operative from an internal combustion engine or any other suitable source of power not shown, for the conveyor in the trough 6 and the elevator 10—11 are indicated as an entirety by the numeral 12.

Referring now in detail to the improved casing or leg 3 the same, as shown, is rectangular in cross section and comprises an upper section 13, a lower section 14 and a partition 15 which divides said leg into an upper compartment 16 and a lower compartment 17. The leg sections 13 and 14 have on the adjacent edges of their sides outturned flanges 18 between which the longitudinal edge portions of the partition 15 extends and which flanges and partition are rigidly connected by rivets 19. By reference to Fig. 2, it will be noted that the lower or upwardly moving section of the elevator 10—11 travels in the lower compartment 17 and the upper or return section of said elevator travels in the upper compartment 16. The flights 11 substantially transversely fill the compartments 16—17 with sufficient clearance to travel freely therein.

Grain delivered into the receiving hopper 14 is elevated in the compartment 17 by the lower or upwardly moving flights 11 which push the grain upward on the smooth bottom of said compartment and deliver the same through the head 7 where the same is precipitated into the flexible discharge spout 8.

The top member of the leg section 13 and the partition 15 have pressed therefrom a plurality of up-standing longitudinally extended reinforcing ribs or corrugations 20 and 21, respectively, that are V-shape in cross section. The corrugations 21 in addition to reinforcing the partition 15 and hence the elevator leg performs another important function in that they afford slides or rails on the apexes of which the upper flights 11 travel during their return movement, see Fig. 2. It is important to note that the corrugations 21 are so arranged within the compartment 16 as to leave a relatively wide runway 22 therebetween for the return section of the belt 10. The height of the corrugations 21 is such that the upper flights 11 hold the respective section of the belt 10 entirely out of contact with the partition 15 so as to eliminate wear and noise. The flights 11 are preferably made of wood but, of course, any other suitable material may be used.

From the above description it is evident that the construction of the elevator leg 3 is such that the same is relatively light, very strong and durable.

What I claim is:

A device of the class described comprising a casing, and a sheet metal partition dividing the casing into upper and lower compartments and having formed therein longitudinally extended corrugations affording rails on which the flights of an endless conveyor travel during their return movement, said rails being laterally spaced to leave a passageway for the belt of the conveyor, and of such height as to hold said belt out of contact with the partition.

In testimony whereof we affix our signatures.

ROBERT J. OWENS.
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