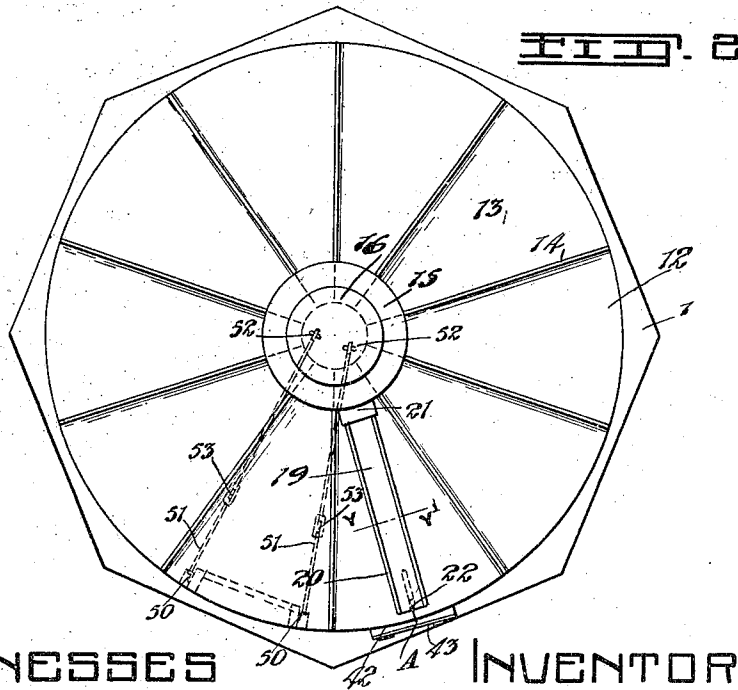
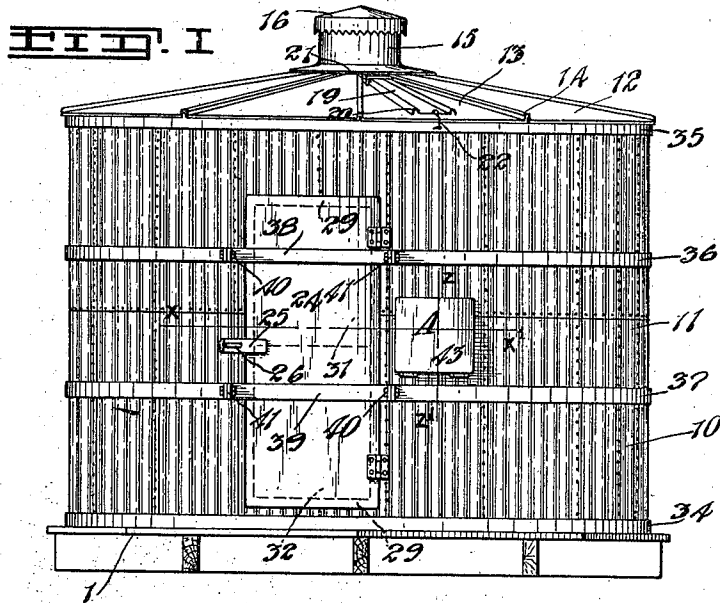


W. JOHNSTON.
GRAIN TANK.
APPLICATION FILED JUNE 29, 1910.

996,254.

Patented June 27, 1911.

2 SHEETS—SHEET 1.



WITNESSES

Jess. M. Laphay
Edinburgh.

INVENTOR

W. JOHNSTON

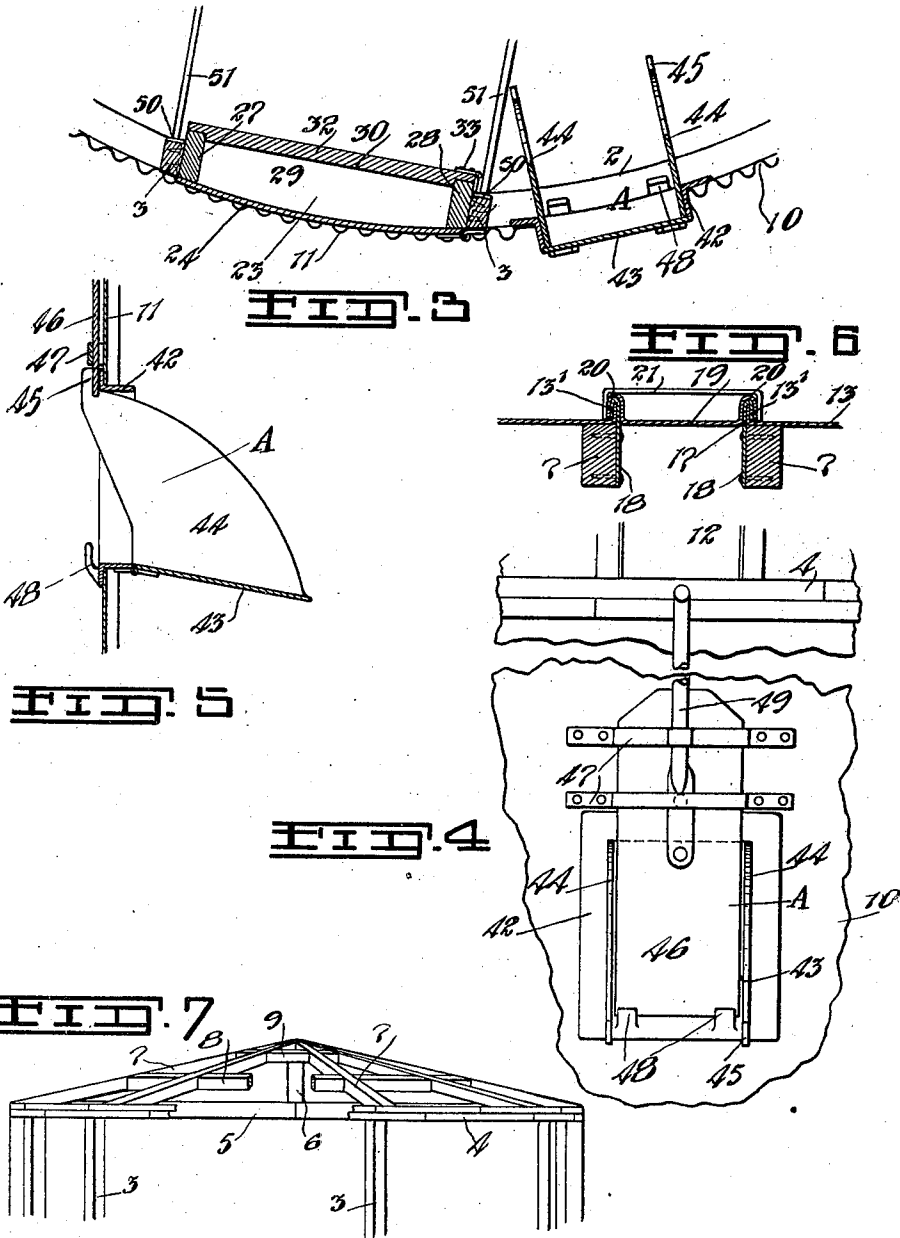
By *John D. Laphay* ATTY

W. JOHNSTON.
GRAIN TANK.
APPLICATION FILED JUNE 29, 1910.

996,254.

Patented June 27, 1911.

2 SHEETS-SHEET 2.



UNITED STATES PATENT OFFICE.

WILLIAM JOHNSTON, OF WINNIPEG, MANITOBA, CANADA.

GRAIN-TANK.

996,254.

Specification of Letters Patent. Patented June 27, 1911.

Application filed June 29, 1910. Serial No. 569,500.

To all whom it may concern:

Be it known that I, WILLIAM JOHNSTON, of the city of Winnipeg, in the Province of Manitoba, Canada, have invented certain new and useful Improvements in Grain-Tanks, of which the following is the specification.

My invention relates to grain tanks and the object of the invention is to provide a portable, simply constructed, fireproof tank having convenient inlet and outlet openings therein whereby grain can be easily and properly placed in the tank and quickly withdrawn when required, such tank being further waterproof, strong and durable.

It consists essentially in the novel arrangement and construction of parts hereinafter referred to and more particularly pointed out in the appended claims.

Figure 1 is a side view of my tank closed. Fig. 2 is a plan view of the same. Fig. 3 is an enlarged detailed horizontal sectional view through the side thereof, the section being taken in the plane denoted by the line X X', Fig. 1. Fig. 4 is an enlarged detailed side elevation of the outlet chute and adjoining parts looking at it from the interior of the tank. Fig. 5 is an enlarged detailed vertical sectional view through the outlet chute showing it open. Fig. 6 is an enlarged sectional view through a portion of the roof of the tank, the section being taken in the plane denoted by the line Y Y', Fig. 2. Fig. 7 is a front elevation of the tank frame work showing particularly the roof construction.

In the drawings like characters of reference indicate corresponding parts in each figure.

1 represents the base of the tank which is octagonal in plan and is covered over in any suitable way by a metallic covering in order to render it proof of fire. The base is supported on suitable cross beams, or if desired, can be mounted on rollers so that the tank can be drawn from place to place when desired. To the upper face of the base I have secured beams 2 which are arranged in the form of a circle and are utilized for holding the sides of the tank as shortly described.

3 are upwardly directed beams secured at the lower ends firmly to the beams 2 and spaced at suitable intervals, such beams being united at their upper ends to a double thickness of horizontally disposed beams 4. Cross beams 5 are secured at their ends to the beams 4 and pass diametrically across

the tank, being suitably connected centrally. A post 6 is supported centrally by the beams 5 and passes upwardly to form the peak of the roof. Roof beams 7 radiate from the top of the post 6 and are secured at their outer ends to the beams 4. Suitable braces 8 and 9 pass between the beams 7 and are arranged concentric to the post 6.

The parts just described form what I term the frame of the tank.

10 is the body of the tank which is formed from corrugated metallic sections 11, the corrugations running vertically. In the completed tank the edges of the adjoining section are interlocked and are secured to the upright beams 3 by nails or screws. The lower ends of the sections are fitted against the outer sides of the beams 2 to which they are secured, while the upper ends are nailed or screwed to the beams 4.

12 is the tank roof formed from similar triangular shaped metallic sections 13 having their edges interlocked at 14 so as to form a water tight joint. The sections are secured to the beams 7 and braces 8 and 9, and the customary opening left at the peak of the roof for ventilating purposes is covered over by a cap piece 15 carrying a cone-shaped top 16. One of the sections 13 is cut away to provide an opening at 17 in the roof through which the grain is inserted in the tank. The edges at the sides of the opening are turned upwardly at 13' and two similar plates 18 are secured by nails to the opposing faces of the adjoining beams 7 and have their upper edges turned over the upwardly turned edges 13' of the section 13.

It will be understood that two beams 7 have been purposely located more or less centrally beneath one of the sections 13, so as to support the section in which the opening 17 is formed. The plates 18 hold the edges 13' of the section to the beams and the construction does not expose the nail heads to the weather.

The opening 17 is closed by a cover 19 which has its edges turned upwardly and backwardly at 20 so as to fit over the upper edges of the plates 18. When the cover is placed on the roof of the tank the upper end slips beneath a hood 21 secured to the section, which hood prevents any water from passing into the tank between the upper end of the cover and the roof. The lower end of the cover is secured to the tank by any suitable form of hook and eye located at 22.

If desired this could be fastened by a padlock rather than the hook.

One of the corrugated sections 11 is partially removed to provide a door way opening at 23, which opening is closed by double doors as now described. An outer door 24 formed from a metallic plate is hingedly secured to one of the beams or uprights 3 and has the opposite side fitted with a hasp 25 fitting over a staple 26 passing into another of the beams 3. A padlock can be employed for locking the door.

27 and 28 are two vertically directed beams firmly secured to the beams 3 immediately behind the door, which beams in combination with an upper and a lower cross beam 29 form the door frame.

30 is an inner door formed from an upper section 31 and a lower section 32, which sections are hinged at 33 to the beam 28 and close against the beams 27. The edges of the inner door are rabbeted so as to form a grain tight joint with the beams 27 and 28.

34 and 35 are upper and lower straps passing completely around the body of the tank at the top and bottom, and 36 and 37 are further straps passing centrally around it for reinforcing purposes. The straps 36 and 37 have portions thereof 38 and 39, respectively, removable, such portions passing across the outer door 24. In order to remove them it is only necessary to undo the nuts on the bolts 40 which pass through the outwardly turned ends 41 of the connected parts.

Within the body of the tank I have located a combination trap door and chute at A, which in the present instance I have shown immediately to the side of the door 24. The construction of this is now described.

One of the corrugated sections 11 is cut away to provide a more or less rectangular opening in which I have inserted a metallic frame 42 of angle iron cross section, to which frame is swingably secured the trap door 43 having wings 44 extending from the sides thereof, which wings are concentric to the hinge and are designed to swing within the frame 42. The wings and trap door constitute a chute through which the grain can be run from the tank. It will be noticed that the wings are provided with lips 45 which engage with the upper side of the frame 42 when the door is swung outwardly thereby holding the door in a set position.

46 is a gate adapted to slide between the wings 44, such gate being held in slidable relation to the tank by means of cross bars 47 secured to the inner side of the section. Lugs 48 are cast on the lower side of the frame 42, which lugs receive the gate when shut. A rod 49 is bolted firmly to the gate and passes upwardly within the tank so that it is easily accessible through the opening

17 when the cover is removed. The trap door or chute can also be locked by padlock if desired.

The opening 17 in the roof is very long and I consider this a great advantage over openings which I have seen in many other tanks for similar purposes. Where a small or square opening only is provided the grain, which is usually placed in the tank through a spout, banks up at one side of the tank and consequently puts a great pressure on that side, while leaving the opposite side thereof altogether free from pressure. With a long opening such as I have provided the tank can be filled by a spout so that the grain pressure is equally distributed on all sides.

When one desires to load a wagon from my tank the wagon box is first backed against the tank with the rear end directly beneath the chute. The driver or teamster then unlocks the trap door, if it be fastened, and swings it out over the wagon box. He next removes the cover 19 and draws the rod 49 upwardly, which motion allows the grain to pass through the chute to the wagon. The wagon box can be filled in this way entirely if the tank be fairly well filled with grain. However in cases where the grain in the tank does not come much above the level of the chute, it will be necessary to load as much as possible through the chute in the manner above described and then load through the door 24. The door 24 will be opened after the pieces 38 and 39 have been removed and the wagon will then be backed up against the tank so as to come directly opposite the lower section 32 of the inner door. As the grain is practically all out of the tank behind the upper section 31 it is easily swung inwardly. The attendant can then get into the tank and shovel the grain over the section 32 into the box.

In order to prevent any possibility of the tank bulging at the side where the door is located, I have secured angle plates 50 to the posts 3 adjoining the beams 27 and 28 to which angle plates are fastened rods 51 which pass inwardly and downwardly to the base of the tank where they are fastened to eyes 52 extending upwardly from the base. Suitable turn-buckles 53 are provided in the rods whereby they can be tightened as desired.

What I claim as my invention is:—

1. In a grain tank, the combination with the roof thereof having an elongated opening therein radiating from the peak, of a cover closing over the opening, and a hood secured to the roof and fitting over the end of the cover adjacent the peak, as and for the purpose specified.

2. In a grain tank, the combination with a sectional metallic roof supported by roof beams, and having an elongated opening

therein with opposing sides turned upwardly, of similar plates secured permanently to the roof beams and having their upper edges extending upwardly and over the upwardly directed edges of the opening, a cover over the opening having its sides turned upwardly and backwardly and adapted to fit over the upper edges of the plates, and a hood secured to the roof and

receiving the upper end of the cover, as and 10 for the purpose specified.

Signed at Winnipeg, in the Province of Manitoba, this 10th day of June 1910.

WILLIAM JOHNSTON.

In the presence of—

G. S. ROXBURGH,
J. K. ELKIN.