B. E. GETZ.

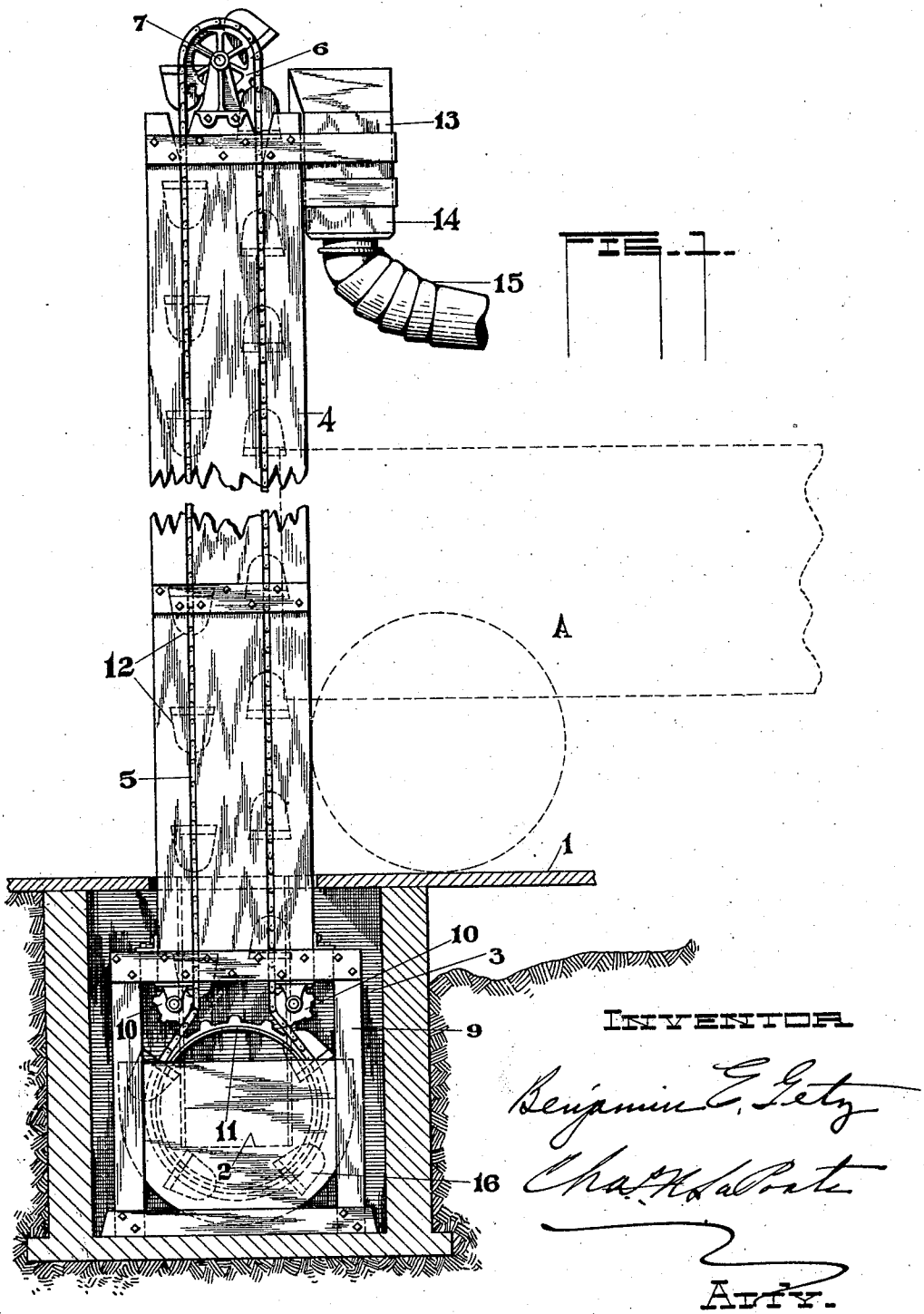
ELEVATOR.

APPLICATION FILED FEB. 13, 1919.

1,353,336.

Patented Sept. 21, 1920.

4 SHEETS—SHEET 1.



INVENTOR

Benjamin E. Getz

Chas. K. DePont

ATTY.

B. E. GETZ.

ELEVATOR.

APPLICATION FILED FEB. 13, 1919.

1,353,336.

Patented Sept. 21, 1920.

4 SHEETS—SHEET 2.

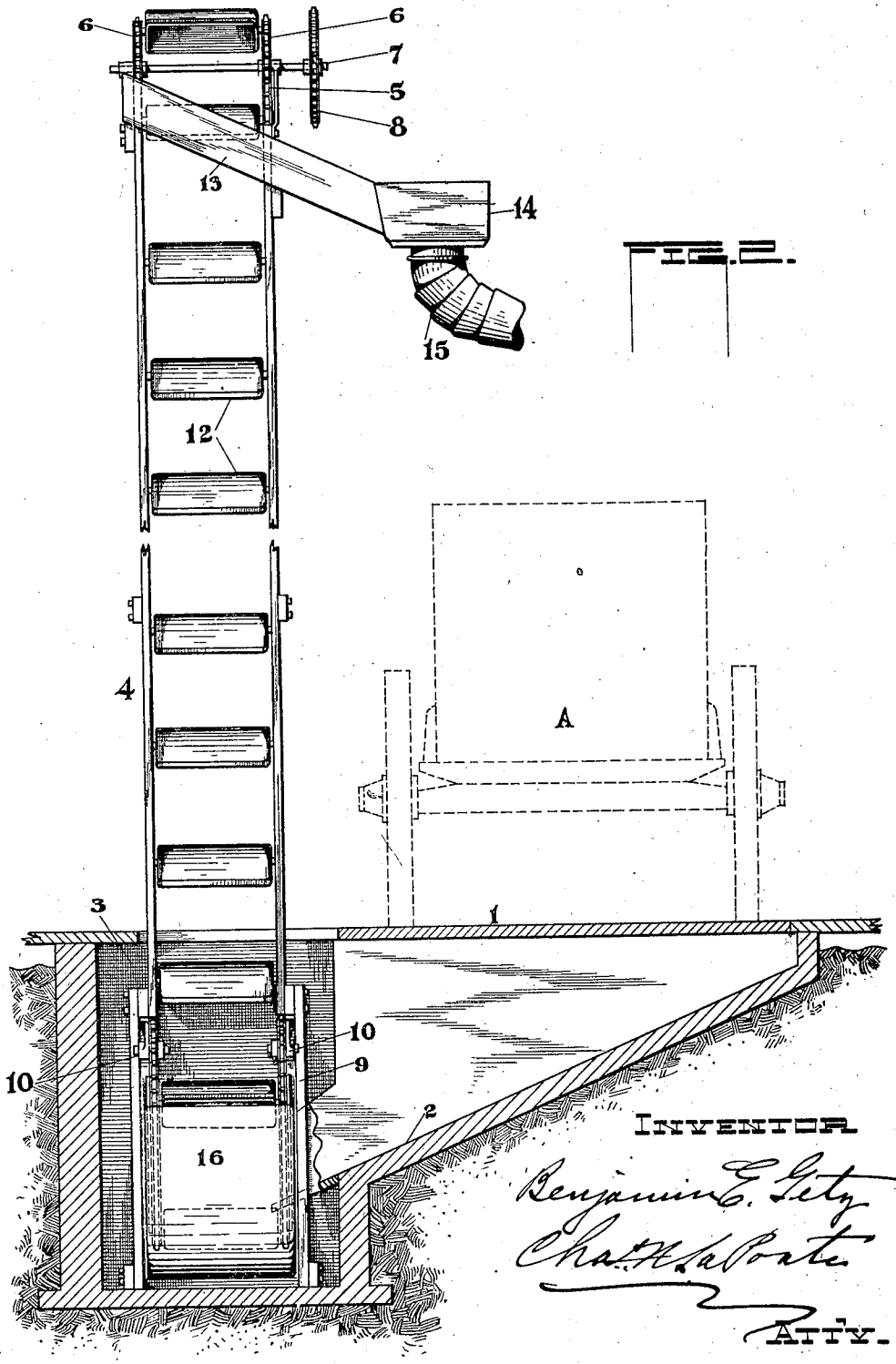


FIG. 2.

INVENTOR.

Benjamin E. Getz

Chas. H. LaPorte

ATTY.

B. E. GETZ.

ELEVATOR.

APPLICATION FILED FEB. 13, 1919.

1,353,336.

Patented Sept. 21, 1920.

4 SHEETS—SHEET 3.

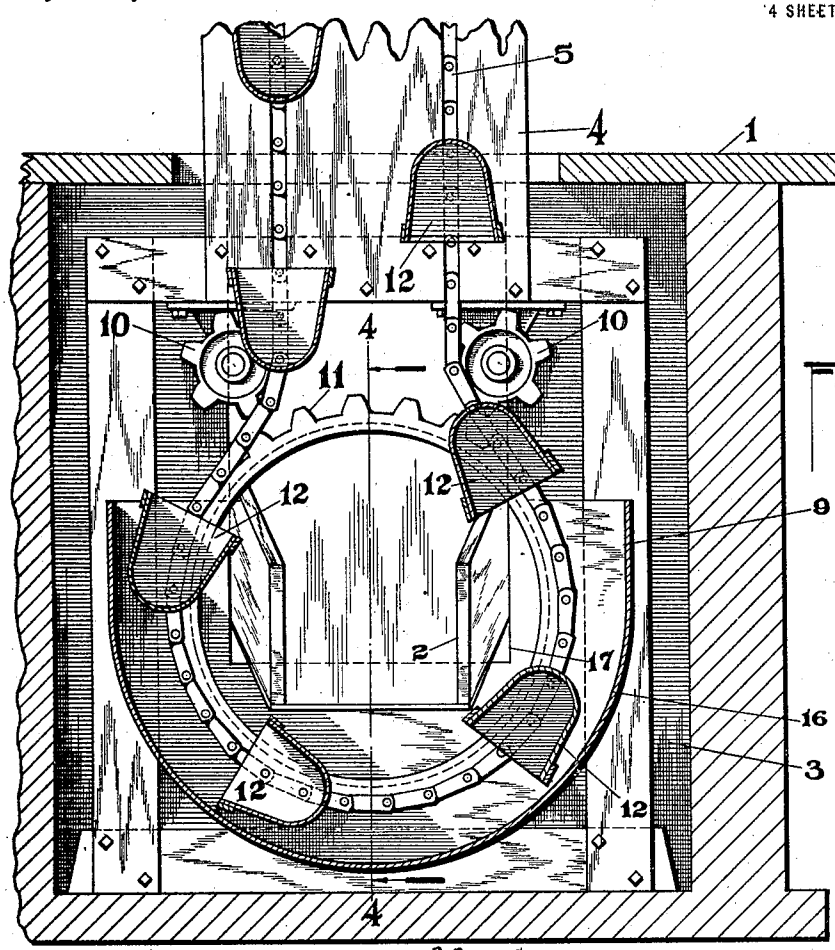


FIG. 3.

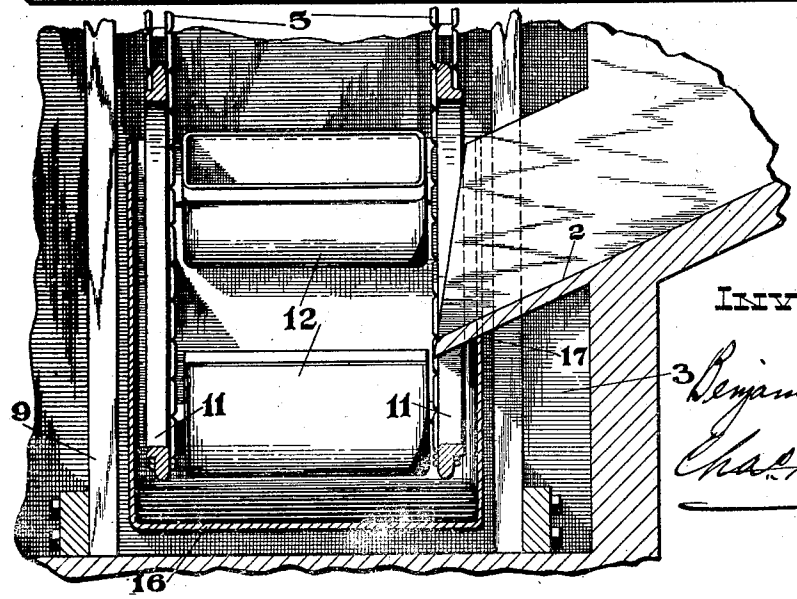


FIG. 4.

INVENTOR

Benjamin E. Getz

Chas. K. Laporte

ATTY.

B. E. GETZ.

ELEVATOR.

APPLICATION FILED FEB. 13, 1919.

1,353,336.

Patented Sept. 21, 1920.

4 SHEETS—SHEET 4.

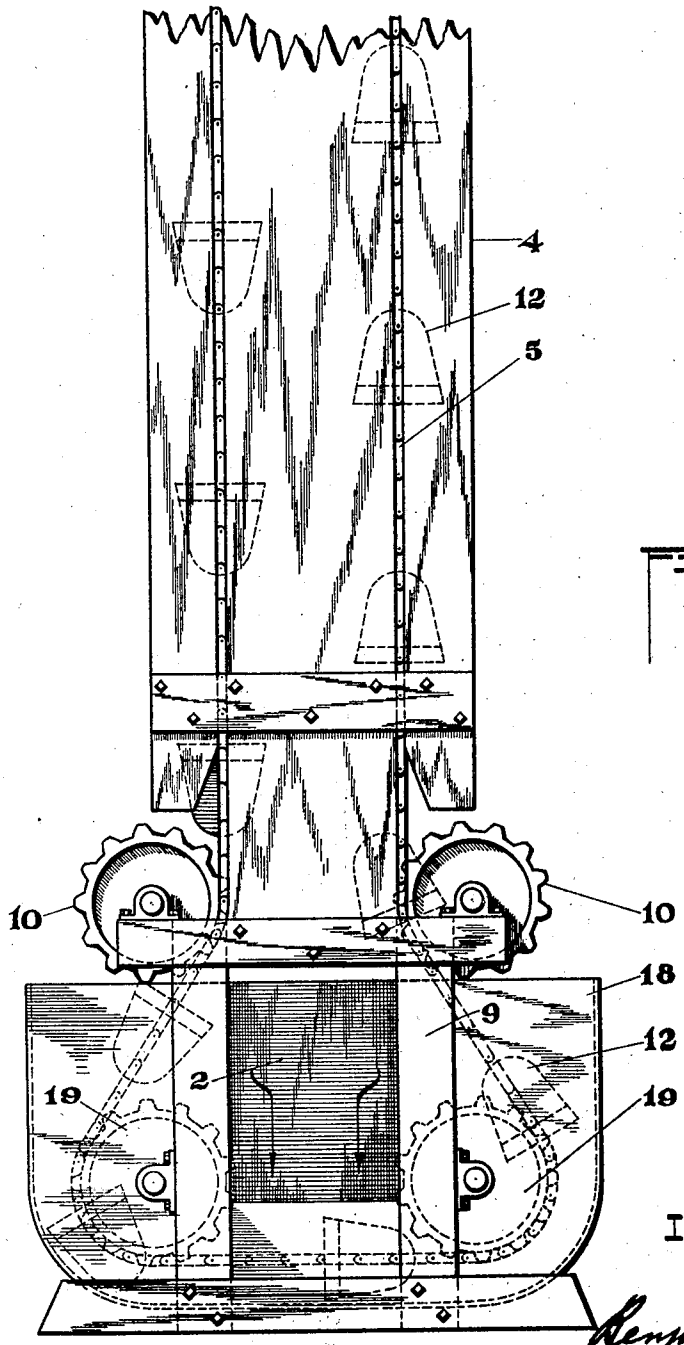


FIG. 5.

INVENTOR

Benjamin E. Getz

Chas. N. Labrate

ATT'Y.

UNITED STATES PATENT OFFICE.

BENJAMIN E. GETZ, OF MORTON, ILLINOIS, ASSIGNOR TO A. F. MEYER MFG. CO., OF MORTON, ILLINOIS, A CORPORATION OF ILLINOIS.

ELEVATOR.

1,353,336. Specification of Letters Patent. Patented Sept. 21, 1920.

Original application filed October 18, 1918, Serial No. 258,726. Divided and this application filed February 13, 1919. Serial No. 276,702.

To all whom it may concern:

Be it known that I, BENJAMIN E. GETZ, a citizen of the United States, a resident of Morton, in the county of Tazewell and State of Illinois, have invented new and useful Improvements in Elevators, of which the following is a specification.

This invention has reference to certain new and useful improvements in grain elevators.

One of the objects of the present invention is, to improve the construction of elevators which are built inside the crib, and particularly those which are called "one side" elevators, viz. those built on one side of the drive-way extending through the crib.

The invention has for a further object, to position the leg of the elevator on one side of the drive-way through the crib, so that the material dumped into the chute leading to the elevator boot, will be delivered in a direction transversely to the direction of movement of the lower run of the elevator, and between the opposite vertical runs of the elevating means.

Built in elevators have been of several forms: one including legs on either side of the crib driveway, the elevating means traveling down one leg, across and beneath the driveway and up the other leg, the material to be elevated being dumped into a chute extending across the driveway and longitudinally of the lower run of the elevator; another including spaced legs located on one side of the driveway, the chute for the material being disposed transversely of the drive-way and arranged to transfer material to the elevating means which travels up one leg and down the other; and still another and a much preferred form, comprising a single leg located on one side of the driveway of the crib, the elevating means traveling down one side of the leg and up the other side, the chute being arranged transversely of the drive-way and transferring the material in the path of the elevating means.

The elevating means in each of the various types of elevators mentioned, comprises chains and buckets, and therefore, when the grain, whether shelled or on the cob, is dumped into the chute, it is transferred immediately in the direction of movement of the buckets which cut their way through the material picking up a load and conveying it to a discharge spout at the upper end of the leg. The buckets cutting through the grain destroy quantities of the loose grain and shell a large portion from off the ears which is wasted. It is this feature of loss which I overcome with the use of my improved elevator and its arrangement in the driveway of the crib.

That the invention may be more fully understood, reference is had to the accompanying drawings, in which:

Figure 1 is a front elevation of my improved elevator, partly in section, a portion of the driveway of the crib being shown with a wagon in dotted lines preparatory to dumping material into the chute;

Fig. 2 is an end elevation of Fig. 1, partly in section, the view looking through the driveway, with the elevator on the side;

Fig. 3 is an enlarged detail in section showing the boot construction;

Fig. 4 is a cross-section as the same would appear if taken on the line 4—4 of Fig. 3;

Fig. 5 is a view similar to Fig. 4, showing a modified boot construction.

Like characters of reference denote corresponding parts throughout the figures.

1 designates the floor of the driveway of a crib, a wagon A being shown in dotted lines to give an idea of the arrangement of the leg of the elevator on one side of the driveway, and the position of the wagon when dumping the material to be elevated and stored.

Extending transversely across the driveway and below the floor is a chute 2 into which the material in the wagon is dumped and by means of which the material is transferred to the boot of the elevator. Also arranged in the driveway, but to one side and beneath the floor of the crib and communicating with the discharge end of the chute is a pit 3 in which is located the boot of the elevator leg.

In the form in which the elevator is here shown it comprises a single leg 4 provided with endless chains 5 adapted to travel up one side of the leg and down the other, passing over sprocket wheels 6 at the upper end of the leg, which are journaled on a shaft 7 having a sprocket wheel 8 adapted to receive

power from any suitable source and in any suitable manner. The lower end of the leg 4 is joined to a boot 9 located in the pit 3.

The lower runs of the chains 5 pass over idler sprocket wheels 10 and around floating sprocket rings 11, in the boot 9. Connecting the opposite sprocket chains 5 and suspended therebetween, at suitable intervals, are buckets 12, which have a scooping action in the boot 9 and between the sprocket rings 11, see Fig. 3. As shown in Fig. 3, the sprocket rings 11 are of such a diameter as to cause a spreading out of the lower runs of the chains 5, so as to enable the buckets 12 to have a good sweep and scoop the material deposited in the boot 9. As shown, the material discharged from the chute 2 will pass through one of the sprocket rings 11 into the path of the buckets 12, permitting the buckets to scoop up the material, whether loose grain or corn on the cob without cracking the grain or shelling it. When the material is discharged by the buckets at the top of the leg, it is received in a chute 13 and transferred to a hopper 14 on which is swiveled a suitable flexible spout 15 by means of which the material is distributed to proper bins in the crib.

As shown in the drawings, the up and down runs of the elevating chains 5 are immediately behind each other in a direction longitudinally of the drive-way of the crib, and the chute 2 therefore, in the driveway, leads directly into the front of the boot.

Ordinarily, in constructions of this character, the material would be discharged into the side of the elevator leg and down upon the buckets, and the pressure of the material upon being discharged from the chute, together with the pressure of the buckets in another direction, not only cracks the shelled corn, destroying the same, but also shells the corn from the ear, wasting it. All this is obviated by the use of the present construction.

The boot construction shown in Figs. 3 and 4 include a semi-spherical shaped receptacle 16 in which the floating sprocket rings 11 are carried, one wall of which is cut away, as at 17, to receive the discharge end of the chute 2.

In Fig. 5 a modified form of boot is shown, the remainder of the structure being substantially as seen in Figs. 1 and 2. In this modified structure the receptacle, designated 18, is preferably rectangular in shape, one wall cut away to receive the chute 2. In place of the sprocket rings 11, a pair of sprocket wheels 19, suitably spaced apart, are journaled in the boot 9, said sprocket wheels being so placed as to spread the lower runs of the chains 5, the material being discharged into the receptacle 18 between the sprocket wheels 19 to be scooped up by the buckets.

The construction of boot last described is a very suitable and efficient boot, and one which may be manufactured at the minimum cost.

This application is a division of the application filed by me on the 18th day of October 1918, bearing Serial Number 258,726.

What I claim is:—

1. A crib elevator including a leg, a boot for the leg, an elevating chain in the leg having buckets thereon, a floating sprocket wheel in the boot and around which the chain passes, said sprocket wheel being formed and arranged to spread the chain laterally and outwardly beyond each of the respective opposite sides of the flights of the chain to provide an enlarged open space, idler sprockets above the floating sprocket and arranged adjacent thereto to restrict upward movement of the idler sprocket, and means to discharge material into the boot between said spread portions of the chain and in the said enlarged open space provided thereby.

2. A crib elevator including a leg, a boot for the leg, an elevating chain in the leg having buckets thereon, a floating sprocket wheel in the boot and around which the chain passes, said sprocket wheel being formed and arranged to spread the chain laterally and outwardly beyond each of the respective opposite sides of the flights of the chain to provide an enlarged open space, means above the floating sprocket and adjacent each of the opposite sides thereof and engaged with the chain flights to restrict upward movement of the idler sprocket, and means to discharge material into the boot between said spread portions of the chain and in the said enlarged open space provided thereby.

In witness whereof, I have hereunto affixed my hand.

BENJAMIN E. GETZ.