T. F. PERKINS.

AUTOMATIC TOLLER.

APPLICATION FILED OCT. 23, 1919.

1,394,760.

Patented Oct. 25, 1921.

2 SHEETS—SHEET 1.

Fig. 1.

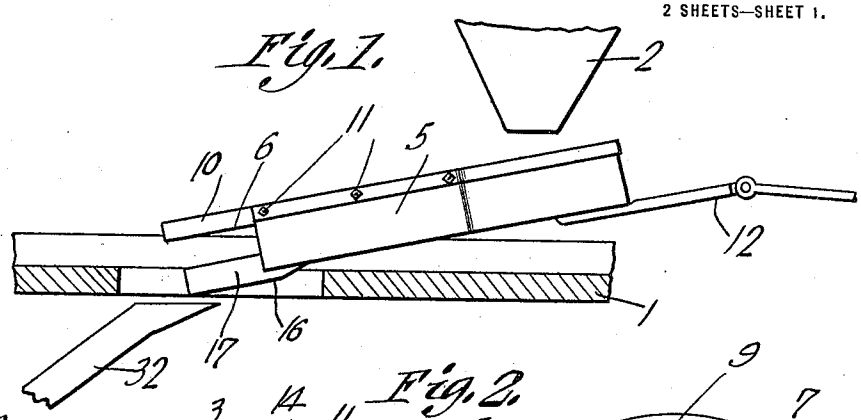


Fig. 2.

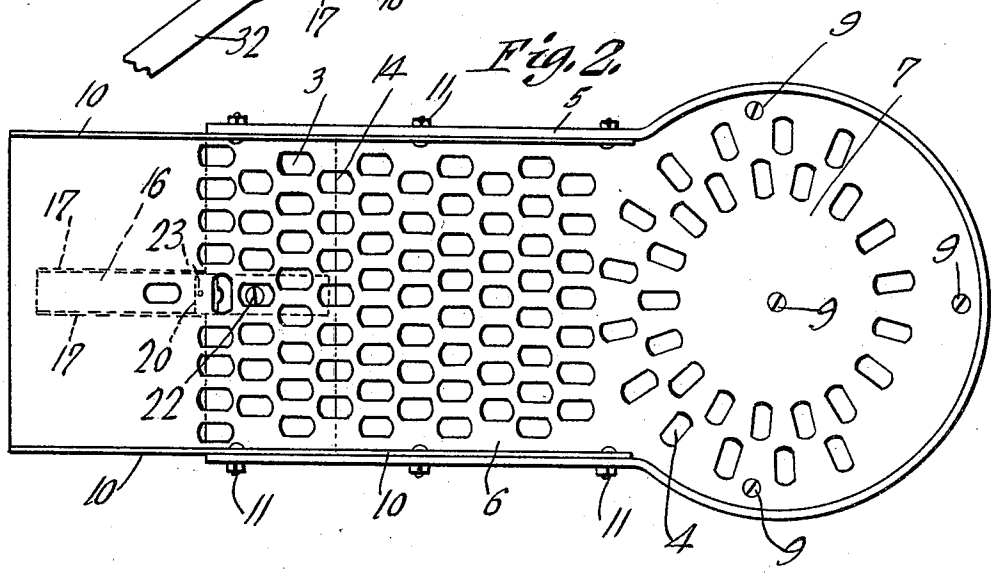


Fig. 3.

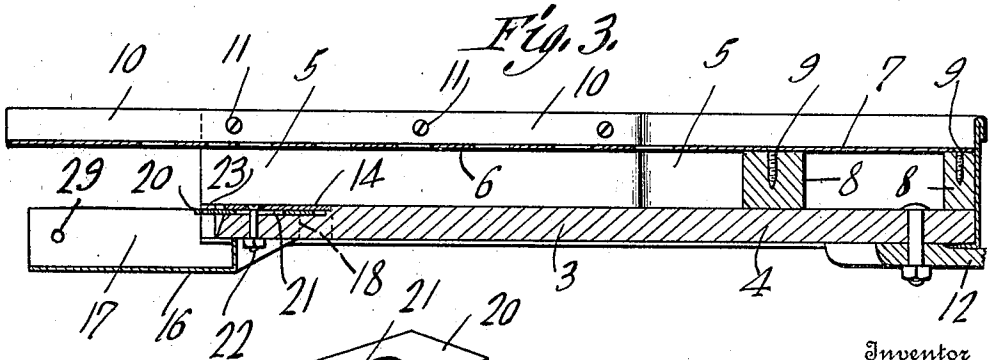
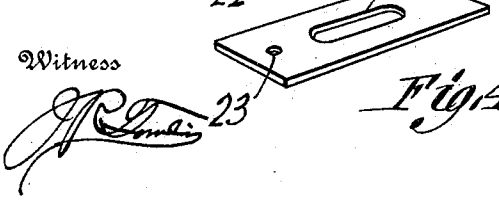


Fig. 4.



Witness

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2 SHEETS—SHEET 2.

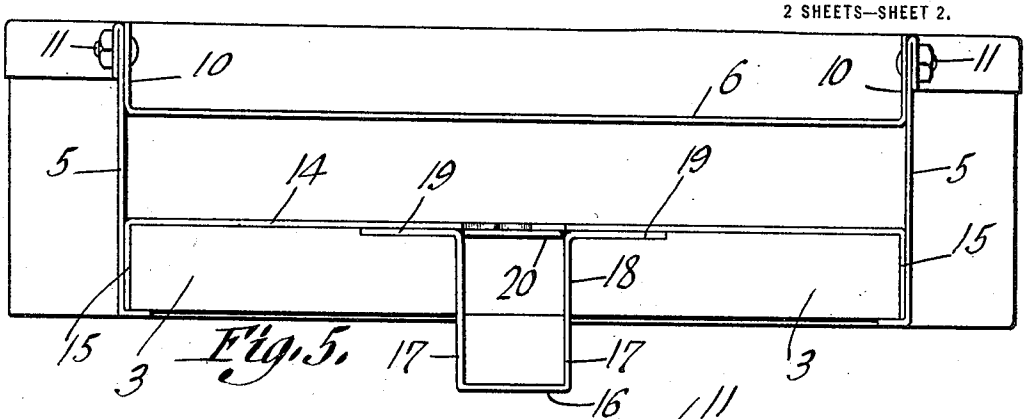


Fig. 5.

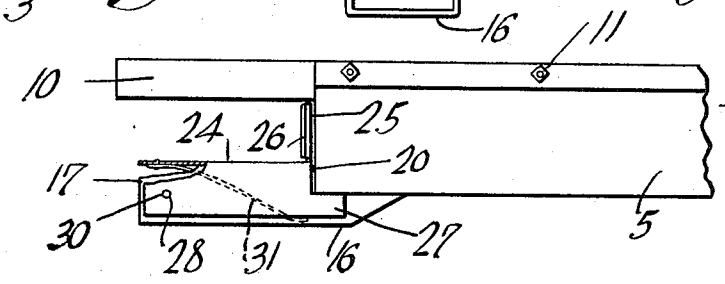


Fig. 6.

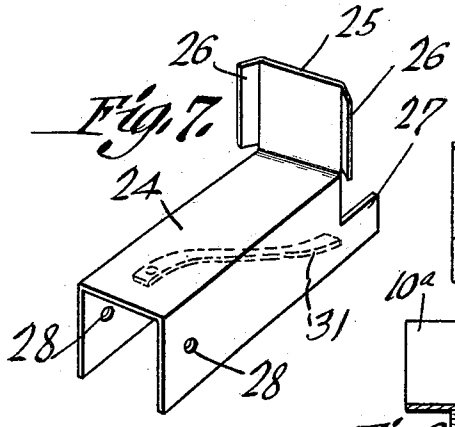


Fig. 7.

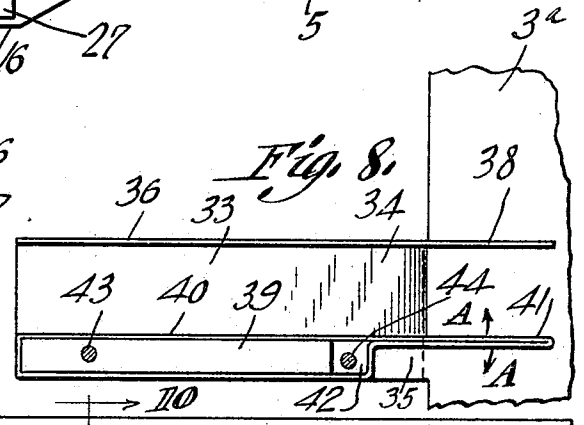


Fig. 8.

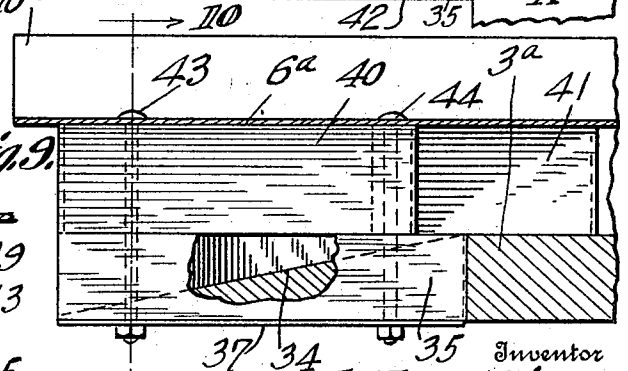


Fig. 9.

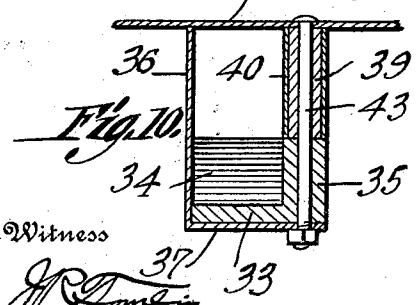


Fig. 10.

Witness

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UNITED STATES PATENT OFFICE.

THOMAS F. PERKINS, OF ATLANTA, TEXAS.

AUTOMATIC TOLLER.

1,394,760. Specification of Letters Patent. Patented Oct. 25, 1921.

Application filed October 23, 1919. Serial No. 332,787.

To all whom it may concern:

Be it known that I, THOMAS F. PERKINS, a citizen of the United States, residing at Atlanta, in the county of Cass and State of Texas, have invented a new and useful Automatic Toller, of which the following is a specification.

It is the object of this invention to provide novel means whereby a miller's toll may be withdrawn automatically and adjustably from the grist.

Within the scope of what is claimed, a mechanic may make changes, without departing from the spirit of the invention.

In the drawings:—Figure 1 shows in side elevation, a device constructed in accordance with the invention, parts of the grinding mill being indicated diagrammatically; Fig. 2 is a top plan showing the main chute and attendant parts; Fig. 3 is a longitudinal section of the device disclosed in Fig. 2; Fig. 4 is a perspective view showing the gage for the toll chute; Fig. 5 is an enlarged end elevation of the structure depicted in Fig. 2; Fig. 6 is a fragmental side elevation of the toll chute and the main chute, the closure having been applied to the toll chute; Fig. 7 is a perspective view disclosing the closure for the toll chute; Fig. 8 is a fragmental top plan showing a slight modification in the invention; Fig. 9 is a vertical section of the modification, parts being broken away; Fig. 10 is a transverse section taken on the line 10—10 of Fig. 9.

The numeral 1 marks a portion of the frame of a grinding mill whereby corn or any other product is handled, the corn passing into the machine from a hopper 2 by way of a main chute.

In the present embodiment of the invention, the main chute includes a base 3 which may be of wood, the base having a circular enlargement 4 at one end. The base 3 of the main chute is bounded along its sides and about its end 4 by an upstanding flange 5. A screen 6, in the form of a perforated plate, is provided, the screen conforming in shape to the base 3 and including an end 7 of circular outline, the end 7 of the screen resting on blocks 8 which, in turn, are supported by the part 4 of the base. The part of the screen 6 which projects beyond the end 7 is supplied with upstanding lips 10 connected by securing members 11 with the side portions of the flange 5, securing members 9 uniting the end 7 of the screen with the blocks 8. The numeral 12 designates any suitable means for reciprocating the main chute. The grain passes upon the screen 6 from the hopper 2 and, moving through the perforations of the screen, traverses the base 3 of the main chute, foreign matter being segregated from the grain by the screen.

A plate 14 is mounted on the base 3 at the discharge end thereof, the plate extending transversely of the base. As shown in Fig. 5, the plate 14 may be provided with depending flanges 15 received and held between the flanges 5 of the base 3 and the longitudinal edges of the base. The numeral 16 denotes a toll chute of trough-like form, and much narrower than the main chute, the toll trough including side walls 17 received in slots 18 fashioned in the end of the base 3 of the main chute. The side walls 17 of the toll chute are supplied at their rear ends with lateral wings 19 received and held between the end plate 14 and the base 3. It will be obvious that when the main chute is reciprocated by the mechanism indicated at 12, the major portion of the grain will traverse the base 3 of the main chute and run off the end plate 14. A portion of the grain, however, representing the grinder's toll, will be received in the trough-like chute 16 and discharged into a conduit 32, the toll thus being segregated from the grist proper.

As thus far described, the invention proposes a means whereby a fixed quantity of toll may be extracted, but the device contemplates that the quantity of toll may be regulated. With this end in view, a gage 20, in the form of a plate, as shown in Fig. 4, is mounted for adjustment beneath the end plate 14 and in engagement with the base 3. The gage 20 is wide enough so as to occupy practically all of the space between the side walls 17 of the toll chute 16. If the gage 20 is retracted until its outer end is substantially flush with the outer end of the base 3, then a maximum amount of toll will pass into the toll chute 16. If, however, the gage 20 is advanced, then a larger proportion of the grain will traverse the gage and flow laterally beyond the side walls 17 of the toll chute. The gage 20 is supplied with an elongated slot 21 through which passes a bolt or other clamping member 22, mounted in the base 3 and the plate 14. The gage 20 may be supplied with a hole 23 adapted to receive any suitable in-

strument whereby the gage may be adjusted endwise, and after the gage has been adjusted it may be held by tightening up the clamping member 22.

Not only may the quantity of toll be regulated, but, if desired, the machine may be so set as to take no toll from the passing grist. When no toll is to be taken, then recourse is had to a closure 24, shown in Fig. 7, and in the form of an inverted trough supplied at its inner end with an upstanding deflector 25 including diverging side wings 26. The side walls of the closure have reduced extensions 27. The closure 24 may be placed over the toll chute 16, the extensions 27 projecting beneath the base 3 of the main chute, as indicated in Fig. 6. A securing device, such as a pin 30, may be inserted through openings 29 in the side walls 17 of the toll chute 16, and through openings 28 in the sides of the closure 24, to hold the latter on the toll chute. One end of a spring strip 31 is secured to the top of the closure 24, the free end of the spring bearing on the bottom of the toll chute. The function of the spring 31 is to prevent the closure from rattling. When the closure 24 has been mounted on the toll chute as above described, all of the grain will flow off the base 3 of the main chute, that portion of the grain which would ordinarily constitute toll, being directed away from the toll chute by the parts 25 and 26 of the closure 24. The member 24 closes the top of the toll chute, so that no grain can pass thereinto even though the grain should crowd over the upper edge of the deflector 25 or rattle or fly about.

The operation of the device has been described hereinbefore, but, by way of résumé, it may be stated that the toll is taken by the chute 16, the quantity of toll being regulated by adjusting the gage 20, the closure 24 constituting a complete barrier when no toll is to be taken from the grist.

Passing to the modification shown in Figs. 8, 9 and 10, the base 3^a has a projection 33, including a side wall 35. The bottom portion of the projection is downwardly inclined as indicated at 34, longitudinally of the projection. An L-shaped member 36 cooperates with the projection 33 and includes a base 37. The side wall of the member 36 embodies a rearward projection 38 overhanging the member 3^a. The screen is designated by the reference character 6^a, the member 36 being located beneath the screen. A filler block 39 rests on the upper edge of the side wall 35 and is surrounded by a binding strip 40, contracted at its rear end, as indicated at 41, the part 41 overhanging the member 3^a. There is a space 42 within the binding strip 40 at the rear end of the filler block 39. A pivot bolt 43 passes through the side wall 35, through the filler block 39 at the forward end thereof, and through the screen member 6^a. A clamping bolt 44 engages the base 37 of the member 36 and passes through the side wall 35. The clamping bolt 44 does not engage the filler block 39, but passes upwardly through the space 42 into engagement with the member 6^a. The clamping bolt 44 may be loosened, and then the part 39—40 may be swung in the direction of the arrows A in Fig. 8, so as to adjust the width of the toll chute at its intake end, the quantity of the toll being regulated accordingly. The member 43 constitutes a pivot on which the aforesaid swinging movement may take place and the clamping bolt 44 serves as a means for holding the parts 39—40 in adjusted positions. The members 36—33—35—40 define a toll chute, the toll being discharged along the inclined bottom portion 34 of the chute.

Having thus described the invention, what is claimed is:—

1. In a grinding mill, a main chute; a reduced toll chute receiving material from the main chute; means for regulating the amount of material received by the toll chute; and means independent of said regulating means, for closing the toll chute completely with respect to the main chute, at the will of an operator.

2. A grinding mill embodying the features enumerated in claim 1, and further characterized by the fact that the means specified is in the form of a trough inverted over the toll chute and provided at its inner end with a deflector.

3. In a device of the class described, a reciprocatory main chute comprising a base having an upstanding marginal flange extended but part way around the base to define an open end for the chute; a screen located within the flange in spaced relation to the base and projecting at one end beyond the base; a reduced toll chute secured to said end of the base and located at the open end of the main chute, the toll chute being disposed below the projecting end of the screen; and a gage plate slidable for adjustment upon the base and movable longitudinally of the toll chute substantially flush with the upper edge thereof.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

THOMAS F. PERKINS.

Witnesses:
MASON B. LAWTON,
CHAS. H. CLARK, Jr.