

I. Z. MONGER.
MILLING APPLIANCE.
APPLICATION FILED SEPT. 2, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

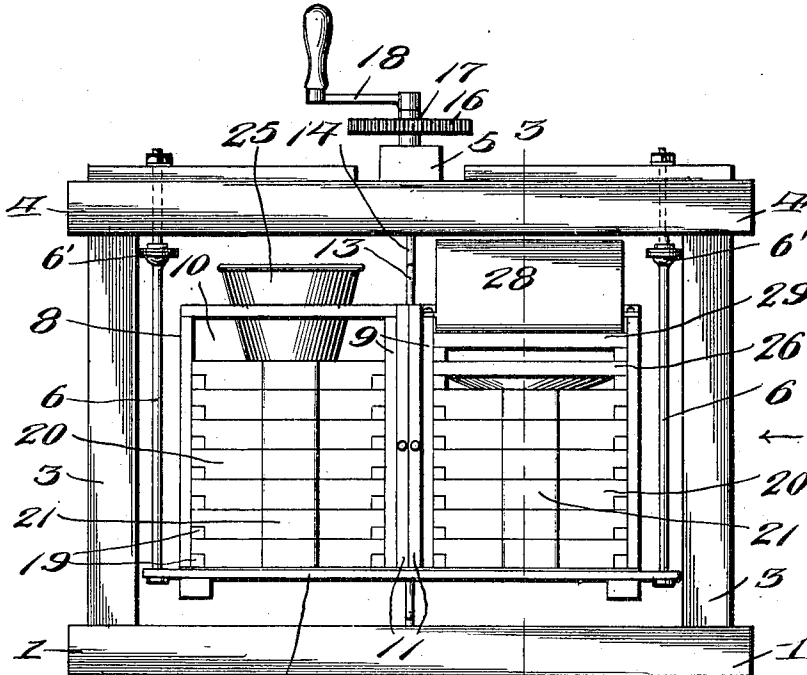
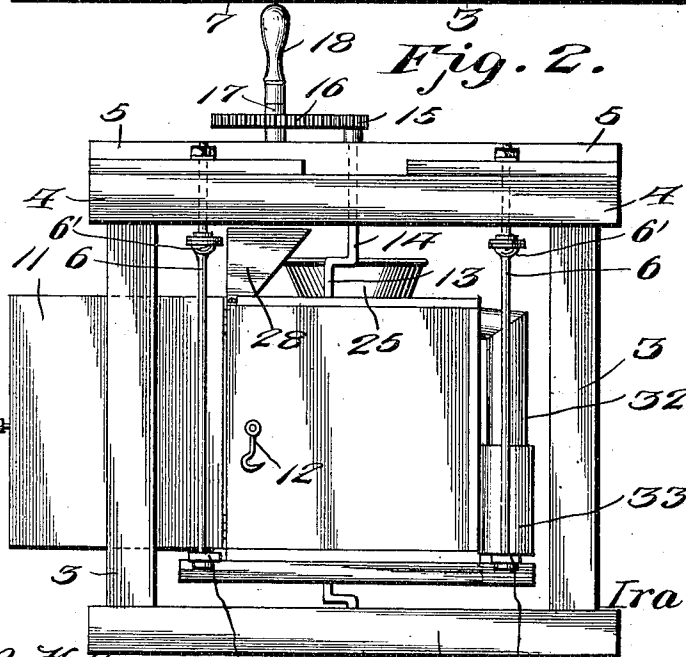


Fig. 2.



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Witnesses

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2 SHEETS—SHEET 2.

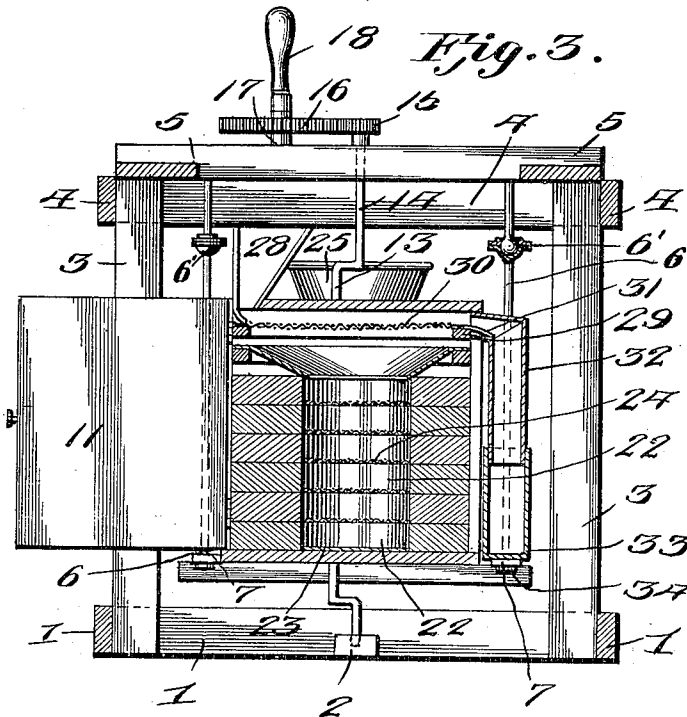
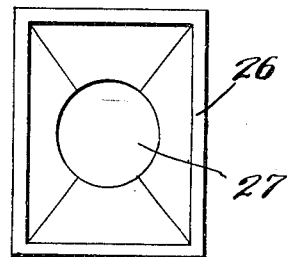
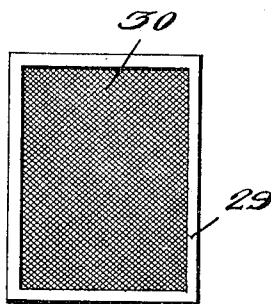
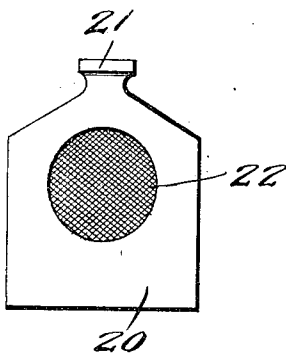


Fig. 4.

Fig. 5.

Fig. 6.



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UNITED STATES PATENT OFFICE

IRA Z. MONGER, OF LARNED, KANSAS.

MILLING APPLIANCE.

No. 824,998.

Specification of Letters Patent.

Patented July 3, 1906.

Application filed September 2, 1905. Serial No. 276,814.

To all whom it may concern:

Be it known that I, IRA Z. MONGER, a citizen of the United States, residing at Larned, in the county of Pawnee and State of Kansas, have invented new and useful Improvements in Milling Appliances, of which the following is a specification.

This invention relates to milling appliances, and especially to a device for bolting and testing flour or other mill products, and has for its objects to produce a comparatively simple inexpensive device of this character in which the bolting members or screens may be readily arranged in the box or casing, one wherein the screens are interchangeable for obtaining different combinations, and one wherein an oscillatory or sifting movement may be conveniently imparted to the bolting devices.

With these and other objects in view the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a front elevation of a device embodying the invention and showing the doors of the casing open. Fig. 2 is an end elevation viewed in the direction of the arrow in Fig. 1. Fig. 3 is a vertical cross-section taken on the line 3-3 of Fig. 1. Fig. 4 is a detail plan view of one of the bolting-screens. Fig. 5 is a similar view of the scalping-screen. Fig. 6 is a similar view of the removable hopper-screen.

Referring to the drawings, 1 designates a rectangular base-frame including a central longitudinal member or timber 2, there being attached to said base-frame the lower ends of corner posts or uprights 3, to the upper ends of which is secured an upper rectangular frame 4, including a central transversely-disposed beam or timber 5, these parts as a whole constituting the main frame of the machine.

Suspended in the frame by means of vertical rods or hangers 6, each containing a ball-and-socket joint 6', is an oscillatory frame 7, comprising a pair of parallel longitudinally-extending rails suitably engaged at their ends with transversely-disposed rails to which is fixed for movement with the frame a duplex box or casing 8, divided by a central partition 9 into a pair of screen-receiving compartments 10, which are identical in form and are normally closed at their forward ends by swinging doors 11, hinged in the usual man-

ner to the casing and adapted to be secured in closed position by means of hooks or latches 12, there being centrally engaged with the casing 8 the crank portion 13 of an operating-shaft 14, journaled for rotation in the timbers 2 and 5 and equipped at its upper end with a pinion 15, in mesh with a gear 16, carried by a suitable stub-shaft 17, operable by a crank-handle 18. It is apparent that when the crank-handle 18 is operated motion will through the medium of gear 16 and pinion 15 be imparted to the operating-shaft 14, which in turn, owing to the engagement of its crank portion 13 with the casing 8 and the provision of the ball-and-socket joints 6', serves to impart a swinging or oscillatory movement to the frame 7.

Arranged in superposed relation in each of the compartments 10 and sustained by cleats or rails 19 is a plurality of slides 20, having forwardly-projecting handpieces 21, adapted to be grasped for inserting or removing the slides, each of which is provided with a substantially central opening 22, covered at its lower face with, in the instance of the lowermost slide, a sheet of tin or other impervious material 23 and in the instance of the remaining slides with bolting-cloth or other reticulated material 24, it being understood, of course, that when the slides are in position the openings 22 will register to conjointly form a vertical well having an impervious bottom formed by the tin covering 23 and containing a plurality of vertically-spaced screens presented by the reticulated sheets 24, while sustained above the well, within the left-hand compartment 10 and registering at its lower end with the opening 22 in the uppermost slide, is a conical feed-hopper 25.

Disposed above the slides 20 in the right-hand compartment 10 is a removable hopper-like slide 26, having a central opening 27, designed to register with the opening 22 in the uppermost slide 20, there being provided for said compartment a feed-hopper 28, designed to deliver at its lower end upon a screen or slide 29, situated immediately above the hopper-screen 26 and having a reticulated covering 30, of scalping-cloth, which at the normally inner or rear end of the screen tails over, as at 31, into a tubular spout 32, provided with a removable lower section 33, having a closed bottom 34.

In practice the material to be scalped and bolted is fed from hopper 28 onto the scalp-

ing-screen 30, from which the tailings pass over the apron 31 into spout 32, while the body of the stock sifts through said screen and is directed by the hopper-screen 26 to the reticulated portion of the uppermost slide 20, it being understood that during the oscillation of casing 8 in the manner heretofore explained the material will be sifted through and graded by the reticulated portions 24 of the slides 20 and that the various grades of material may be determined by the removal of all or any one of the slides and, further, that a final deposit of the finest grade of material will be received in the chamber 22 of the lowermost slide on the impervious bottom 23 of the latter. When the material is merely to undergo a bolting process for determining the grade, it is deposited in hopper 25 and bolted in the manner heretofore explained through the reticulated portions of the underlying slides 20 within the left-hand compartment 10, these slides being of course removable for inspecting the various grades of material retained thereby.

From the foregoing it is apparent that I produce a simple device admirably adapted for the attainment of the ends in view and one wherein the slides may be readily interchanged in either of the compartments to obtain various combinations of the bolting-screens to accord with the particular grade of material under treatment, it being understood that in attaining these ends minor changes in the details herein set forth may be resorted to without departing from the spirit of the invention.

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent, is—

1. In a device of the class described, a frame, a casing arranged for oscillation therein, a plurality of superposed slides removably arranged in the casing and having openings designed to register and conjointly form a continuous well, an impervious material applied to the lower face of the lowermost slide for closing the opening therein and forming a bottom for the well, pervious coverings applied over the openings in and to the lower faces of the remaining overlying slides to form spaced screens within the well, and means for oscillating the frame.

2. In a device of the class described, a frame, a casing arranged for oscillation therein and having vertically-spaced side rails, a plurality of superposed slides removably seated in the casing upon said rails and having openings designed to register and form a continuous well, projecting end pieces formed upon the slides, an impervious covering applied to the lower face of the lowermost slide for closing the opening therein and forming a bottom for the well, coverings of pervious material applied to the lower faces of the remaining overlying slides across the openings therein to form screens within the well, and means for oscillating the casing.

In testimony whereof I affix my signature in presence of two witnesses.

IRA Z. MONGER.

Witnesses:

H. L. GABEL,
ED LANMAN.