No. 793,683. PATENTED JULY 4, 1905.

A. E. SABLE.

MILL FEEDING DEVICE.

APPLICATION FILED JAN. 31, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

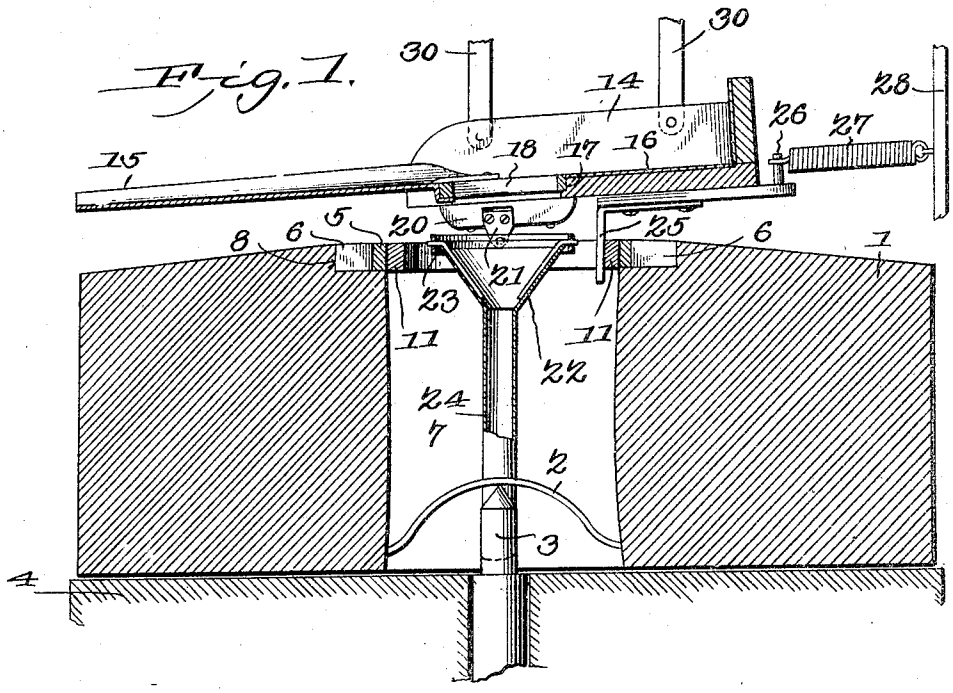
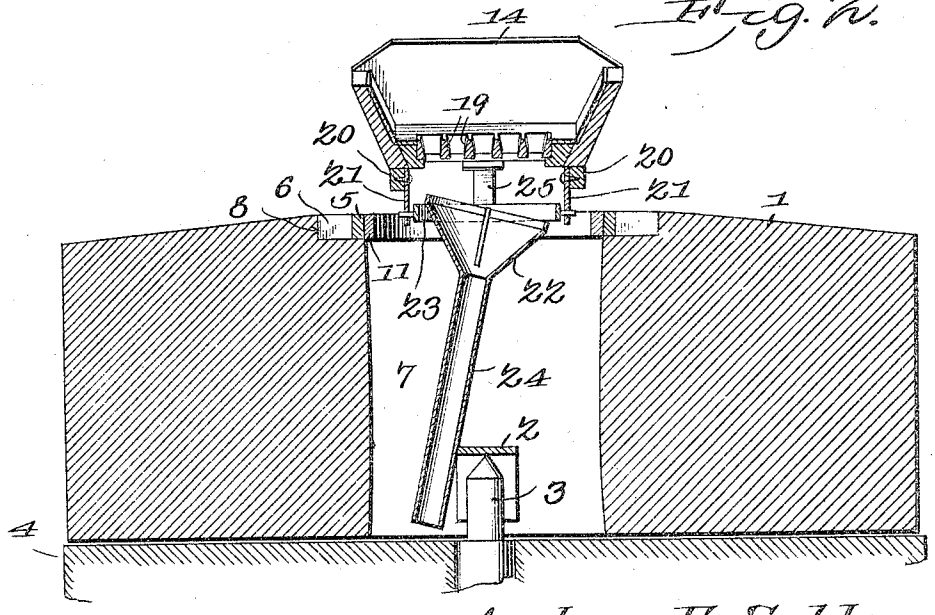


Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

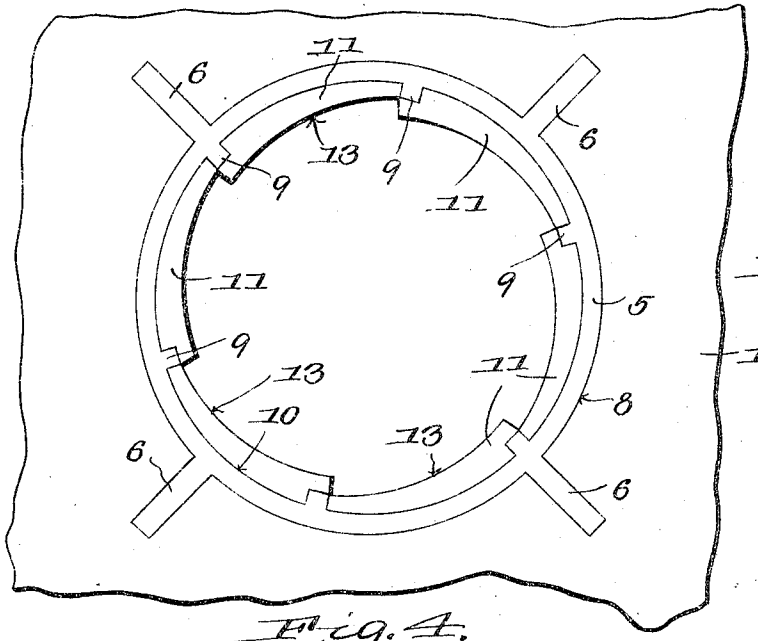


Fig. 3.

Fig. 4.

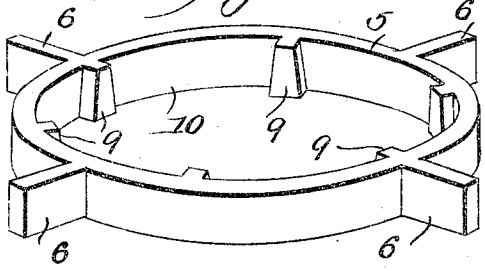


Fig. 5.

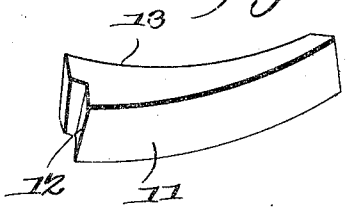


Fig. 6.

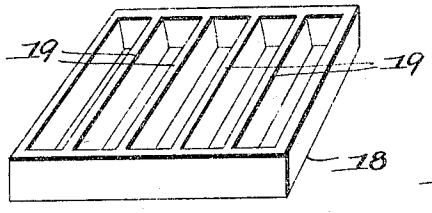
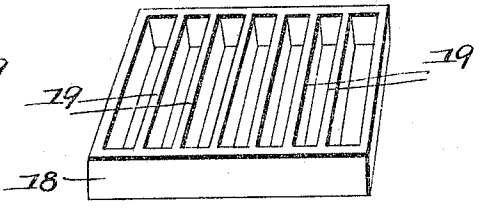


Fig. 7.



Witnesses

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No. 793,683. Patented July 4, 1905.

UNITED STATES PATENT OFFICE.

ANDREW EDGAR SABLE, OF FISHING CREEK, PENNSYLVANIA.

MILL-FEEDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 793,683, dated July 4, 1905.

Application filed January 31, 1905. Serial No. 243,524.

To all whom it may concern:

Be it known that I, ANDREW EDGAR SABLE, a citizen of the United States, residing at Fishing Creek, in the county of Columbia and State of Pennsylvania, have invented a new and useful Mill-Feeding Device, of which the following is a specification.

This invention relates to feeding devices for that class of mills employing an upper and a nether millstone; and it has for its object to simplify and improve the construction and operation of this class of devices.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of embodiment of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations, and modifications may be resorted to within the scope of the invention and without departing from the spirit or sacrificing the efficiency of the same.

In said drawings, Figure 1 is a vertical sectional view showing the invention applied in position for operation. Fig. 2 is a transverse sectional view taken at approximately right angles to Fig. 1. Fig. 3 is a plan view of the central portion of the runner-stone and related parts. Fig. 4 is a perspective view showing the ring or spider constituting a part of the invention detached from the millstone. Fig. 5 is a perspective detail view showing one of the beveled or wedge-shaped blocks which are used in connection with the spider detached and in inverted position. Figs. 6 and 7 are detail views showing separating-grates of various dimensions.

Corresponding parts in the several figures are indicated by like characters of reference.

The upper or runner stone 1 is supported in the usual manner by means of the cross-bar or rynd 2 upon the spindle 3, which projects through the lower or bed stone, a portion of which is shown at 4.

5 designates a spider consisting of a ring provided with outwardly-extending radiating arms 6, said ring being seated at the upper edge of the eye 7 of the runner-stone, which is recessed, as shown at 8, for the reception of said ring and the arms radiating therefrom. Upon the inner side of the ring or spider 5 are formed a plurality of equidistant projections 9, tapering upwardly and producing a plurality of recesses 10, which, by reason of the tapering shape of the lugs or projections 9, have downwardly-converging ends or edges. Seated in said recesses are wedge-blocks 11, having downwardly-tapered ends 12, adapted for engagement with the lugs or projections 9, between which the said wedge-blocks may thus be securely seated. The inner faces of the wedge-blocks 11 are curved eccentrically, as shown at 13, so that when placed in position, as in Fig. 3, the said wedge-blocks will coöperate to form an internal ratchet within the spider 5.

Suitably supported above the upper millstone is a shoe 14, having a discharge-shoe 15. Said chute, which is preferably constructed of wood with a lining 16 of galvanized iron or other suitable material, is provided directly above the eye of the millstone with an aperture 17, forming a seat for a separating-grate 18, consisting of a frame, preferably rectangular, and having a plurality of longitudinally-disposed bars 19, which may be spaced at various distances apart, as will be seen by reference to Figs. 6 and 7, where grates having differently-spaced bars have been shown. These grates are to be made of steel and are to be more or less highly magnetized for the purpose of removing from the grain passing between the grate-bars metallic particles—such as nails, screws, and the like—which may have become accidentally mixed with the grain and which would be liable to work great injury to the millstones if permitted to pass therebetween. These grates or "searchers," as they may be

termed, are interchangeable and adaptable to various kinds of grain. It will be observed that the body of the shoe 14, the discharge-chute 15, and the bars 19 of the grate 18 are disposed in longitudinal alinement—that is, the grate-bars are disposed longitudinally with relation to the shoe—and the chute, which constitutes an overflow, is disposed at the end of the shoe and in longitudinal alinement with the grate-bars. By this relative arrangement the operation of the device is improved and facilitated.

The under side of the shoe 14 is provided with flanges 20, having depending ears or lugs 21, between which a feed-funnel 22 is supported upon gimbals 23. The spout 24 of the feed-funnel is extended downwardly to rest against one side of the cross-bar or rynd 2, so as to be carried around with the runner-stone, and thus be caused to distribute the material fed evenly around the spindle.

Suitably connected with the under side of the shoe 14 is a bracket having a downwardly-extending member 25, which is disposed in contact with the inner eccentric faces of the wedge-blocks 11. The rear end of the bracket has a pin 26, which is connected by a traction-spring 27 with a fixed point of the framework 28.

The operation of this invention and its advantages will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed, by those skilled in the art to which it appertains. Grain is supplied in any suitable manner to the shoe 14, which latter is constantly agitated, as the bracket member 25 is in constant engagement with the wedge-blocks 11, connected with the spider. The latter being connected with the runner-stone is constantly rotated, and the bracket member 25 will be alternately moved in the direction of the center of the eye by said wedge-blocks and be retracted by the action of the spring 27, thus setting up a shaking movement, which is effective in feeding the grain over the grate or searcher. Metallic particles will adhere to the latter and may be subsequently removed. The grain will pass between the grate-bars and into the funnel, whereby it is fed between the millstones and refuse matter, such as straws and empty ears, will be carried off over the spout 15.

The wedge-blocks 11 being mounted detachably in the spider may be readily removed and new ones substituted when desired.

The shoe 14 may be supported for reciprocation by means of links 30 from some suitable overhead support (not shown) or in any other convenient and appropriate manner.

Having thus described the invention, what is claimed is—

1. In a device of the class described, a spring-actuated shoe supported for reciprocation said shoe having an aperture, a magnetized steel grate seated in said aperture and having longitudinally-disposed grate-bars, and a longitudinally-disposed overflow-chute connected with the shoe.

2. In a device of the class described, a reciprocatory spring-actuated shoe, a magnetized steel grate in the latter, and a funnel supported by gimbals beneath said grate.

3. In a device of the class described, a shoe supported for reciprocation, a tension-spring to move said shoe in one direction, and a device directly connected with the runner-stone for moving said shoe in the opposite direction.

4. In a device of the class described, the combination with a runner-stone, of a spider seated therein, and wedge-blocks connected with said spider.

5. In a device of the class described, the combination with a runner-stone, of a spider seated therein, said spider including a ring provided on its inner side with upwardly-tapering lugs, and wedge-blocks having beveled ends engaging and supported detachable upon said lugs.

6. In a device of the class described, the combination with a runner-stone, of a ring seated in the eye thereof and having beveled projections upon its inner side, and wedge-blocks detachably supported upon said projections and having eccentrically-curved inner faces.

7. In a device of the class described, the combination with a runner-stone, of a spider seated therein, wedge-blocks connected detachably with said spider and having eccentrically-curved inner faces, a shoe supported for reciprocation and having a bracket member depending in contact with the eccentric faces of the wedge-blocks, a spring actuating said shoe in the direction of said wedge-blocks, and a funnel or spout connected with the shoe by means of gimbals, and resting against the rynd of the runner-stone.

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

ANDREW EDGAR SABLE.

Witnesses:

ZERBAN O. HESS,

A. F. CREVELING.