

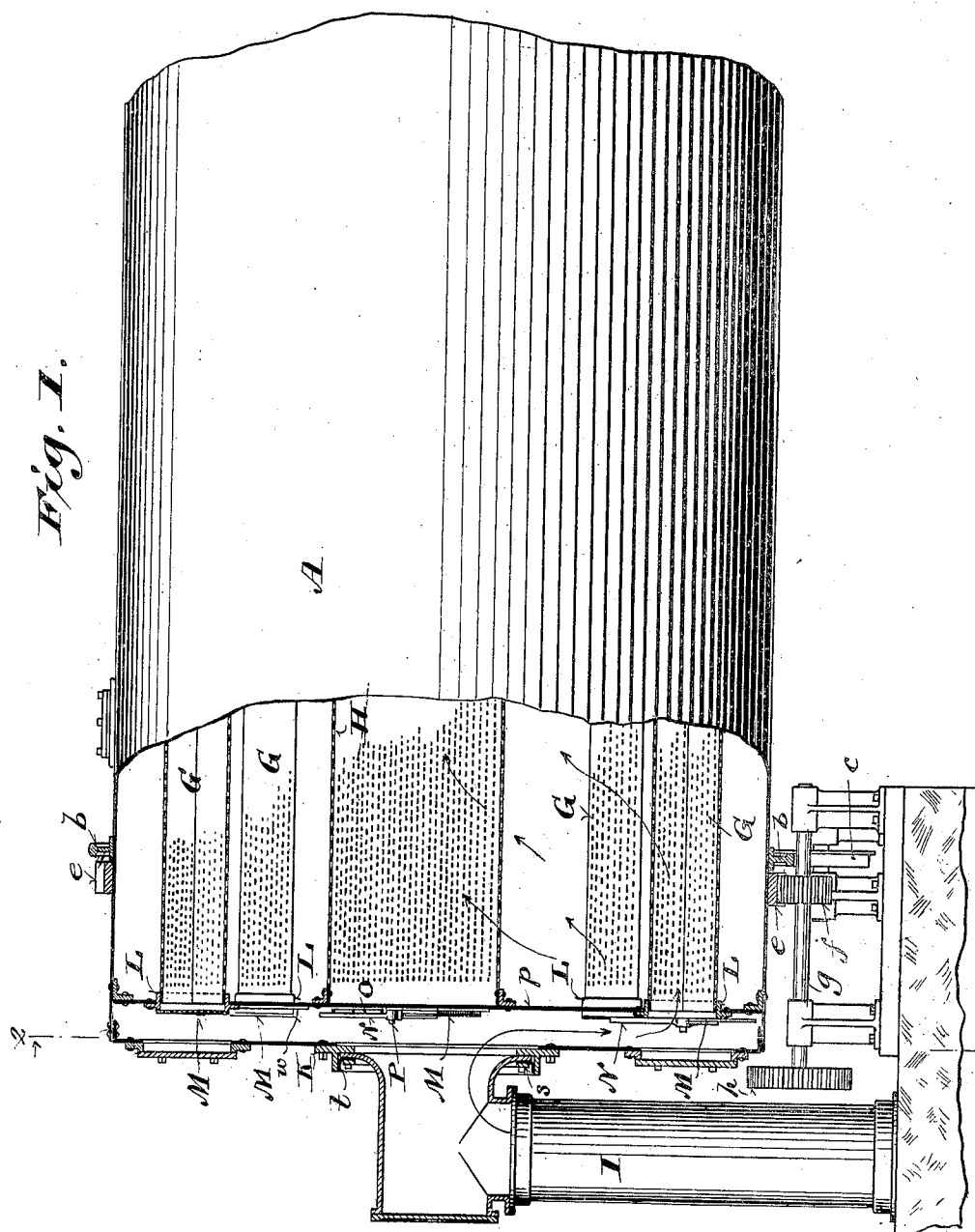
No. 827,690.

PATENTED JULY 31, 1906.

F. B. GIESLER.
PNEUMATIC MALTING DRUM.

APPLICATION FILED NOV. 15, 1905.

3 SHEETS--SHEET 1.



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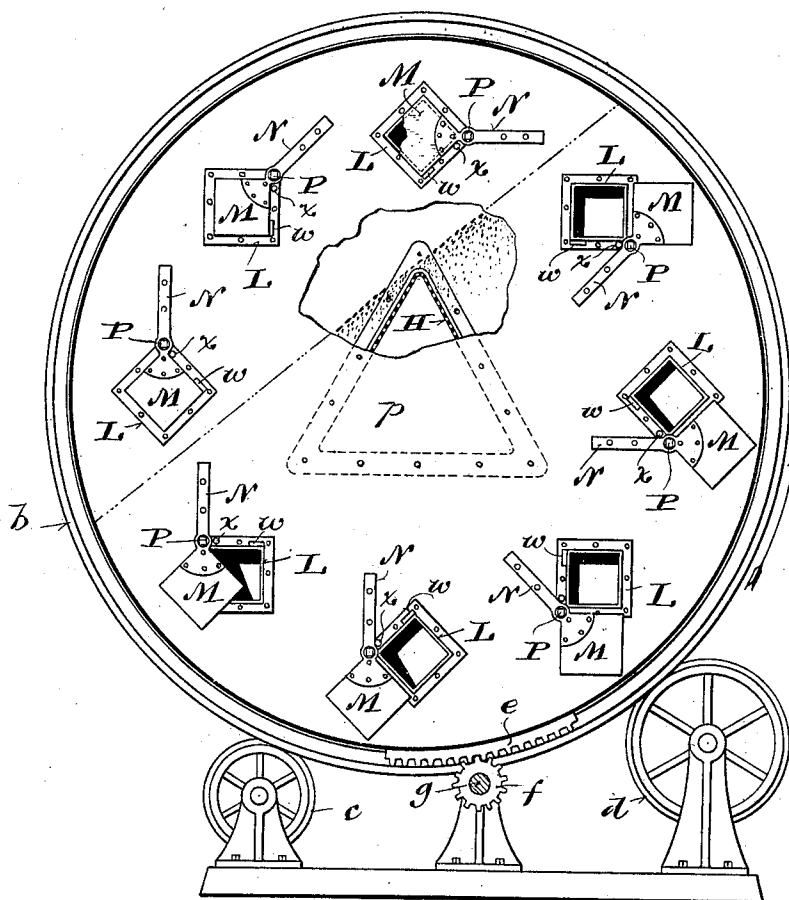
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Fig. 2.



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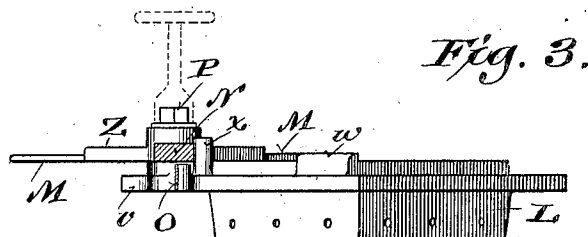


Fig. 3.

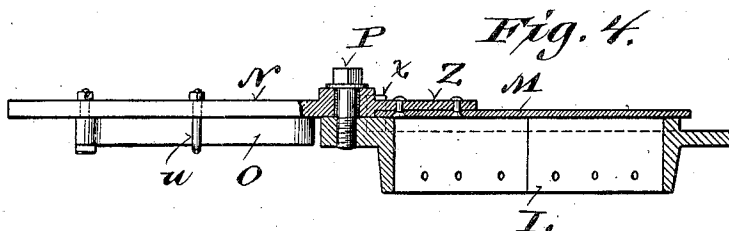


Fig. 4.

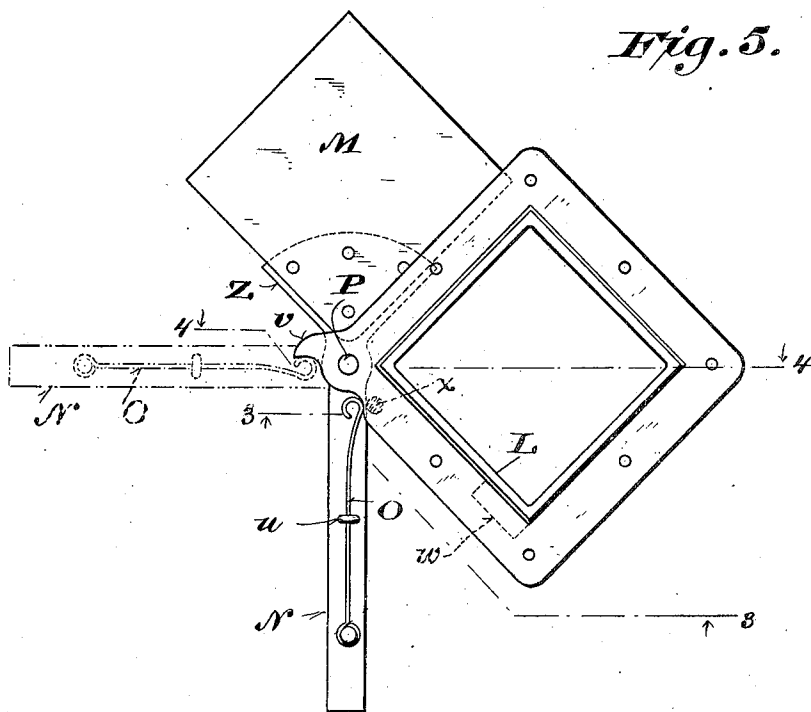


Fig. 5.

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UNITED STATES PATENT OFFICE.

FRANKLIN B. GIESLER, OF MILWAUKEE, WISCONSIN.

PNEUMATIC MALTING-DRUM.

No. 827,690.

Specification of Letters Patent.

Patented July 31, 1906.

Original application filed February 10, 1902, Serial No. 93,297. Divided and this application filed November 15, 1906. Serial No. 287,428.

To all whom it may concern:

Be it known that I, FRANKLIN B. GIESLER, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Pneumatic Malting-Drums; and I do hereby declare that the following is a full, clear, and exact description thereof.

The invention was originally disclosed in my now-allowed application for patent for improvements in pneumatic malting-drums, filed February 10, 1902, Serial No. 93,297, of which this application is a division; and said invention consists in certain peculiarities of construction and combination of parts hereinafter particularly set forth with reference to the accompanying drawings and subsequently claimed, its object being to enhance the efficiency of such drums, especially as relates to the air-distribution in same.

Figure 1 of the drawings represents a side elevation of a fragment of a rotary pneumatic malting-drum, partly in section; Fig. 2, an end elevation illustrating the interior of the front air-chamber of the drum, the view being on the plane indicated by line 2 2 in Fig. 1; Figs. 3 and 4, partly sectional views respectively indicated on lines 3 3 and 4 4 in the next succeeding figure of the series; and Fig. 5, a detail elevation of an end casting and a normally automatic gate pertaining to an air-flue of the aforesaid drum.

Referring by letter to the drawings, A indicates the shell of a pneumatic malting-drum embodying the improvements herein set forth, said drum being provided with outer track-rings similar to the one *b*, each being in contact with a flanged wheel similar to the one *c*, the axis for which turns in suitably-arranged bearings. A spur gear-ring *e* on the drum meshes with a pinion *f* on a shaft *g*, carrying a spur-wheel *h*, to which power is communicated by suitable means to impart rotation to said drum.

The drum is provided with the usual and necessary peripheral openings that are normally closed, and by means of a partition *p* adjacent to the drumhead herein shown an air-chamber is provided. Connected at their ends to the aforesaid partition to register with corresponding openings therein are the usual perforated air-flues *G* at suitable intervals apart. The central air-flue *H*, of per-

forated material, is of greater area than the other flues *G* and is preferably the same in cross-section, as has been set forth in Patent No. 507,536, issued October 31, 1893, its front end being closed by the partition *p*, and in practice provision is had to prevent direct flow of air through said flues *G* to an exhaust-flue into which it is customary to have said flue *H* discharge.

A central opening in the aforesaid head of the drum registers with an arm of an air-supply flue *I*, the open end of this arm being flared and opposed to a flanged ring *K*, fast to the adjacent drumhead. A gasket *s*, of rubber, leather, or other suitable material, is fastened on the flare of the flue-arm to impinge the flange *t* of the adjacent ring *K* to prevent escape of air between said flue-arm and ring, provision being had in setting of the gasket to compensate for settle of the drum incidental to wear of various parts of the machinery.

The air-flues *G* are fitted in castings *L*, having flanges riveted or otherwise rigidly secured to the front partition *p* in the drum, and in pivotal connection with the flange of each casting is a gate *M*, by which the air-supply through the adjacent flue is regulated, the movement of the air being upward through the material in said drum and out through the central flue *H* of same. Each gate is provided with a counterweight-arm *N*, on which a spring rod or leaf *O* is arranged. About midway of its length the spring engages a fulcrum eye or staple *u* in connection with the gate-arm, and one curled end of said spring is bolted to said arm. The flange of each casting *L* has its edge shaped, as shown in Fig. 5, to provide clearance for the free end of the spring on the arm of the gate that is pivoted to said casting. Each casting-flange and a lug *v* of same are oppositely in the path of the free end of the adjacent gate-arm spring, and resistance of said spring serves to retard movement of a gate in either direction of its swing, whereby detrimental impact of the gate or its arm against stops *w x*, provided on said casting, is avoided.

Each gate-pivot is preferably a set-bolt *P*, engaging a tapped opening in the flange of a casting *L*, and said bolt may be tightened to hold the gate against pivotal play. In Fig. 3 it is shown by dotted lines that a socket-wrench may be utilized on an angular head

of a set-bolt gate-pivot to adjust the same; but the pivots may be made with cranks or handles to facilitate their adjustment. The set-bolt pivots are adjusted to hold the gates open when germination of material in the drum has progressed far enough to cover all the air-distributing flues.

The gates M being loose on their pivots they operate to automatically open and close the air-flues G when the drum is in rotation, each gate being full-closed during the time it is carried in the arc of one-quarter of a circle downward from the vertical center of said drum, and during this time the adjacent flue is cut off from the air-supply. All the flues G for a time in the arc aforesaid are cut off from the air-supply, and the others are open, as is clearly illustrated in Fig. 2. Hence the air passes upward through the material in the drum and is drawn off through the central flue H of said drum.

I claim—

1. A rotatory malting-drum having a series of air-distributing flues arranged therein at intervals, a corresponding series of independent pivotal gates constituting air cut-offs at ends of said flues and provided with counterweight-arms, stops arranged to limit automatic play of the gates, springs on the gate-arms, and obstructions arranged to

cause resistance of the springs to prevent detrimental impact of said gates against said stops.

2. A rotatory malting-drum having a series of air-distributing flues arranged therein at intervals, flanged castings fitting ends of the flues, a flue-gate in pivotal connection with the flange of each casting and provided with a counterweight-arm, gate-stops on the same flange, a rod or leaf spring secured at one end to the gate-arm, a fulcrum eye or staple on said arm engaged by the spring, the free end of said spring being intermediate of an edge of said flange and a lug of same.

3. A rotatory malting-drum having a series of air-distributing flues arranged therein at intervals, a corresponding series of independent flue-gates arranged on set-bolts to have pivotal play or be held against such play, and means for limiting swing of said gates when loose on their set-bolt pivots.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

FRANKLIN B. GIESLER.

Witnesses:

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GEORGE TELBER.