2 Sheets—Sheet 1.

F. KLINKERMANN.

FEED-REGULATOR.

No. 183,684. Patented Oct. 24, 1876.

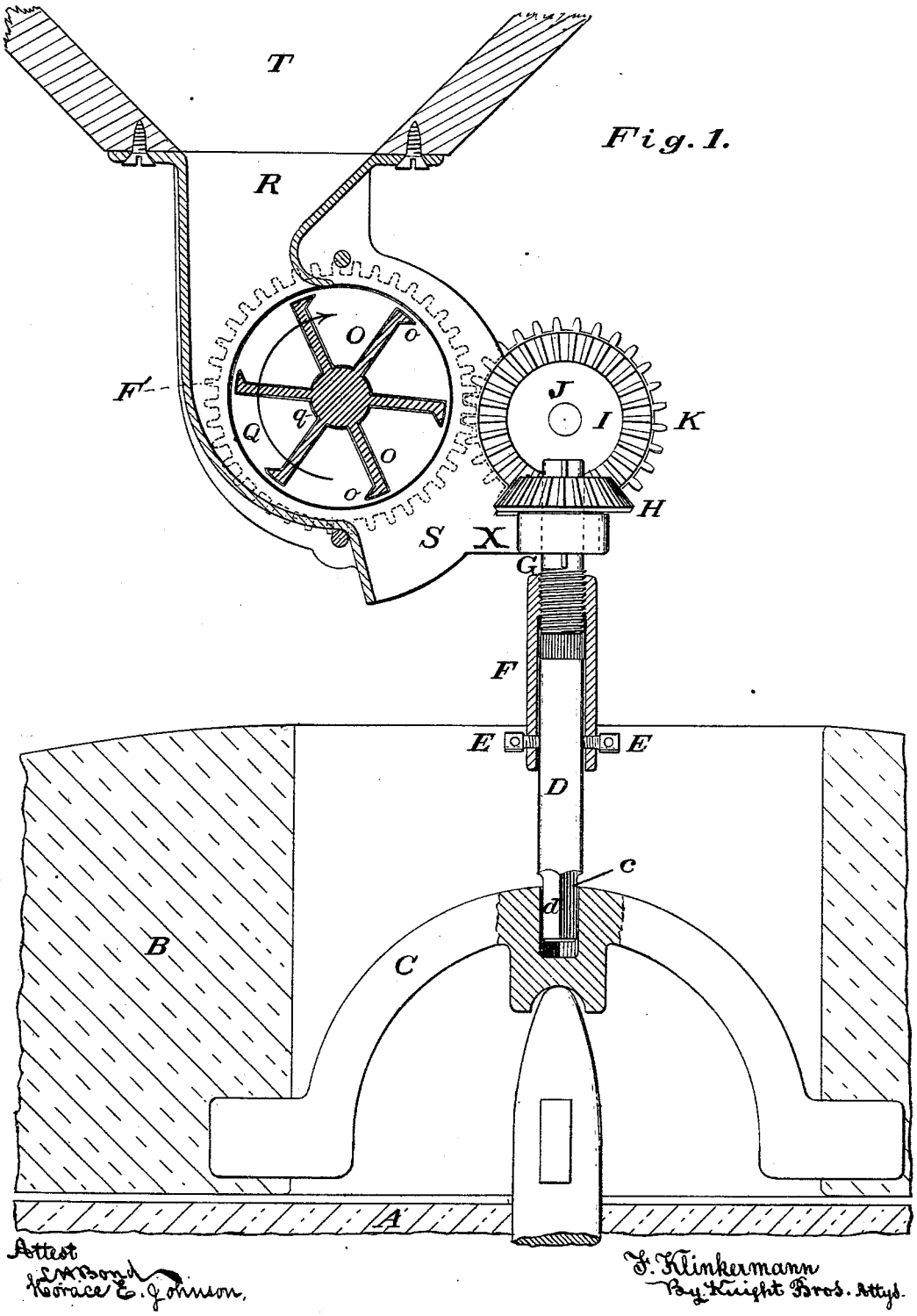

Fig. 1.

Attest
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F. Klinkermann
By Knight Bros. Attys.

2 Sheets—Sheet 2.

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Fig. 2.

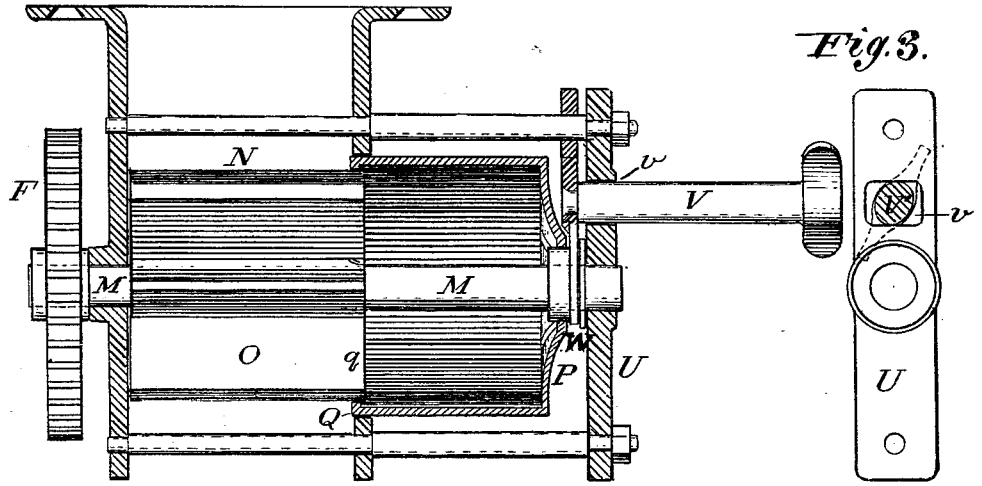
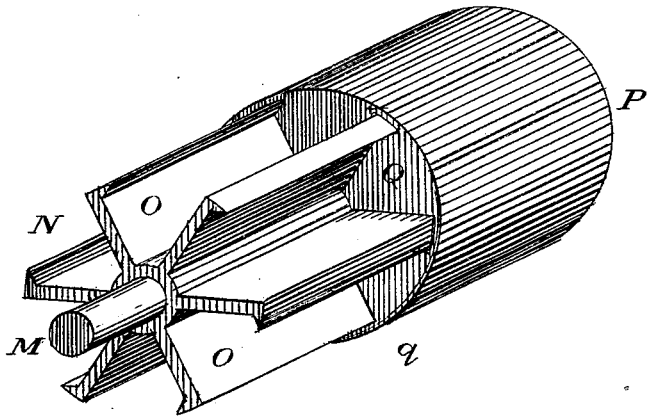


Fig. 3.

Fig. 4.



Attest
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UNITED STATES PATENT OFFICE.

FRIDERICH KLINKERMANN, OF AURORA, INDIANA.

IMPROVEMENT IN FEED-REGULATORS.

Specification forming part of Letters Patent No. **183,684**, dated October 24, 1876; application filed July 27, 1876.

To all whom it may concern:

Be it known that I, FRIDERICH KLINKERMANN, of Aurora, Dearborn county, Indiana, have invented a new and useful Feed-Regulator for Millstones, of which the following is a specification:

The subject of this patent is a mechanical device which constitutes a forced or positive, and at the same time adjustable, feed for grinding-mills.

In the accompanying drawings, Figure 1 is a transverse section of my feed and regulator in position. Fig. 2 is a longitudinal section of the same, the regulator being wholly retracted. Fig. 3 is a face view of the slotted plate. Fig. 4 represents my feed and regulator removed from their casting, the regulator being fully retracted.

A and B may represent portions of the bed-stone and runner of a grinding-mill. The balance-rynd C has a square or other non-circular socket, *c*, for the correspondingly-formed lower extremity *d* of a rod, D, whose upper extremity is firmly secured, by set-screws E or other fastening, in sleeved extremity F of the shaft G of a bevel-wheel, H, that gears with bevel-wheel I. The shaft J of bevel-wheel I has a pinion, K, that gears with a spur-wheel, F′, upon horizontal shaft M, which shaft is armed with my feed or wallower N, consisting of a series of equidistant radial blades, O, having lips or flanges *o*, which point in direction of the rotation of said wallower. Fitting said wallower, and capable of being slid in or out thereupon, so as to contract or to enlarge the effective surface of the wallower, is my regulator P. The said regulator is a hollow cylinder, whose inner head Q is perforated, as at *q*, to snugly fit the hub or shaft M and the radial blades O of the wallower. R represents the hopper-spout, whose extended cheeks S constitute the casing. T represents the lower end of the hopper. The regulator P is drawn out or pushed in by means of a rod, V, which is capable of axial rotation, and, being of elliptical transverse section, can, by a partial rotation right or left, be made capable of free longitudinal movement in the slot *v* of plate V′, or can be tightly jammed in said slot, and be thus securely retained to its adjustment.

The operation of my device is as follows: The regulator P being set in or out, to correspond with the desired amount of feed, the wallower, rotating as per arrow, forces the feed in definite volume and velocity, at first upward and then outward, through the vent X, whence it drops into the eye of the millstone. The shaft G, while feathered at *g*, so as to compel the rotation of the wheel H, is, at the same time, capable of sliding freely up or down therein, and consequently the feeder is not disturbed by any vibrations of the mill. The screws E being temporarily slackened, the rod D can be elevated or depressed to suit the balance-rynd, which having been done the tightening of the screws holds the rod in place. The rod V is coupled to the regulator through the medium of yoke W, which straddles the grooved portion of shaft M, as shown in Fig. 2. The lips or flanges *o* are useful in giving the blades O a cupped form, which enables them to lift the grain with greater effectiveness and regularity.

I do not claim a sliding regulator to millstone-feeds, such regulators being old; but

I claim as new and of my invention—

1. The bladed up-feeding wallower N O *o*, in combination with the sliding regulator P Q *q*, substantially as and for the purpose set forth.

2. In combination with the sliding regulator P Q *q*, the elliptical rod V and slotted plate V′ *v*.

In testimony of which invention I hereunto set my hand.

FRIDERICH KLINKERMANN.

Attest:

GEO. H. KNIGHT,

S. B. SPEAR.