

W. H. TODD & E. C. KEYSER.
Middlings-Purifiers.

No. 152,582.

Patented June 30, 1874.

Fig. 1.

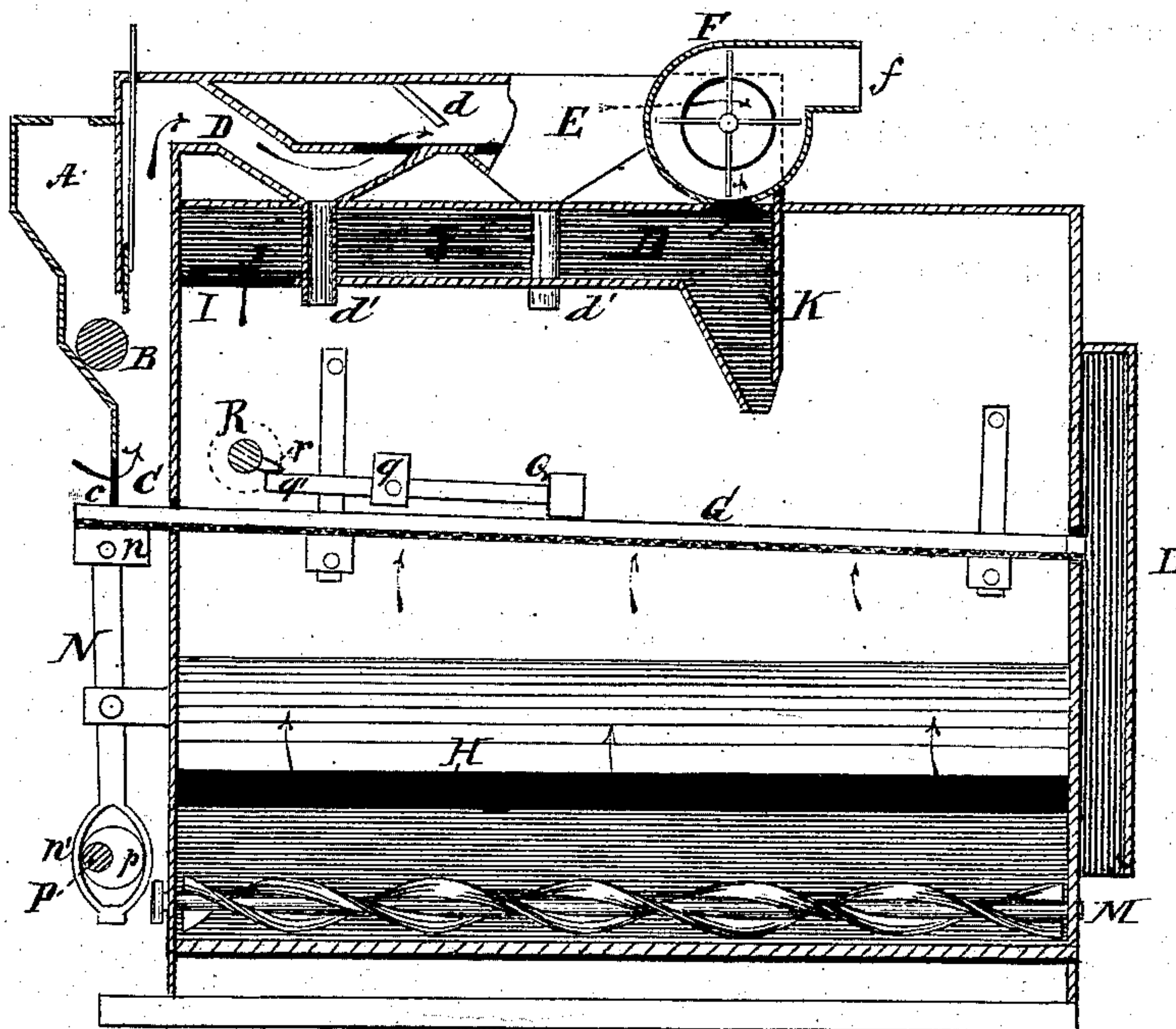
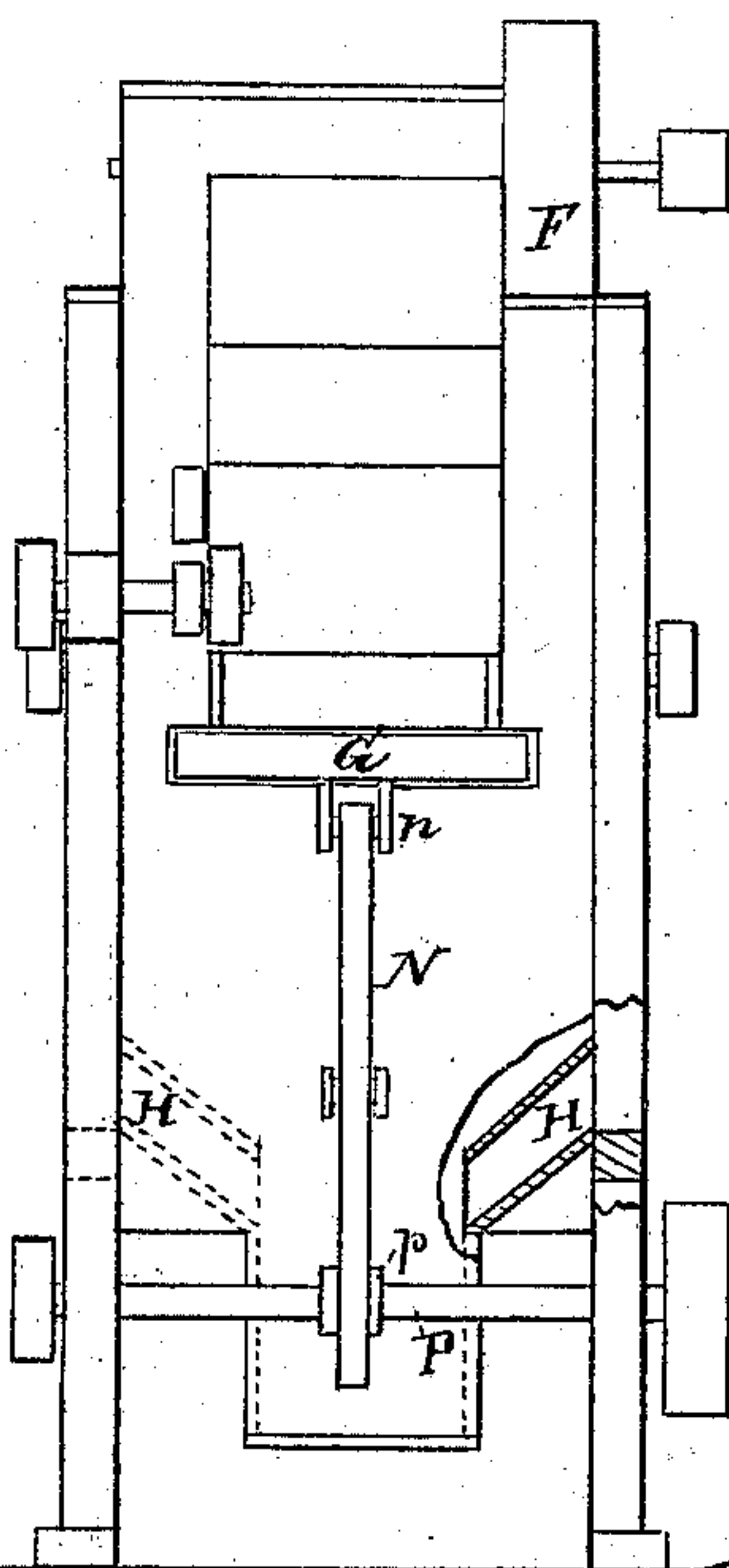


Fig. 2.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN MIDLINGS-PURIFIERS.

Specification forming part of Letters Patent No. **152,582**, dated June 30, 1874; application filed May 5, 1874.

To all whom it may concern:

Be it known that we, WILLIAM H. TODD and EPHRAIM C. KEYSER, of Utica Mills, in the county of Frederick and State of Maryland, have invented a new and Improved Middlings-Purifier; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 is a longitudinal sectional elevation; Fig. 2, an end view.

The invention relates to the purification of middlings. The means by which we accomplish this object will first be fully described, and then pointed out in the claim.

A in the drawing represents the hopper into which the middlings are poured, and B the rotary wheel or roll by which they are gradually fed forward into a space, C. The latter leads upwardly to one or more zigzag channel-ways, D, having retarding projection *d* and pendent spout or pipe *d'*; thence, through a channel, E, to the suction-fan F, which discharges through its outlet *f*. As the middlings are falling through space C upon the shaking or reciprocating inclined sieve G, air is drawn by the suction-fan through opening *e*, and in the current carries up toward the fan the light middlings as well as impurities, the heavier parts being arrested at D *d*, and brought down to the sieve through pipe *d'*, while the refuse is discharged by the fan. As the middlings pass along the reciprocating sieve G, the fan draws through side openings H H a current of air, which courses upwardly through the sieve and carries other

light particles through aperture I into channel J, and thence into the fan. Striking against the wings of the latter, the heavier parts fall into a pocket, K, which is open at the bottom and allows them to drop upon the sieve. The middlings pass through the sieve G into the chamber, in which is located the spiral conveyer M, while the tailings are discharged into a conductor, L, that leads to some suitable receptacle. The conveyor transfers the middlings to their destination in the usual manner. N is a lever for reciprocating the sieve, fulcrumed at *n*, and having a yoke, *n'*. The latter is operated by a cam, *p*, on the drive shaft P. The shaft P also drives the shaft which contains the feed-roll B by means of connecting pulleys and belt. Q is a striker, pivoted at *q*, and raised by an arm, *r*, of the shaft R at each rotation of the latter. This striker at every blow jars the sieve and loosens the middlings that may have become lodged on the meshes of the sieve, thus serving to keep the interstices always open.

What we claim as new is—

The combination, with sieve G and the hopper A, having feed-roll B, discharging into a space, C, having inlet *e*, of zigzag channels D E, having projection and spout *d d'*, the channel J, having inlet I and pocket K, and the fan F, all constructed and arranged substantially as and for the purpose specified.

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Witnesses:

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