J. W. WILSON.

Middlings-Purifiers.

No. 158,771. Patented Jan. 12, 1875.

Fig. 1.

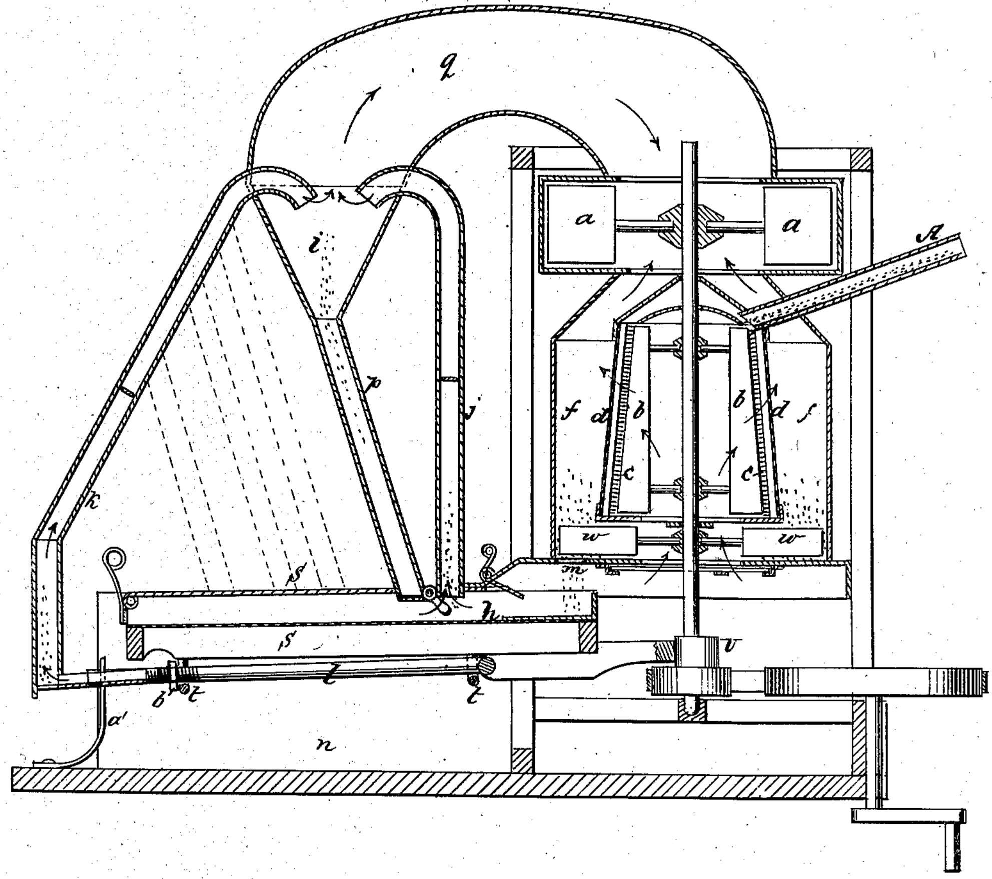
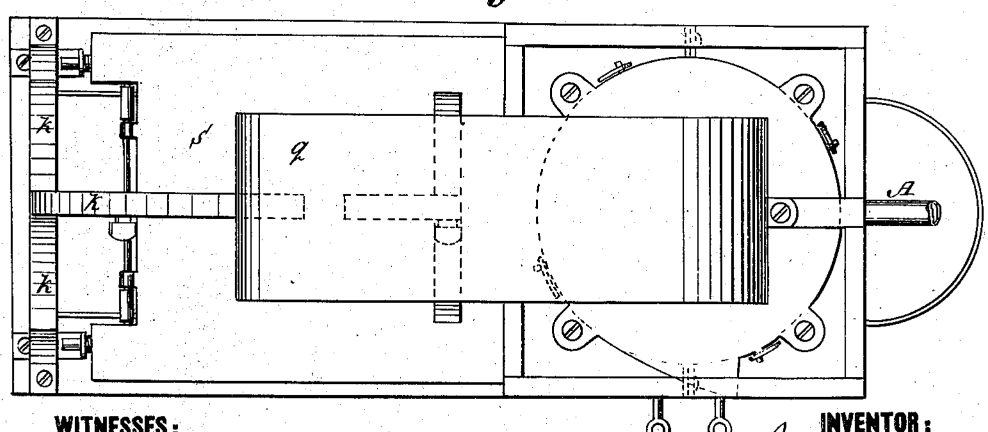


Fig. 2.



WITNESSES:

E. Wolff.
C. Sedgwick

INVENTOR:

J. W. Wilson

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOSEPH W. WILSON, OF WARSAW, ILLINOIS.

IMPROVEMENT IN MIDDLINGS-PURIFIERS.

Specification forming part of Letters Patent No. **158,771**, dated January 12, 1875; application filed June 6, 1874.

To all whom it may concern:

Be it known that I, JOSEPH W. WILSON, of Warsaw, in the county of Hancock and State of Illinois, have invented a new and Improved Middlings-Purifier, of which the following is a specification:

The invention will first be fully described, and then pointed out in the claims.

Figure 1 is a longitudinal sectional elevation of my improved purifier, and Fig. 2 is a plan view.

Similar letters of reference indicate corresponding parts.

A is a spout, through which the middlings are passed into a stationary bolt, *d*, which incloses a fan, *b*, to the outer edges of which are attached brushes *c*, for the purpose of agitating the middlings, and to prevent the bolt-cloth from clogging. The fan *b* takes the air around the shaft at the bottom, and forces it, together with middlings and impurities, out into chamber *f*, where there is a current of air passing upward to fan *a*, which carries the impurities up and out into a suitable dust-room, while the middlings are allowed to fall to the sweep *w*, which discharges them at the opening *m* onto a horizontal bolt, *h*, which descends to the air-trunk *k*. The frame of this bolt is furnished with loops *t*, through which are passed the rods *l*, which rest on two springs, *a'*, at the outer ends, and should have one spring between them at the other end. The rods are made to reciprocate by the eccentric U, and they are furnished with check-nuts *b'*, against which the loops on the bolt strike, imparting to it a jarring longitudinal motion, which, together with a quivering motion by the vibration of the rods, keeps the middlings constantly agitated over the cloth, and also keeps the cloth clean without the aid of knockers or brushes.

S represents the top and sides of an air-chamber, of which the bolt *h* forms the bottom. Air is taken in at each end of this chamber, and drawn longitudinally over the bolt, also up through it, for the purpose of gathering up any impurities that may be in among the middlings, and carrying them off through the air-trunk *j*. The clean middlings fall into hopper *n*. The tailings are discharged off the end of the bolt into the air trunk *k*, where they are carried up into an expansion-chamber, *i*, letting back onto the bolt *h*, through spout *p*, anything lifted through the trunks *k*, and also another trunk, *j*, drawing from the upper part of the bolt anything too heavy to be allowed to pass into the dust-room.

I propose to employ one or more of these trunks *j*, leading from air-chamber S into the expansion-chamber, or into trunk *k*. From the expansion-chamber the impurities are carried off through trunk *q* by the draft of fan *a*.

By this contrivance the middlings are kept agitated throughout the entire passage through the machine.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of suction-fan *a*, fan *b*, having brushes *c*, stationary bottomless bolt *d*, and circumjacent chamber *f*, all constructed and arranged to operate substantially in the manner described.

2. The air-trunks *k j* and spout *p*, in combination with chambers *i q* S, suction-fan *a*, and horizontal bolt *h*, as and for the purpose specified.

3. The combination of horizontal bolt *h*, rods *l*, eccentric U, springs *a'*, loops *t*, and check-nuts *b'*, substantially as and for the purpose specified.

JOSEPH W. WILSON.

Witnesses:
R. L. MCDOUGAL,
EDWD. E. LANE.