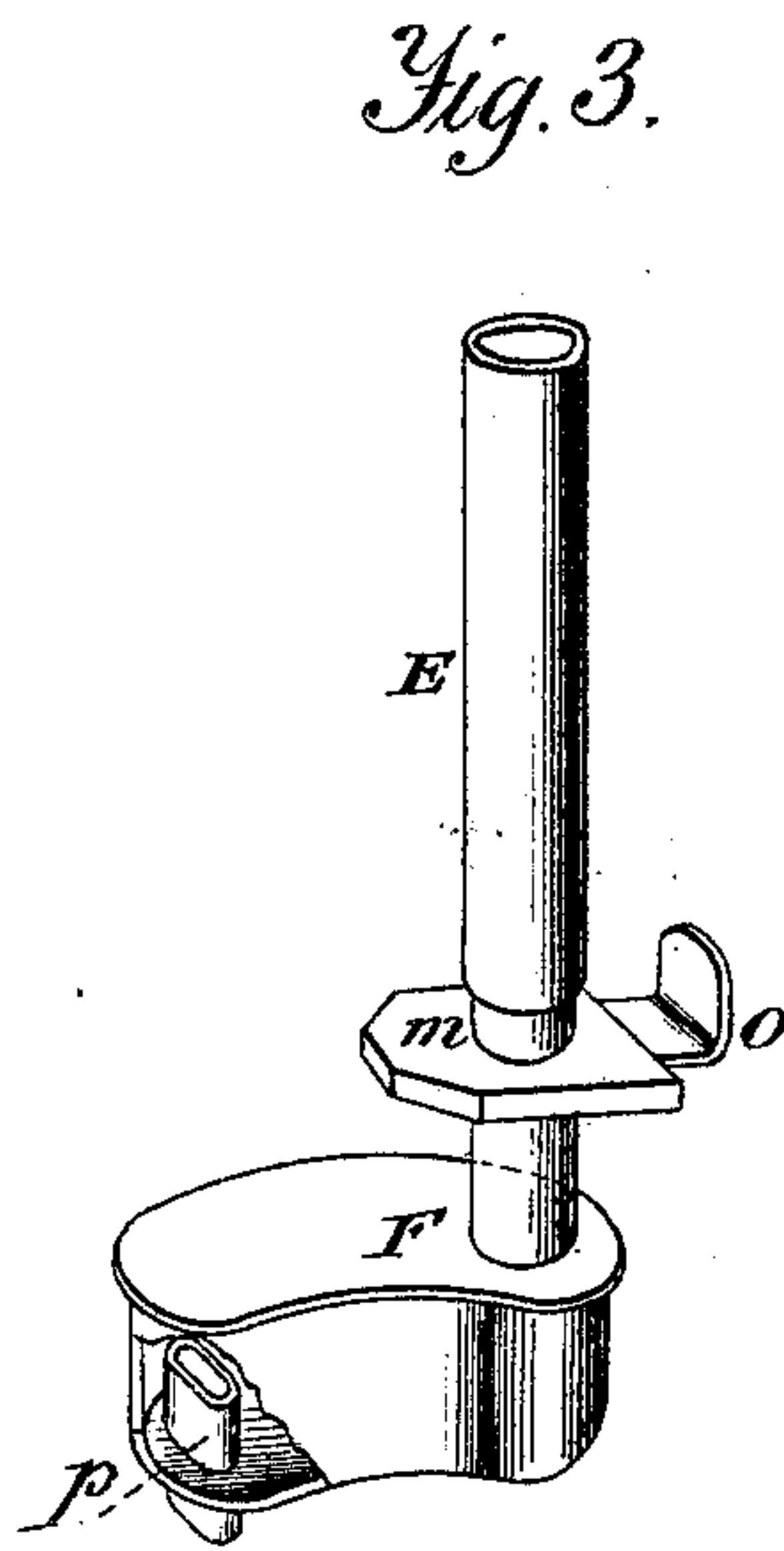
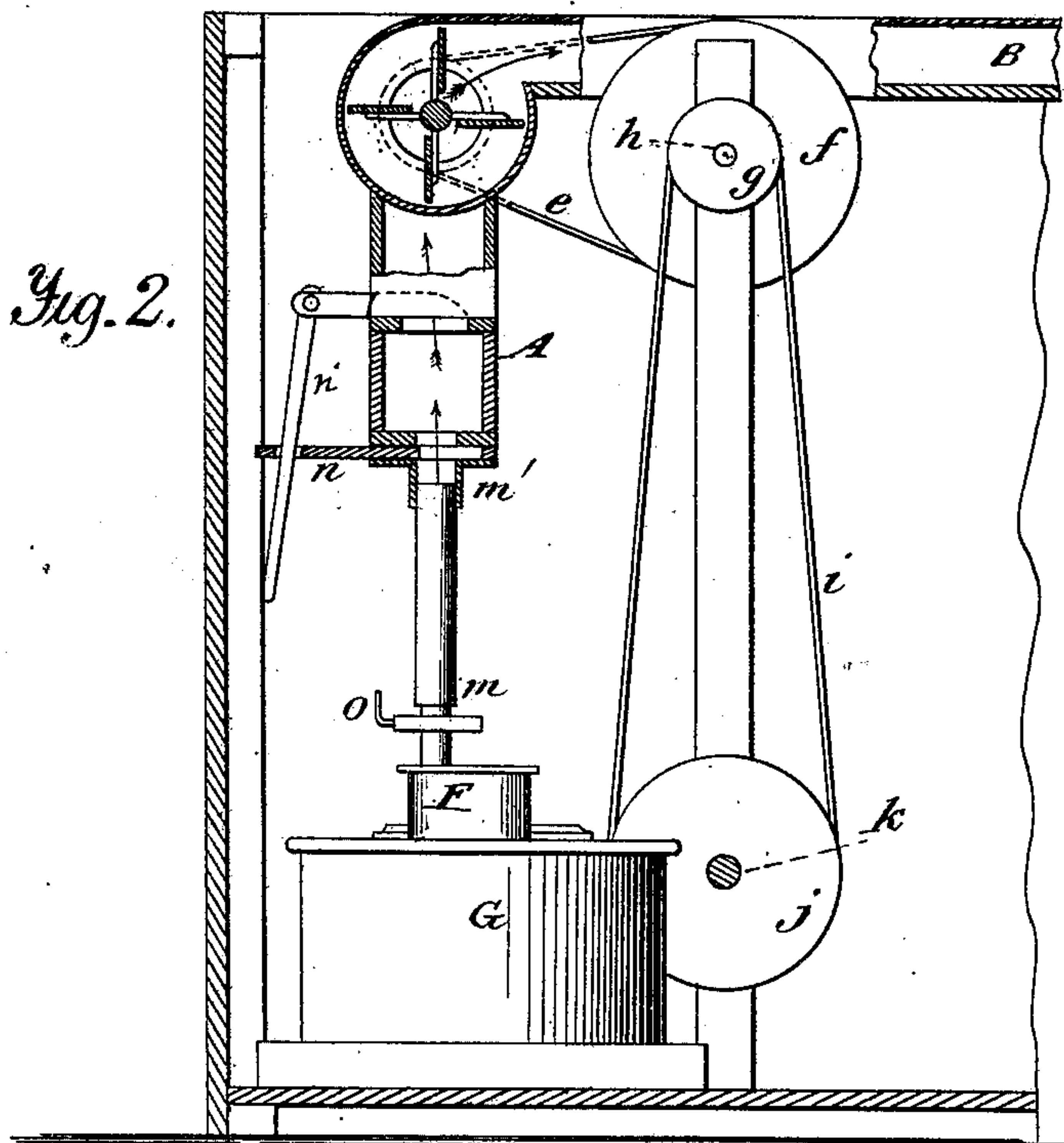
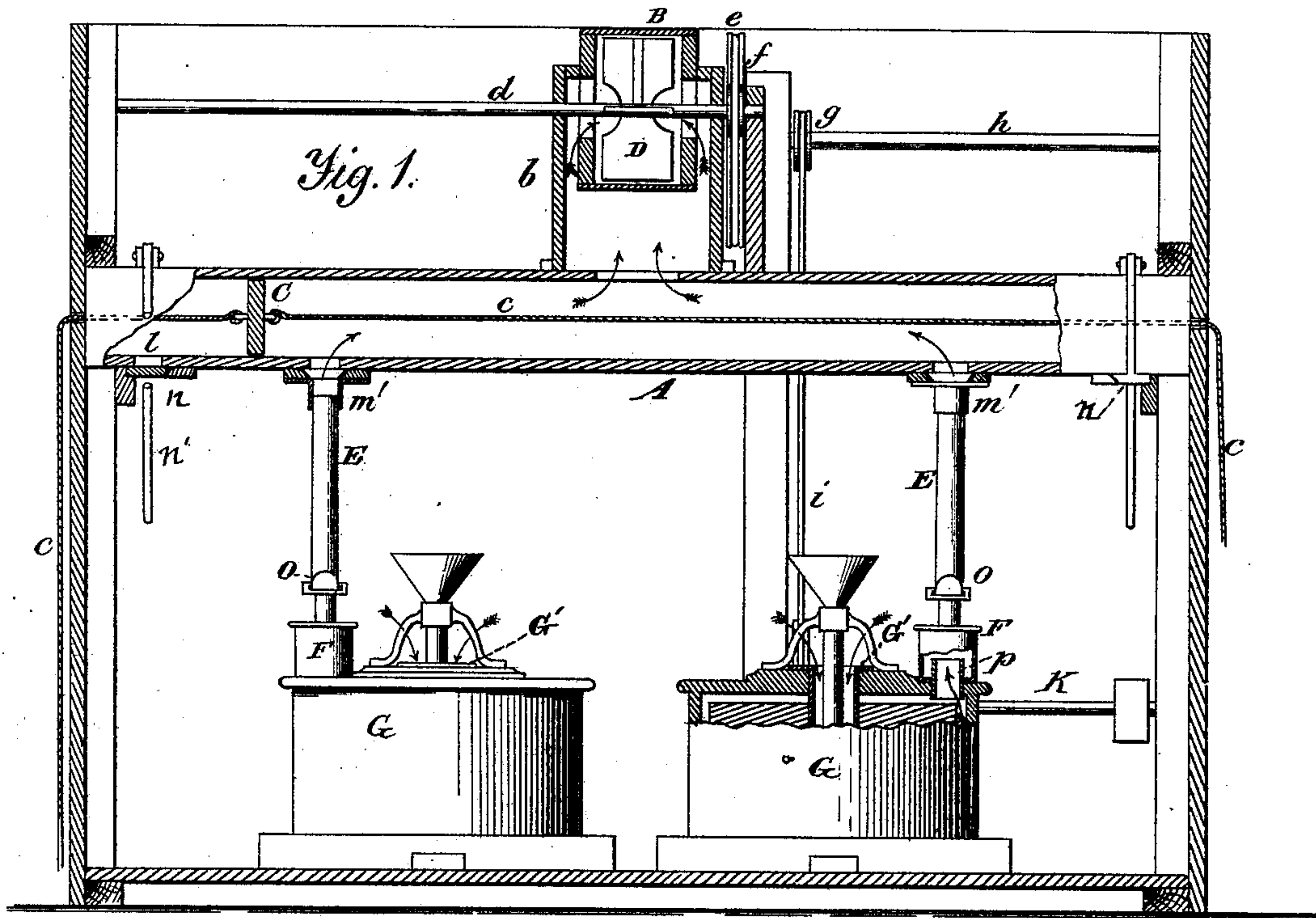


Exhaust Apparatus for Millstones.

Patented Aug. 6, 1878.



Witnesses.
A. Ruppert
James H. Lange.

Inventor:
James Phippen.
per Edison Bros. Attys.

UNITED STATES PATENT OFFICE.

JAMES PHIPPEN, OF DUNDAS, MINNESOTA.

IMPROVEMENT IN EXHAUST APPARATUS FOR MILLSTONES.

Specification forming part of Letters Patent No. **206,686**, dated August 6, 1878; application filed November 30, 1877.

To all whom it may concern:

Be it known that I, JAMES PHIPPEN, of Dundas, in the county of Rice and State of Minnesota, have invented certain new and useful Improvements in Millstone-Exhausts; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification, and in which—

Figure 1 is a vertical section, partly in side elevation, of my improved blast for mill-burrs. Fig. 2 is a transverse vertical section thereof; and Fig. 3 is a detached perspective view of the condenser and suction-pipe.

Corresponding parts in the several figures are denoted by like letters.

The invention relates to certain improvements in blasts for mill-burrs; and it consists of mechanism, substantially as hereinafter particularly described and claimed.

In the annexed drawing, A represents a trough or rectangular receptacle suitably secured in an elevated position, and with which communicates pipe B, leading to the dust-room. At the point of conjunction between the said receptacle and pipe is a case, *b*, within which is mounted a fan, D, upon a shaft, *d*, driven by a belt and pulleys, *e f f*, connected to a third pulley, *g*, upon a shaft, *h*, driven by a belt and pulley, *i j*, upon a shaft, *k*, connected to a suitable motor.

In the receptacle A is a scraper, C, which is operated by cords *c c*, or other suitable means, to remove accumulated dust, &c., from the said receptacle, which falls through the valve-covered openings *n n*. Communicating with the receptacle A through apertures therein are suction-pipes E E, connected to the said receptacle and to condensers F F by telescopic joints *m m'*, to permit of their ready detachment from the condensers or mill-burr curbs G G when it is desired to inspect or remove the burrs. In such event the valves *n*, operated by lever *n'*, covering the communicating apertures between said pipes and receptacle A, are closed. The

pipes E E are also provided with cut-offs or valves *o o* to stop the suction whenever desired, the condensers F F, which are connected at their opposite ends, upon the lower side, with the curbs G G, by short oblong pipes *p p*, removing, by condensation, sweat, &c., from the burrs or stones, while the blast of the fan D creates a suction in the pipes E E and in the condensers, as indicated by the arrows at those points, to remove the dust from the burrs, a current or currents of cold air rushing into the eyes of the stones or burrs, as indicated at those points by arrows.

G' G' mark air-pipes, fastened at their upper ends to the curbs G G and extending down into the eyes of the burrs or stones sufficiently far to direct a current or currents of external or cold air between the burrs and through their channels or grooves to remove dust and cool the burrs, and which, in connection with the suction generated by the fan, produce a continuous current of air through the burrs or stones.

The short oblong pipes *p p*, it will be observed, extend down through the curbs a short distance, and about in a line with, or just beyond, the skirts of the stones or burrs, to aid the upward passage of the currents of air passing from between the burrs. The dust is carried off through the pipes E, receptacle A, case *b*, and pipe B to the dust-room.

By passing a strong current of cold air through the stones very little heat or steam is generated, and the grinding capacity thereof is greatly increased, in addition to removing the dust, &c., entirely from the stones or burrs and its surrounding case or curb.

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

1. In a mill-burr exhaust, a curb or case inclosing the burrs or stones and provided with an inlet-tube, G', for the passage of external or cold air between the burrs and through their channels or grooves, in combination with a condenser connected thereto by a short tube, *p*, extending down through the curb and in a line with or slightly beyond the skirt of the burrs

or stones, a condenser, and a fan or suction-blast, all arranged and operating substantially as and for the purpose set forth.

2. In a mill-burr exhaust, the combination, with the condenser F upon the curb G, of the pipe E, provided with the cut-off *o* and telescopic joint-connection *m*, by which the said pipe is detachably connected to the condenser, and when detached therefrom closed at its free or detached end, substantially as set forth.

In testimony that I claim the foregoing as my own I hereunto affix my signature in presence of two witnesses.

JAMES PHIPPEN.

Witnesses:

A. B. KEZAR,
D. W. MARKELL.