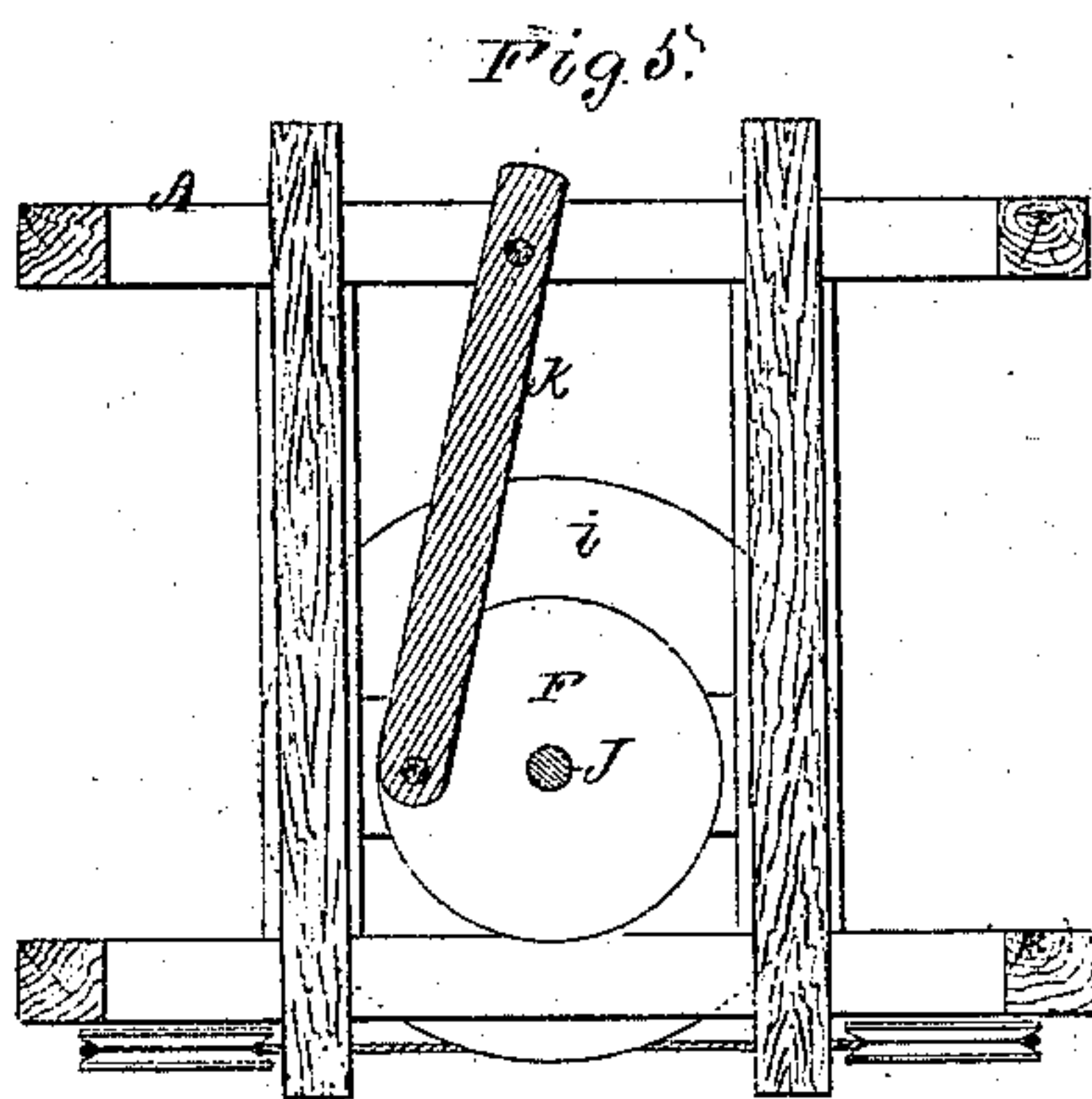
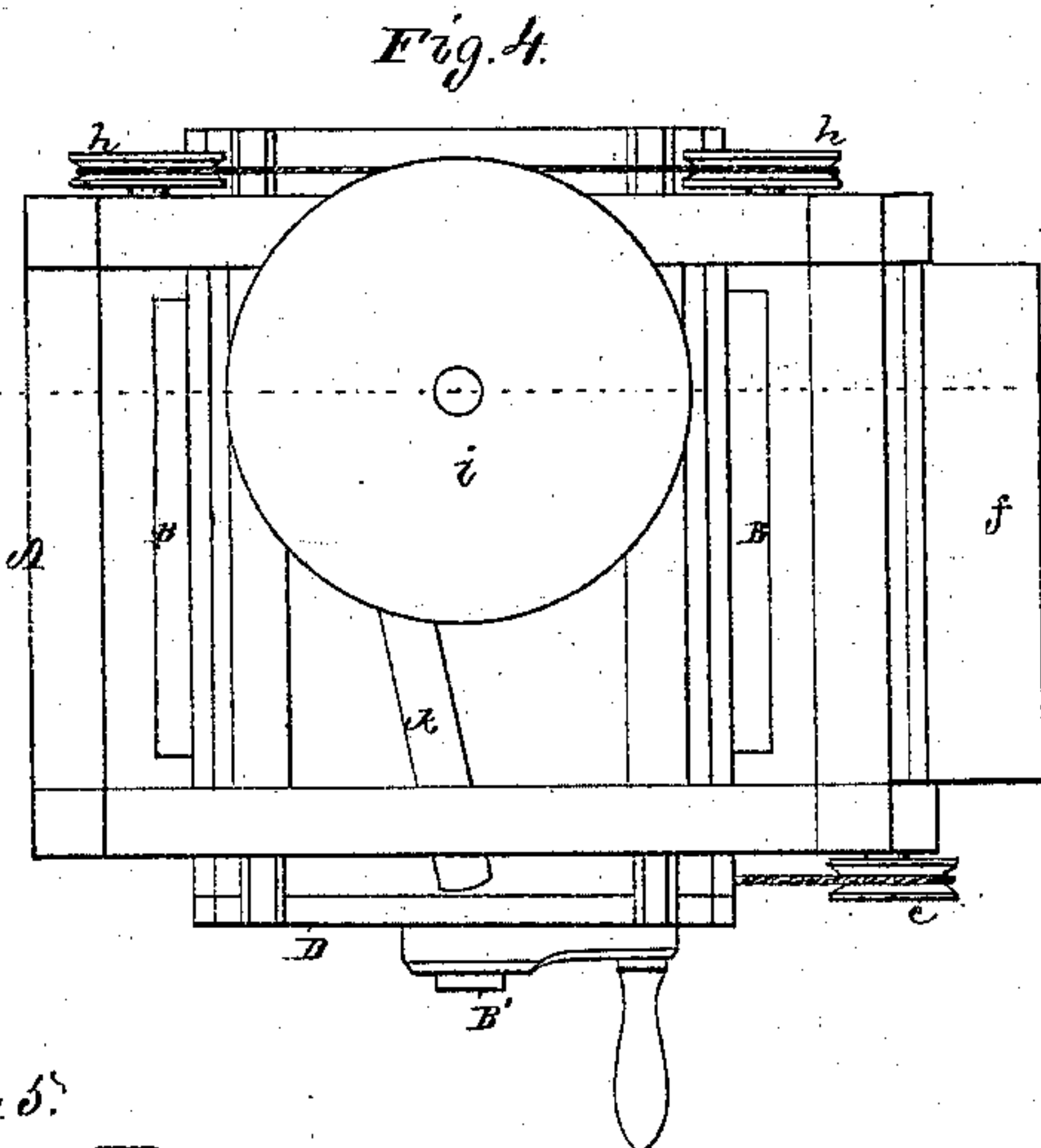
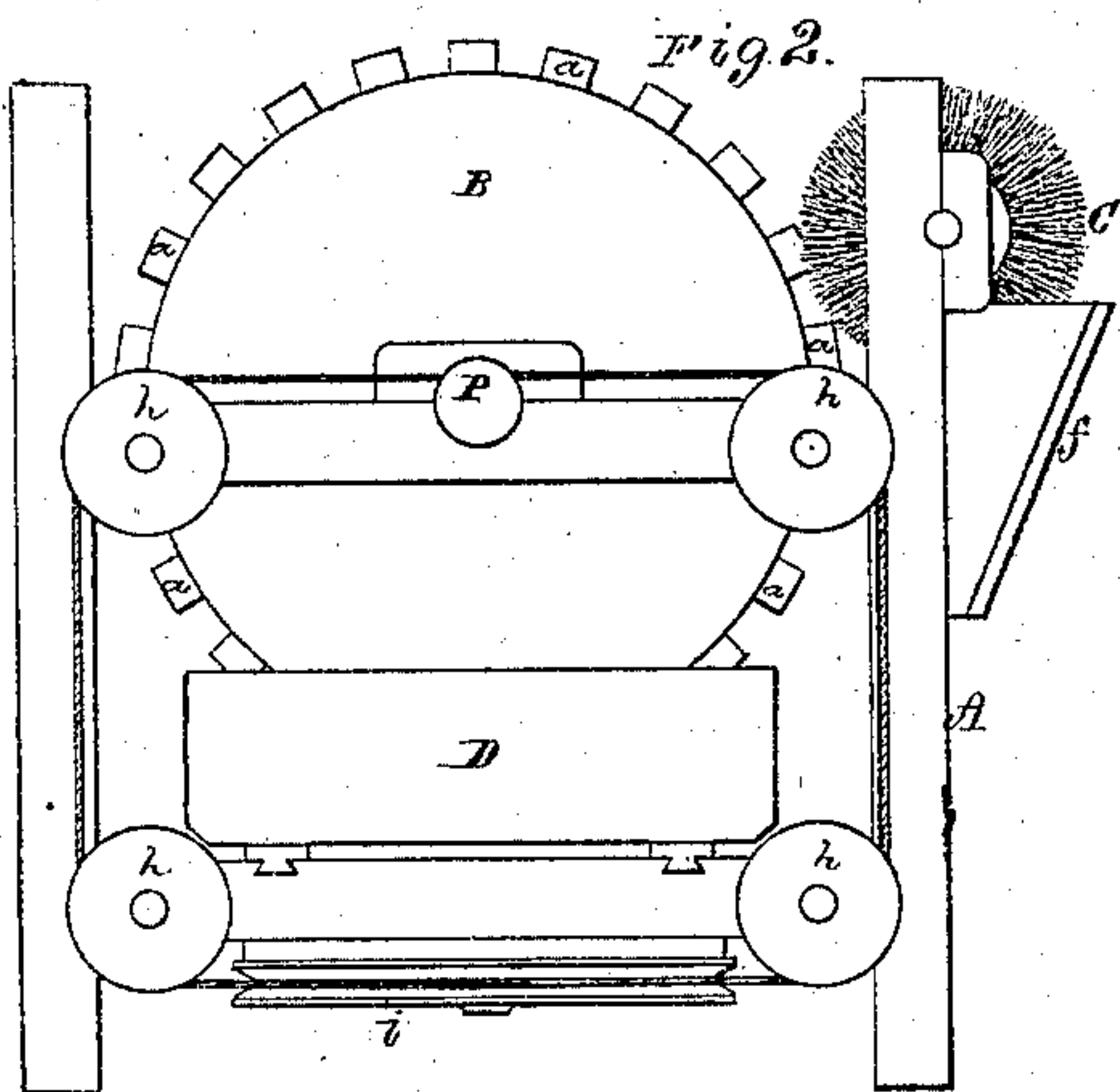
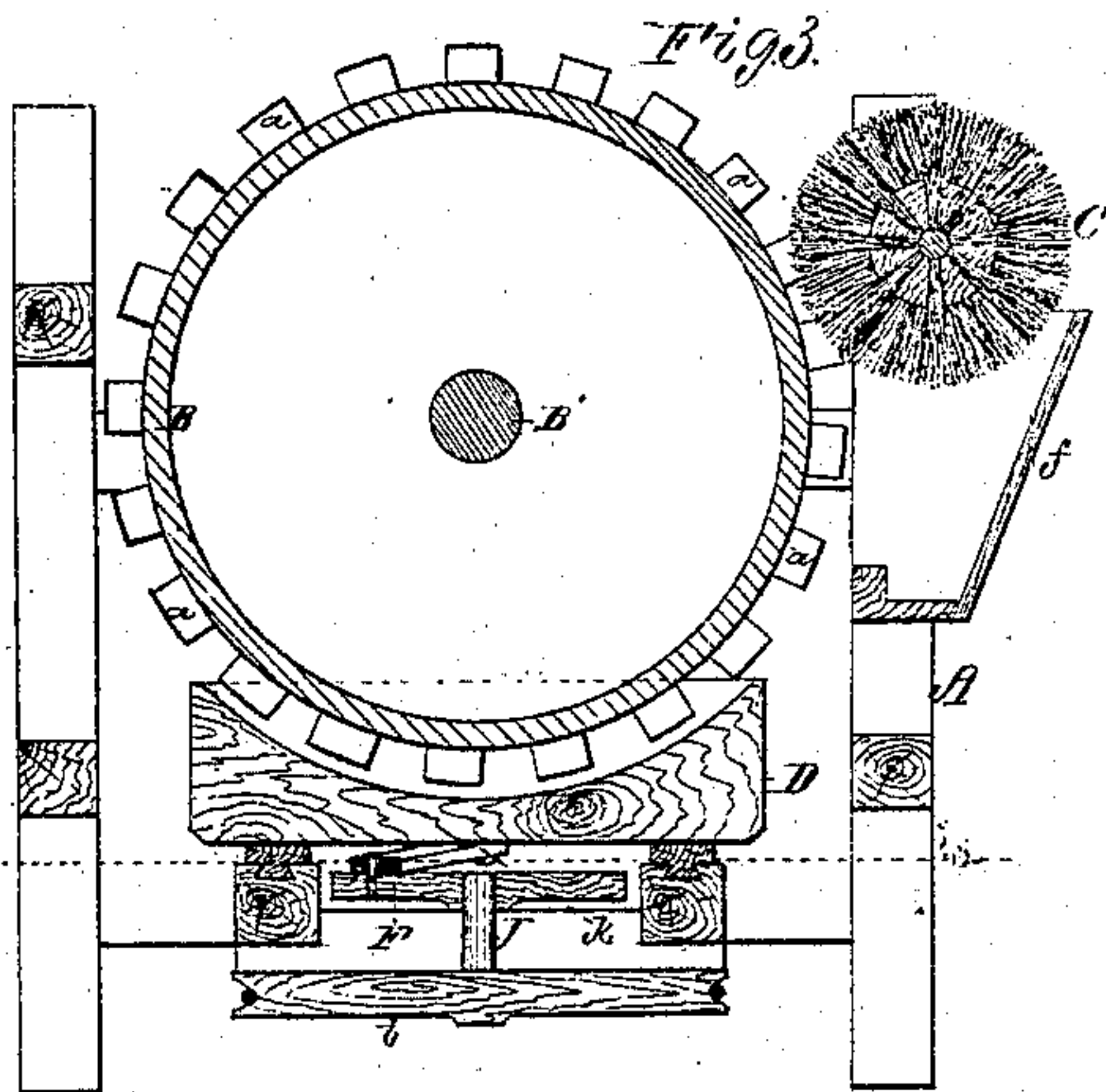
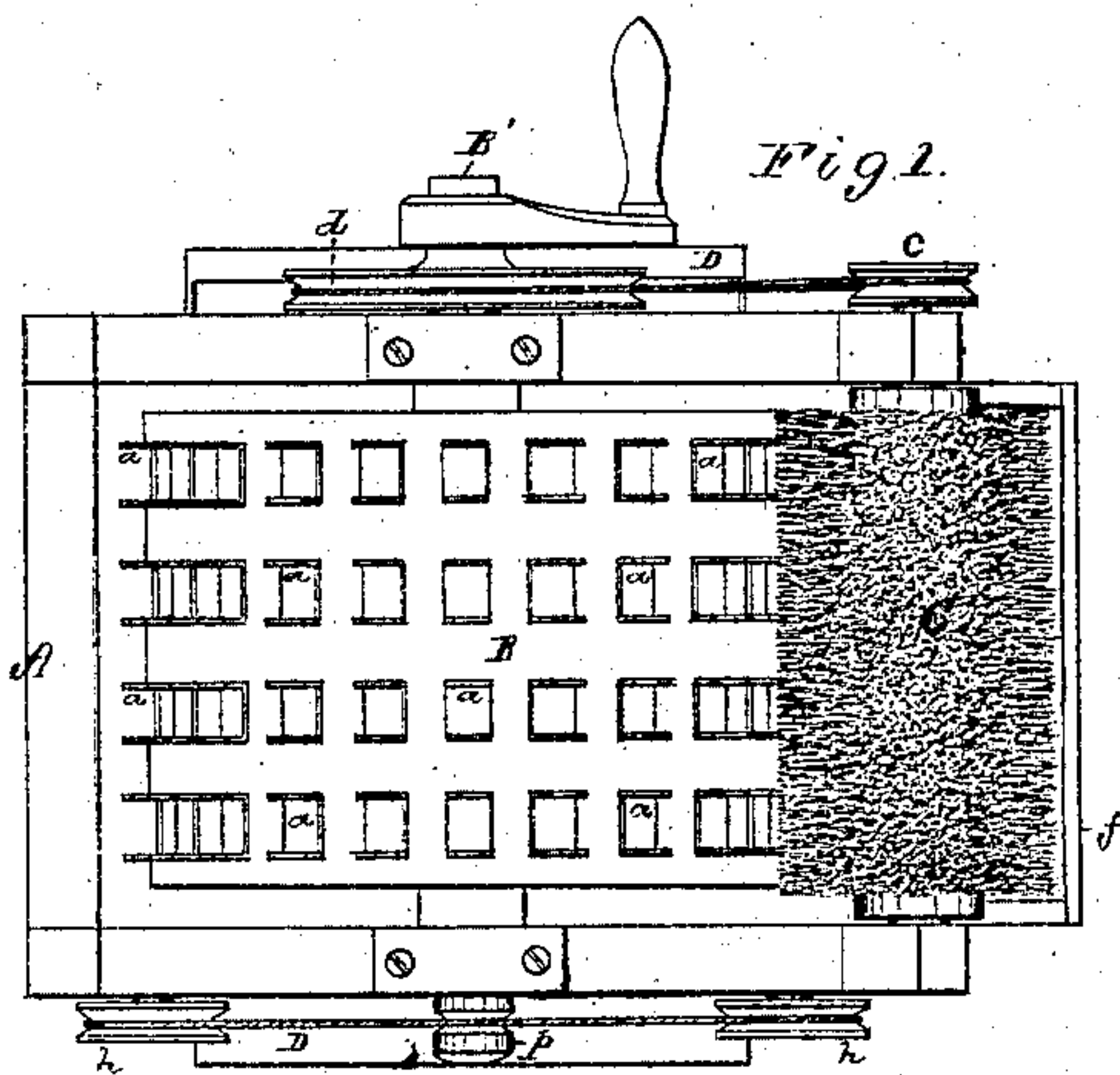


S. J. PEET.

Apparatus for Separating Metals.

No. 138,276.

Patented April 29, 1873.



Witnesses.

Geo. Gray

H. C. Hoale.

Samuel J. Peet.

by his attorney:

A. P. Hale

UNITED STATES PATENT OFFICE.

SAMUEL J. PEET, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE PEET VALVE COMPANY, OF SAME PLACE.

IMPROVEMENT IN APPARATUS FOR SEPARATING METALS.

Specification forming part of Letters Patent No. **138,276**, dated April 29, 1873; application filed June 14, 1872.

To all whom it may concern:

Be it known that I, SAMUEL J. PEET, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful machine or apparatus for screening or separating from a heterogeneous mass of iron and brass filings the iron and brass; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, in which—

Figure 1 denotes a top view, Fig. 2 a side elevation, Fig. 3 a longitudinal section, and Fig. 4 a bottom view, of a machine constructed in accordance with my invention. Fig. 5 is a horizontal section thereof taken on line *x* *x* of Fig. 2.

The object of my invention is to provide a simple, cheap, and effective means of separating from the "sweepings" of machine-shops or brass and iron finishing rooms the brass and iron filings which are removed from the castings while being finished, so that each may be saved and utilized in making other castings.

The great disparity between the prices of brass and iron renders it a matter of much importance to recover and save the waste comminuted portions of the brass removed from the castings while the latter are being finished. It is well known that the iron and brass filings from the respective articles fall and are gathered in one promiscuous heap, which are either carted to the foundry as waste, to be used in casting articles of iron, or thrown away. I am aware that attempts have been made to separate the iron from the brass by means of a magnetic bar affixed to a handle and drawn alternately back and forth through the intermingled mass by a laborer, who, when the bar had become surcharged with the conglomerated iron, scraped or removed it therefrom. This was not only a slow and toilsome process, but was very imperfect in its result.

My invention is designed to remedy these evils and to effect a rapid and perfect separation of the two metals; and consists in the employment of a drum having its periphery armed with series of small U-shaped magnets, rotating within a reciprocating reservoir or hop-

per, and a rotating brush, whereby the iron dust or filings may be cleaned from the magnets at each revolution of the same, and be deposited in a separate vessel or receptacle.

In the said drawing, A denotes the frame for supporting the main operating parts. B is a cylinder or drum, mounted upon a driving-shaft, B', which is firmly supported in bearings on the frame A, as shown in Figs. 1 and 2. The periphery of the drum is provided with series of curved or U-shaped magnets, *a a*, &c., arranged in rows extending transversely of the drum, or in any other suitable manner. C is a rotary brush, which is disposed in front of the drum B, and at such proximity thereto as to enable it to wipe off or remove the mass of iron filings that may have gathered thereon while revolving through the unscreened mass. *c* is a pulley affixed to one end of the brush-shaft, around which and another pulley, *d*, arranged on the driving-shaft, an endless belt or band, *e*, travels, and by which rotary movement is imparted to the brush when the shaft is put in rotation. The said brush is disposed over a receiver or box, *f*. D is a concave hopper or reservoir, into which the mass of iron and brass filings are to be placed. This hopper is disposed under the drum B, and has its concavity coincident with the curvature of the drum, it being arranged at such distance therefrom as to permit the series of magnets to revolve in close proximity therewith without impinging against it, the same being as shown in Fig. 3. Furthermore, the said hopper or reservoir is supported upon dovetailed ways so as to slide transversely back and forth underneath the drum, as shown in Figs. 2 and 3.

The mechanism for effecting such reciprocating movements of the hopper is as follows: *g* is an endless band extending around a pulley, *p*, on the driving-shaft, and four pulleys, *h h h h*, disposed on the upper and lower bars of the frame A; thence around a horizontal wheel or pulley, *i*, disposed in the under surface of the frame, as shown in Figs. 4 and 5, the latter pulley being affixed to a shaft, *j*, which carries, on its upper end, a wheel, F, to

which one end of a pitman, *k*, is affixed, its other end being pivoted to the bottom of the hopper, as shown in Figs. 3 and 4.

I would remark that, if desirable, the reservoir may be stationary, and the drum made to traverse it longitudinally.

In operating with my machine, the commingled mass of filings, brass and iron, are to be placed in the hopper D. The driving-shaft being put in revolution by any suitable motor, the series of magnets will be caused to pass through the metallic mass within the hopper, and, by their attraction, cause the comminuted iron to become attached thereto and borne out of the mass, the same being swept from the magnets by the rotary brush C and received into a suitable receptacle disposed under the same. The hopper being moved with

a reciprocating movement, the mass will be most thoroughly traversed and the comminuted portions of the iron completely removed, when the brass remaining in the hopper may be removed therefrom by means of a gate in the bottom thereof, or in any other suitable manner.

Having described my invention, what I claim is as follows:

The combination of a reciprocating reservoir, D, the drum B provided with a series of magnets, *a a*, &c., and the rotary brush C, substantially in manner and for the purpose hereinbefore specified.

SAMUEL J. PEET.

Witnesses:

F. P. HALE,
F. C. HALE.