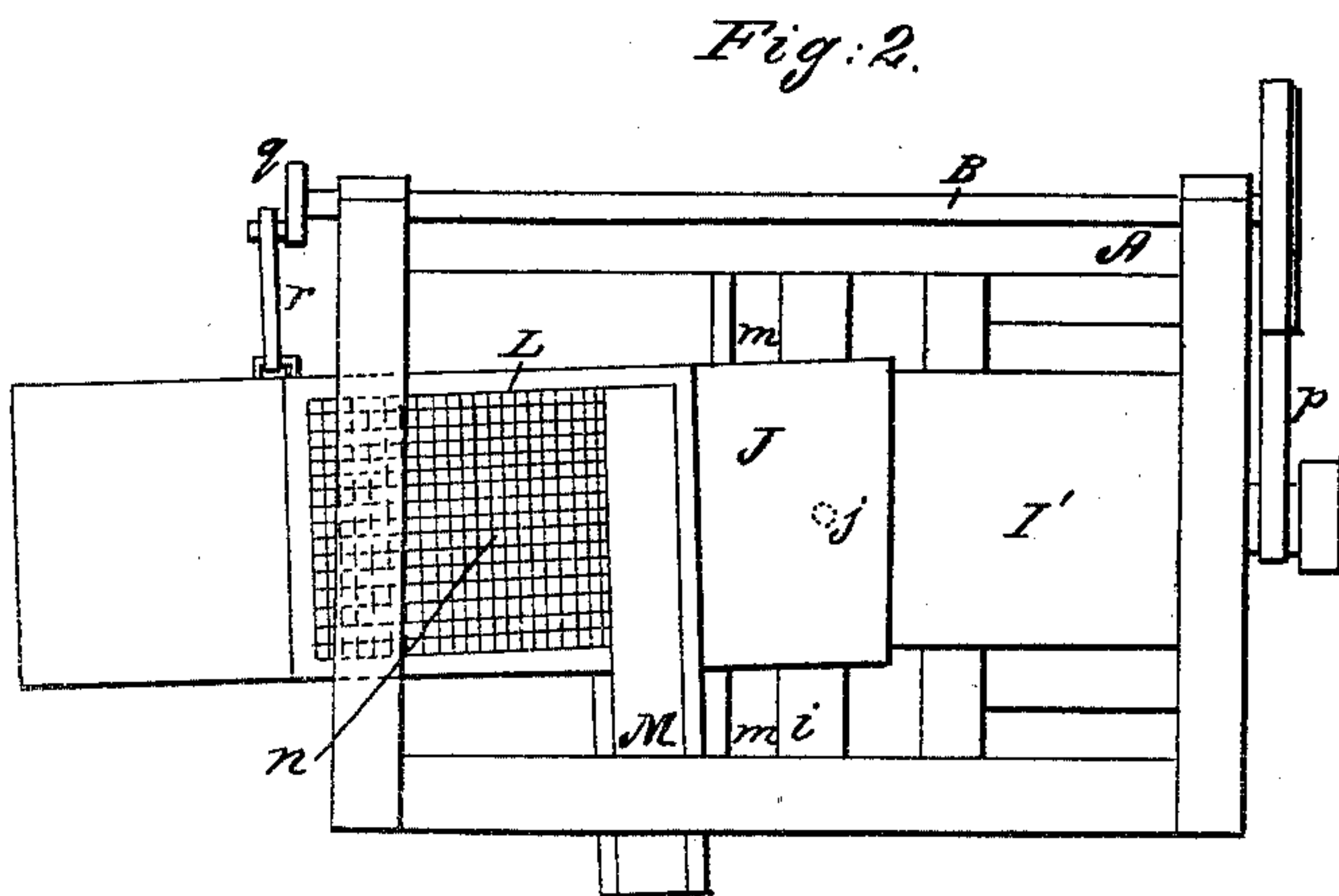
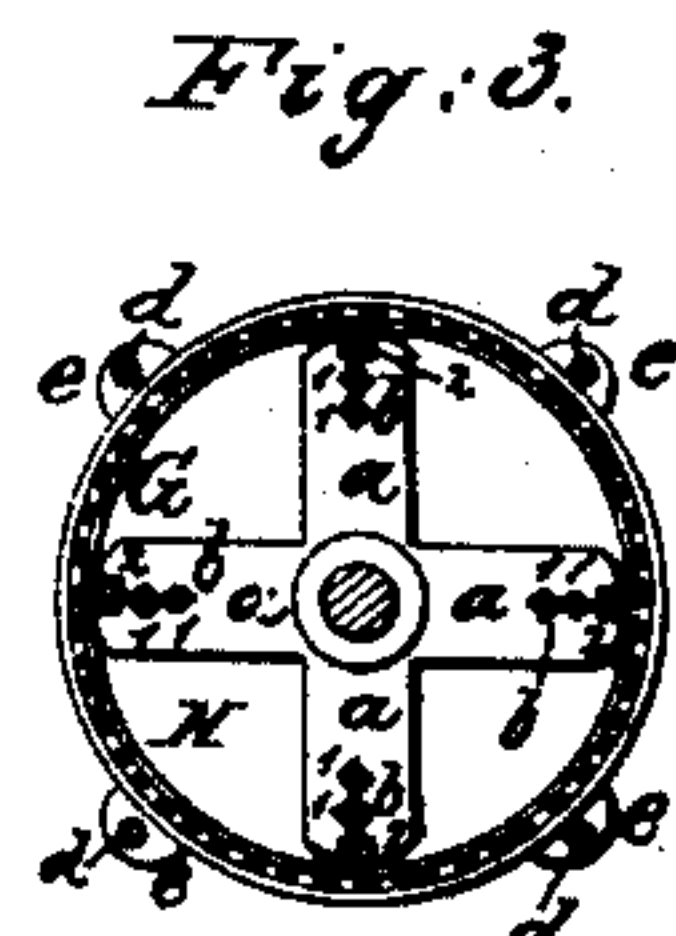
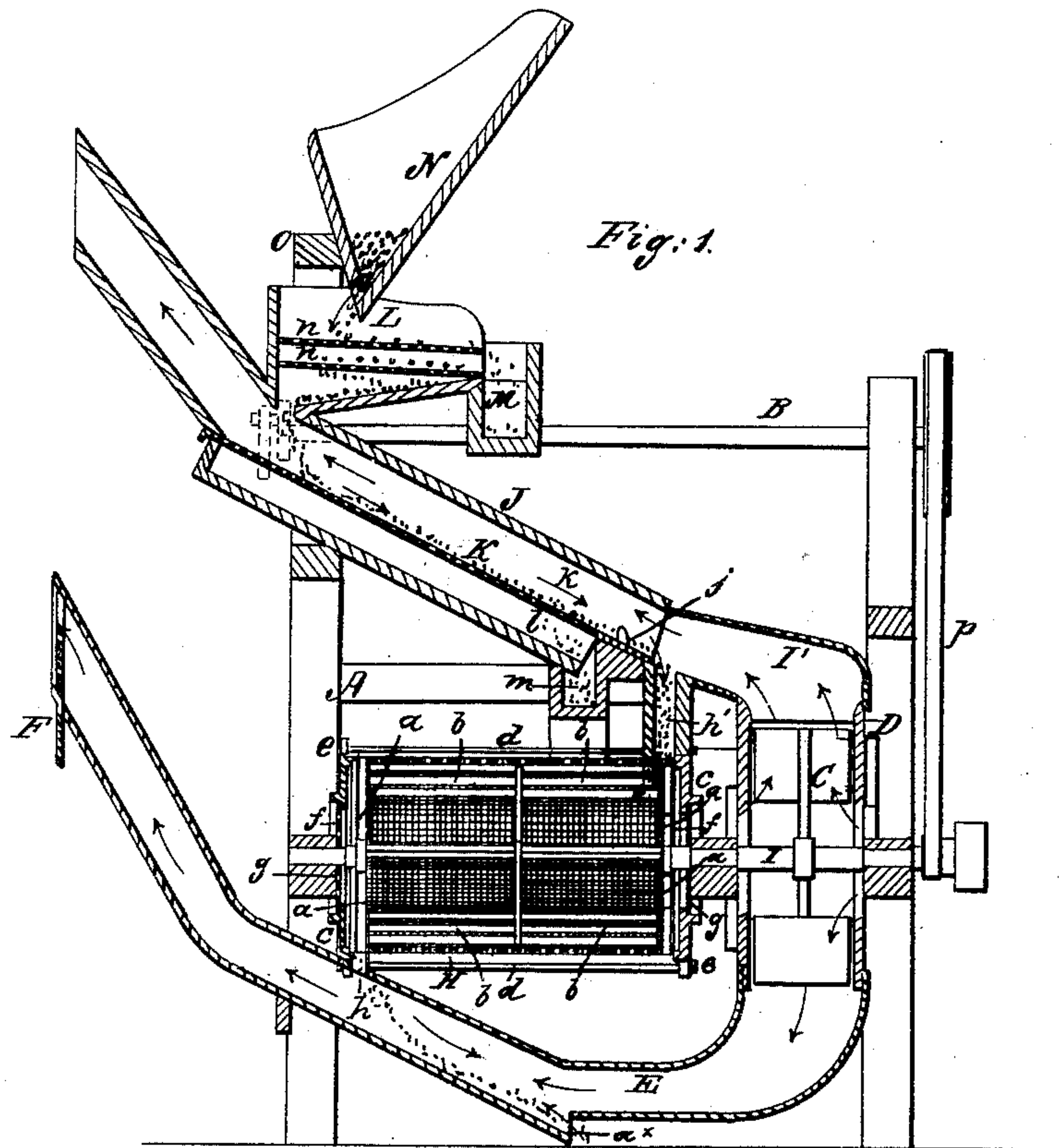


W. T. FISHER.

Smut and Grain Cleaning Machine.

No. 21,662.

Patented Oct. 5, 1858.



UNITED STATES PATENT OFFICE.

W. T. FISHER, OF CLEVELAND, TENNESSEE.

IMPROVED GRAIN-CLEANING MACHINE.

Specification forming part of Letters Patent No. **21,662**, dated October 5, 1858.

To all whom it may concern:

Be it known that I, W. T. FISHER, of Cleveland, in the county of Bradley and State of Tennessee, have invented a new and Improved Grain-Cleaning Machine; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a vertical central section of my invention. Fig. 2 is a plan or top view of the same. Fig. 3 is a detached transverse section of the scourer.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in the employment or use of an oscillating blast-spout and screens, a scouring device, stationary blast-spout, and a fan, combined and arranged as hereinafter fully shown and described, whereby grain may be perfectly scoured or cleaned and separated from all impurities.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a rectangular framing, on the upper end of which and at one side a driving-shaft B is placed. C is a fan, which is placed in a box D, secured in the framing, and E is a curved spout, which communicates with the lower part of the box D, the outer end of said spout projecting beyond the framing and extending upward to a level higher than the fan-box, as shown clearly in Fig. 1. At the outer end of the spout E there is a slide F.

G is a scourer, which is constructed of a perforated sheet-metal or wire-cloth cylindrical case H, placed horizontally or nearly so in the framing A between the fan-box D and the outer part of the spout E. The shaft I, which serves as the shaft of fan C, extends longitudinally and centrally through the case H, and has three sets of radial arms *a* attached to it, through which bars or beaters *b* pass. (See Figs. 1 and 3.) The bars or beaters *b* are of square form, and pass through the outer parts of the arms. The bars may be placed with an edge or corner facing outward, as shown at 1 1, Fig. 3; but I prefer having a side or flat surface presented to the grain, as shown by the outermost bar 2 in said Fig. 3. The perforated case H is secured in cast-metal

heads *c c*, said heads being grooved in their inner sides to receive the ends of the case and the two heads secured together by rods *d*, which pass through ears *e* on the edges of the heads *c c*. Each head *c* has a circular opening *f* made in its center, said openings being covered by perforated plates *g g*. (See Fig. 1.) The outer end of the case H communicates with the lower spout E by a passage *h*, and the inner end of case H communicates by a passage *h'* with a curved spout I', which is connected with the upper part of the fan-box.

J is a blast-spout, the lower end of which is pivoted to a traverse bar *i* in the framing A, as shown at *j*. Within the spout J a screen K is placed longitudinally, said screen dividing the spout into two parts *k l*, one being above the other. The upper part *k* of the spout communicates with the spout I' and the lower part *l* communicates with spouts *m m*, which are slightly inclined, one at each side of the framing. On the upper part of the spout J a shoe L is placed, and two screens *n n* are placed in said shoe. The inner part of the shoe L below the screens *n n* communicates with the blast-spout J, and to the back part of the shoe L an inclined spout M is attached. A hopper N is attached to a cross-piece *o* of the framing just above the shoe L. The shaft I is rotated by a belt *p* from the shaft B, and the spout J is oscillated by a crank-wheel *q* on shaft B and a connecting-rod *r* attached to the crank-wheel and the spout J.

The operation is as follows: Motion is given the shaft B in any proper way, and the grain is poured into the hopper N. The grain passes down into the shoe L and upon the screens *n n*, which separate the heads, straw, and all coarse foreign substances from the grain, the former passing into the spout M, which discharges them at one side of the machine. The grain passes through the screens, and is conducted by the inclined bottom *o* of the shoe L into the spout J and upon the screen K. The grain is subjected to a blast in the spout J, and all loose light foreign substance is ejected by the blast out at the elevated end of spout, while the shake motion of the spout will cause all cockle to pass through the screen K, the cockle being conducted by the inclination of the spout into

the spouts *m m* and discharged at both sides of the machine. The grain then passes down the spout *h'* into the cylinder *H*, and is subjected to a scouring and beating by the arms or beaters *b*, which break the smut-balls and scour all dirt from the grain. The revolution of the arms *b* generate a blast in the cylinder *H*, and the dirt escapes through the perforations of the cylinder *H* and the perforated end plates *g g*. The grain then passes down into the spout *E*, when it is subjected to another blast from the fan *C*, the remaining trash being ejected from the end of spout *E*, the cleaned grain being discharged at *a*^x.

I do not claim separately or irrespective of arrangement and adaptation any of the parts herein shown and described; but

I claim as new and desire to secure by Letters Patent—

The oscillating blast and screen spout *J*, scourer *G*, blast-spouts *E I'*, and fan *C*, combined and arranged relatively with each other, substantially as and for the purpose set forth.

W. T. FISHER.

Witnesses:

WM. I. CAMPBELL,

JAS. H. DAVIS.