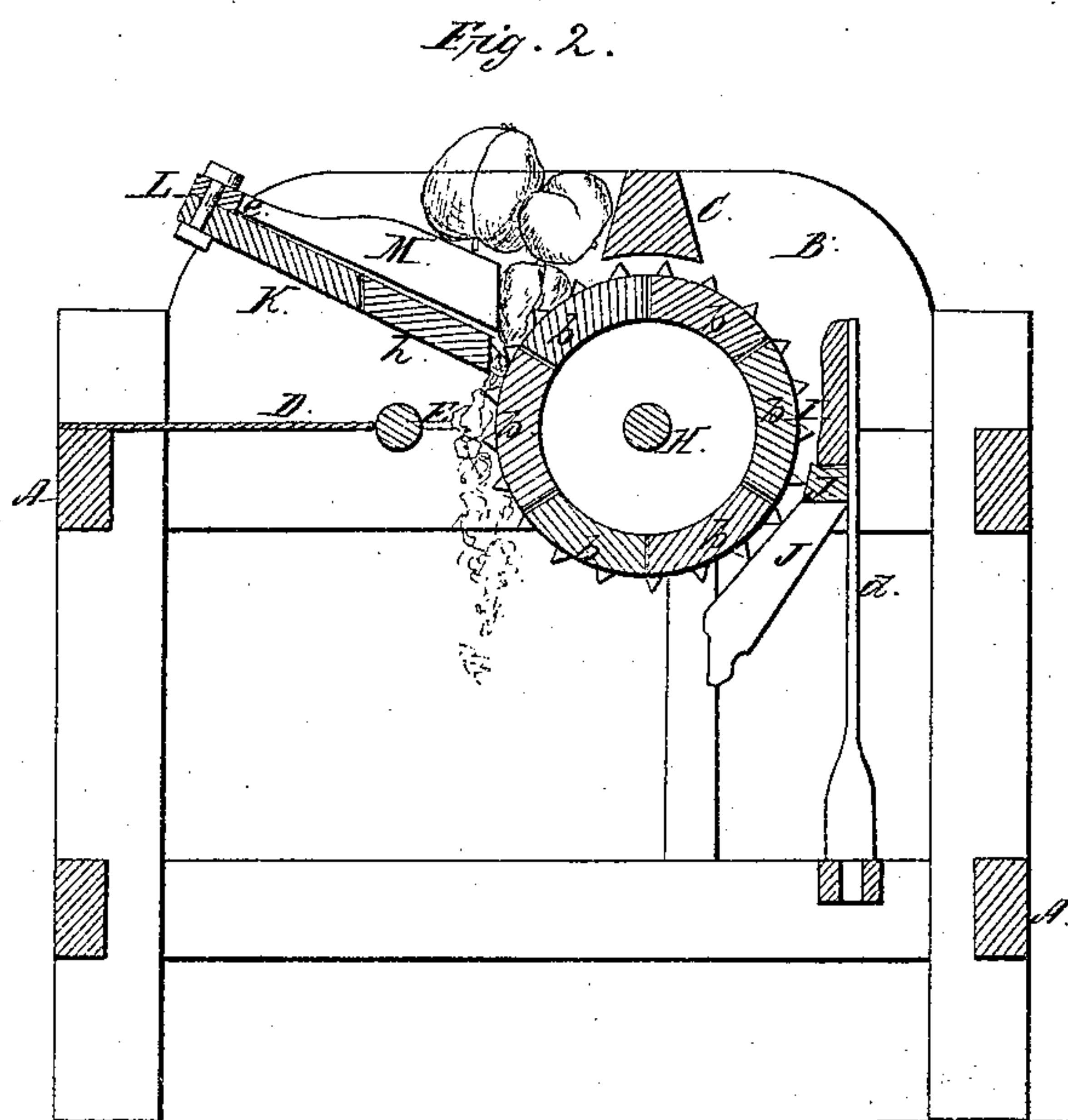
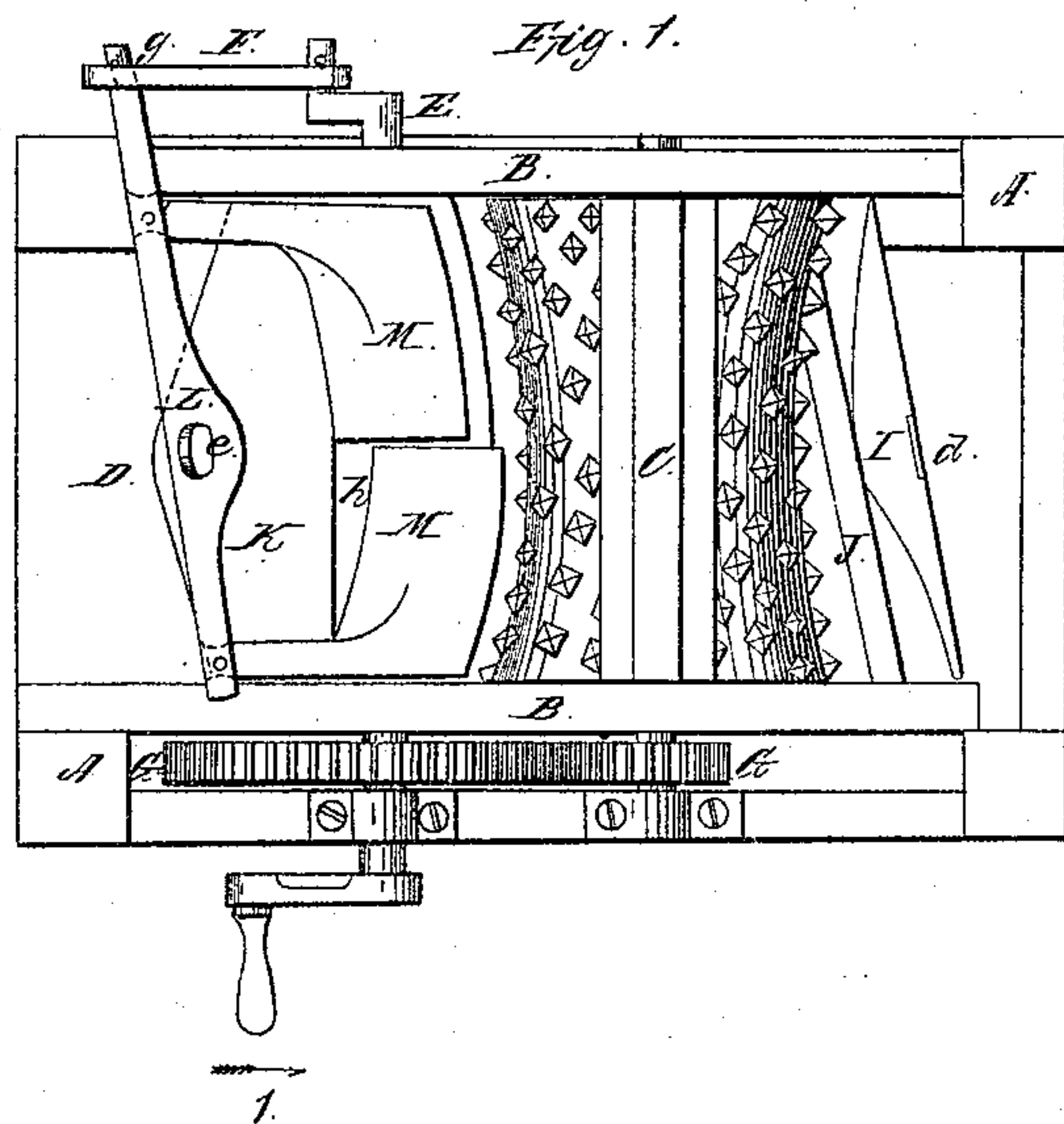


G. S. Rust,
Cider Mill.

3 Sheets, Sheet 1.

N^o 36,171.

Patented Aug. 12, 1862.



Witnesses:
Gustav Dittmer
Edwin S. Jacob.

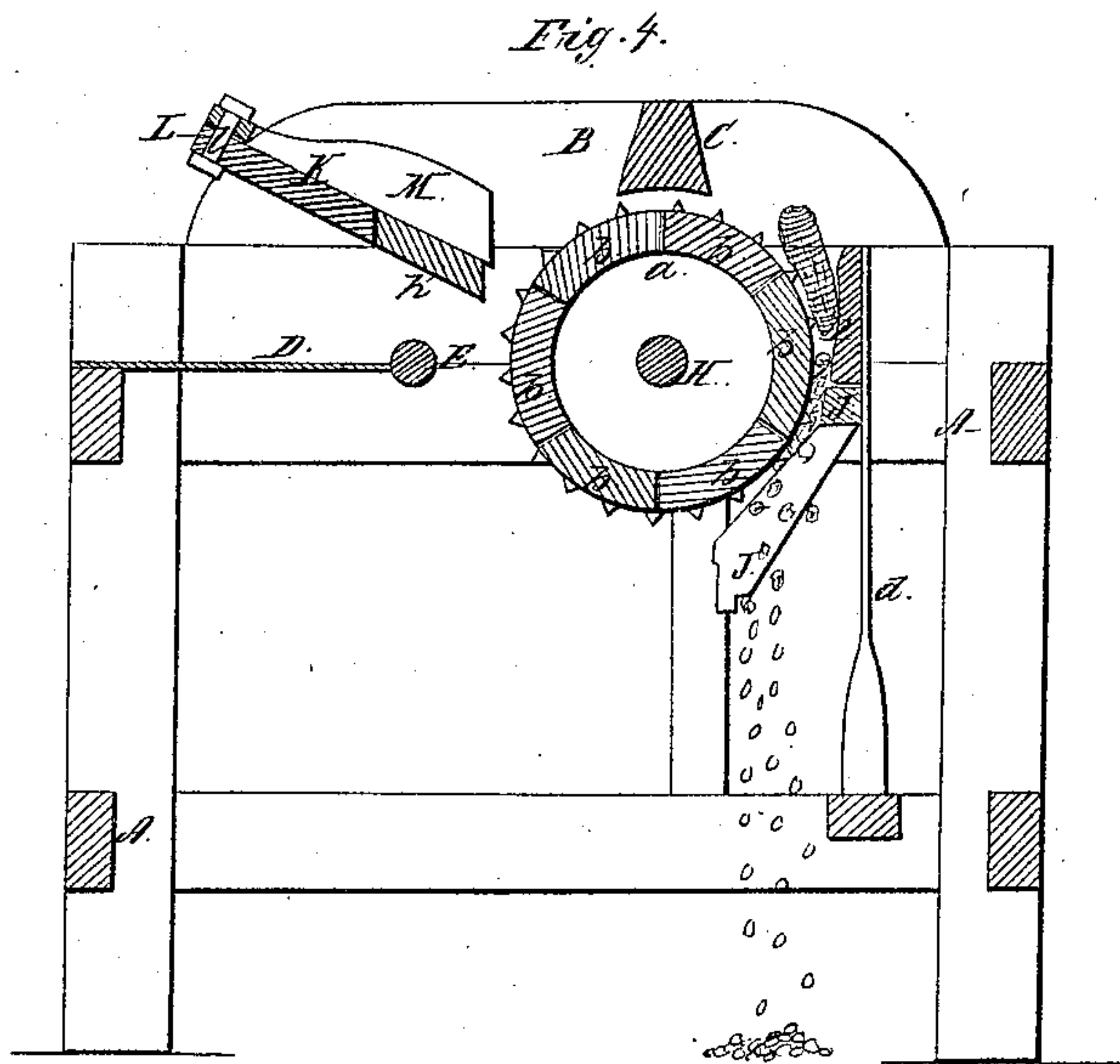
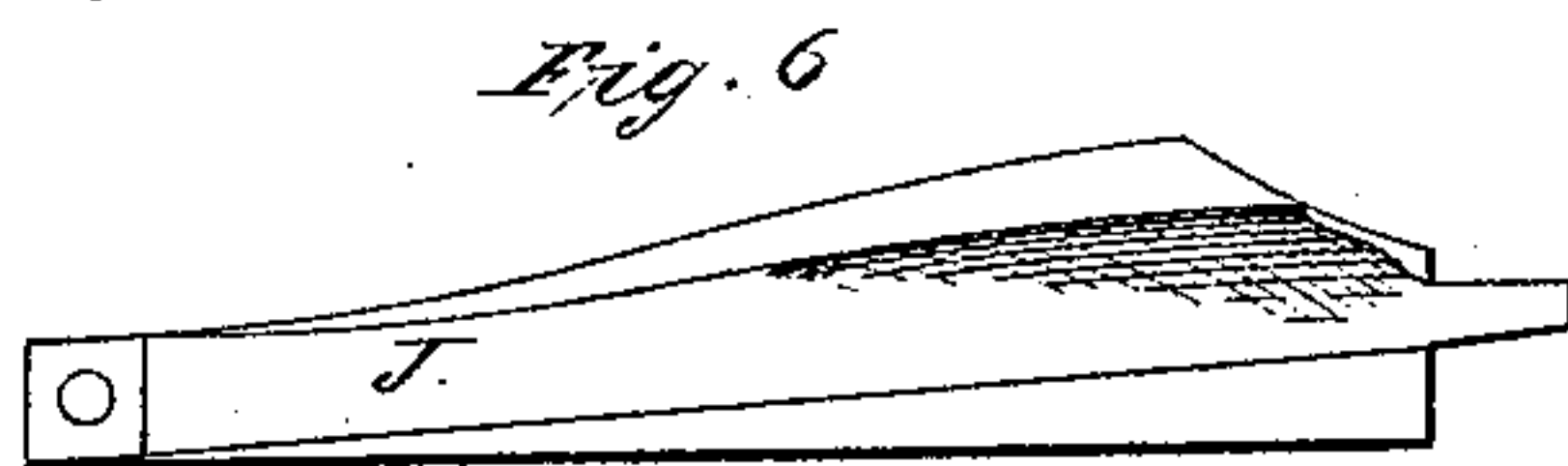
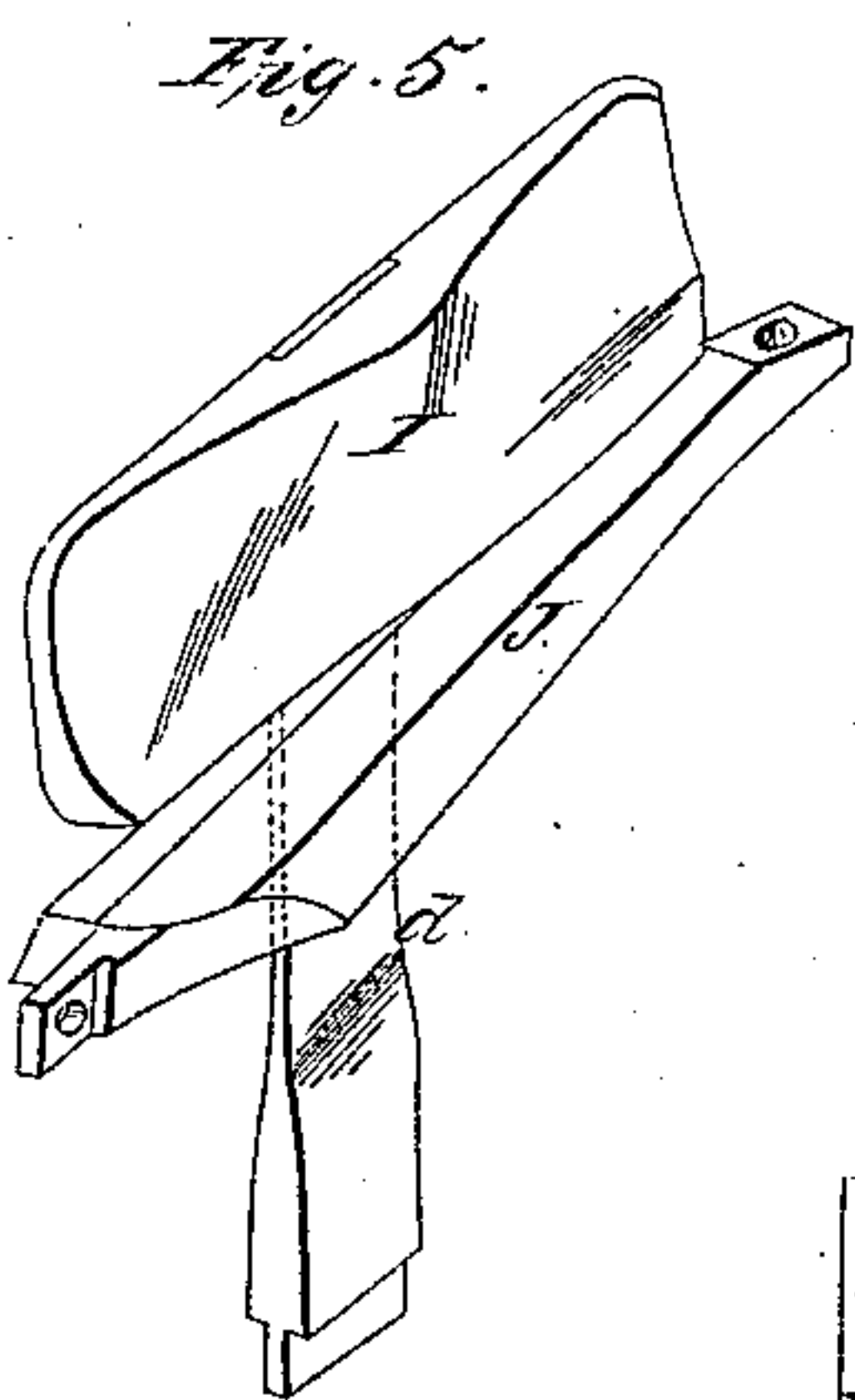
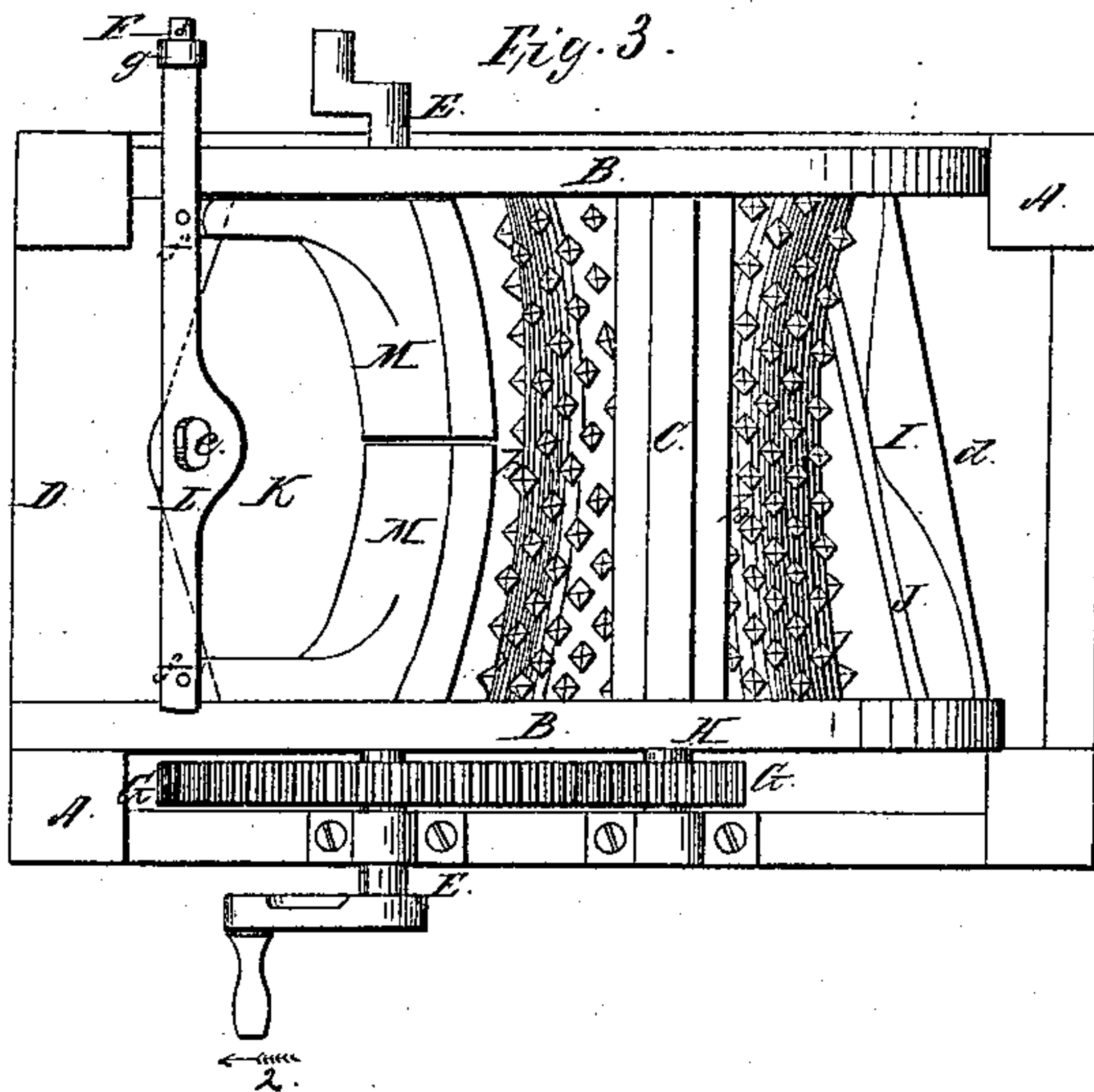
Inventor:
George S. Rust
Mason, Fenwick & Laurence
Atty.

G. S. Rust,
Cider Mill.

38 sheets, Sheet 2.

N^o 36, 171.

Patented Aug. 12, 1862.



Witnesses:
Edmund D. Dickey
Edwin J. Jacob

Inventor:
George S. Rust
Mason, Burwick & Lawrence
Atty

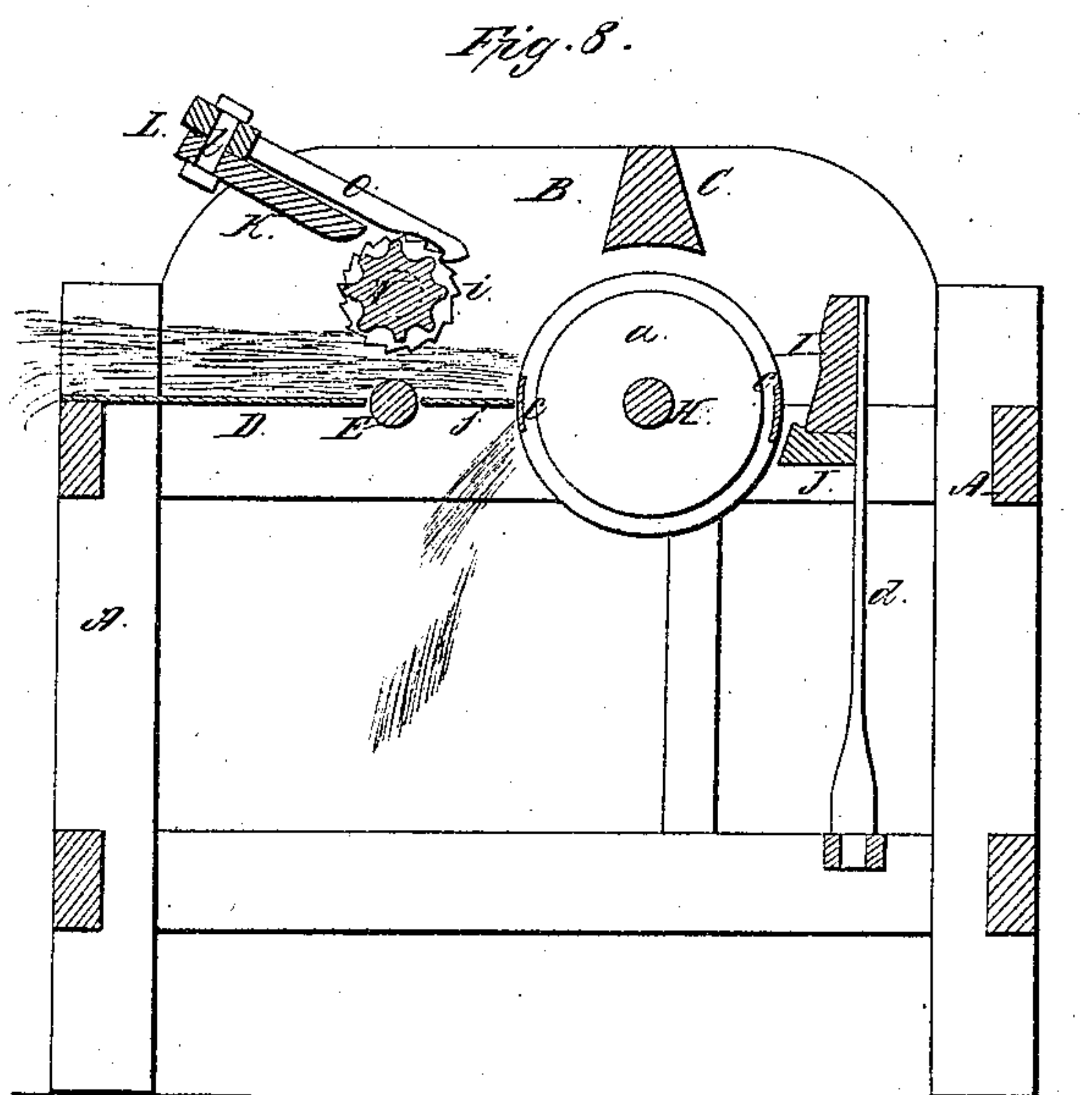
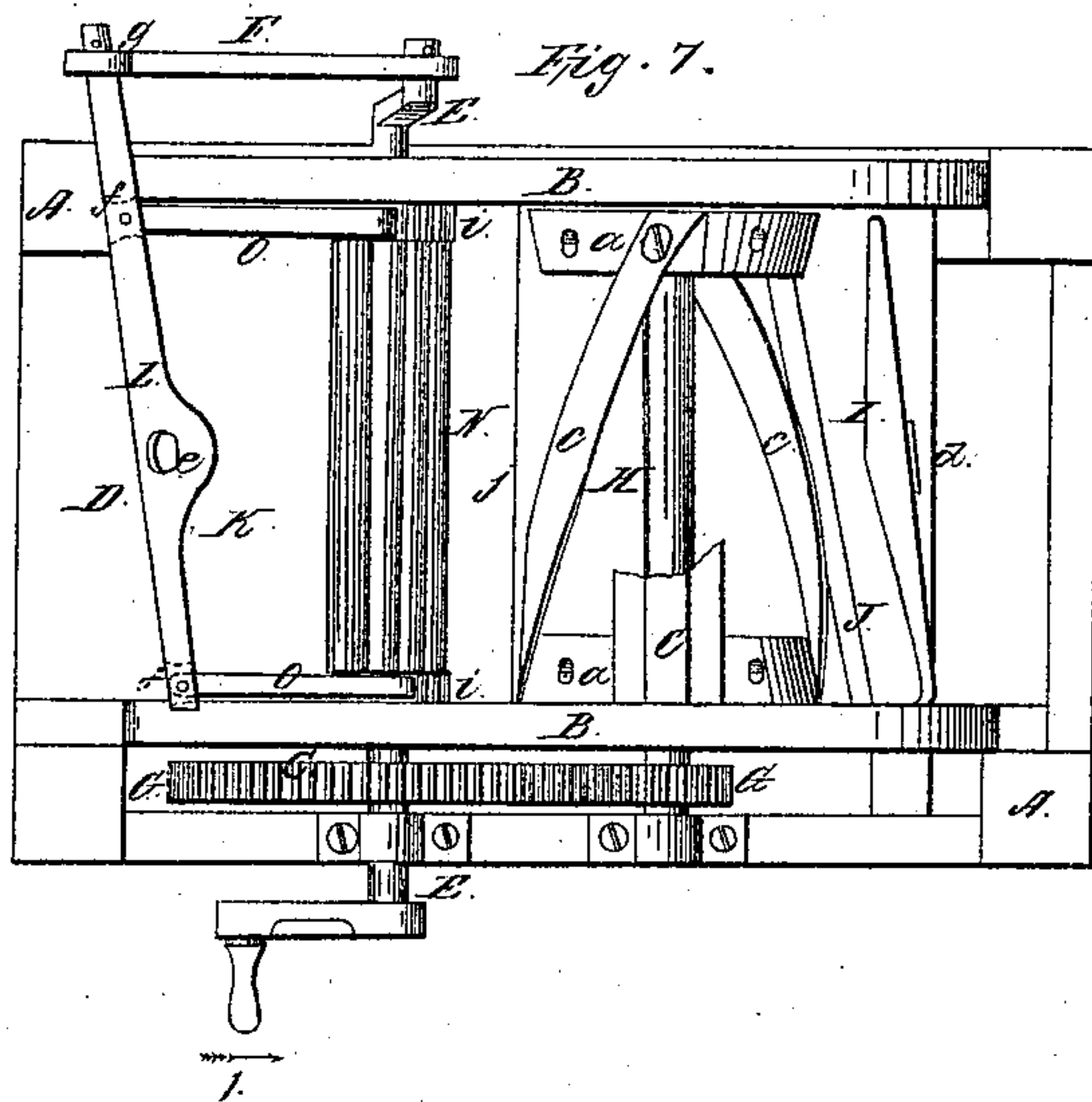
G. S. Rust,

3 Sheets, Sheet 3.

Cider Mill.

N^o 36,171.

Patented Aug. 12, 1862.



Witnesses:
Gustavus Outrick
Edwin S. Jacob.

Inventor:
G. S. Rust
by
Mason Jewick Hamner
Attorney

UNITED STATES PATENT OFFICE.

GEORGE S. RUST, OF CHESTER, ILLINOIS.

IMPROVEMENT IN CONVERTIBLE APPLE-MILLS, &c.

Specification forming part of Letters Patent No. 36,171, dated August 12, 1862.

To all whom it may concern:

Be it known that I, GEORGE S. RUST, of Chester, in the county of Randolph and State of Illinois, have invented a new and useful Improvement in Convertible Apple-Mills, Corn-Shellers, and Straw-Cutters; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, Sheet 1, is a top view of my invention as employed in an apple-mill. Fig. 2 is a vertical section of the same. Fig. 3, Sheet 2, is a plan of my invention as employed for shelling corn. Fig. 4 is a vertical section of the same, and Figs. 5 and 6 details of the mill. Fig. 7, Sheet 3, is a plan of my invention as employed in a straw-cutter, and Fig. 8 a vertical section of the same.

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

As the basis of my convertible machine, I construct a strong frame, A, with hopper-side pieces, B B, an inverted-V-guard, C, a platform, D, a crank-shaft, E, a pitman, F, two cog-wheels, G G', and a straight shaft, H.

On the straight shaft near each end heads *a a* are fastened, so as to support concave-toothed staves *b b*, or spiral knives *c c*, as circumstances may require.

In rear of the straight shaft on a vertical spring-bar, *d*, an oblique stop, I, and directing-piece J are arranged, so as to stand in close proximity to the teeth of the staves *b b* when they are used, and in relief from the knives *c c* when they are used. The stop I is made with a convexity at its center and a depression of bevel configuration on opposite sides of said central portion, so as to afford a free passage of an ear of corn between it and the staves at the commencement of the operation and then insure a sufficient friction upon the corn near the center of the staves and thereafter ease the escape of the cob out of the machine.

The directing-piece J is constructed with a spiral twist, so that its upper side forms a spiral concave, the highest portion of which is near the lower terminus of the piece J and at the front of the same, and thus acts as a guard to insure the discharge of the cob at the end of the piece J, the stop I preventing the pas-

sage of the cob over the back edge of the same.

Forward of the crank-shaft E, and above the same, an inclined cross-piece, K, is fixed permanently between the hopper-sides B B, and upon this cross-piece a vibrating beam, L, is arranged and held by means of a pivotal connection, *e*, as shown. This cross-piece has hinge-openings *f f* cut through it, as shown, and on its end a journal or wrist, *g*, is formed, so that the connecting-rod or pitman F may attach to it accordingly as circumstances may require.

As a feeder for apples, two angular pieces, M M, are pivoted or hinged to the cross-piece L, and as a support to these pieces a removable inclined extension-piece, *h*, to the piece K is fitted between the hopper-sides, as shown. The construction of the angular feeders is rounding or beveling at their front and rear sides, so that the apples or other substances may readily pass over them, and also that the apples may be forced closely up to the cylinder or staves *b b*.

As a substitute for the feeders M M, a roller, N, with flutes in its circumference and ratchet-wheels or serrations *i* on its ends, is provided when the machine is used for cutting straw. This roller is set in the place occupied by the extension-piece *h*, and it is so arranged relatively to the platform D as to feed straw to the knives *c c* from said platform. The motion of the roller is produced by the vibrating beam L and two pivoted hook-pieces, O O, which are connected to the beam at *f f*, as shown in Sheet 3 of the drawings.

In operating my machine as an apple-grinder the pitman F is attached to the wrist of the rocking beam L and the crank turned in the direction of the arrow 1, and the grinding-cylinder is caused to revolve against the edge of the extension-piece *h*, and the apples, by the combined action of said edge and the teeth of the staves *b b*, are ground into pomace.

To shell corn with the same machine, disconnect the pitman F, as shown in Sheet 2 of drawings, and turn the crank in a reverse direction, or as indicated by the arrow 2. This causes the cylinder to revolve against the stop I and director J, and the corn fed in between

the guard C and the stop I is carried round and shelled, the grains falling down between the parts, while the cob shoots out along the spiral concave of the director J.

To cut straw, the staves *b b* are removed and knives *c c* substituted. So, also, are the feeders M M removed with the extension-piece *h*, and the roller N, with its connections, substituted therefor. A cutting-plate, *j*, is also introduced between the crank-shaft and the knife-shaft, all as shown in Figs. 7 and 8, Sheet 3. The pitman is now connected to the wrist of the beam L and straw placed upon the platform D, and as the machine is worked the roller N revolves and feeds the straw to the machine.

From the foregoing it is evident that my machine can be readily converted into either an apple-mill, corn-sheller, or straw-cutter, and as readily brought back to its original use. It also is evident that the rocking beam L and the divided feeder obviates the difficulty of choking, as but one half of the cylinder is supplied at a time, and while this is so no time is lost, because while one half of the feeder is supplying, the other half is about ready to come forward with another quantity. It also is evident that the one rocking beam answers for both apple-grinding and straw-cutting, and that it offers no friction or resistance while shelling corn, as it is disconnectible from the pitman of the crank-shaft.

It is also evident that the corn-sheller guard, stop, and director are so arranged that they do not interfere with the operation of the machine while grinding apples or cutting straw.

My machine will meet the demands of many small farmers who are not able to buy three separate machines, as it can be sold at a small price and will perform all the offices required of it just as well as three separate machines adapted especially for performing the respective duties of grinding, shelling, and cutting.

I am aware that mills have been organized so that they may be used either for grinding apples, shelling corn, and cutting straw, &c., such an organization being shown in the patents granted to F. B. Hunt, January 10, 1860, and June 8, 1858. Therefore I do not claim, broadly, a mill which is capable of serving several different functions; but

What I do claim as new and as an improvement over plans heretofore devised, and desire to secure by Letters Patent, is—

1. The combination of the rocking beam L, crank-shaft E, disconnectible pitman F, shaft H, and cylinder-heads *a a*, for the purpose and in the manner described.

2. The combination of the rocking beam L, crank-shaft E, and disconnectible pitman F, constructed and arranged in the manner and for the purpose set forth.

Witness my hand and seal, in the matter of my application for a patent for a combined vegetable and fruit grinder, corn-sheller, and straw-cutter, this 10th day of May, A. D. 1862.

G. S. RUST. [L. S.]

Witnesses:

GUSTAVUS DIETERICH,
EDWIN S. JACOB.