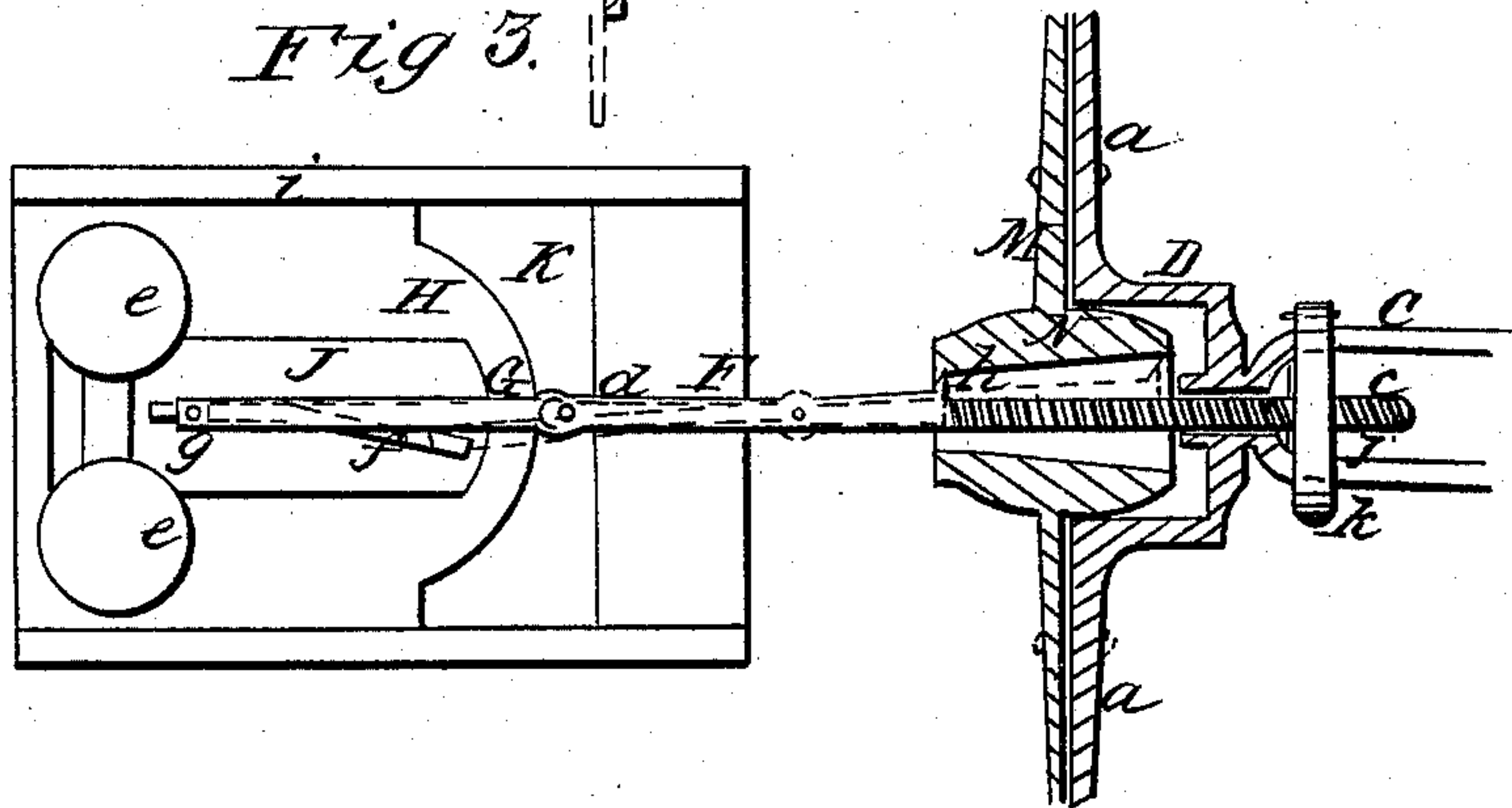
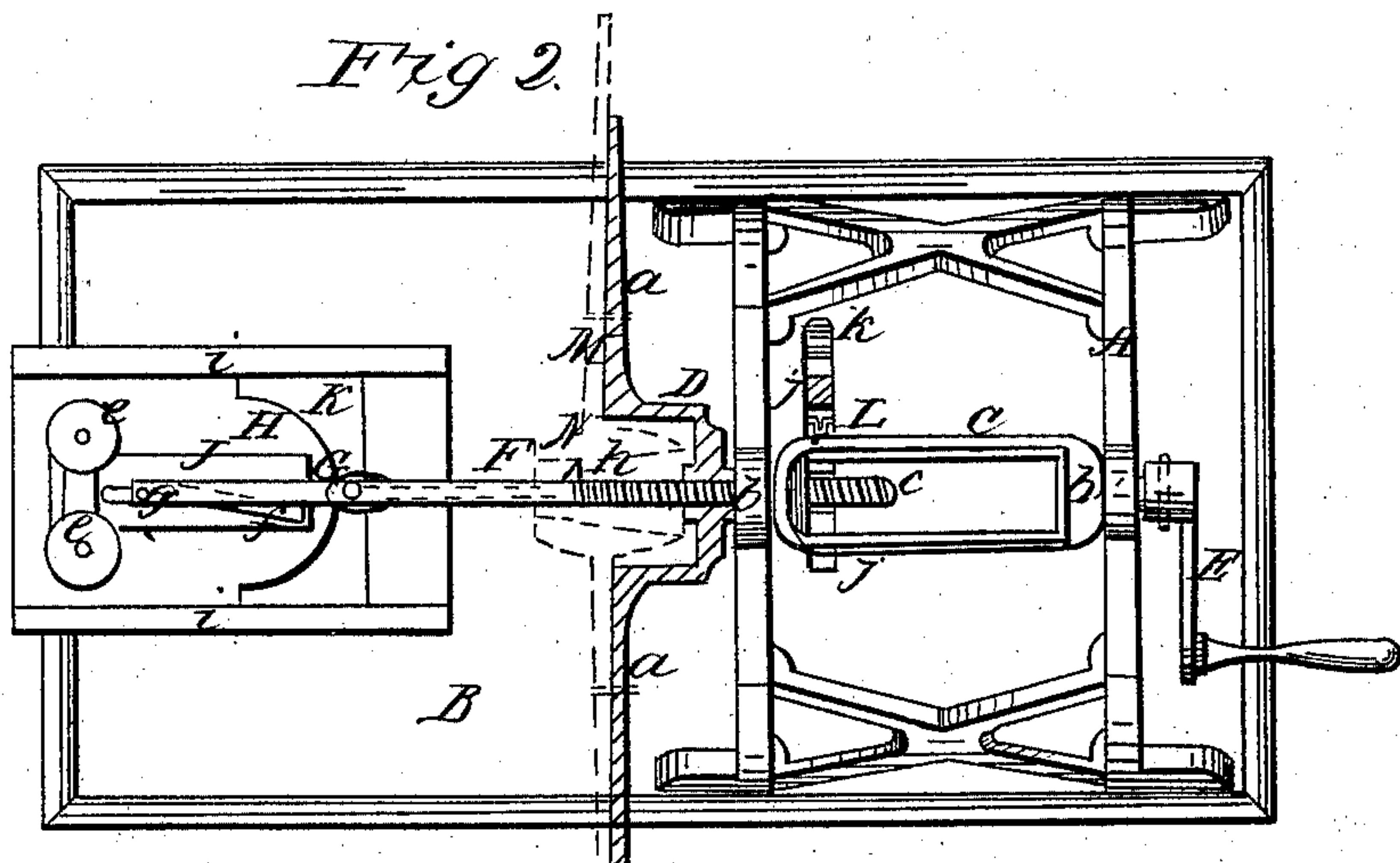
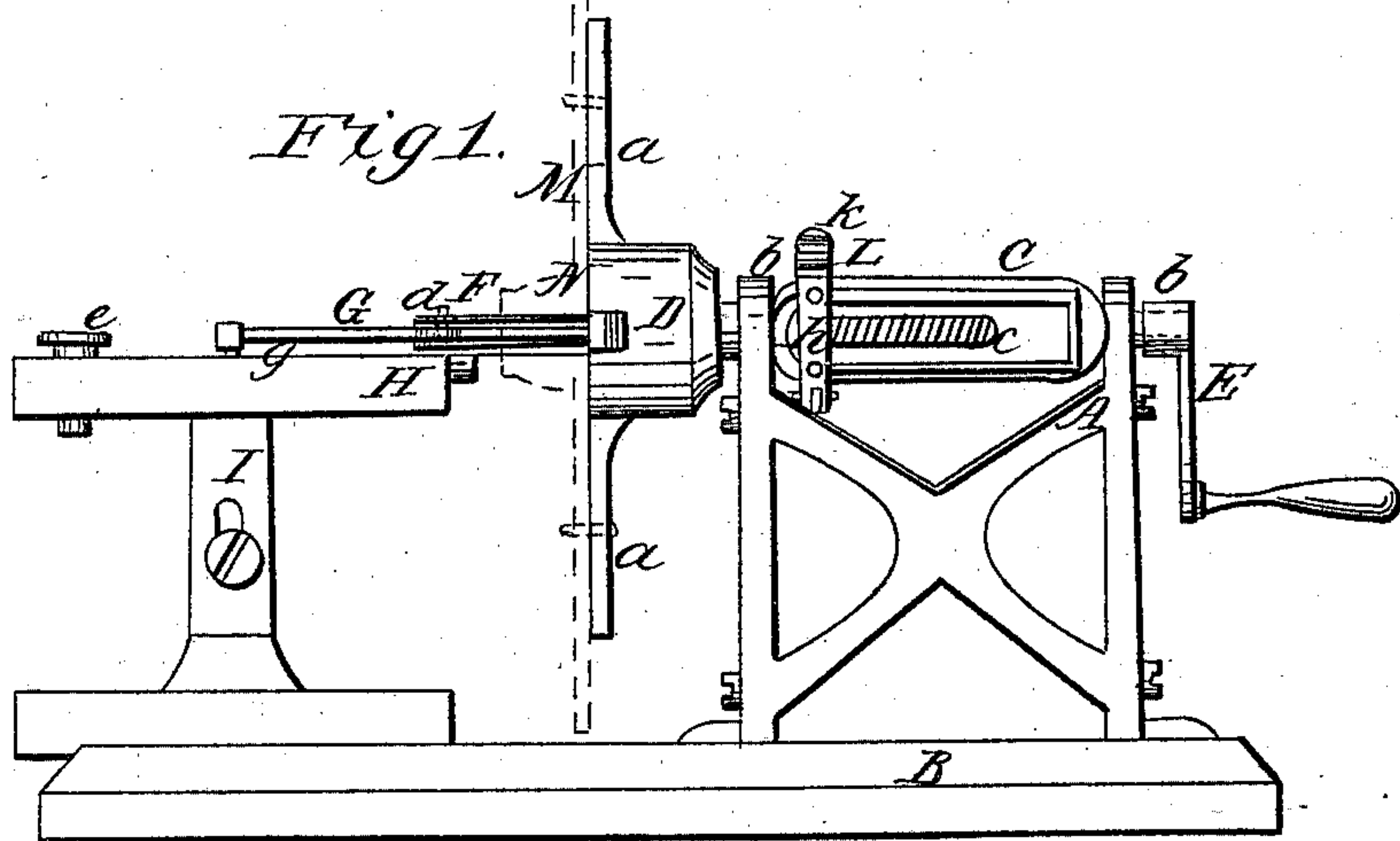


W. J. Casselman,

Boring Hubs.

N^o 10,882. Patented May 9, 1854.



UNITED STATES PATENT OFFICE.

WILLIAM I. CASSELMAN, OF VERNON, NEW YORK.

IMPROVED HUB-BORER.

Specification forming part of Letters Patent No. 10,882, dated May 9, 1854.

To all whom it may concern:

Be it known that I, WILLIAM I. CASSELMAN, of Vernon, in the county of Oneida and State of New York, have invented a new and Improved Machine for Boring Taper Holes in Hubs to Receive the Boxes; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side elevation of my improved machine. Fig. 2 is a plan or top view of the same, the collar or socket to which the wheel is attached being bisected through its center. Fig. 3 is a section showing the manner in which the cutter is operated in order to cut the taper hole.

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

This invention relates to a new and improved machine for boring taper holes in hubs to receive the boxes; and it consists in having a cutter attached to one end of a lever and having a pin on the opposite end of the lever, said pin working in an irregular or oblique slot in an adjustable plate secured to a suitable bed. The fulcrum of the lever or the pivot on which the lever works passes through a rod which has a screw-thread cut upon a certain portion of it and a nut working thereon. The rod and lever are operated or moved by turning the nut above mentioned, and the cutter on one end of the lever is made to pass through the hub in an oblique direction, cutting a taper hole owing to the direction given the cutter by the pin on the opposite end of the lever working in the irregular or oblique slot in the adjustable plate. The hub rotates with the collar or nut, as will be presently shown.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, Figs. 1 and 2, represents a frame of wood or metal constructed in any proper manner and secured to a suitable base B. On the upper part of the frame A there is a shaft C in the form of a link or loop and having at one end a collar or socket D, with radial arms *a* projecting from it. The shaft C is provided with suitable journals, which work in

bearings *b b* on the upper part of the frame. On the end of the shaft C opposite to the end on which the collar or socket D is attached there is a crank E. (Shown in Figs. 1 and 2.)

F is a rod which passes through the center of the collar or socket D, and through the center of the inner journal of the shaft C, and has a screw-thread *c* cut upon its inner end, as shown in all the figures. The opposite or outer end of the rod F has a slot cut in it, in which a portion of a lever G fits a fulcrum or pivot *d*, on which the lever turns or works, passing through the end of the rod.

H is a bed plate or platform constructed of wood or metal and supported at a suitable height by a pedestal I. (See Fig. 1.) On the upper surface of this bed plate or platform there is secured by set-screws *e e* a plate J, having an irregular or oblique slot *f* cut in it. (See Figs. 2 and 3.)

On the outer side of the lever G there is a pin *g*, projecting downward from the lever and fitting in the slot *f* in the plate J. On the inner or opposite end of the lever G there is a cutter *h*. (See Figs. 2 and 3.)

The outer end of the rod F rests upon a slide K, (see Figs. 2 and 3,) which works between guides *i i* at the edges of the bed plate or platform H. The pin *d* of the lever G passes into this slide and secures the rod F to it.

L is a nut attached to the shaft C, and formed of two halves *j j'*, one of which *j'* has a screw-thread which fits over the screw-thread *c* on the rod F. The two halves *j j'* are secured together by a spring-catch *k*.

Operation: The wheel represented by M is placed against the socket or collar D and the spokes are secured to the radial arms *a* by clamps or in any proper manner. The inner end of the hub, represented by N, fits in the socket or collar, as shown by the dotted lines in Figs. 1 and 2 and by solid lines in Fig. 3. The wheel being thus secured to the collar or socket, the rod F is passed through the mandrel-hole in the hub, and the two halves of the nut are brought together and secured by the spring-catch *k*. Motion is then given the crank E, and the shaft C, nut L, and collar or socket D, with the wheel attached, rotate the nut L, drawing the rod F and lever G through the mandrel-hole in the hub, and the cutter *h*,

at the inner end of the lever G, cutting the taper hole in the hub owing to the direction given it by the pin *d*, working in the slot *f* in the plate J, (see Fig. 2,) the dotted lines showing the position of the lever G and cutter *h* when the cutter has reached the inner end of the hub. The taper hole may be cut larger or smaller by varying the position of the plate J on the bed or platform H. For instance, when the plate J is in line with the center of the hub N the diameter of the taper hole will be of a size corresponding to the obliquity of the slot *f* in the plate J; but if the plate J is adjusted so as to be out of line with the center of the hub the diameter of the taper hole will be proportionably increased. When the taper hole is bored, the nut L is opened and the rod F forced backward by hand, the wheel detached from the

collar and socket, and another one attached and similarly operated upon.

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

Boring taper holes through hubs by means of a lever G, secured by a pivot *d* to a rod F, which is drawn through the mandrel-hole of the hub, said lever G having a cutter *h* at one end and a pin *g* at the opposite end, which pin fits in an oblique slot *f* in an adjustable plate J, the slot *f* giving the proper movement to the cutter as it passes through the hub, as herein shown and described.

WILLIAM I. CASSELMAN.

Witnesses:

S. H. WALES,
JNO. W. HAMILTON.