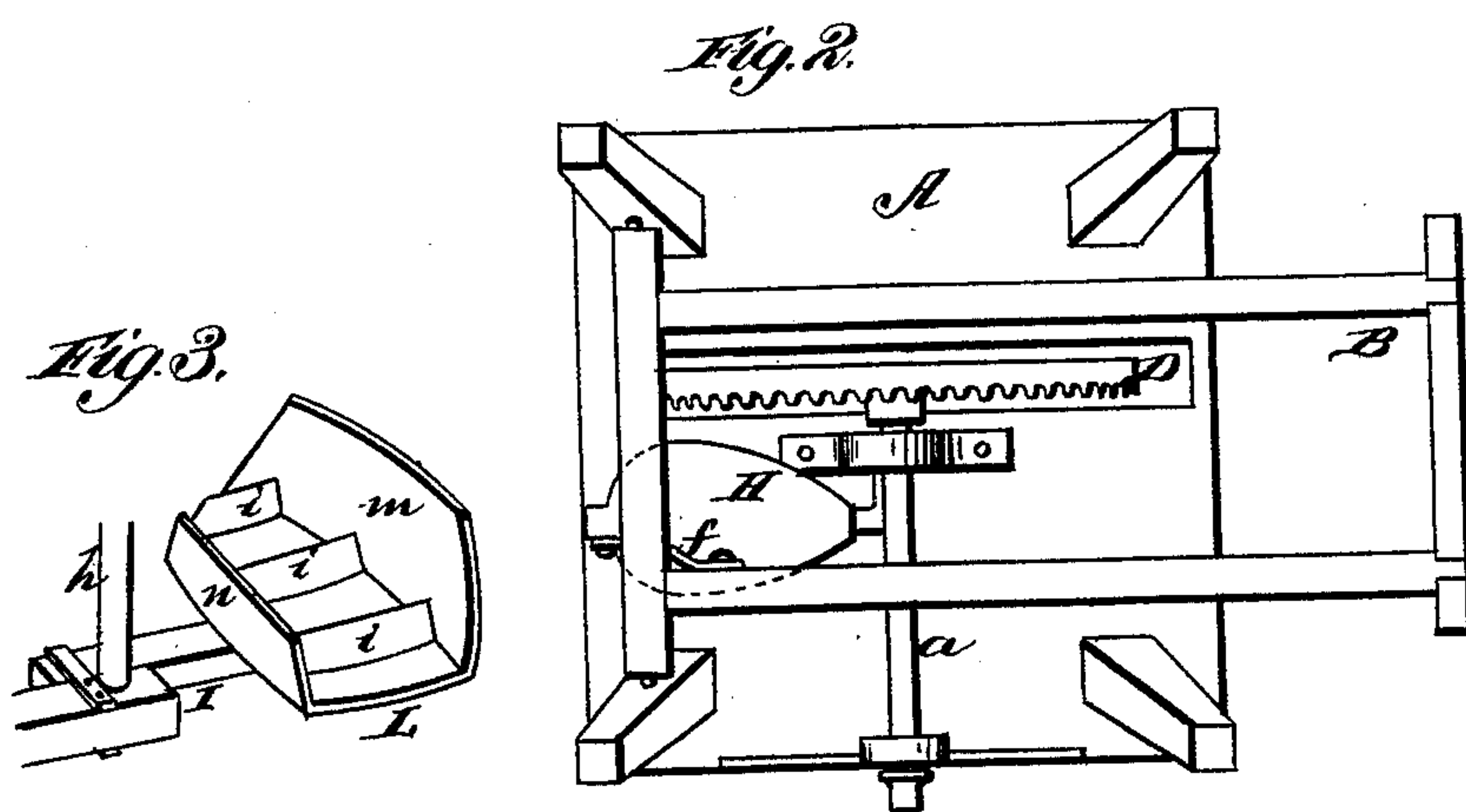
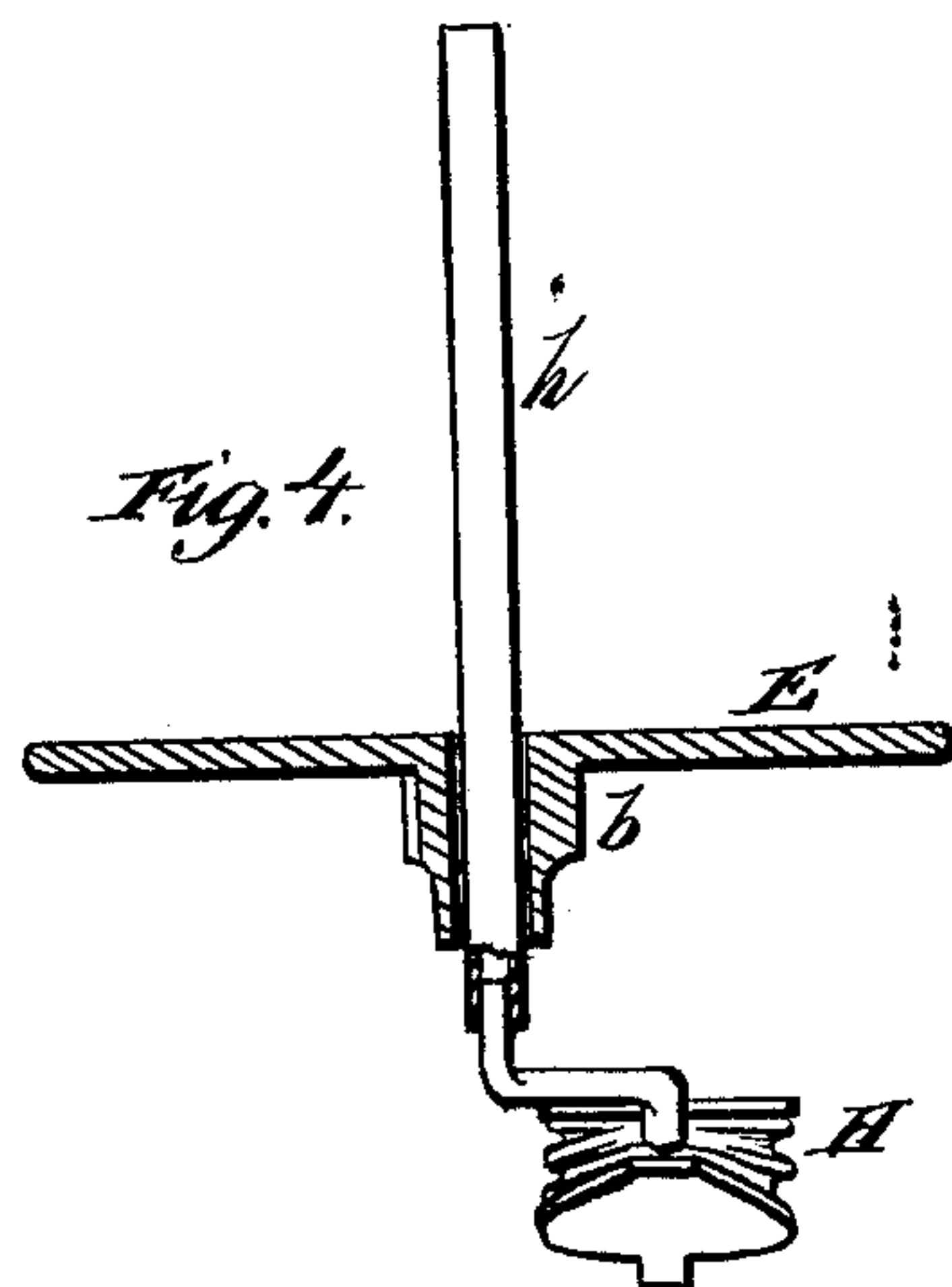
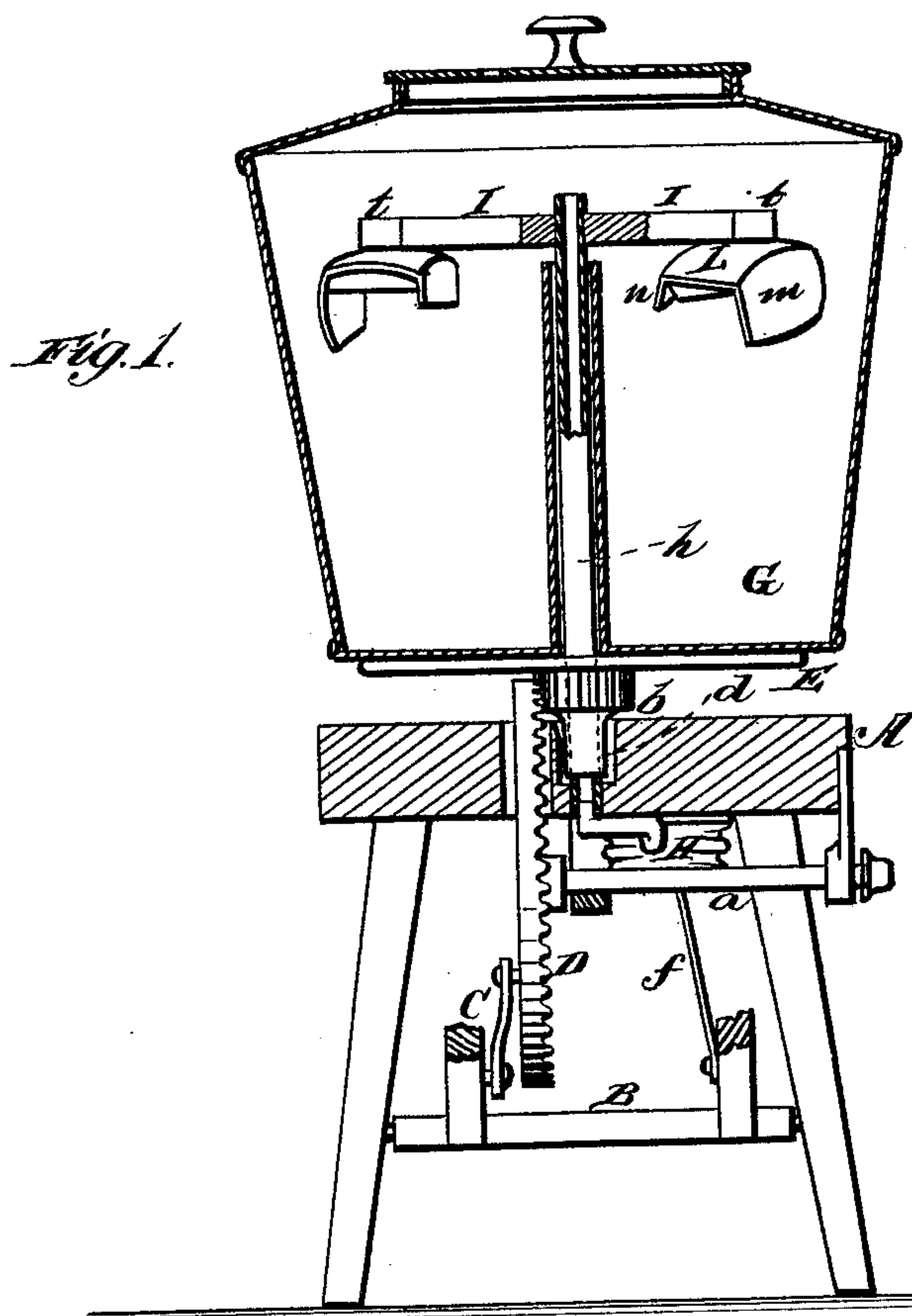


T. C. HARRIS.  
Churn.

No. 220,611.

Patented Oct. 14, 1879.



WITNESSES  
*Robert Everett,*  
*James J. Shuey.*

INVENTOR  
*Thomas C. Harris*  
*Gilmore, Smith & Co.,*  
ATTORNEYS

# UNITED STATES PATENT OFFICE.

THOMAS C. HARRIS, OF IOLA, KANSAS.

## IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. **220,611**, dated October 14, 1879; application filed July 19, 1879.

*To all whom it may concern:*

Be it known that I, THOMAS C. HARRIS, of Iola, in the county of Allen and State of Kansas, have invented a certain new and useful Improvement in Churns; 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, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a vertical section of my churn. Fig. 2 is a bottom view of the same. Fig. 3 is a perspective detail view, and Fig. 4 is an enlarged view, showing the connection of the upright pipe with the bellows.

My invention relates to churns; and it consists in certain peculiarities of construction, as will be hereinafter more fully set forth, and pointed out in the claim.

The annexed drawings, to which reference is made, fully illustrate my invention.

A represents a stool of any suitable construction and dimensions. Between two of the stool-legs is pivoted a hand-lever frame, B, by which the churn is operated. One side of this lever-frame is, by a pitman, C, connected with a large gear-wheel, D, secured upon a horizontal shaft, *a*. This wheel has its cogs upon the side of the rim, and it meshes with a pinion, *b*, on top of the stool, the wheel projecting through a slot in the stool. The pinion *b* is secured upon a short tube, *d*, which has suitable bearings in the stool, and above the pinion to said tube is attached a circular disk, E, for supporting the churn G. Through the short tube *d* is passed a stationary upright pipe, *h*, the lower end of which is connected with a bellows, H, secured to the under side

of the stool, and connected by a rod, *f*, with the operating-lever frame B. The upright pipe *h* extends through a hole in the bottom of the churn, and forms an air chamber or conduit, through which air is forced into the churn at each movement of the frame B, while the churn is being rapidly rotated. To the upper end of the pipe *h* are attached two or more horizontal arms, I, each of which is provided with a dasher composed of a curved plate, L, having a wide flange, *m*, along its outer edge, and a narrow flange, *n*, along the inner edge, and a series of inclined flanges, *i*, on the concave face between the two side flanges. On the back of the plate L is a socket, *t*, to pass over the end of the arm I. By the rapid rotary motion of the churn (these dashers being stationary) the globules are quickly broken and butter made.

I claim—

In a churn, the combination of the stool A, provided with the pivoted hand-lever B, connected to the gear-wheel D by the pitman C, and to the bellows H by the rod *f*, with the short tube *d*, provided with the pinion *b* and disk E, and the churn-body G, having the tube *h* and the arms I, each of which is provided with a dasher composed of a curved plate, L, having a wide flange, *m*, along its outer edge, and a narrow flange, *n*, along its inner edge, and a series of inclined flanges, *i*, upon the concave face between the two flanges, as and for the purposes set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

THOMAS C. HARRIS.

Witnesses:

E. A. VAN VALKENBURG,  
PETER BELL.