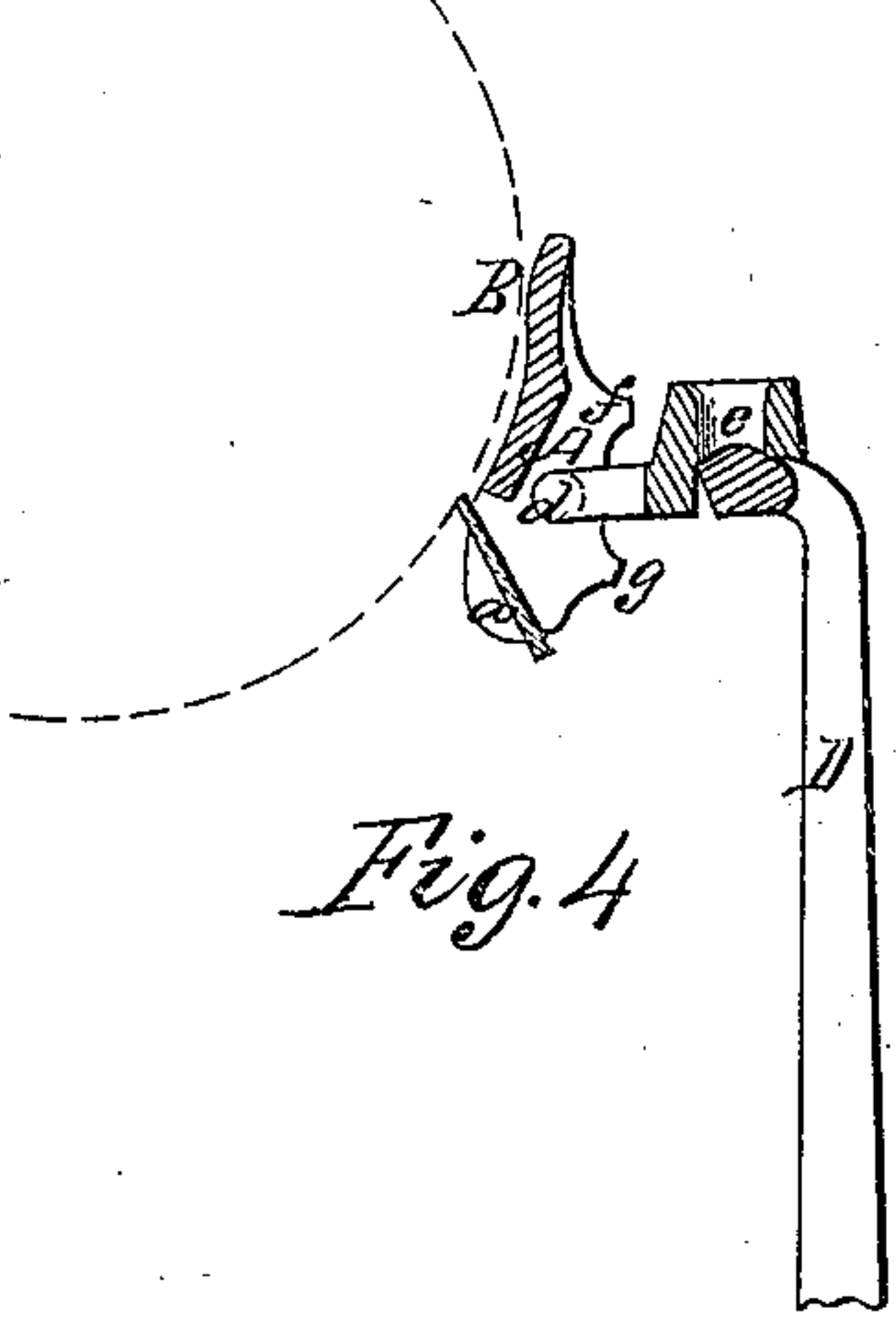
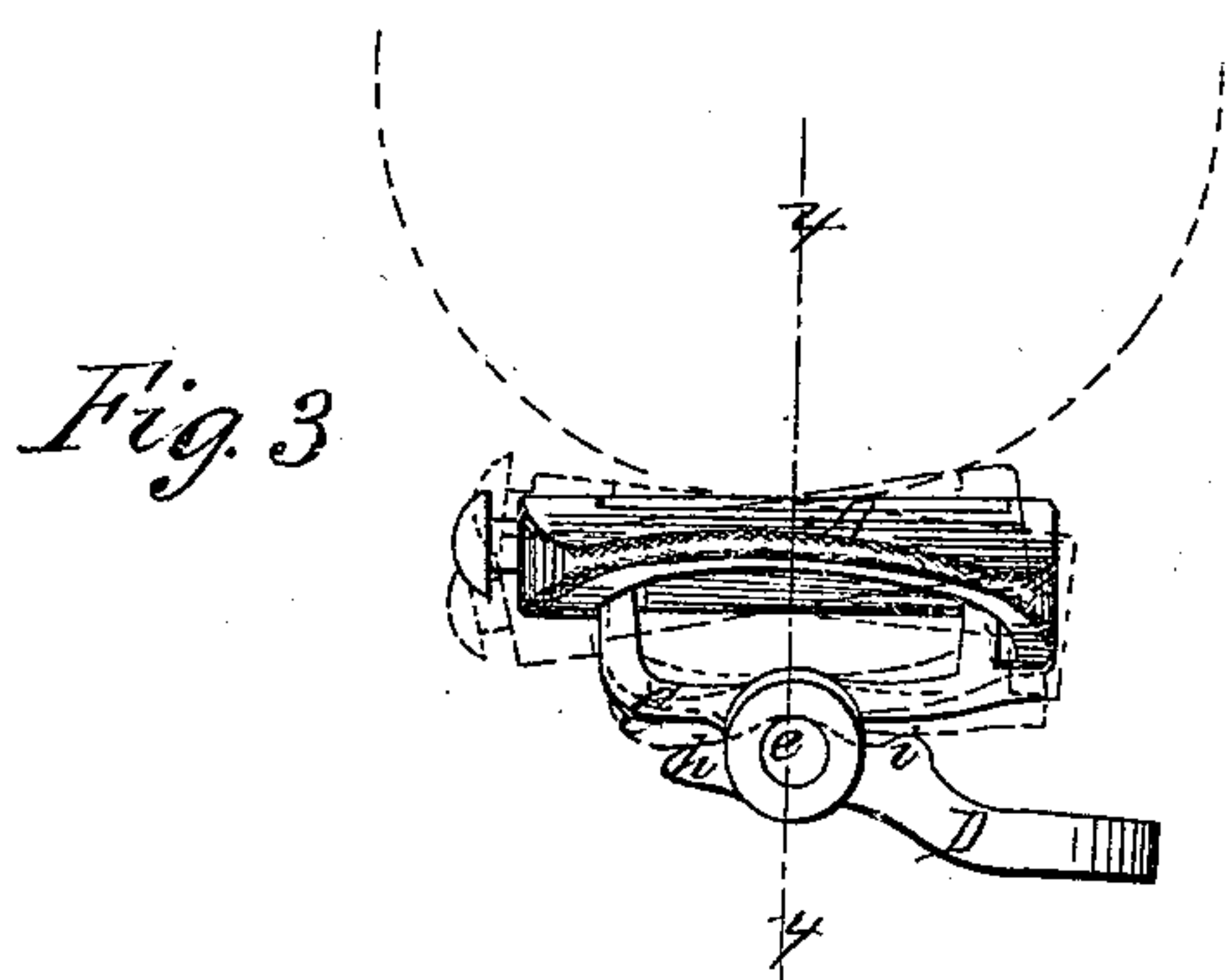
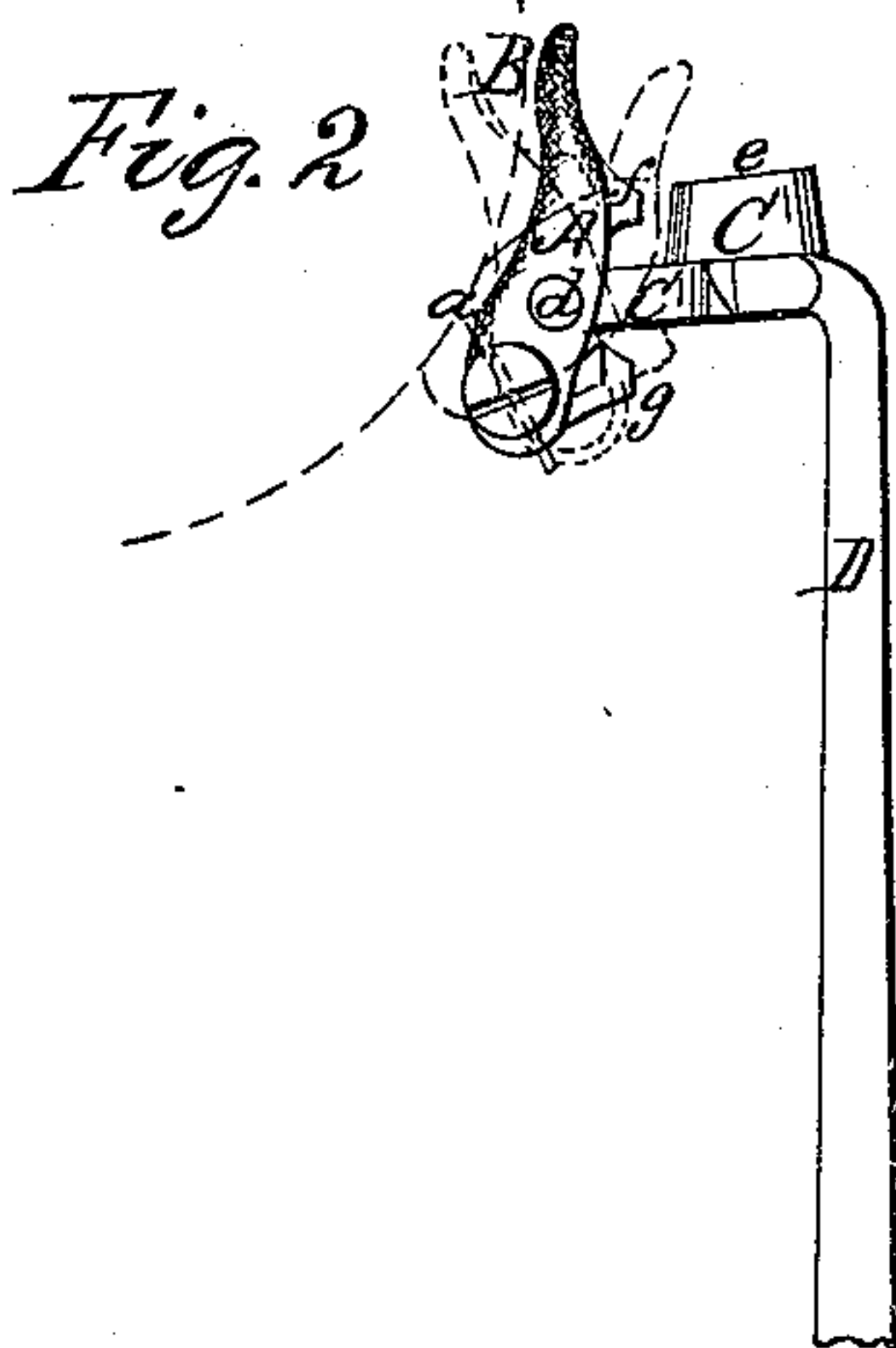
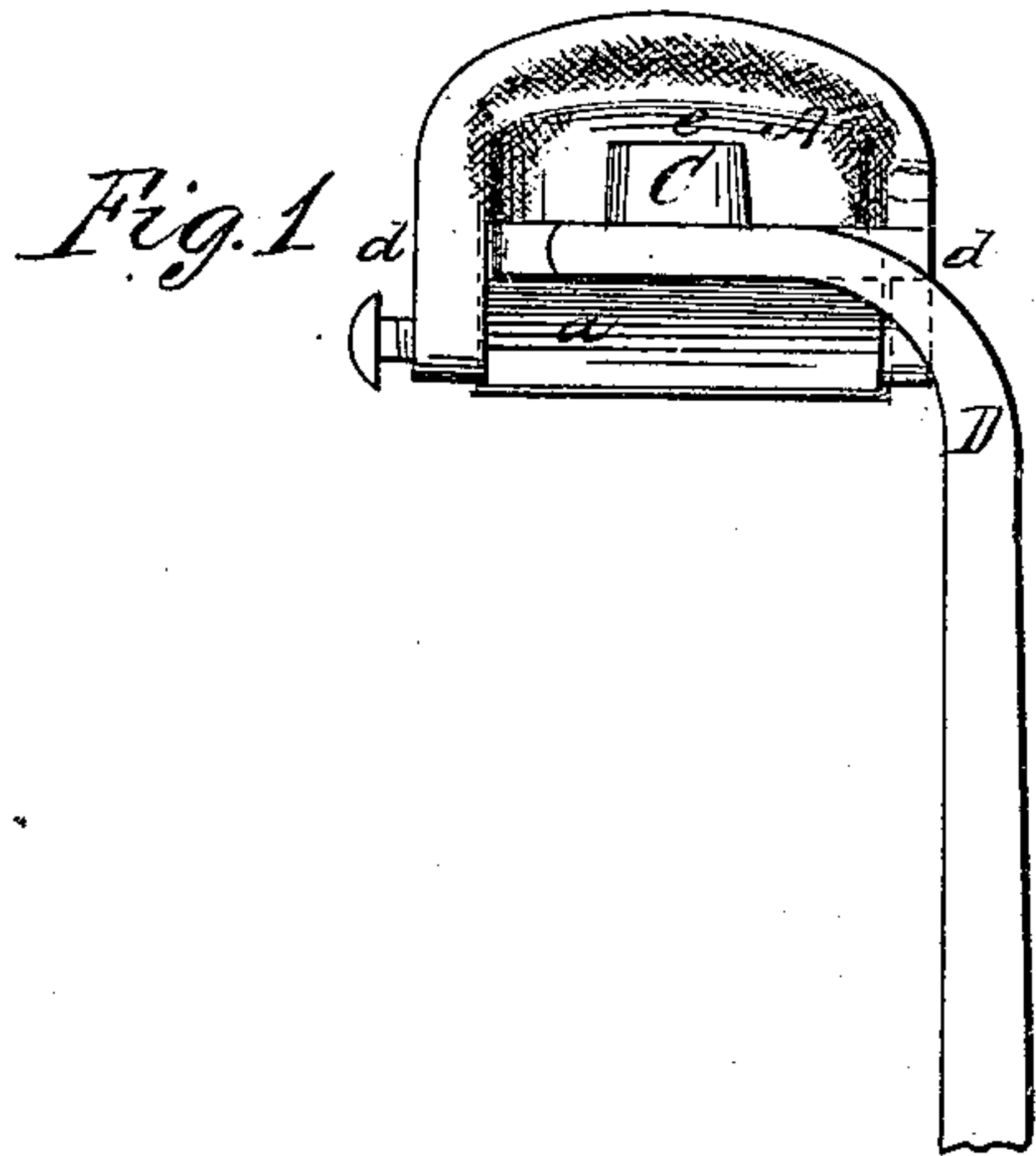


*W. M. Howland,*

*Apple Parer,*

*No 44,044,*

*Patented Aug. 30, 1864.*



*Witnesses;*  
*James Bennett*  
*Luther Stone*

*Inventor;*  
*Wm M Howland.*

# UNITED STATES PATENT OFFICE.

WILLIAM M. HOWLAND, OF LEOMINSTER, MASSACHUSETTS, ASSIGNOR TO  
HIMSELF AND JOHN H. LOCKEY, OF SAME PLACE.

## IMPROVED FRUIT-PARING MACHINE.

Specification forming part of Letters Patent No. 44,044, dated August 30, 1864.

*To all whom it may concern:*

Be it known that I, WILLIAM M. HOWLAND, of Leominster, in the county of Worcester and State of Massachusetts, have invented a new and useful improvement in the construction of knife heads or stocks for machines for paring fruit or vegetables; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation thereof, taken in connection with the accompanying drawings, making a part of this specification, in which—

Figure 1 is a front elevation. Fig. 2 is an end elevation. Fig. 3 is a plane; and Fig. 4 is a vertical section on the line *x* of Fig. 3.

The subject-matter of my invention is an improvement in the mode of constructing the knife head or stock of a fruit-paring machine, and consists in combining in the same knife head or stock the mode of operation described in Letters Patent granted to Ephraim L. Pratt October 4, 1853, with the mode of operation described in Letters Patent granted to Horatio Keyes June 17, 1856, by which the beneficial results due to both modes of operation are realized in the same machine.

In the drawings, A represents the knife-stock, which is constructed with a lip, B, to rest against the fruit; and *a* is the knife. The stock is jointed to a bail or yoke, *c*, at *d*, which permits it to vibrate in a vertical direction to conform to the surface of the fruit, and is constructed substantially as is described in the Letters Patent of E. H. Keyes before referred to. The yoke C is jointed at *e* to the ex-

tremity of the bent arm D, by which the knife is held in the machine and by which it is carried over the surface of the fruit to pare it. This joint permits the knife to have a vibrating motion in a plane transverse to the first, and in this respect its mode of operation is substantially like that described in the Letters Patent of E. L. Pratt before mentioned. The extent of the vibrations in a vertical direction is limited by the stops *f* and *g*, and those in a horizontal direction by the stops *h* and *i*, the position of the knife-stock at the limits of vibration being shown by the red and blue dotted lines in Figs. 2 and 3. This mode of constructing the knife-stock may be employed in paring-machines with advantage in connection with any suitable devices for holding and rotating the fruit, and for carrying the knife over its surface.

Having thus described my improvement, what I claim is—

The employment in the same knife-stock of suitable devices for giving to it a vibrating or rocking movement in a plane transverse to the plane of revolution of the fruit, in combination with a vibrating or rocking movement in a plane coincident with the plane of revolution of the fruit, substantially as described.

Executed at Leominster this 18th day of June, A. D. 1864.

WM. M. HOWLAND.

In presence of—

JAMES BENNETT,  
LUTHER STONE.