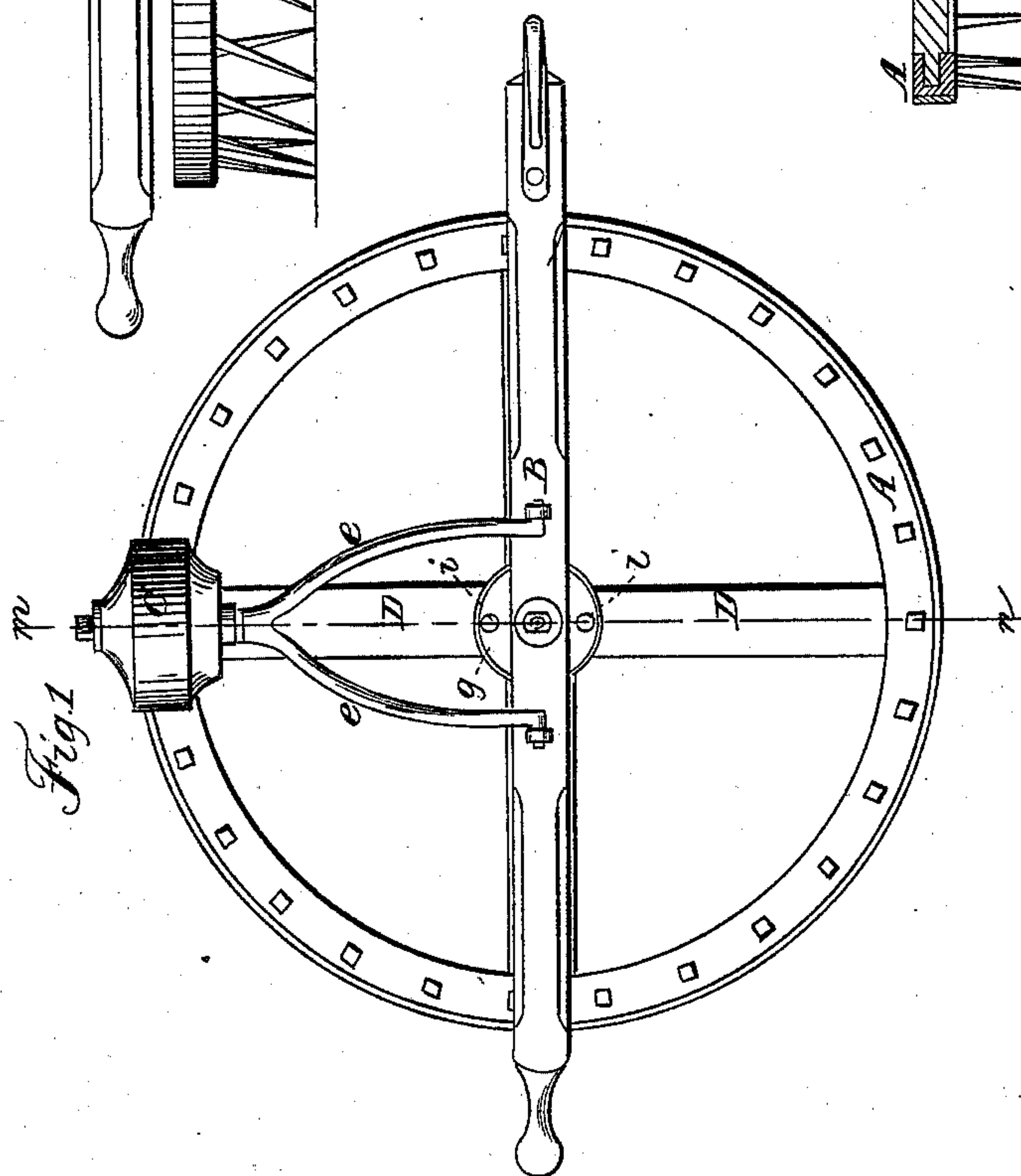
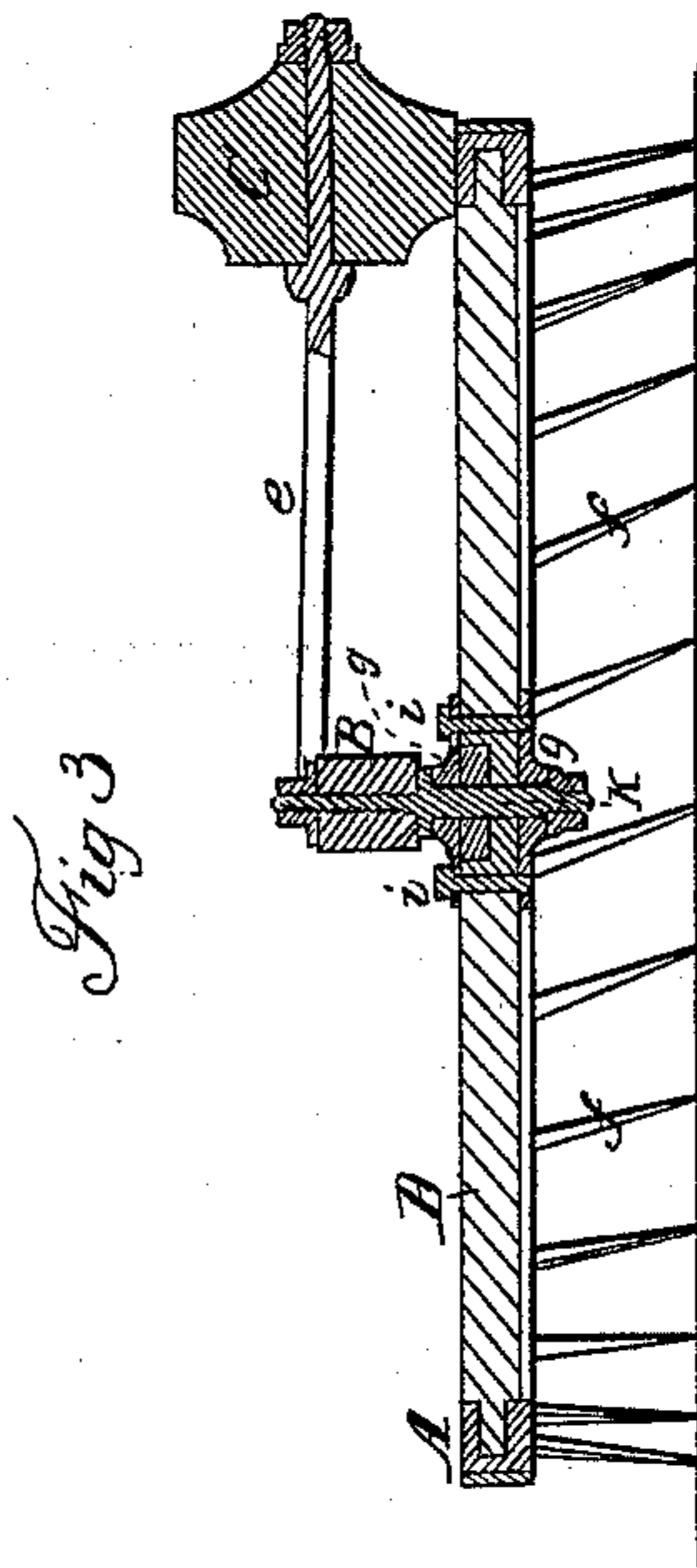
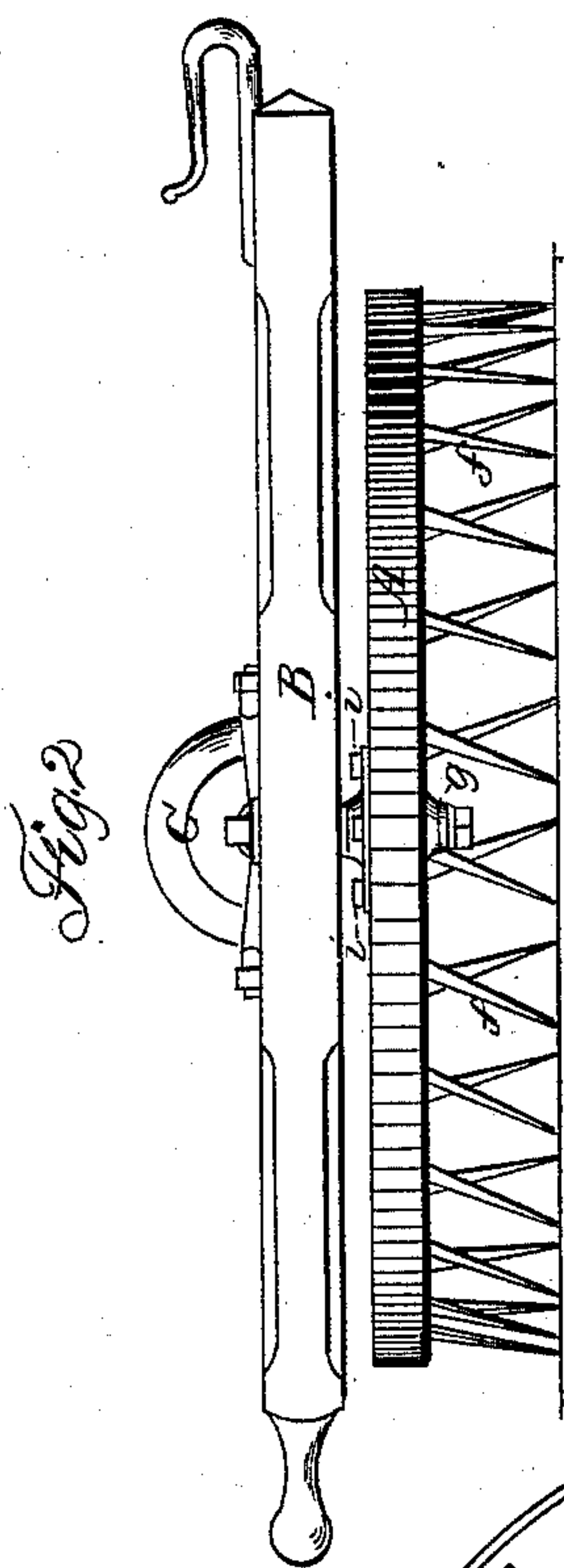


S. S. HOGLE.
Rotary Harrow.

No. 16,866.

Patented Mar. 17, 1857.



UNITED STATES PATENT OFFICE.

SIDNEY S. HOGLE, OF YORK, OHIO.

IMPROVEMENT IN HARROWS.

Specification forming part of Letters Patent No. **16,866**, dated March 17, 1857.

To all whom it may concern:

Be it known that I, SIDNEY S. HOGLE, of York, in the county of Medina and State of Ohio, have invented a new and useful Improvement in Rotating Harrows; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification—

Figure 1 being a top view of my improved harrow; Fig. 2, a side elevation, and Fig. 3 a section in the line *m n* of Fig. 1.

Similar letters indicate like parts in all the figures.

The annular tooth-frame A may be made of any suitable material. The teeth *f f* may be so secured in the frame A as to descend vertically therefrom, or in such manner as to incline forward, as shown in the drawings. Transverse bars D D, which are halved together at their centers, are framed into the inner periphery of the tooth-frame A, and receive upon their upper and lower surfaces, at their point of junction with each other, the metallic face-plates *g g*, which plates are secured in their positions by the bolts *i i*. The draft-beam B rests upon the upper face-plate *g*, and is secured to the harrow by means of the bolt *k* in such a manner that it can be turned freely upon its axis. A forked arm, *e*, is hinged to the upper side of the central portion of the beam B in such a manner that its position can be reversed at pleasure. On the outer solid end of the arm *e* a journal is formed, which receives a heavy roller, C, whose periphery rests upon the upper surface of the tooth-frame A. The said roller C causes the forward movement of the harrow to impart a positive rotary motion

to the tooth-frame in consequence of the retarding influence produced by causing the harrow-teeth on one side of the tooth-frame to penetrate to a little greater depth than those on the other side of said frame. By shifting said roller from one side of the tooth-frame to the other the rotary motion of said frame can be instantly reversed. Without the weighted roller C the tooth-frame would sometimes faintly rotate in one direction and sometimes in the other during the forward movement of the harrow, and a portion of the time the said frame would not rotate at all during its forward movement. The positive rotation of the tooth-frame upon its axis during its forward dragging movement adds greatly to the efficiency of its action upon the soil, as must be readily apparent to all persons familiar with farming operations.

I am aware that horizontal harrows have been so constructed that they could be rotated upon their axes; and therefore I wish it to be understood that

What I claim as my invention, and desire to secure by Letters Patent, is—

Causing the forward movement of a pivoted horizontal harrow to impart a rotary motion thereto by means of the auxiliary action of a weighted roller or its equivalent upon one side or the other of said harrow, substantially as herein set forth.

The above specification of my improvement in rotating harrows signed and witnessed this 8th day of October, 1856.

SIDNEY S. HOGLE.

Witnesses:

Z. C. ROBBINS,

S. H. SHAKSPEARE.