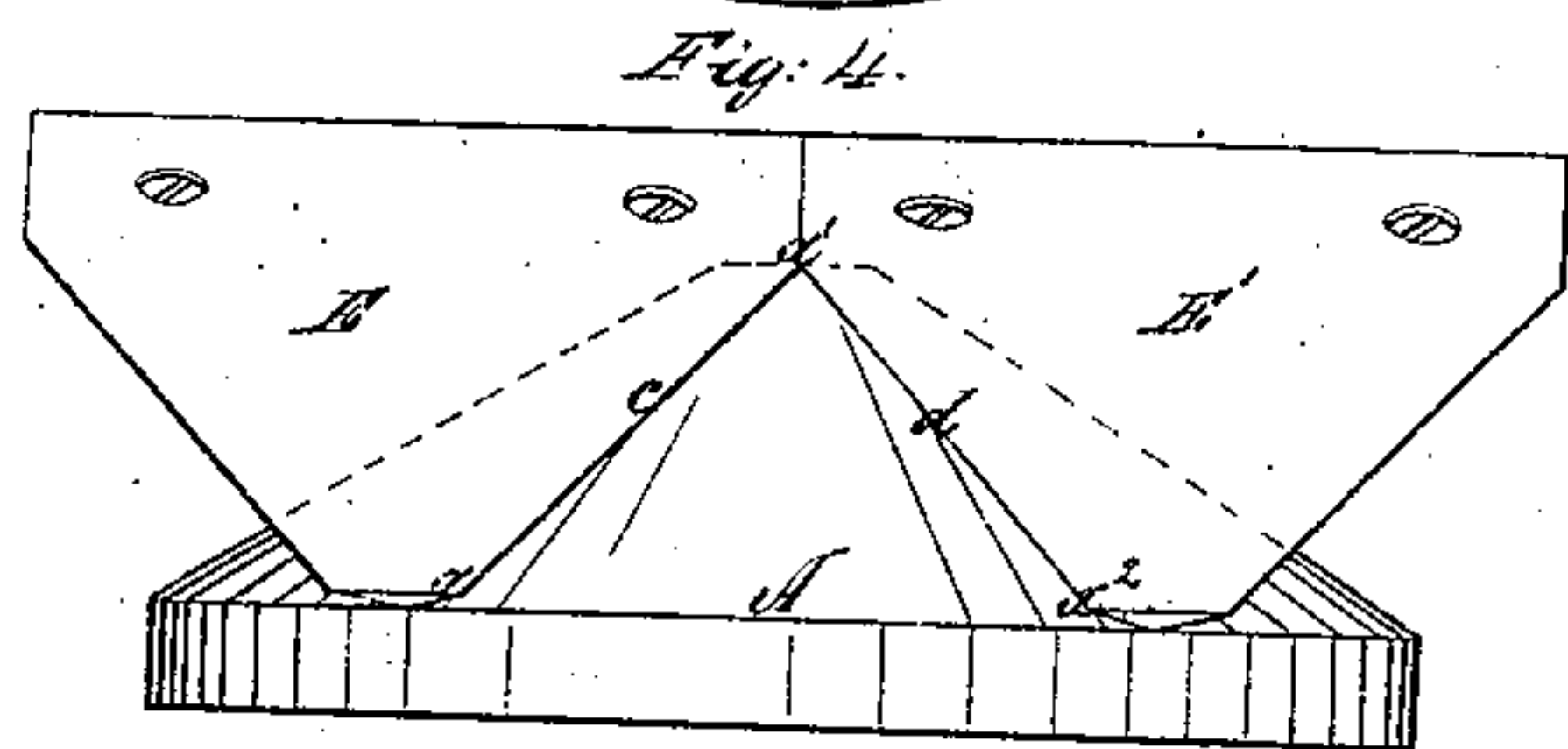
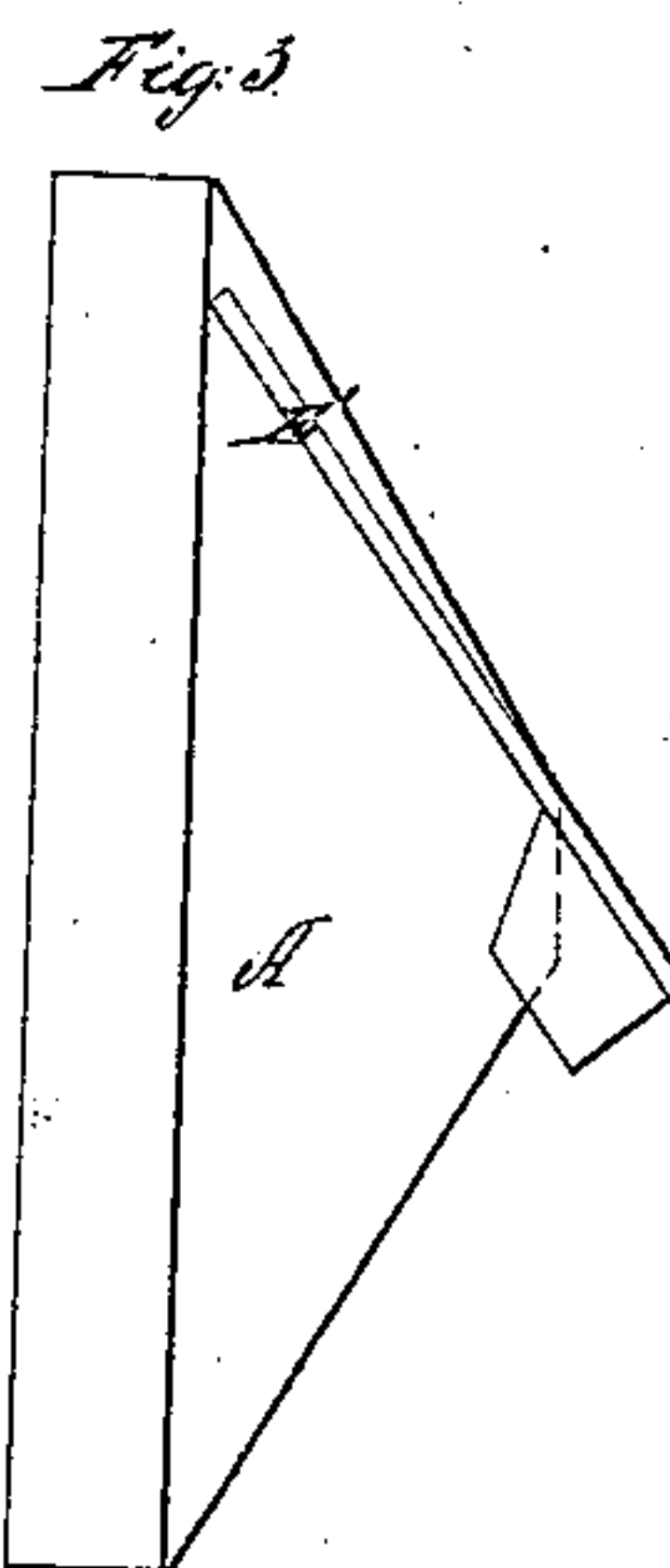
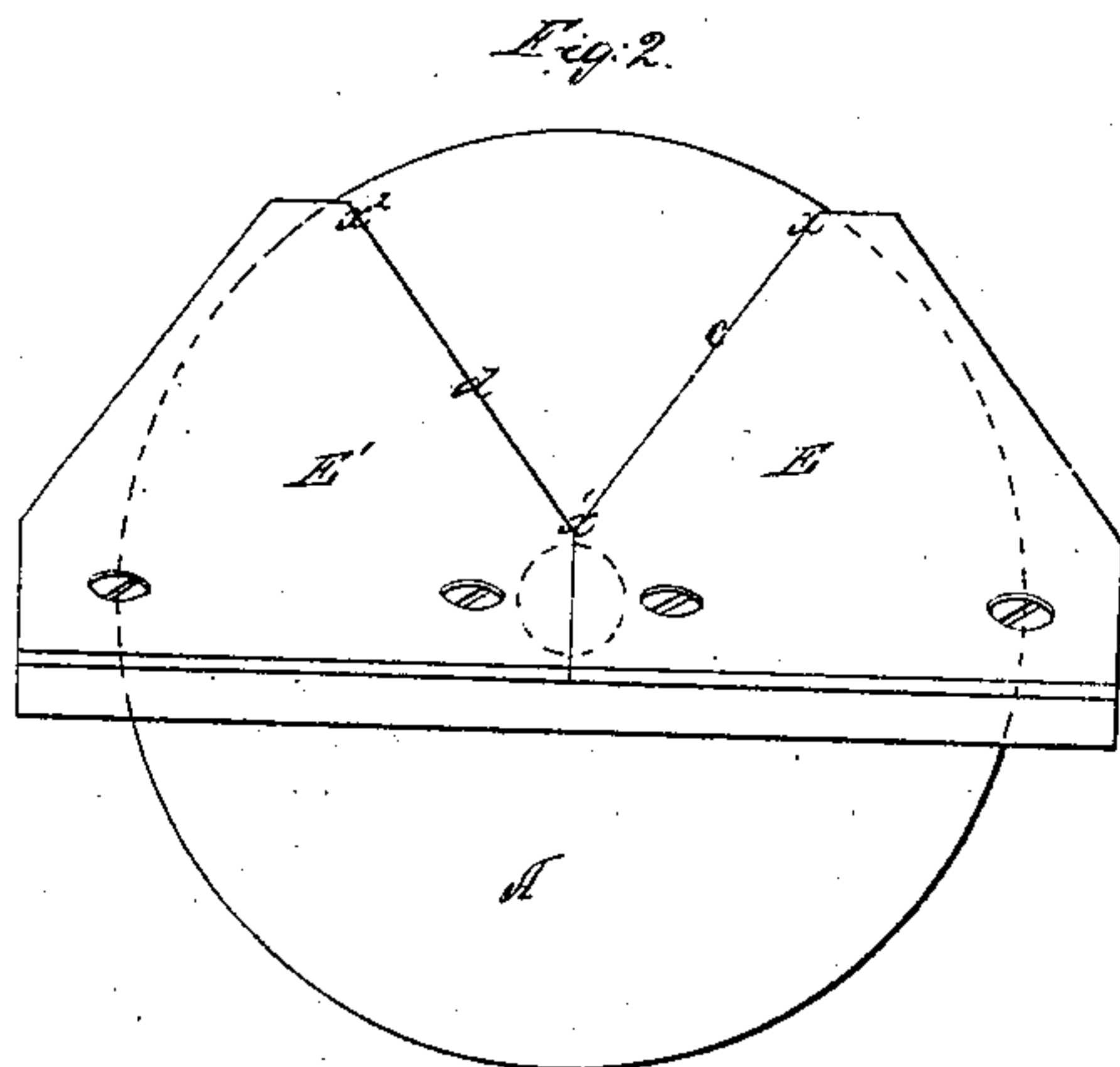
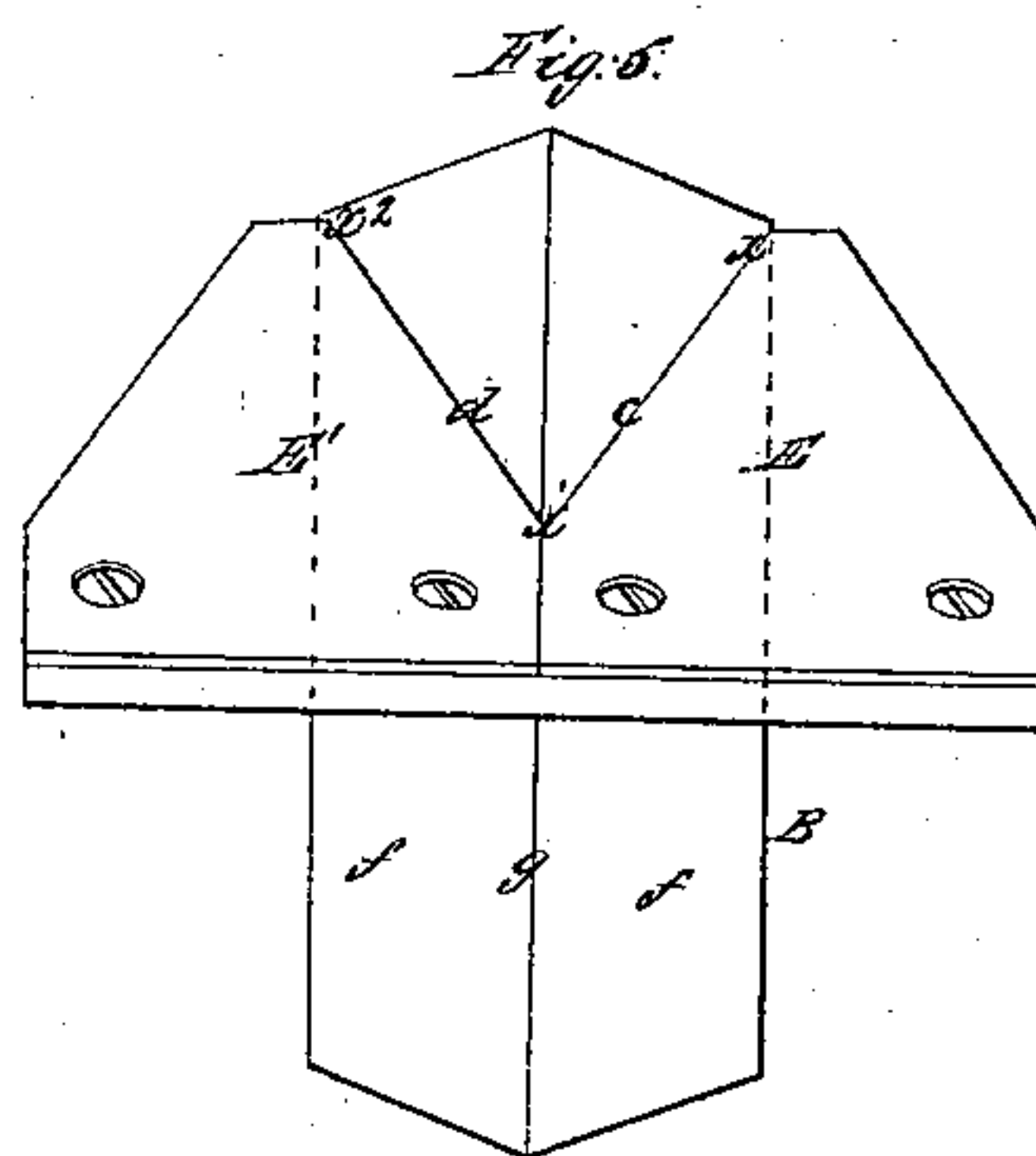
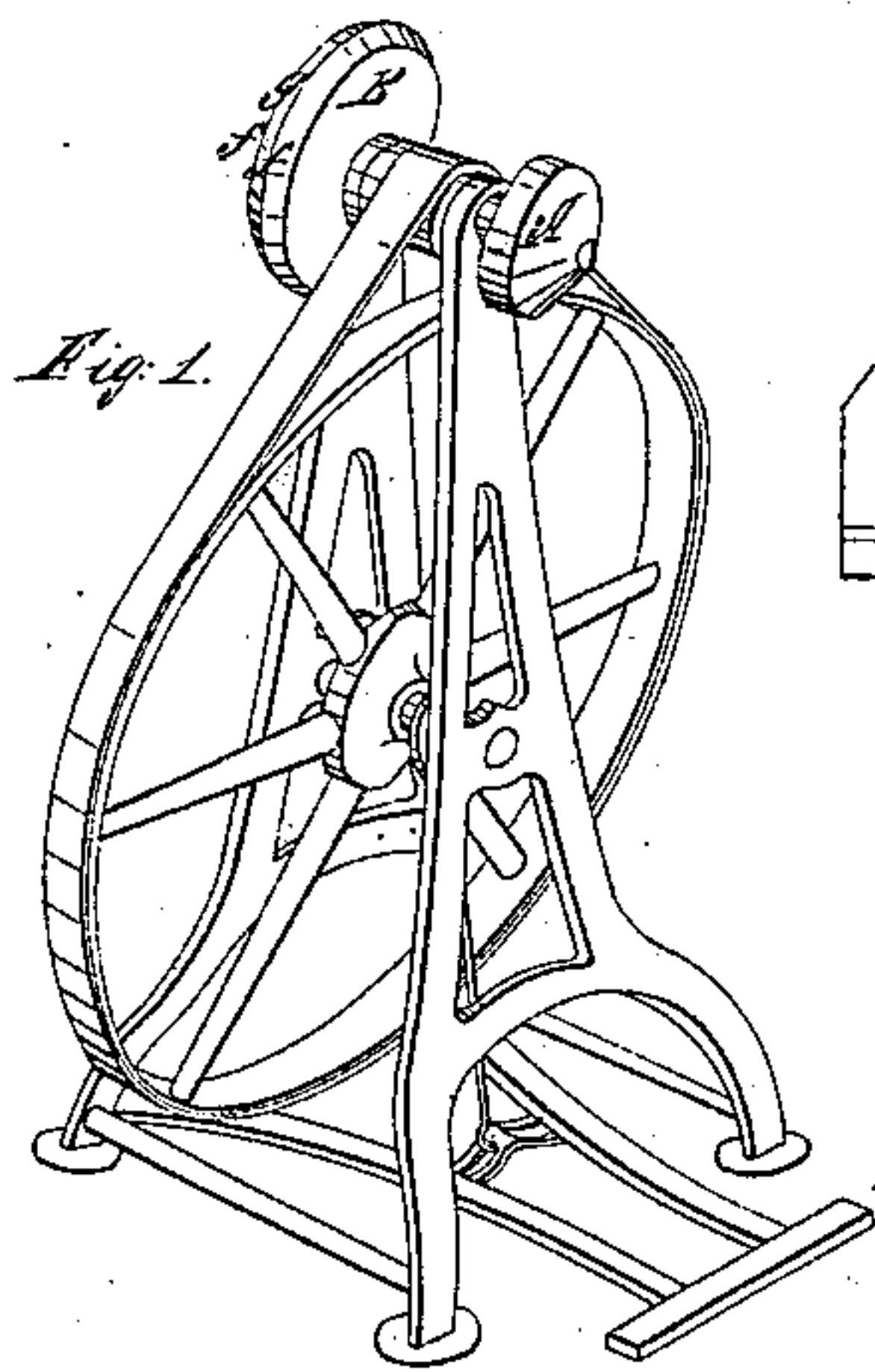


*I. H. Collier,*

*Reaper-Knife Sharpener.*

*No 41,831.*

*Patented Mar. 8, 1864.*



*Witnesses:*  
*R. D. Campbell*  
*C. Schaefer*

*Inventor:*  
*I. H. Collier*  
*by his atty*  
*Wm. B. Smith & Co.*

# UNITED STATES PATENT OFFICE.

ISAAC H. COLLER, OF POUGHKEEPSIE, NEW YORK.

## IMPROVEMENT IN HARVESTER-CUTTER SHARPENERS.

Specification forming part of Letters Patent No. 41,831, dated March 8, 1864.

*To all whom it may concern:*

Be it known that I, ISAAC H. COLLER, of Poughkeepsie, in the county of Dutchess and State of New York, have invented a new and Improved Mode of Sharpening the Cutting-Blades of Reaping and Mowing Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and letters of reference marked thereon, forming a part of this my specification, in which—

Figure 1 illustrates a cheap and portable machine operated by a foot-lever, by means of which my invention may be practically applied for the purpose of sharpening the cutting-blades of reaping and mowing machines. Fig. 2 is an end view illustrating my mode of sharpening said blades. Fig. 3 is a side view, and Fig. 4 a top view.

The object of my invention is to provide a ready, cheap, and sure means whereby the contiguous cutting-edges of the cutting-blades of reaping and mowing machines may simultaneously and with perfect uniformity be sharpened; and I would here state that I am aware that such blades have had one of their cutting-edges sharpened without simultaneously sharpening one of the edges of a contiguous blade, and that this has been done on a grindstone or emery-wheel having a beveled grinding-face; but when so done there has been a great defect in the cutting-edges of the cutter-blades, since by grinding a single edge of such blades only at one time there has necessarily been no uniformity in the cutting-angle of the entire series of blades used upon a machine, whereas by my mode I simultaneously sharpen the contiguous cutting-edges of such blades and in such manner as to leave all of the cutting edges of a corresponding cutting-angle.

In the drawings, Figs. 1, 3, and 4 show a conical wheel, A, which has a grinding-surface of sufficient extent to simultaneously reduce to a perfectly-uniform cutting-edge the contiguous edges *c d* of the blades *E E'*, represented in Figs. 2 and 4 as in the act of being

sharpened upon said wheel. In other words, the conical surface of the wheel A, upon which the blades are to be ground, must be sufficient to act upon the cutter-blades throughout the whole extent of the line *x x' x<sup>2</sup>* at the same instant in the act of sharpening them. Thus the blades, when applied to wheel A, as indicated in Figs. 2, 3, and 4, serve to steady each other in the act of grinding, and, as the face of the cone-wheel A is uniform, a uniform cutting-angle will be imparted to the blades throughout the entire cutting-edges *c d*; and this desirable end may be obtained throughout the entire series of cutting-edges of the cutter-blades on a reaping or mowing machine.

In Figs. 1 and 6, B indicates a grinding-wheel of a different conformation from that shown at A, having two beveled grinding-faces, *f f*, which terminate or meet at an apex, *g*, around the entire wheel, as indicated. These grinding-faces *f f* are of sufficient extent to grind the whole of contiguous edges of adjoining cutter-blades and give them a like uniformity of cutting-angle, the same as when ground upon the wheel A. Either emery, corundum, or sand may be applied to the wheels A B to form their grinding-surface, the wheels being made of wood and the grinding-material applied thereto in the usual way of forming what is known as "emery-wheels."

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

Beveling and sharpening the two contiguous edges of a mowing or harvesting cutter-bar at one operation by straddling a conic or  $\Lambda$ -shaped wheel with the two contiguous edges of adjoining blades of such bar, substantially as described.

Witness my hand in matter of my application for a patent for improved mode of sharpening the cutting blades of harvesting-machines.

ISAAC H. COLLER.

Witnesses:

R. T. CAMPBELL,  
E. SCHAFER.