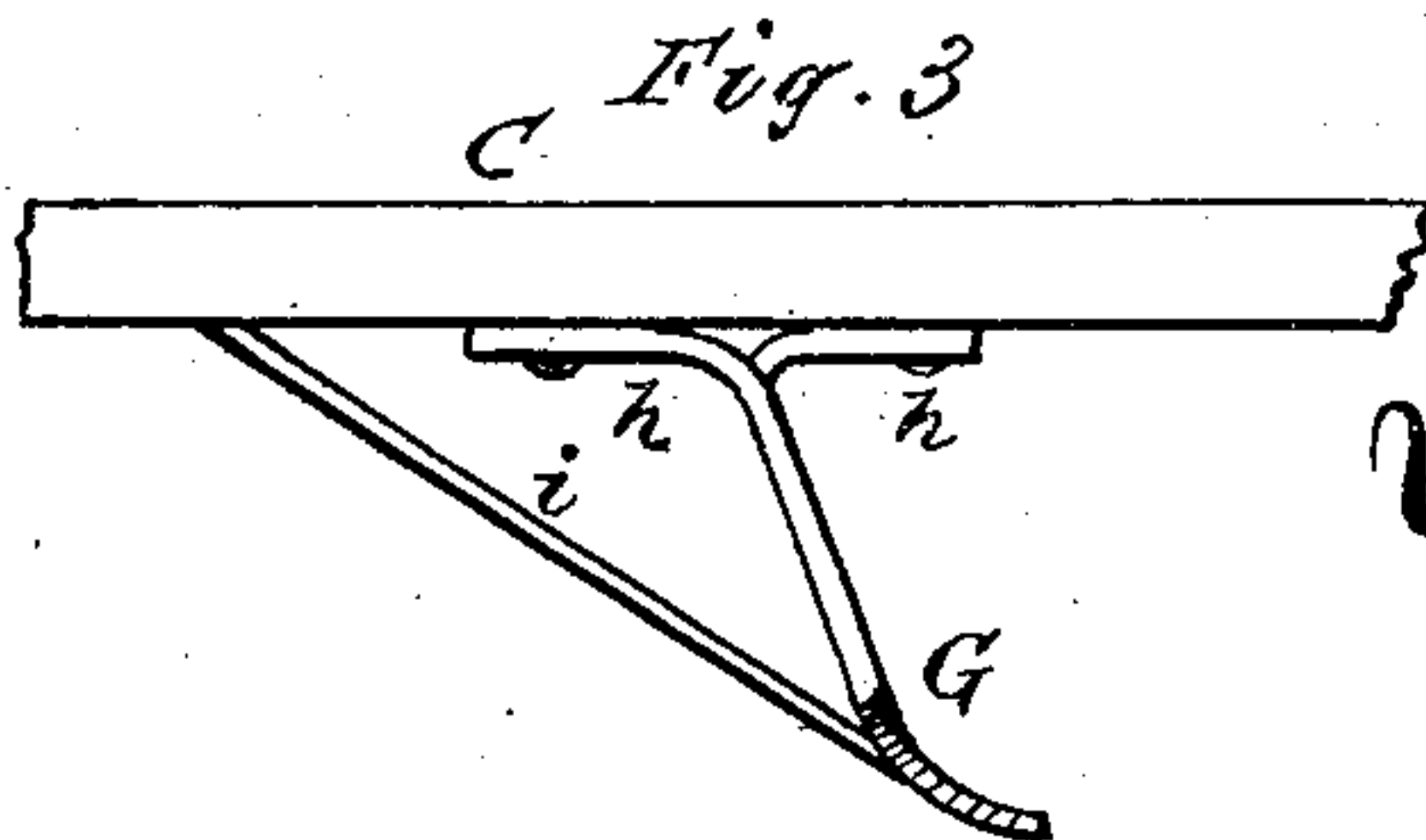
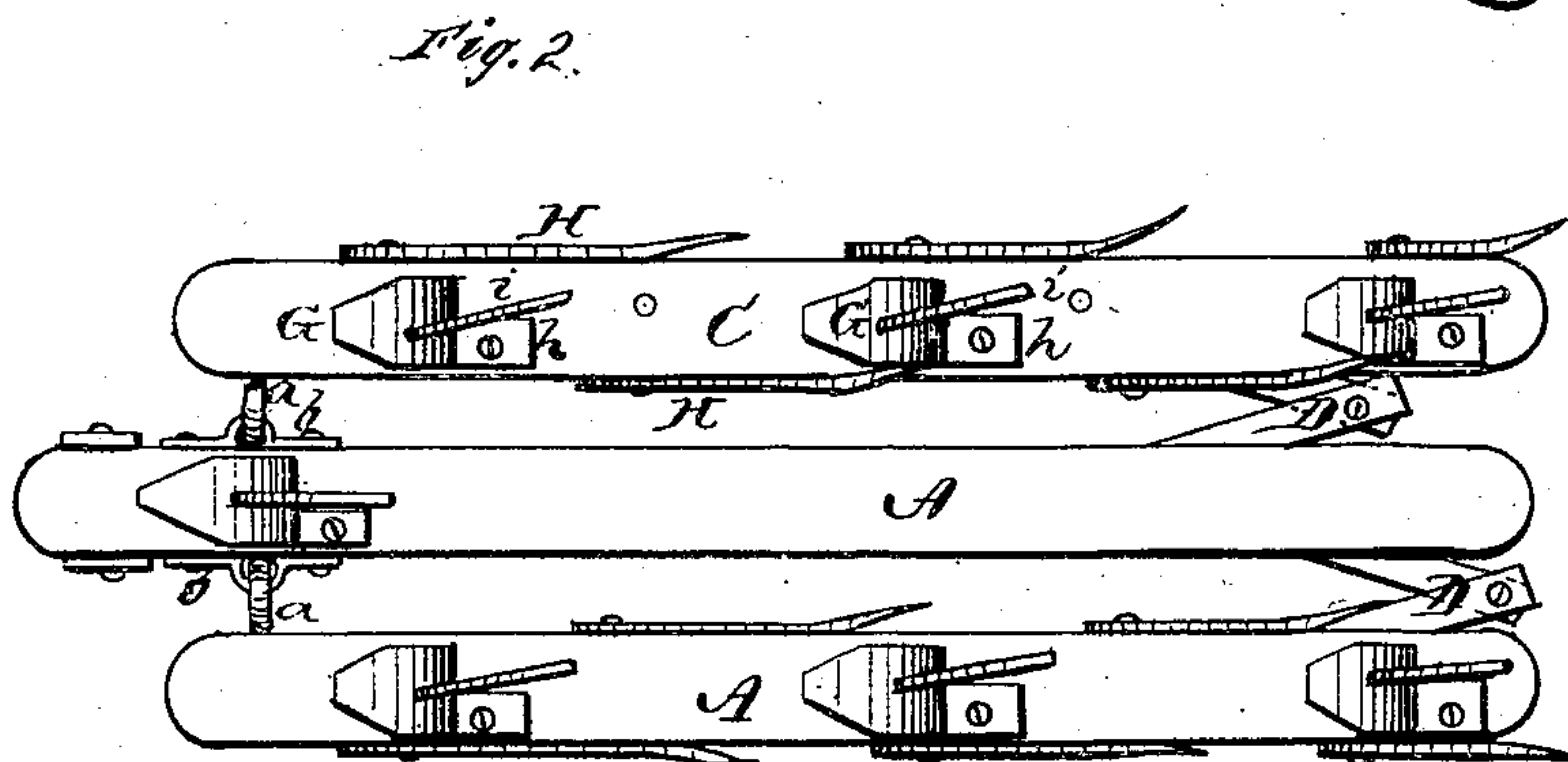
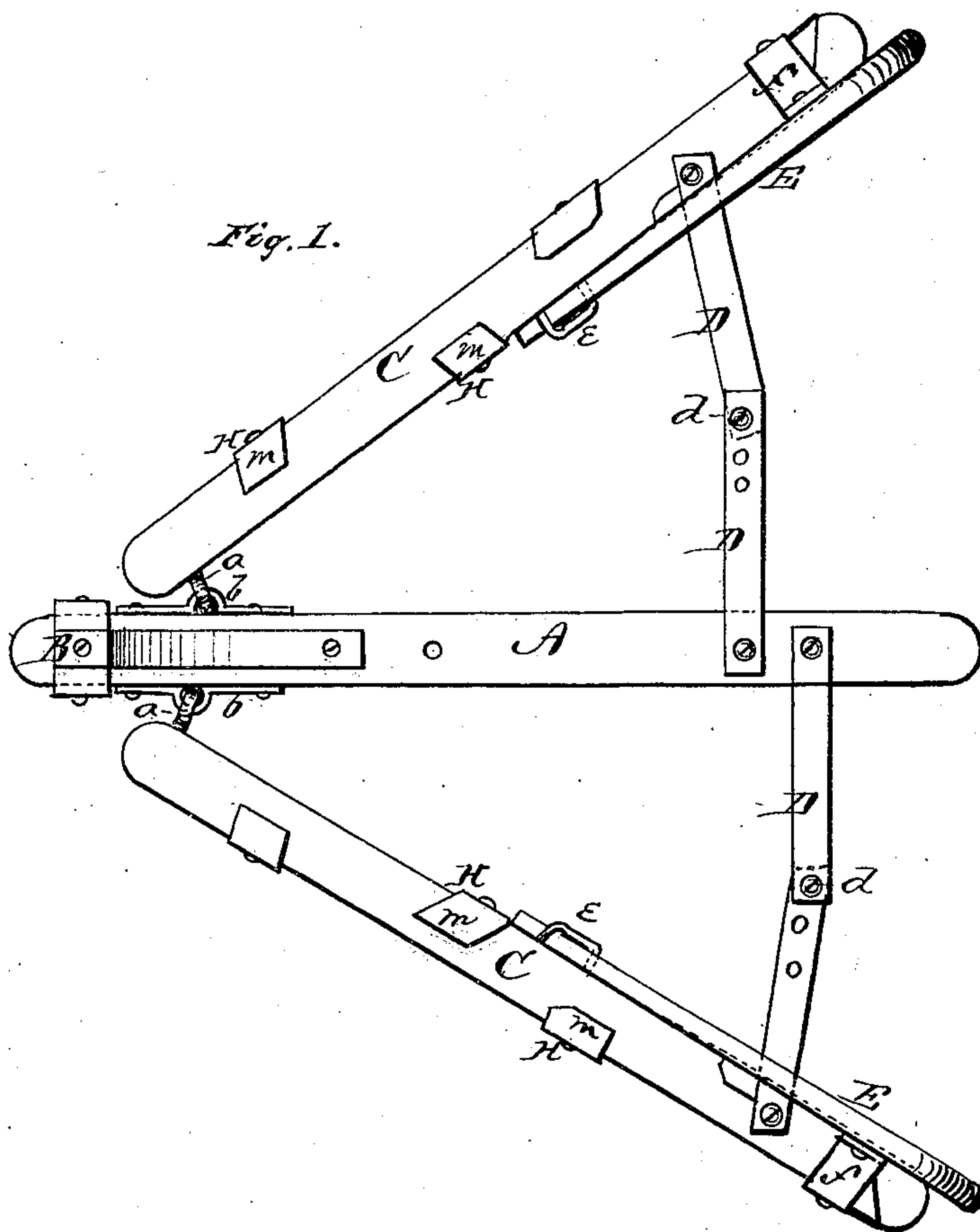


W. SPURGIN.

Combined Cultivators and Harrows.

No. 153,127.

Patented July 14, 1874.



WITNESSES:

P. C. Dieterich  
A. H. Mulvey

INVENTOR.  
William Spurgin

per.  
C. H. Watson & Co.  
ATTORNEYS.

# UNITED STATES PATENT OFFICE.

WILLIAM SPURGIN, OF BROWNSVILLE, MISSOURI.

## IMPROVEMENT IN COMBINED CULTIVATORS AND HARROWS.

Specification forming part of Letters Patent No. **153,127**, dated July 14, 1874; application filed June 18, 1874.

*To all whom it may concern:*

Be it known that I, WILLIAM SPURGIN, of Brownsville, in the county of Saline and State of Missouri, have invented certain new and useful Improvements in Combined Cultivator and Harrow; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form part of this specification.

The nature of my invention consists in the construction and arrangement of a combined cultivator and harrow, as will be hereinafter more fully set forth.

In the accompanying drawing, Figure 1 is a plan view of my cultivator when spread open for use. Fig. 2 is a bottom view of the same when contracted, and Fig. 3 shows the mode of attaching the plows to the beams.

A represents the center beam provided at its front end with a raised perforated clevis, B, for attaching the team at any desired height. C C represent the two side beams connected, one on each side of the center beam at the front end, by means of an eye-screw, *a*, and strap or loop *b*, and at the rear end by jointed spring bars D D. These spring-bars allow the side beams to be spread out, as shown in Fig. 1, or be contracted, as shown in Fig. 2. One of these arms on each side is perforated, so that the connecting pin or bolt *d* can be changed at will to allow the side beams to be spread more or less, as desired. In addition to this outward and inward motion of the side beams, they can move up and down, as the unevenness of the ground renders it necessary, and they also are capable of a vibration back and forth, which is of great importance in striking stones, roots, or other obstructions. Each beam C has a handle, E, inserted in a loop, *e*, on the inner side of the beam, and connected to the outside thereof by a loop, *f*. G G represent the plows, which are constructed sub-

stantially in the usual form of one piece, and each provided at its upper end with two horizontal flanges, *h h*, extending one toward the front, and the other toward the rear. These flanges are placed against the under side of the beam, and fastened by bolts. A brace-rod, *i*, is riveted to the plow, and extends upward and rearward to the beam, where it is fastened by a bolt or otherwise, as desired. By this means of fastening the plows there are no mortises in the beams, which always weaken them, or require such heavy and large beams as to render the implement too clumsy and heavy to handle. H H represent spring-cutters attached on both sides of each side beam C, alternately in front and rear of the plows. The upper end of each cutter H is bent over and rests upon the top of the beam, as shown at *m*, and the cutter is fastened by a single bolt in the side of the beam. The flange *m* of the cutter prevents it from turning either forward or backward, while the cutter can give or spring to either side to clear any obstructions in its way.

Any desired number of plows and cutters may be used, according to the size of the implement.

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

1. The combination of the side beams C C, center beam A, eyebolts *a*, loops or straps *b*, and jointed perforated spring-arms D D, substantially as and for the purposes herein set forth.

2. The combination of the beams A and C C, spring-arms D D, plows G G, and spring-cutters H H, all constructed substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I affix my signatures in presence of two witnesses.

WILLIAM SPURGIN.

Witnesses:

R. L. FERGUSON,  
JESSE WHEELER.