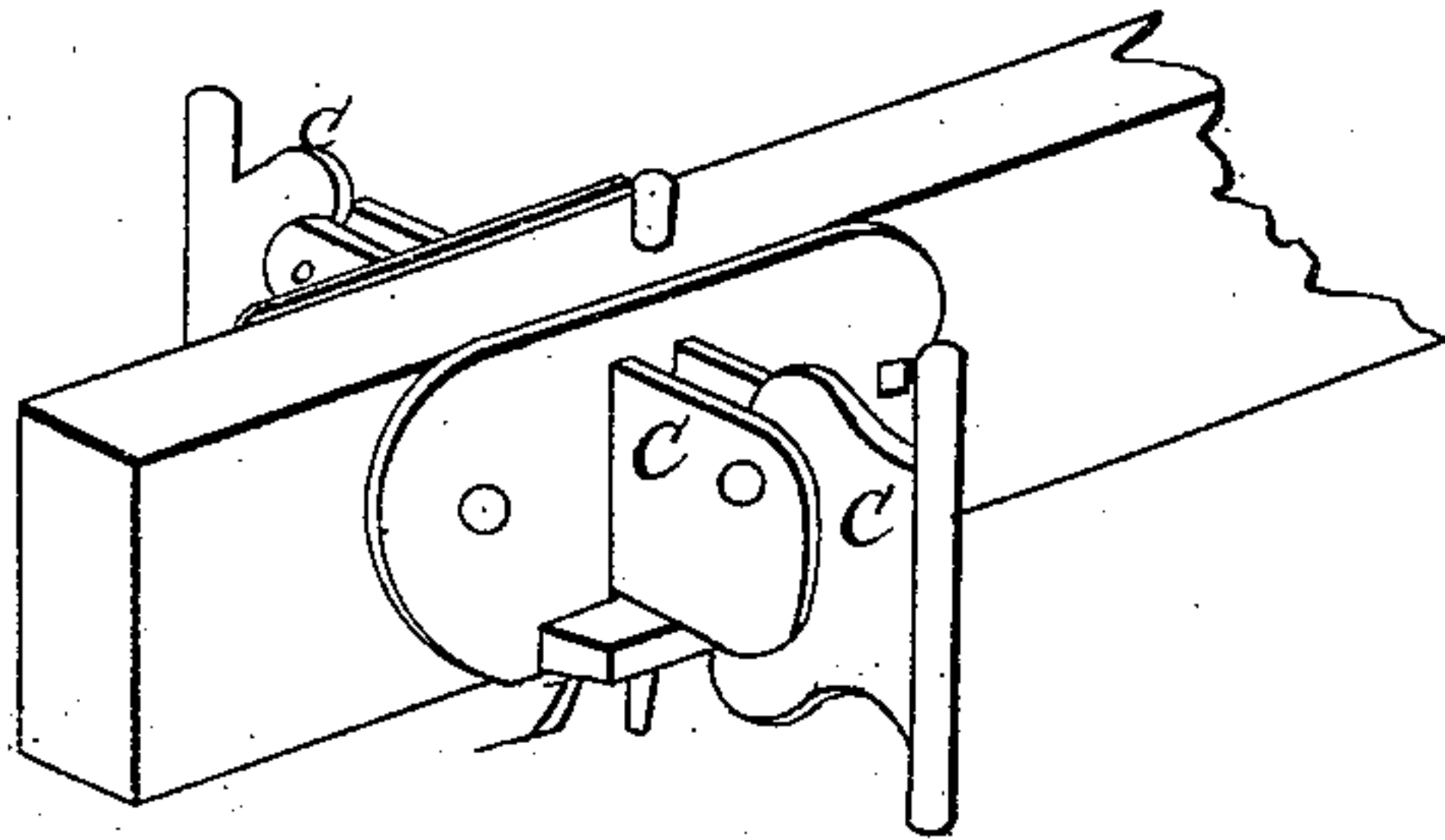
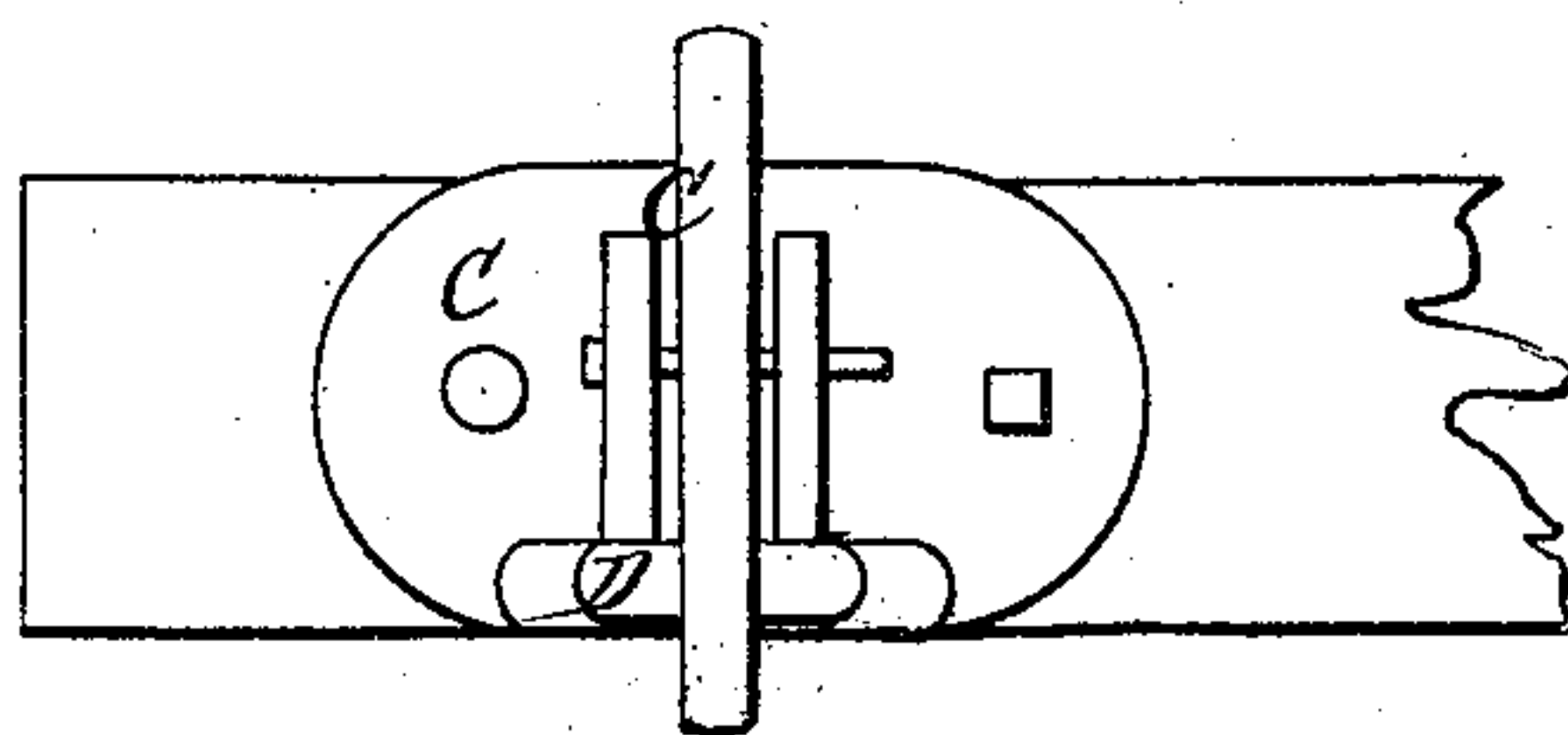
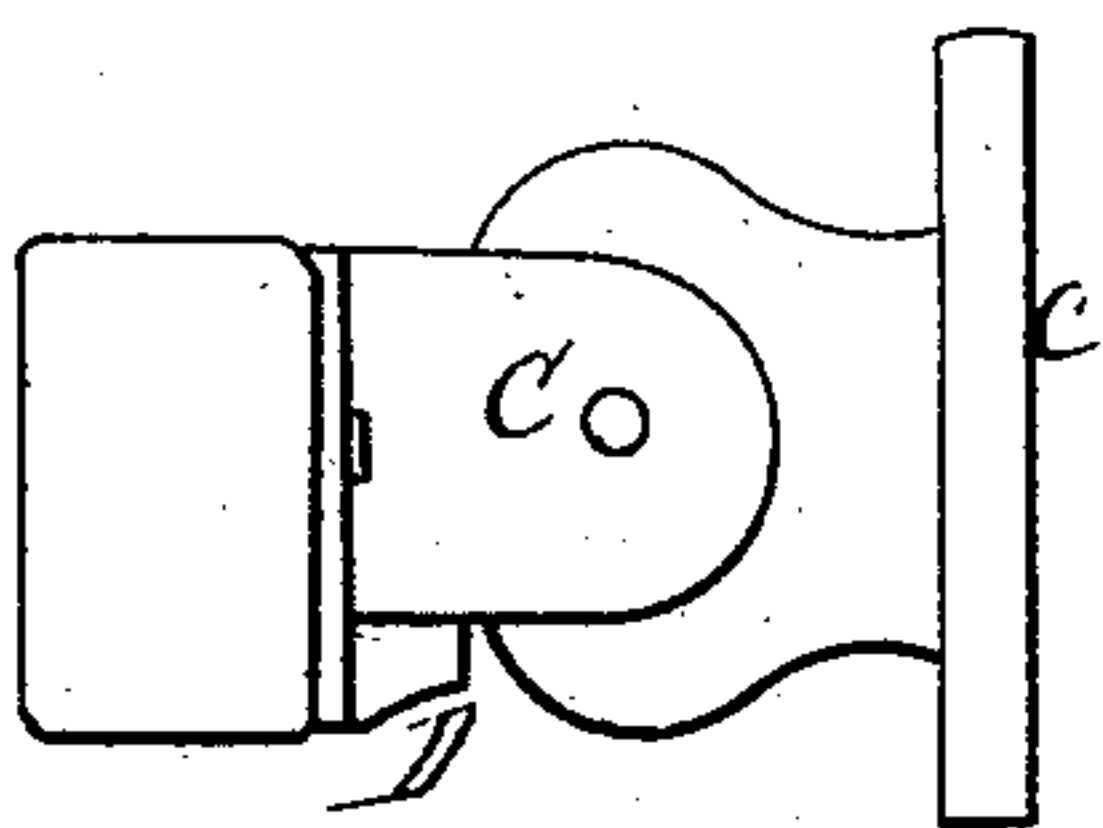
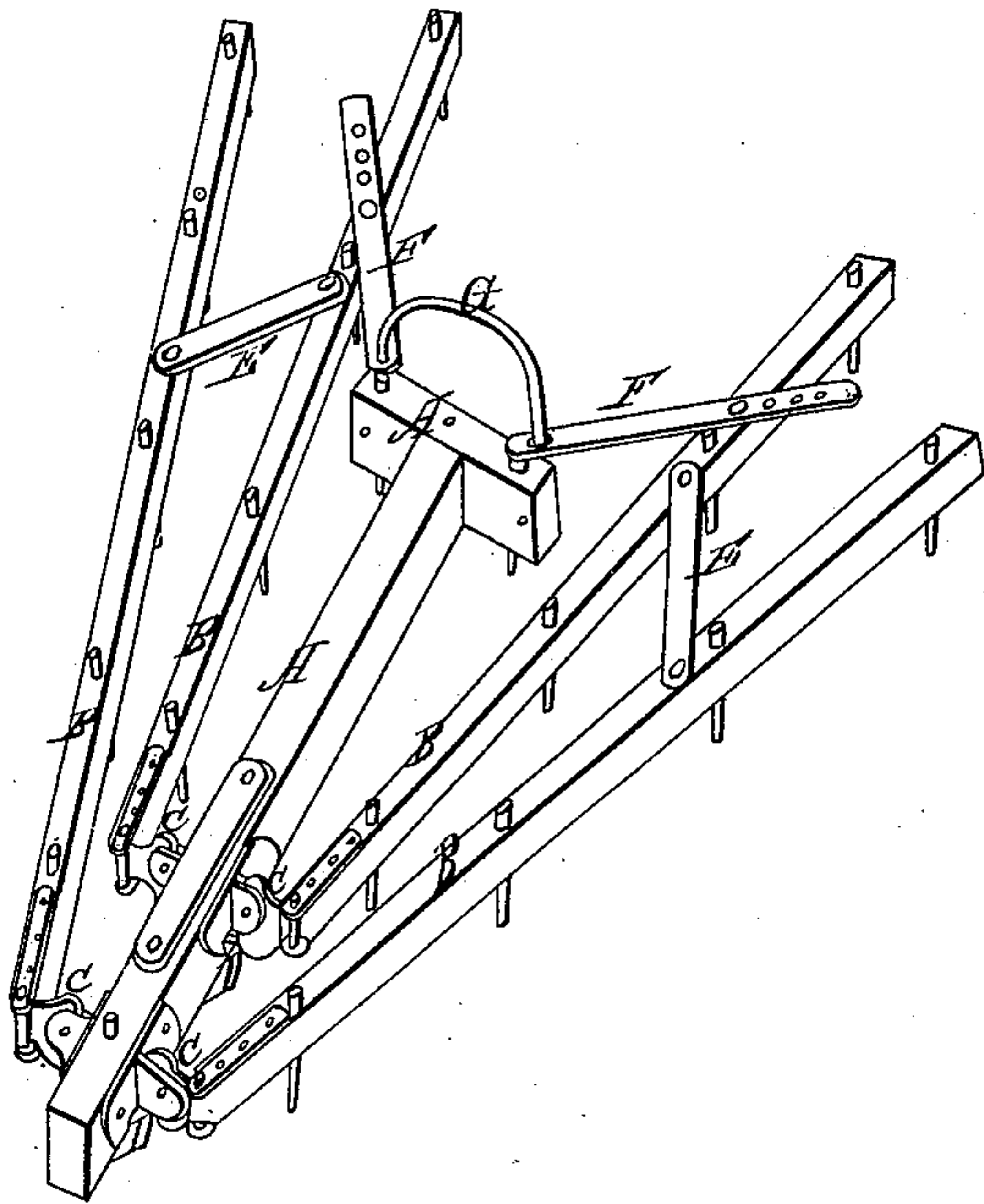


*I. J. Halsted.*

*Harrow.*

*N<sup>o</sup> 85,582.*

*Patented Jan 5, 1869.*



*Witnesses:*

*Geo. A. Macey  
John C. Briggs*

*Inventor:*

*Ira J. Halsted*



IRA J. HALSTED, OF SPRINGFIELD, ILLINOIS.

*Letters Patent No. 85,582, dated January 5, 1869.*

**IMPROVEMENT IN EXPANDING HARROW.**

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, IRA J. HALSTED, of the city of Springfield, county of Sangamon, and State of Illinois, have invented a new and improved Expanding-Hinge Harrow; and I do hereby declare that the following is a clear, full, and accurate description of the construction and operation of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

A is the centre-piece.

B B are the side pieces or wings, so arranged that the space between the front end of them is less than at the rear, so that obstructions can clear themselves, and thus clogging will be avoided.

C C are combined perpendicular and lateral hinges, upon which the wings can be either raised or spread.

D D are projections, either upon the bottom of the hinges or upon the centre-piece, below the hinge, to prevent the wings dropping below a horizontal.

E E are two braces, connecting and strengthening the outer wings of the harrow.

F F are adjustable braces, attached by slots, in which they slide, to the bow G, which is bent over and above the rear of the centre-piece A, and fast-

ened to each side. The other ends of these braces are attached to the inner wings of the harrow by a nut and screw, by which the braces can be adjusted to any required length.

By this arrangement, the wings of a harrow can be raised or spread, the braces sliding easily up the bow without binding, and neither is the lateral motion impeded.

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

1. The combination of the combined hinge C with the projections D, and wings B, and centre-piece A, all arranged substantially as herein described, and for the purposes set forth.

2. The bow G, constructed and arranged in the manner herein described, and for the purposes set forth.

3. The combination of the bow G, braces F F, wings B B, and hinges C C, all arranged substantially as described, and for the purposes set forth.

IRA J. HALSTED.

Witnesses:

GEO. O. MARCY,  
JOHN F. BRETZ.