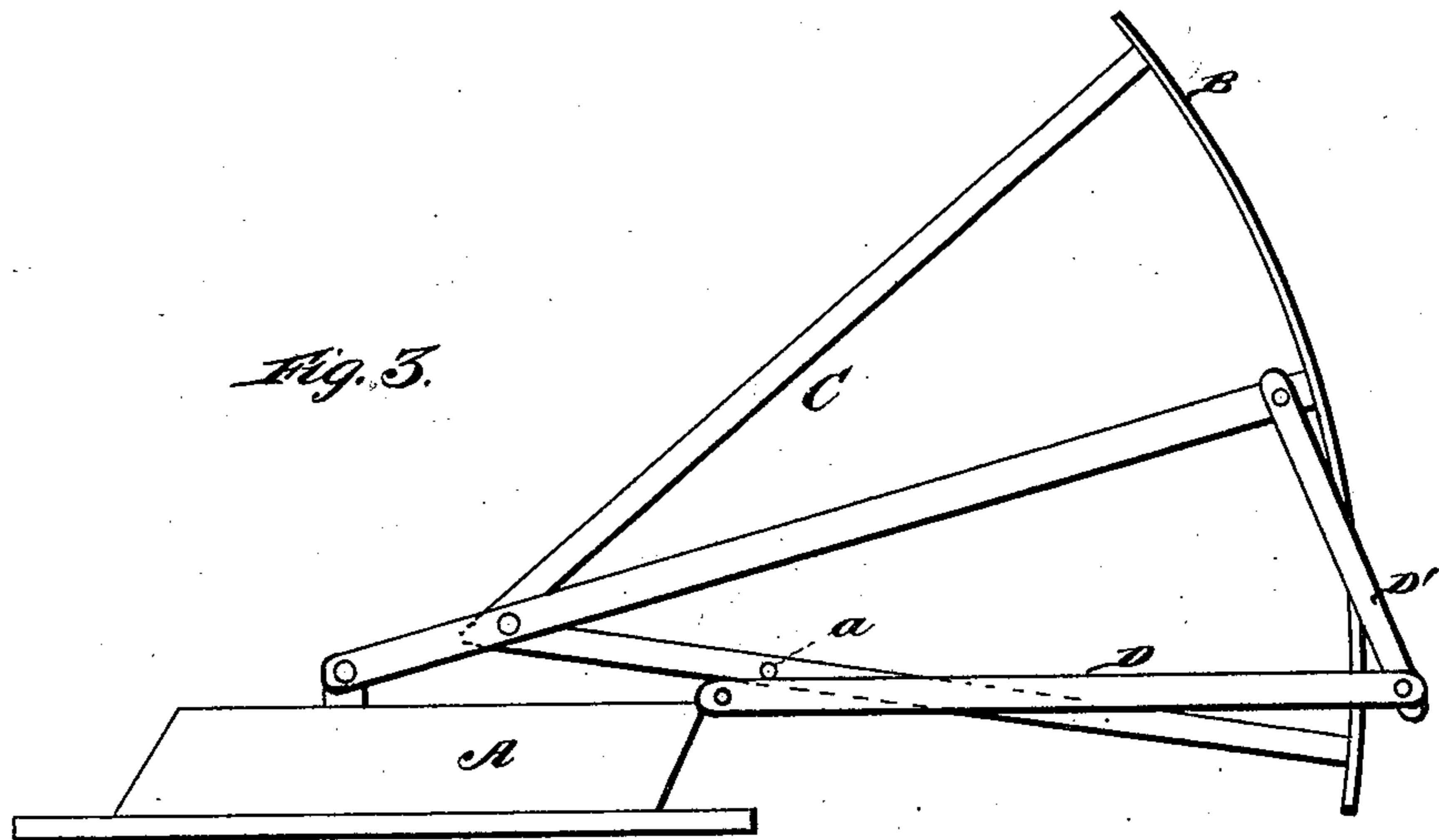
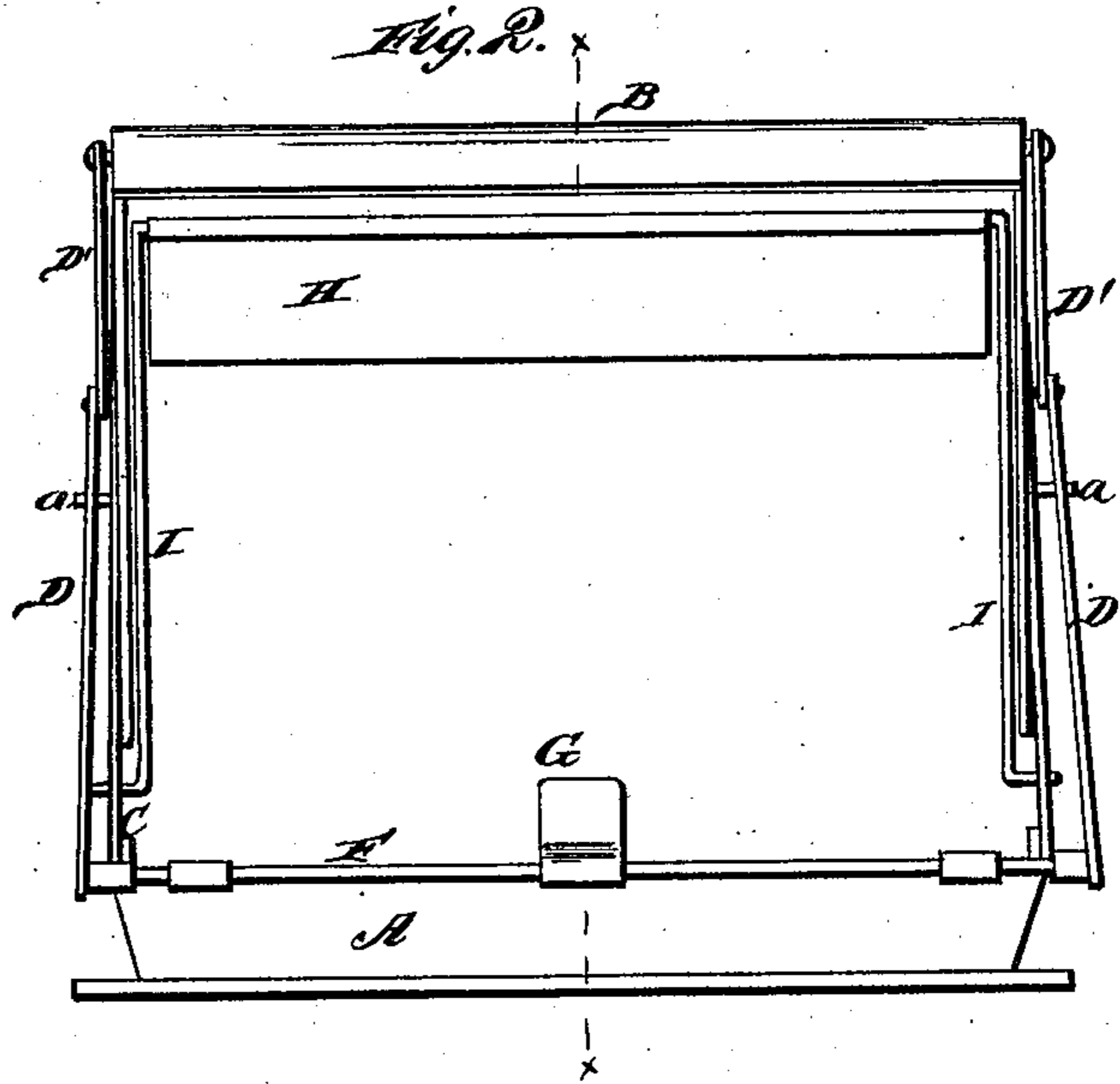
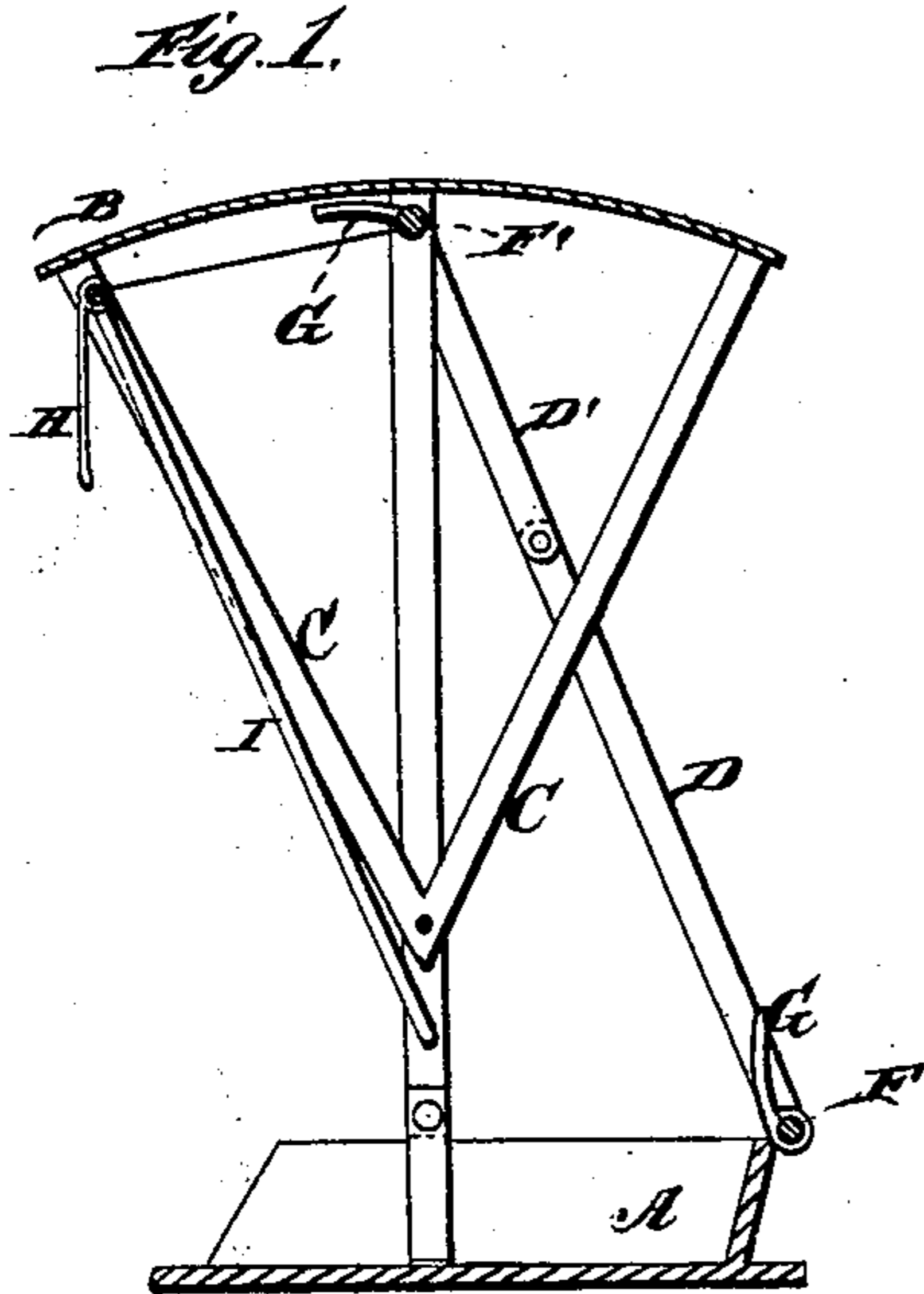


V. B. GRINNELL & F. BULCKENS.
Carriage-Top.

No. 207,734..

Patented Sept. 3, 1878.



WITNESSES
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UNITED STATES PATENT OFFICE.

VROOMAN B. GRINNELL AND FRANK BULCKENS, OF WAVERLY, IOWA.

IMPROVEMENT IN CARRIAGE-TOPS.

Specification forming part of Letters Patent No. **207,734**, dated September 3, 1878; application filed July 27, 1878.

To all whom it may concern:

Be it known that we, VROOMAN B. GRINNELL and FRANK BULCKENS, of Waverly, in the county of Bremer and State of Iowa, have invented a new and valuable Improvement in Carriage-Tops; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a vertical central section through lines *x x* of Fig. 2. Fig. 2 is a front view of the same, and Fig. 3 is a side view, showing the top thrown back.

The nature of our invention consists in the construction and arrangement of a carriage-top, as will be hereinafter more fully set forth.

The annexed drawing, to which reference is made, fully illustrates our invention.

A represents a wagon-seat. B is the top, and C C are the bows which support the top and connect the same to the seat. At each side are two braces, D D', pivoted together for supporting or holding the top in a raised position. The lower ends of the braces D D' are rigidly connected to the ends of a metal rod, F, which extends in suitable bearings across the back of the seat A. When one brace is moved the connecting-rod F will turn and impart the same motion to the opposite brace. The upper ends of the upper braces, D' D', are in like manner rigidly connected to a metal rod, F', extending across the upper portion of

the top B, so that when one brace is moved the other will obtain the same motion.

Both or either of these connecting-rods may be used as may be desirable on account of the shape of the top or seat.

The rods F F' are provided with short levers, G G, projecting from their centers, for the purpose of operating both sets of braces from the center if desired.

On the outside of the back bow C, on each side, is a projection or projecting pin, *a*, which acts as a support to the braces, and will enable the maker of cheap tops to use a simple toggle-joint in the braces.

Inside of the top is a movable box, I, from which depends the curtain H. This will allow the curtain to be shifted from front to back, and vice versa, as occasion may require when riding to or from the sun.

What we claim as new, and desire to secure by Letters Patent, is—

1. The projections *a* on the back bow of the carriage-top, in combination with the braces, for the purpose set forth.

2. In combination with a carriage-top, an inside movable or shifting bow, with curtain depending from the same, for the purpose set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

VROOMAN B. GRINNELL.
FRANK BULCKENS.

Witnesses:

G. C. WRIGHT,
H. J. HOFFMAN.