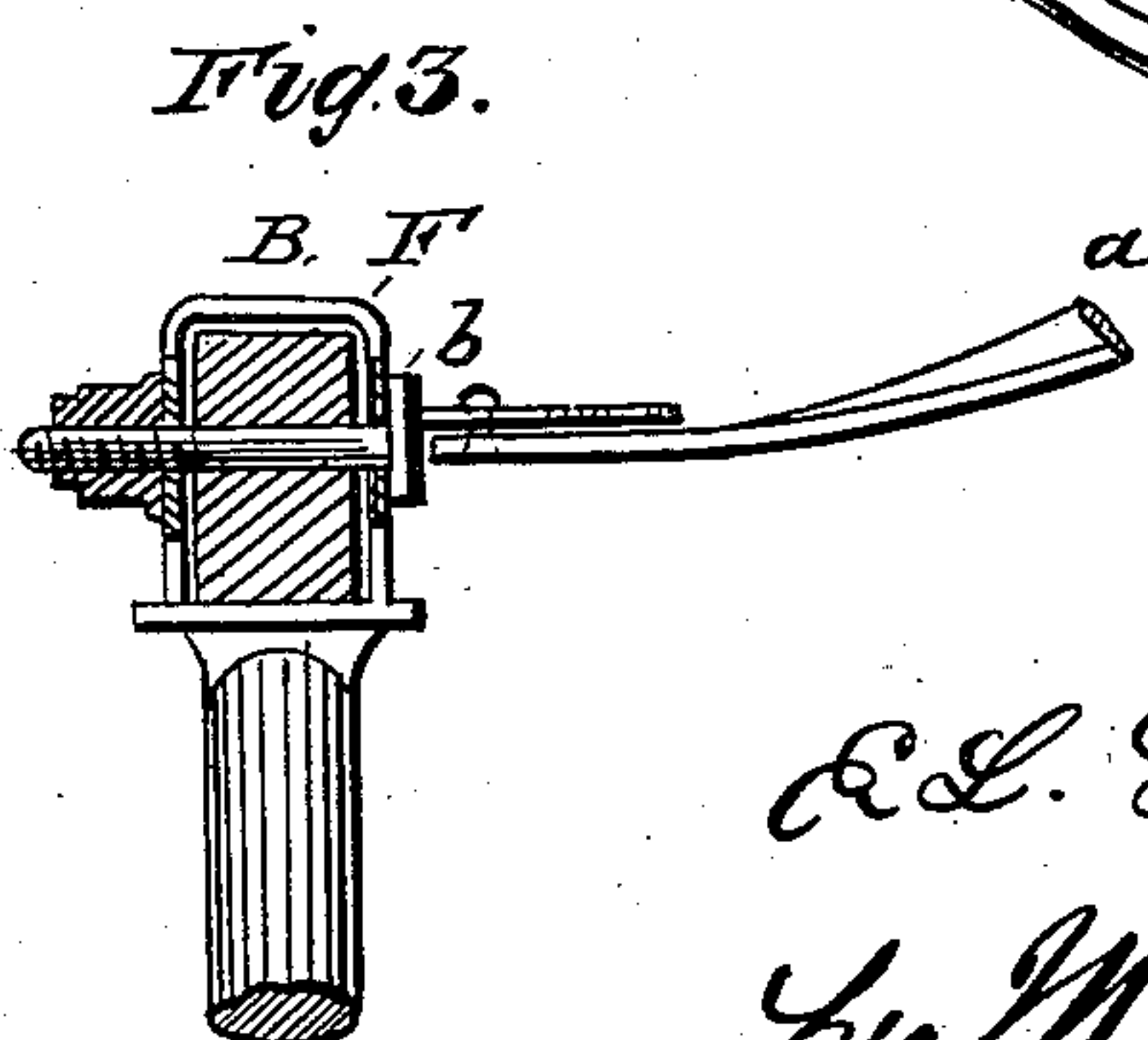
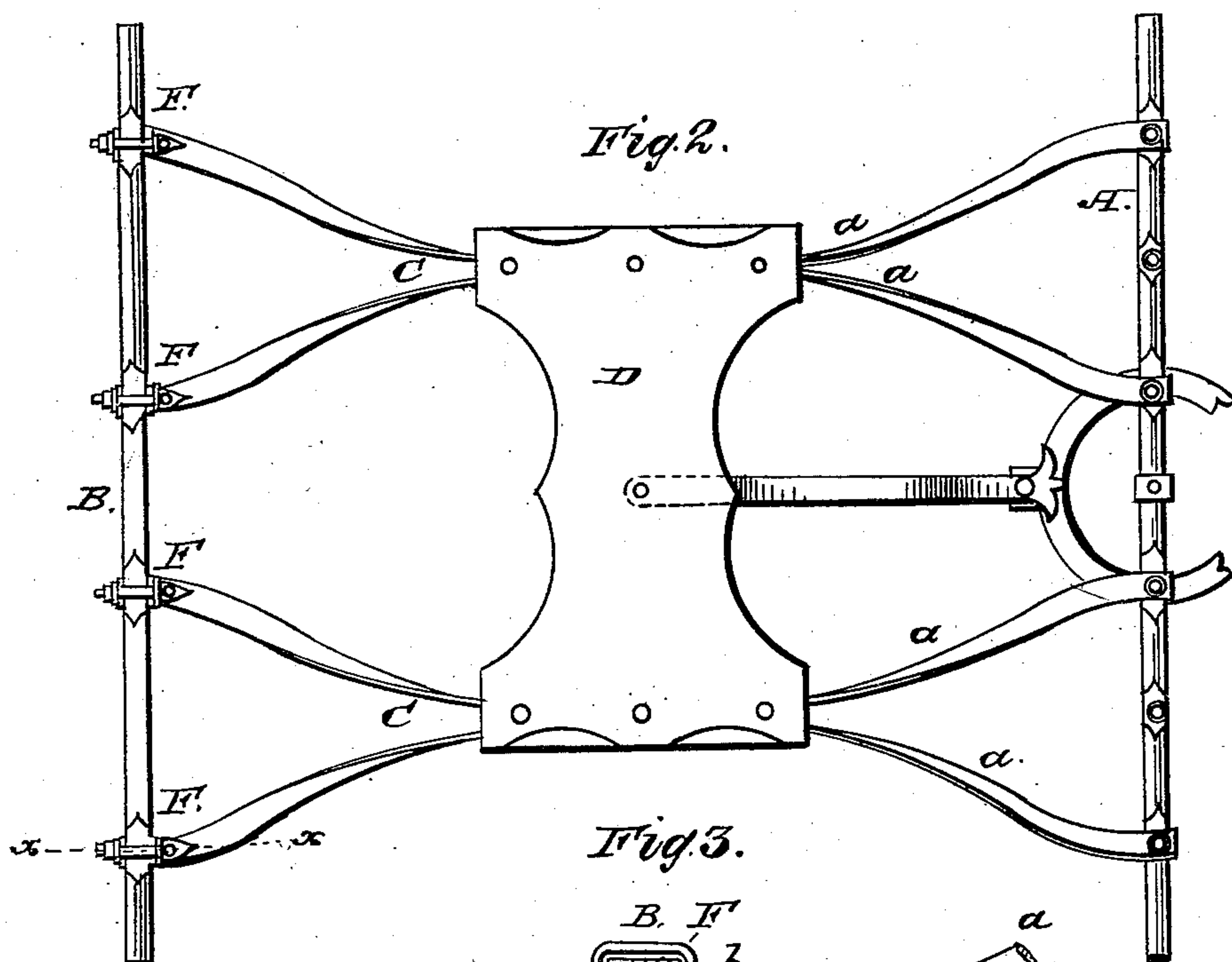
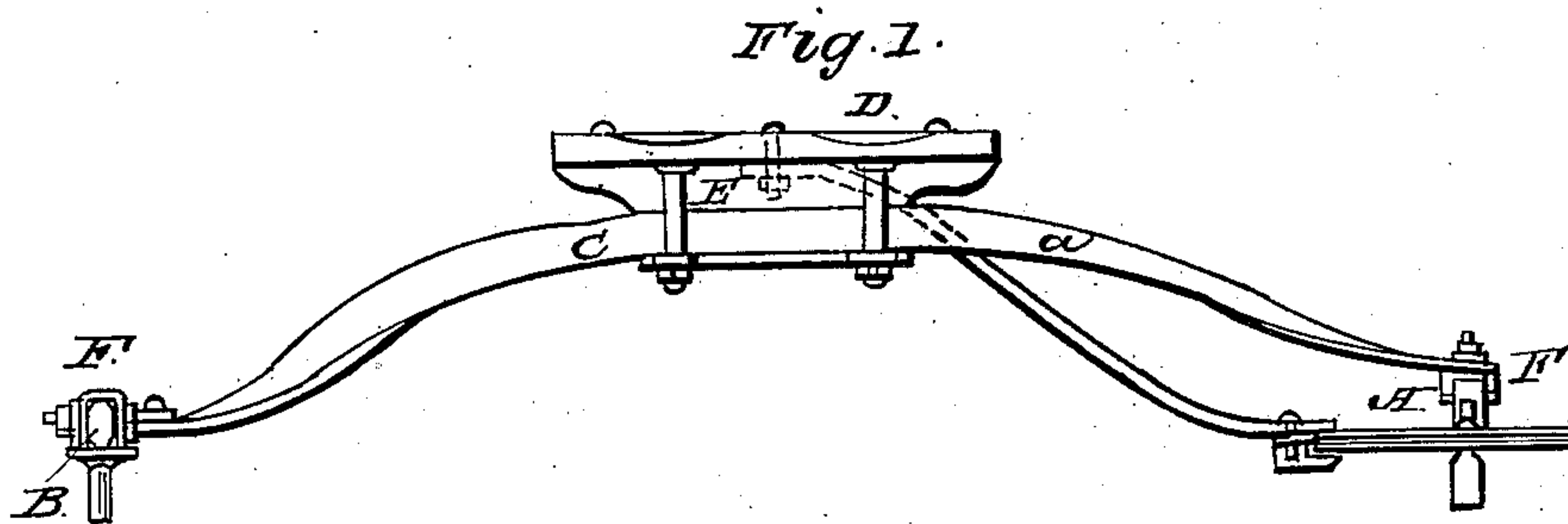


E. L. GAYLORD.

Carriage Spring.

No. 82,510.

Patented Sept. 29, 1868.



Witnesses  
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G. C. Cotton

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# UNITED STATES PATENT OFFICE.

E. L. GAYLORD, OF TERRYVILLE, CONNECTICUT.

## IMPROVEMENT IN CARRIAGE-SPRINGS.

Specification forming part of Letters Patent No. 82,510, dated September 29, 1868.

*To all whom it may concern:*

Be it known that I, E. L. GAYLORD, of Terryville, in the county of Litchfield and State of Connecticut, have invented a new and useful Improvement in Springs for Wheel-Vehicles; 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 make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of my invention. Fig. 2 is a plan or top view of the same. Fig. 3 is an enlarged section of a portion of the same, taken in the line *x x*, Fig. 2.

Similar letters of reference indicate like parts.

This invention relates to a new and useful improvement in springs for wheel-vehicles, and is designed to supersede what are generally known as "side springs," which are applied to light pleasure-vehicles.

The object of the invention is to obtain springs of the above kind which may be constructed and applied very economically, will be strong and durable, and possess a requisite degree of elasticity to insure ease and comfort in riding.

In the accompanying sheet of drawings, A represents the front bolster, and B the back axle, of a pleasure wheel-vehicle. C C represent two pairs of springs, each of which is composed of two steel bars, *a a*, which are of flat form, and twisted so that at their ends, where they are attached to the bolster and axle, a flat side will be uppermost, and the flat sides have a vertical position at the centers of the springs. These bars *a a* are curved longitudinally, or in the direction of their length, so that their central portions will be the highest, (see Fig. 1,) and the central high portions are parallel with each other, and the seat or body D secured to the parallel portions by clamps E.

The bars *a a* of each spring diverge from each other from the body or seat to their ends, as shown clearly in Fig. 2, and the ends of the bars *a* are secured to the bolster and axle by clips F, which I prefer to have constructed in

such a manner as to form a swivel, as shown clearly in Fig. 3, the part *b*, to which the spring-bars *a* are attached, being allowed to turn.

By constructing the springs in this manner several important results are attained:

First, in springing they do not lengthen or spread longitudinally, but contract laterally, the two bars *a a* of each spring approaching each other. This admits of a reach or perch being dispensed with, as the front and rear axles will not spread apart under the depression of the springs.

Second, the springs have great strength and elasticity, as they move or operate with a combined vertical and twisting movement.

Third, they may be economically constructed and applied, and, if made of good steel brought to a proper spring-temper, will last indefinitely.

Fourth, by having each spring composed of two bars diverging from each other from their centers toward their ends, side swinging or lateral movement of the body is prevented, as the bars *a* serve as lateral braces as well as springs.

Fifth, in consequence of having each spring composed of two bars, in the event of the breaking of one of the bars of a spring, the other bar will temporarily sustain the body, so that it will not be let down.

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

1. A spring for wheel-vehicles composed of two bars, bent so as to diverge from each other from their central parts outward toward each end, and at the same time have a longitudinal, curved, and twisted or torsional form, substantially as shown and described.

2. The attaching of the ends of the springs to the bolster and axle of the vehicle by means of the swivel-clips F, constructed substantially as shown and described.

E. L. GAYLORD.

Witnesses:

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