

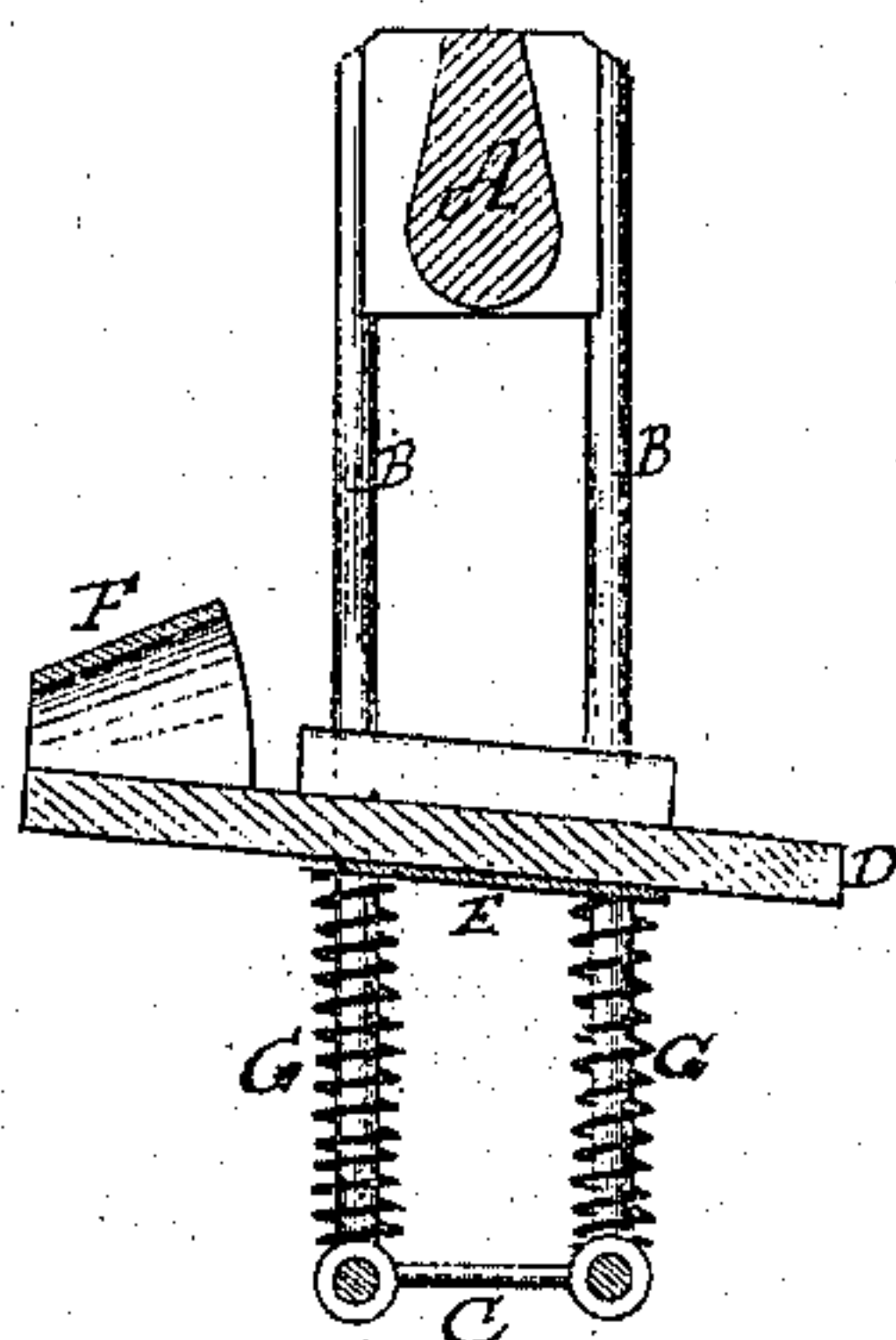
*J. A. Dummagan,*

*Stirrup.*

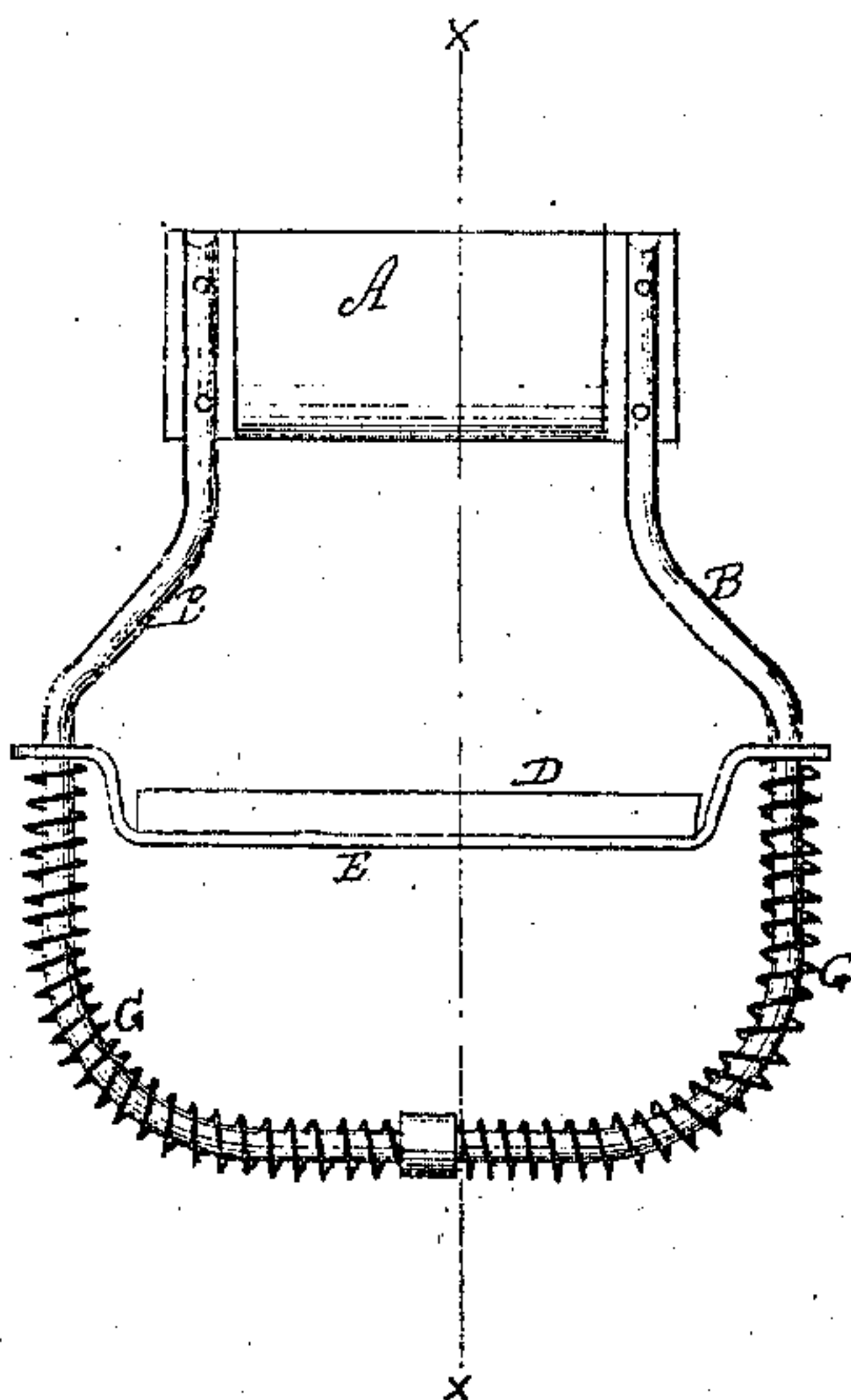
*No. 103031.*

*Patented May 17, 1870.*

*Fig. 2.*



*Fig. 1.*



**Witnesses:**

*Chas. Vida*  
*S. S. Mabee*

**Inventor:**

*J. A. Dummagan*  
**PER** *[Signature]*  
**Attorneys.**



# United States Patent Office.

JOSEPH A. DUNNAGAN, OF MEXICO, MISSOURI.

*Letters Patent No. 103,031, dated May 17, 1870.*

## IMPROVED SADDLE-STIRRUP.

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

### *To all whom it may concern:*

Be it known that I, JOSEPH A. DUNNAGAN, of Mexico, in the county of Audrain and State of Missouri, have invented a new and useful Improvement in Saddle-Stirrups; 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 drawing forming part of this specification.

This invention relates to a new and useful improvement in stirrups for riding-saddles, whereby ease, convenience, and durability are combined; and

It consists in the application of spiral springs (two or more) to the stirrup, by which the foot-piece or tread of the stirrup is made elastic, as will be hereinafter more fully described.

In the accompanying drawing—

Figure 1 is a front view of the stirrup.

Figure 2 is a vertical section of fig. 1, on the line *xx*.

Similar letters of reference indicate corresponding parts.

A is the top piece of the stirrup, around which the stirrup-strap is looped, and which may be made of either wood or metal.

B B represent metallic bows, which are attached to each side of A, as seen in fig. 2, extending downward in the form seen in fig. 1, and are connected together by a rod, C, at the middle of the bottom.

D is the foot-piece or tread of the stirrup.

E is a broad plate, either one or two, with its ends

perforated, to receive the bows B, so that it will work freely up and down.

To prevent binding the holes may be elongated in the form of slots, if desired. This plate is bent down, to receive and keep in place the foot-piece D, which latter may be of any size and form, with a toe, F, or not, as may be desired.

G G represent springs.

A single spring may be employed for each bow, made fast at the center of the bow, as at H, extending up on the bows, to receive the ends of the plate E, as seen in the drawing.

By this arrangement, it will be seen that the foot-piece of the stirrup will give or be elastic to the foot, and that the rigidity of the common saddle-stirrup is avoided. Any amount of elasticity may be obtained.

The springs may be of steel, highly tempered, or brass, and they may be made in two pieces for each bow of the stirrup, so that, in case one should fail, another may be substituted therefor.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

The arrangement of the springs G G and foot-support D E, with respect to the bows, as and for the purpose described.

JOSEPH A. DUNNAGAN.

Witnesses:

C. A. KEETON,

J. C. BASSFORD.