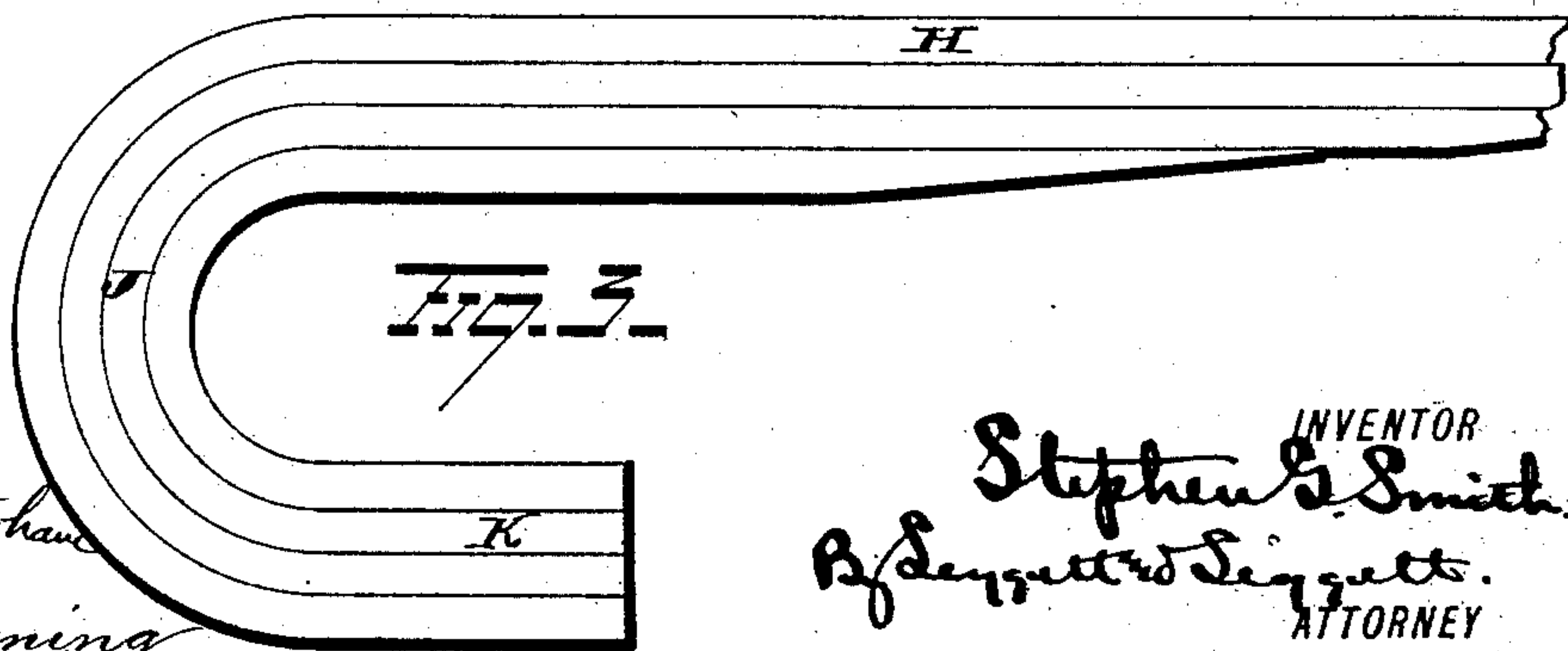
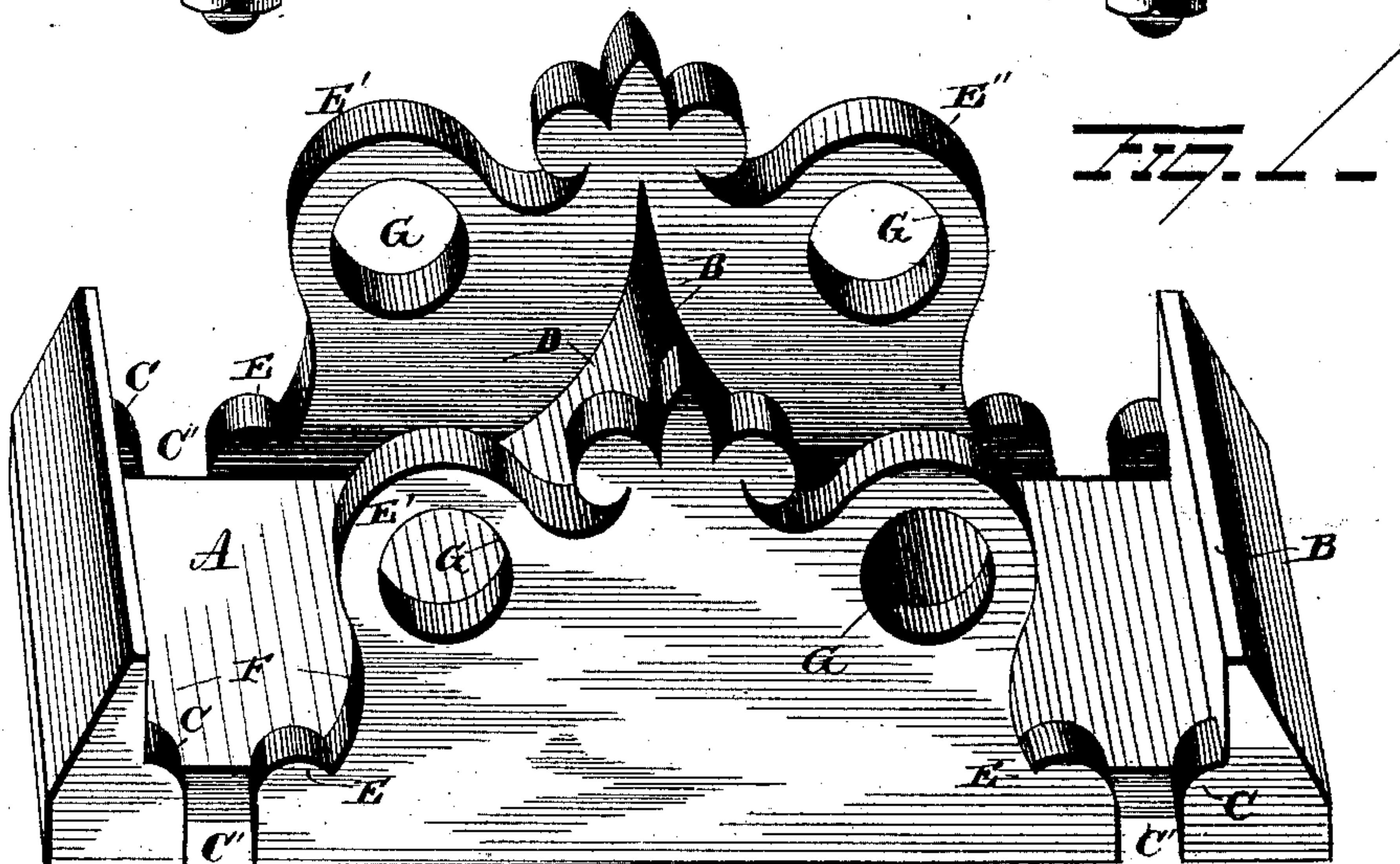
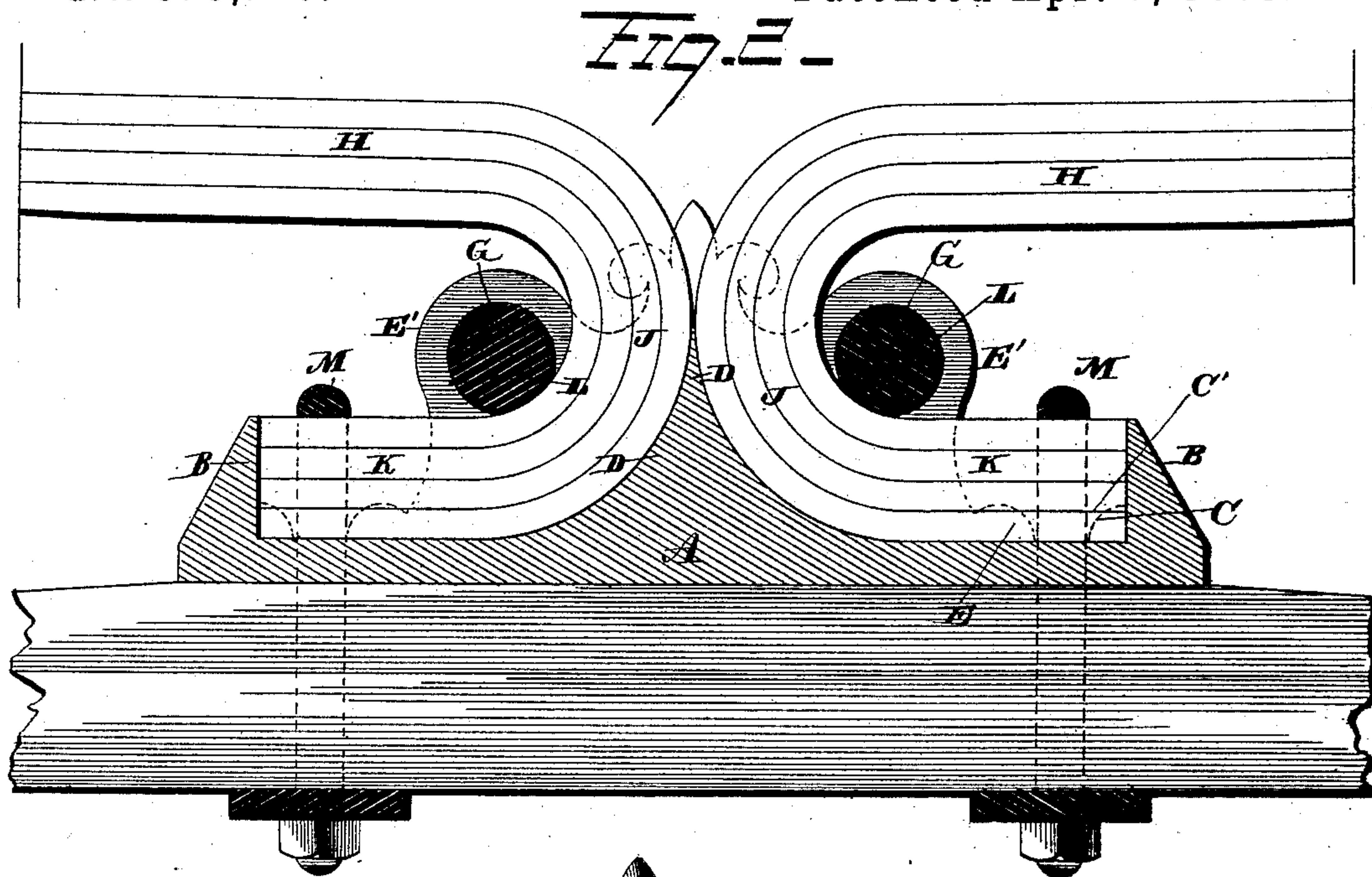


(No Model.)

S. G. SMITH.
VEHICLE SPRING.

No. 315,176.

Patented Apr. 7, 1885.



WITNESSES
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UNITED STATES PATENT OFFICE.

STEPHEN G. SMITH, OF HANNIBAL, MISSOURI.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 315,176, dated April 7, 1885.

Application filed December 27, 1884. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN G. SMITH, of Hannibal, in the county of Marion and State of Missouri, have invented certain new and useful Improvements in Springs for Vehicles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in springs for vehicles. Heretofore springs have been secured to axles and bottom of body by means of clips and other devices embracing the head-block and axle and cross-bar on bottom of body. This method of attachment has been found unsatisfactory, particularly in that class of springs where great leverage is brought to bear upon the clamped end, because the strain produced by the springs is brought directly upon the securing devices, and causes the same to become loose and liable to lateral displacement, and frequently the strain is sufficient to entirely destroy the locking devices, thus necessitating their replacement, which, besides involving considerable expense, naturally involves delay, both of which are very objectionable.

The object of my invention is to entirely overcome the defects hereinbefore mentioned, and to provide means whereby the springs shall be secured to the vehicle in such manner as will entirely relieve the securing devices from all possible strain, and by means of which lateral displacement of the springs will be impossible through the effects of ordinary wear upon the same. A further object is to provide means of the above character which shall be simple and economical in construction and durable and efficient in use; and with these ends in view my invention consists in the certain features of construction and combinations of parts, as will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of the lock-plate. Fig. 2 is a sectional view of the lock-plate with the springs secured in position, and Fig. 3 is a separate view of one of the springs.

A represents the lock-plate, the ends of which are provided with upward-extending lips or flanges B, having the side extensions. This

lock-plate is provided centrally on its upper face with the transverse rib D, the opposite faces of which are concaved preferably from the upper edge of the rib to the upper face of the lock-plate. The sides of the lock-plate are provided with the flanges E, located a sufficient distance from the extensions C to leave the recesses C'. The flanges are preferably shaped as shown, although this is by no means necessary, as the cut-away portion F can be made solid, if desired. The upper ends of the flanges E are provided with the ears E', having bolt-holes G for the accommodation of suitable cross-bolts.

H represents the springs, which are especially adapted to be secured in a lock-plate of the construction described. The springs can be of any preferred size, and formed of a single leaf, or of as many more as may be desired. The springs are curved, as shown at J, to conform to the contour of the faces of the rib D, and are provided with the stub end K, adapted to be secured within the lock-plate A. The ends K of the springs fit snugly against the flanges B, and the sides thereof against the inner faces of the flanges E. The curved portions J of the springs are adapted to rest against the curved portion D of the lock-plate, whereby they receive an additional brace, which materially strengthens the same. Each spring is secured within the lock-plate by means of the bolts L, which register in the holes G, and to which they are secured in any suitable manner.

The lock-plate can be secured to the bottom of body, head-block, or axle by means of the clips M, which embrace the ends K of the springs and fit within the recesses C', thus preventing lateral displacement of the lock-plate, and affording an additional strengthening device between the spring and the lock-plate. This method of attachment is not essential, as the lock-plate can be secured in any other desired way.

It will be observed that by the above construction a single bolt only is required to secure the spring to the lock-plate, and that the strain is brought immediately upon the body of the bolt, and not upon the head or fastening portion thereof.

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

1. The combination, with a pair of springs having return-bends, of a lock-plate shaped to receive the inner ends of both springs and bolts for securing said ends to said plate.
- 5 2. The combination, with a lock-plate provided on one face with a transverse rib, the opposite faces of which latter are concaved, and with side flanges, of a pair of springs having return-bends at their inner ends, and
10 bolts passing through the flanges outside of the springs, for the purpose of locking the latter to the lock-plate, substantially as set forth.
3. The combination, with a lock-plate having flanged ends and sides, of springs bent as
15 described, and the bolts passing through the side flanges outside of the short ends of the springs, for the purpose of locking the springs to the box.
4. The combination, with a lock - plate,

springs having return - bends, and bolts for 20 locking the springs to the plate, of clips embracing the short ends of the springs and plate, for securing the plate to vehicle body or axle, substantially as set forth.

5. A lock-plate for binding a pair of springs 25 together, consisting of a casting provided with flanged ends and sides, one of its faces being provided with a pair of symmetrical curves, and its side flanges provided with perforations for receiving lock - bolts, substantially as set 30 forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

STEPHEN G. SMITH.

Witnesses:

J. N. BASKETT,
S. B. MILLS.