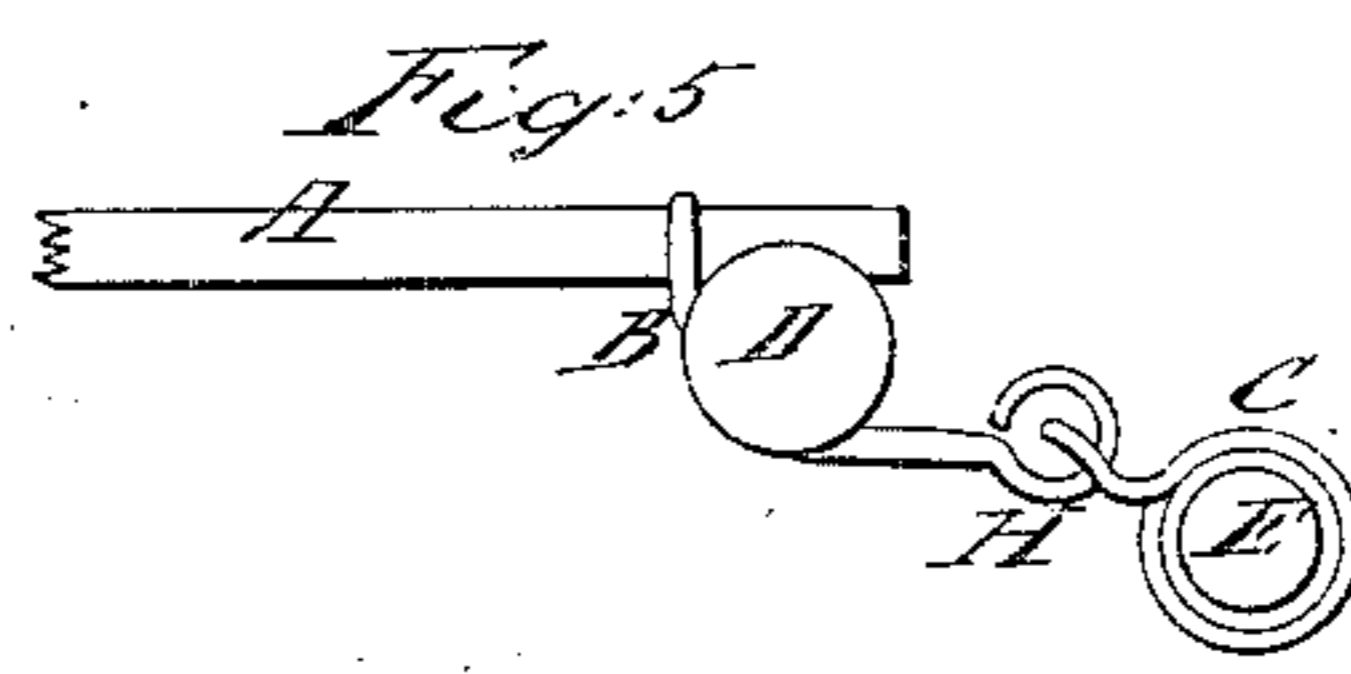
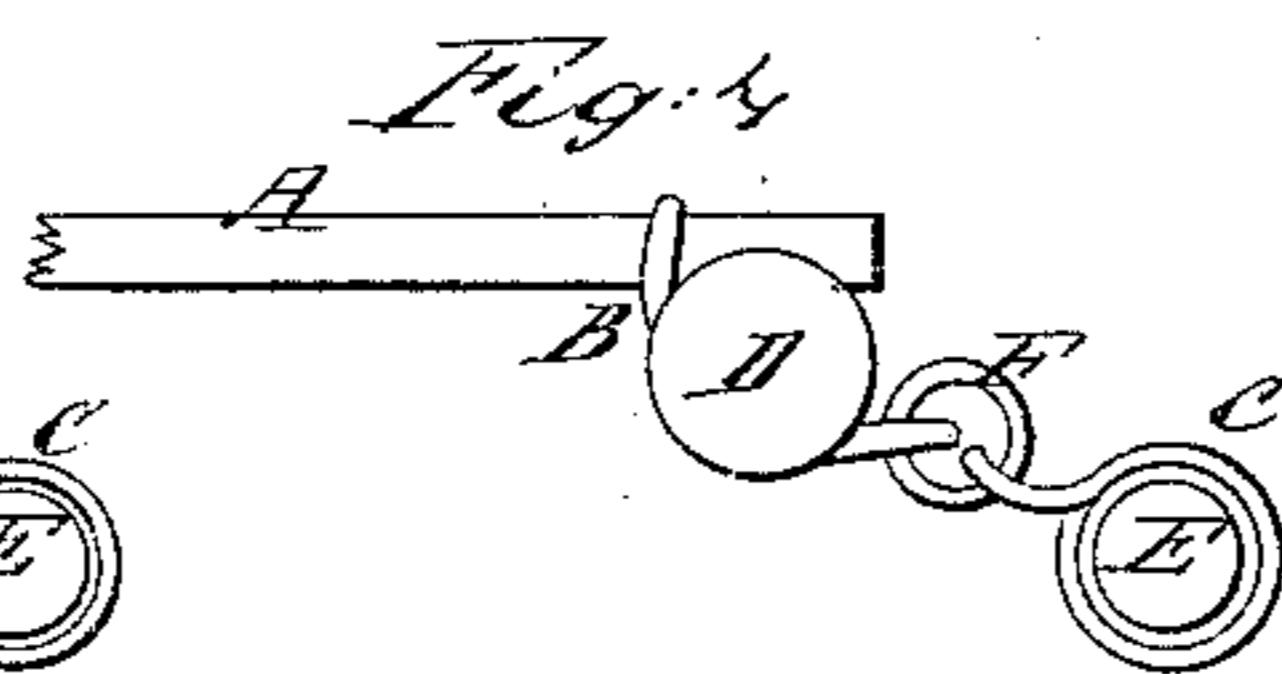
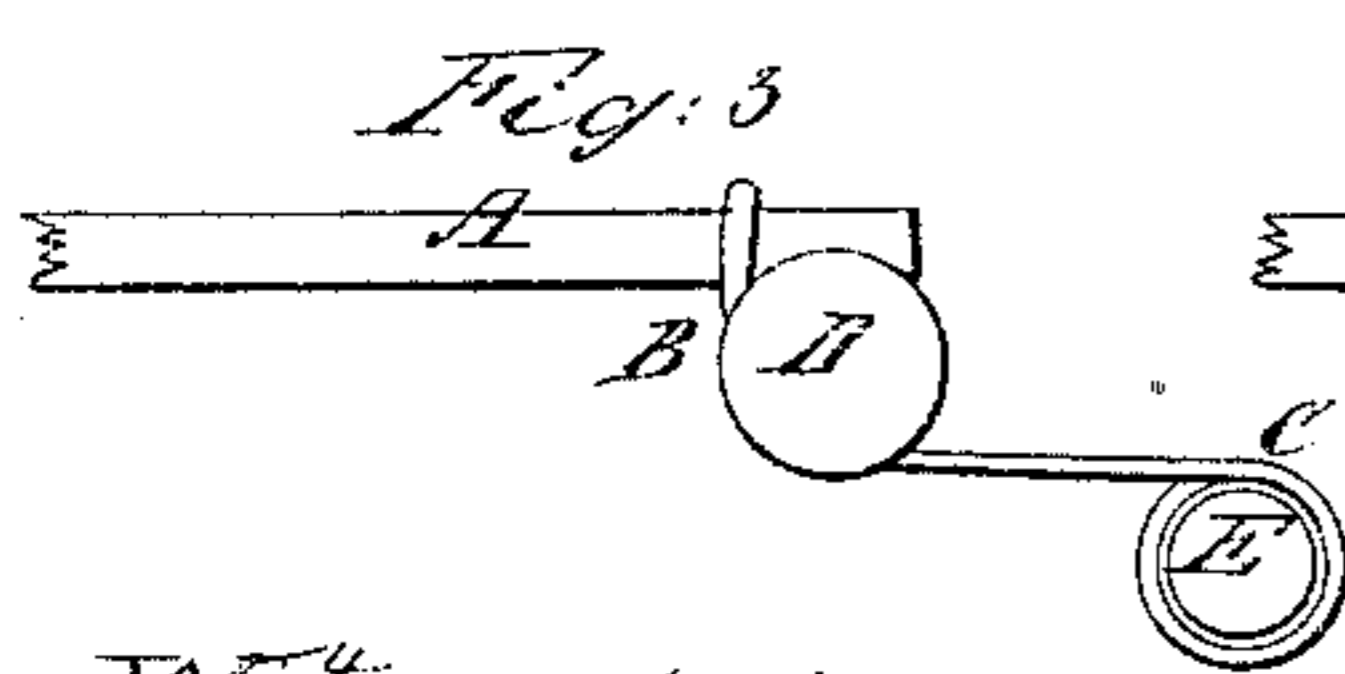
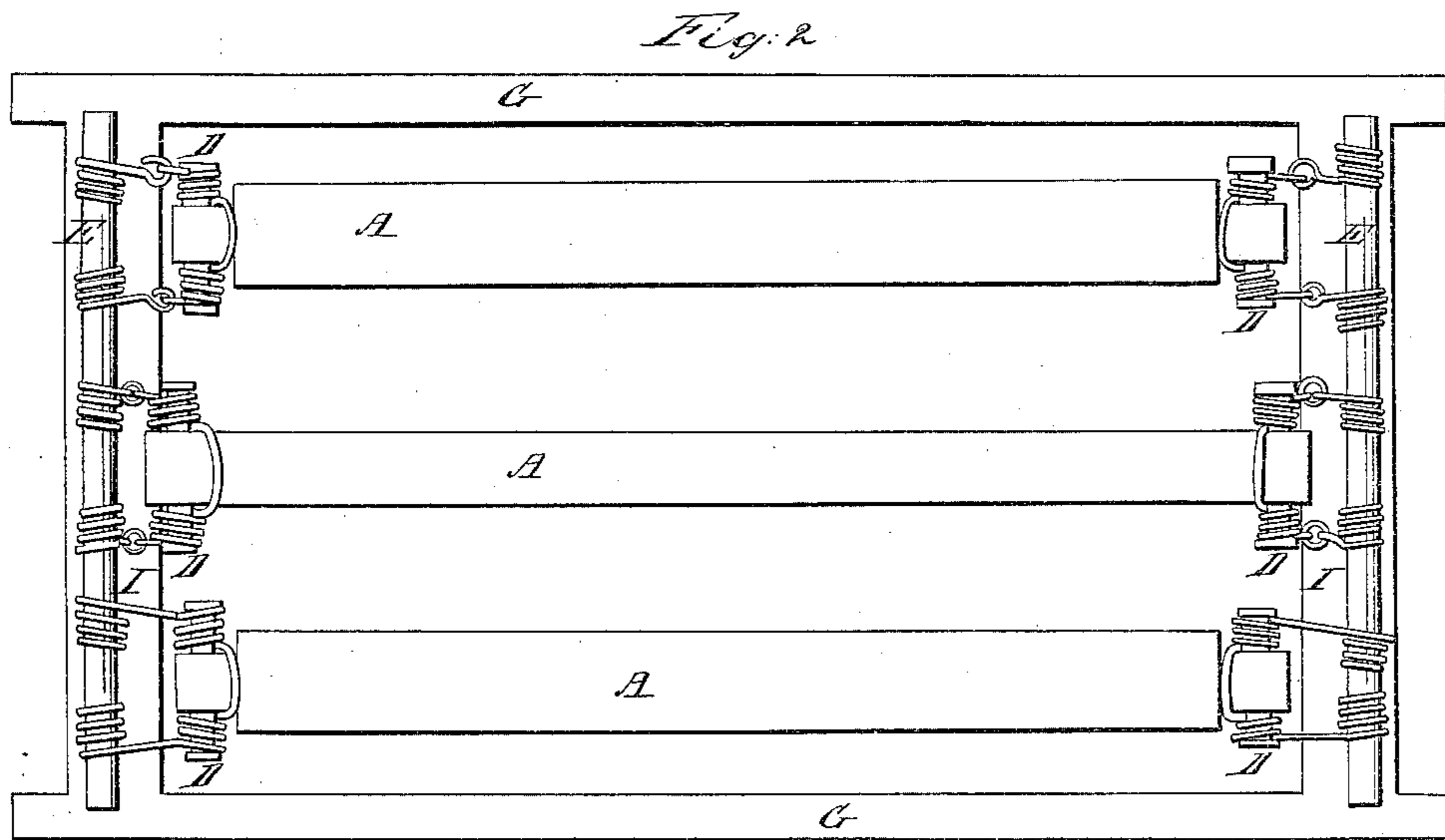
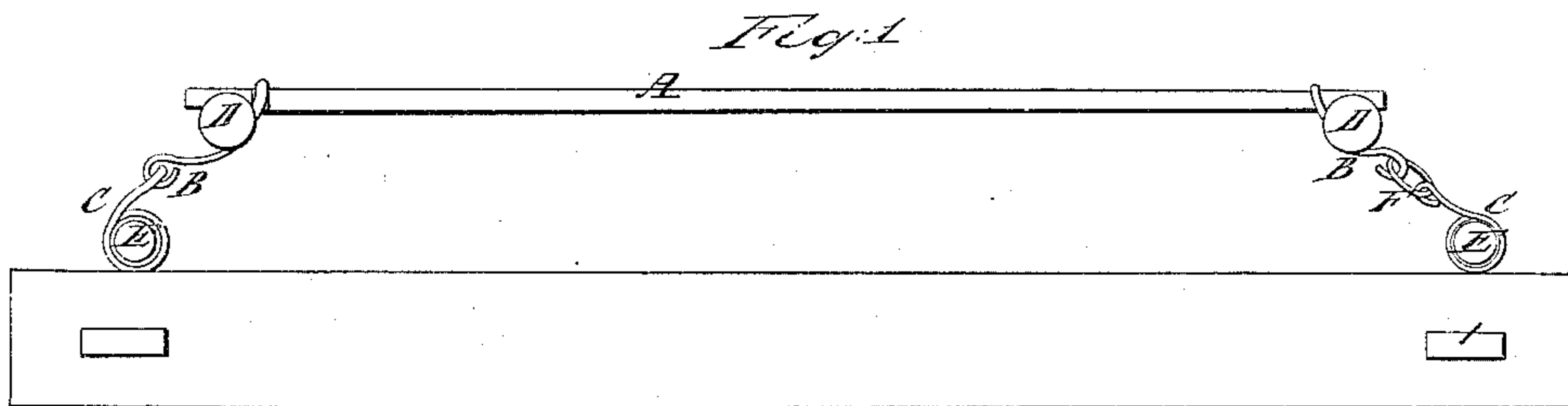


*J. Barnes,
Bed Bottom,*

N^o 56,484.

Patented July 17, 1866.



Witnesses.

*Owen G. Warren
John H. Barnes*

Inventor

Joshua Barnes

UNITED STATES PATENT OFFICE.

JOSHUA BARNES, OF NEW YORK, N. Y., ASSIGNOR TO ISAAC A. SINGER,
OF SAME PLACE.

IMPROVEMENT IN SPRING BED-BOTTOMS.

Specification forming part of Letters Patent No. 56,484, dated July 17, 1866.

To all whom it may concern:

Be it known that I, JOSHUA BARNES, of the city, county, and State of New York, have invented a new and useful Improvement in Bed-Bottom Springs; and I hereby declare the following to be a true and exact description thereof.

To enable others to make and use my invention, I proceed to describe its construction and operation, reference being had to the drawings hereunto annexed, and making part of this specification.

Figure 1 is a side elevation of the bed-bottom, and showing the spring at each end; Fig. 2, plan showing three slats sustained by the springs. Fig. 3 shows a plain spring with four coils in one piece, represented in side view, or one-half of the entire spring. Fig. 4 shows a single coil upon the slat linked to a single coil on the bar E. Fig. 5 shows the same, except that the two parts are hooked or hinged together.

My purpose in this construction of spring is to obtain the required oscillation of the slats with greatest economy and least lateral motion.

A single wire is bent double with a broad bend to receive the slat, then within an inch or two of the middle a coil is made each side the bend, then on each leg of the wire another coil is made. Through the first-turned coils a bolt, D, is put, and through the other runs the rod E. Upon the top bolt, D, and under the broad bend of the wire, is put the end of the slat, so that pressure on the slat bends all the wire in a manner to have its best spring-power, and with no liability to break or twist it.

I vary this mode for still greater elasticity by making the spring in three pieces, constituting two parts. One part is the same as the first-turned coils above described, B, Fig.

5. The lower part is made the same as that of the first described; but it is separate, and hooked or hinged to it. In practice it is cutting the first-described spring, Fig. 3, in two—the upper part, B, from the lower part, C—and then hooking the parts together. This, it is found, has greater elasticity. I also vary this mode by interposing a link or ring; but it is in practice the same thing, only this construction is a little more complicated. I also cut the wire in two at the middle and fasten to the slat by boring in the side. I also use the single side of the springs—that is, one-half—cutting it in two at the part which goes over the slat. The two sides of the adversely-coiled spring will then do for two slats.

The coils may turn adversely to each other or both turn in the same direction; but it is better that those at the base should turn adversely to those at the top, and both so turn as to coil the wire rather than uncoil it when in use.

Additional intermediate coils may be added between the base coils and the top coils, which would give a still greater elasticity.

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

1. In combination with a bed-slat, a wire spring having two parallel coils at the base and two parallel coils at the top, the coils at the base C turning adversely to those at the top B, substantially as above described.

2. In combination with the two adverse springs, the hook or hinge, substantially as above described, and for the purposes set forth.

3. The combination of the cross-bar I, rod E, pin D and slat A, with the wire springs, as above described.

JOSHUA BARNES.

Witnesses:

E. R. HALLOM,

WILLIAM H. MITCHELL.