(No Model.)

J. J. BRINKERHOFF.

SPRING.

No. 379,502. Patented Mar. 13, 1888.

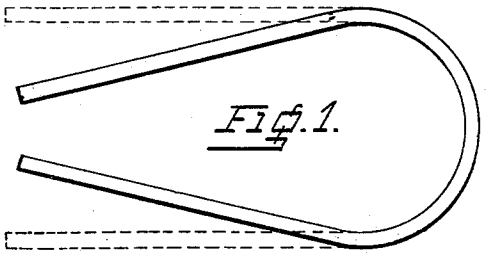


Fig. 1.

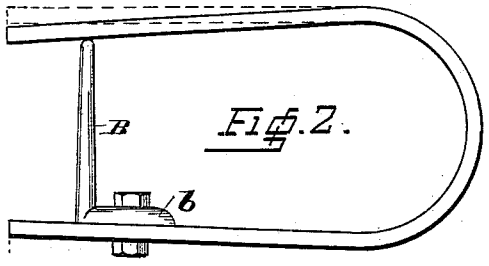


Fig. 2.

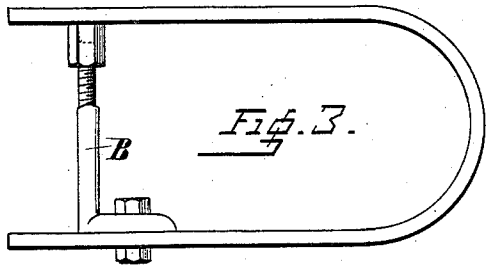


Fig. 3.

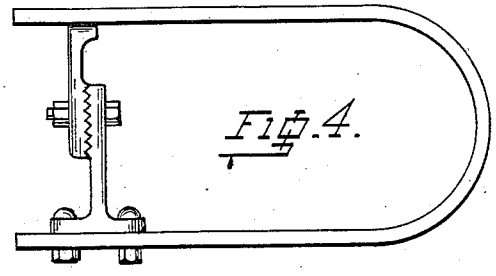


Fig. 4.

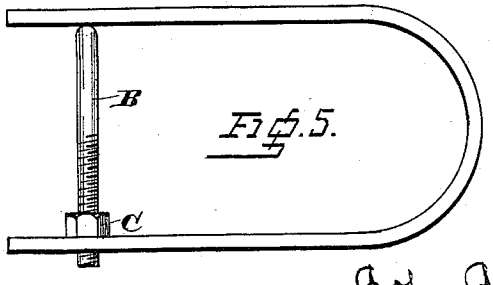


Fig. 5.

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UNITED STATES PATENT OFFICE.

JOHN J. BRINKERHOFF, OF AUBURN, NEW YORK, ASSIGNOR TO JACOB BRINKERHOFF, OF SAME PLACE.

SPRING.

SPECIFICATION forming part of Letters Patent No. 379,502, dated March 13, 1888.

Application filed August 24, 1886. Serial No. 211,759. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. BRINKERHOFF, a citizen of the United States, residing at Auburn, in the county of Cayuga and State of New York, have invented new and useful Improvements in Springs, of which the following is a specification.

My invention relates to the manufacture of compression-springs for use in the various arts and in the various machines and apparatus in which such devices may be employed.

In the accompanying drawings I have shown the form of my invention employed in the manufacture of C-shaped springs, and have described the same in this specification, and have particularly pointed out my invention in the claims.

In the manufacture of springs of the character shown in the drawings, in order to secure the proper degree of compressive force the springs are first formed with their free ends in quite close proximity to each other, and are then tempered. In order to place the parts to be acted upon by such springs in proper operative position, the ends of such springs must be forced away from each other and the parts then brought together. This is an operation requiring much time in putting the parts of the machine together, and in some of the connections in which such springs may be used a great deal of time is required to accomplish the proper assemblage of the devices together. It is also frequently necessary to change the parts acted upon by the springs, such as the substitution of one device for another or to replace a well-worn device by a new one. To do this also requires much time and care. By my invention the springs are so constructed as to facilitate these several operations.

In the accompanying drawings, Figure 1 shows a spring in the form in which it is tempered, the degree to which it is to be expanded to be connected, as well as the parts to be acted upon, being shown in dotted lines. Fig. 2 shows a spring provided with one form of step or separating device employed by me. Figs. 3, 4, and 5 show modified forms of this construction.

In carrying out my invention in connection with the form of spring shown I form a stop or separating device of such length that when inserted between the free ends of the spring will retain them nearly the distance apart which they will be when in use, and after the springs have been tempered such stop or separating device is inserted between the arms of the spring and secured in position. The spring is ready to be placed in the machine for which it is designed, or put on the market and sold to the manufacturers of the various kinds of machines or apparatus in which they are to be employed.

In Fig. 2 I have shown the simplest form of my stop or separating device. It consists in this case of a standard, B, of the required length, having a base, *b*, provided with an opening therethrough for an attaching bolt or rivet.

In Fig. 3 I have shown the standard B provided with a screw-thread at its upper end and a nut thereon for securing slight differences of adjustment. These differences of adjustment can be secured in many different ways, one of which is shown in Fig. 4, in which the standard is formed in two parts connected by a short bolt. The adjacent faces of the parts may be serrated in order to secure them more immovably together.

In Fig. 5 I have shown the standard as being provided with a screw-thread at its lower end and fitted to a screw-threaded aperture in the lower arm of the spring, with a cramp-nut, C, mounted above the spring.

The operation of my invention will be apparent from the foregoing description.

It will be understood that the free ends of the springs may be fashioned in any manner which will adapt them to the purposes desired.

What I claim as my invention is—

1. The improved bow-spring herein described and shown, the limbs of which apply pressure to articles between them, the said spring being provided with a post or standard erected on one of the limbs and extending to and against the other, substantially as described.

2. The improved bow-spring herein described and shown, the limbs of which apply pressure to articles between them, the said spring being provided with an extensible post or standard erected on one of the limbs and extending to and against the other, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN J. BRINKERHOFF.

Witnesses:
J. BRINKERHOFF,
W. H. SEWARD.