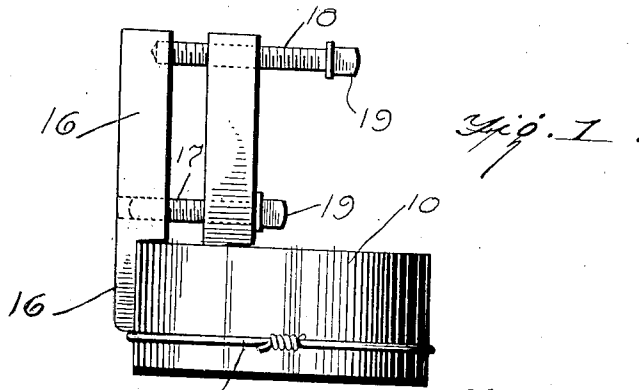
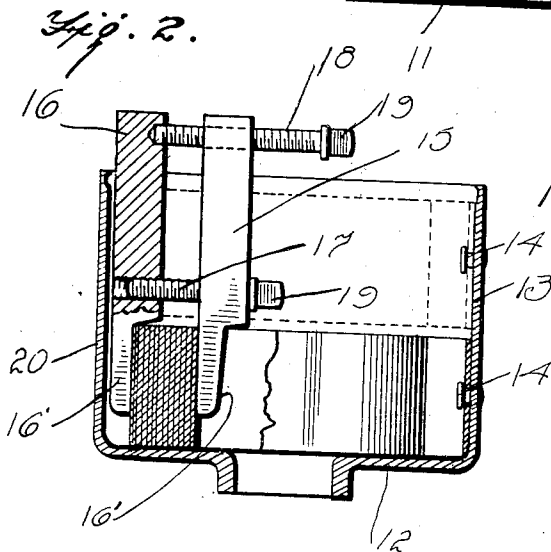
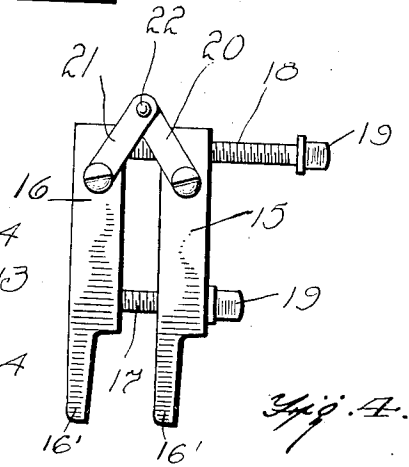
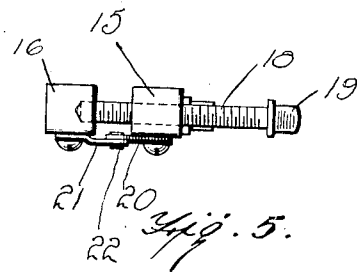
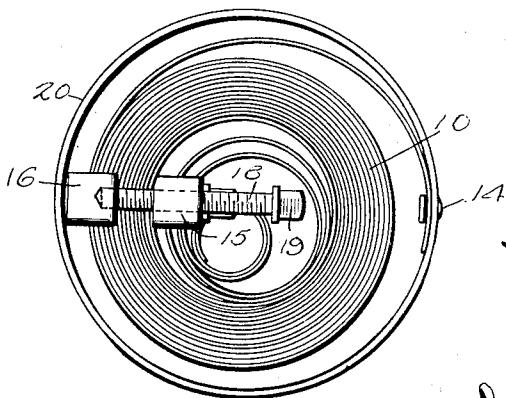


H. RINN, JR.
CLAMP FOR PLACING SPRINGS IN SPRING CASINGS.
APPLICATION FILED NOV. 17, 1919.

1,358,878.

Patented Nov. 16, 1920.



By

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CLAMP FOR PLACING SPRINGS IN SPRING-CASINGS.

1,358,878.

Specification of Letters Patent.

Patented Nov. 16, 1920.

Application filed November 17, 1919. Serial No. 338,551.

To all whom it may concern:

Be it known that I, HENRY RINN, Jr., a citizen of the United States, residing at Elkridge, in the county of Howard and State of Maryland, have invented certain new and useful Improvements in Clamps for Placing Springs in Spring-Casings, of which the following is a specification.

This invention relates to improvements in clamps for placing springs in spring casings.

An important object of the invention is to provide a clamping means by which a spring may be placed in a deep casing. As is well known by those familiar with the art, clock-work springs are shipped from the factory surrounded by a binding wire which prevents the springs from assuming the open position. If this wire is removed before the spring is placed within the casing, the spring assumes the open position and is extremely difficult to place within the casing and secure therein.

In my co-pending application Serial No. 318,971, filed August 21, 1919, I have shown a clamp which is adapted to hold the spring to allow removal of the binding wire and to hold the spring in the closed or coiled position until the spring is placed within the spring casing. This clamp, however, is not adapted for use in casings of great depth, as for example, a casing wherein two or more springs are superposed. This application accordingly embodies improvements upon the clamp shown in my co-pending application above mentioned.

Other objects and advantages will be apparent throughout the course of the following description.

In the accompanying drawings wherein for the purpose of illustration is shown a preferred embodiment of my invention and wherein like numerals designate like parts throughout,

Figure 1 is a side elevation of a clock-work spring showing my clamp in position thereof.

Fig. 2 is a section taken through the spring casing showing my clamp in use for inserting the spring therein.

Fig. 3 is a plan view of the spring casing and spring with the clamp in position.

Fig. 4 is a side elevation of a modified form of clamp, and

Fig. 5 is a top plan view of the clamp shown in Fig. 4.

Referring now more particularly to the drawings, the numeral 10 indicates a clock-work spring held in a coiled position by means of a binding wire 11. This spring is adapted for placement in a casing 12 having upstanding walls 13 of sufficient height to receive two of the springs. The walls 13 are provided with outstanding lugs 14 which engage in the usual notch formed in the spring to hold the outer end thereof against rotation.

A clamp is provided comprising members 15 and 16, similar in shape, each of the members being provided at its lower end with a thin jaw 16' of uniform thickness throughout its length. Adjusting screw 17 is provided extending through the member 15 and having threaded engagement in the member 16. A clamping screw 18 is also provided having threaded engagement in the member 15, and seating in a recess formed in the member 16. It will be observed that the operating ends are both disposed to one side of the clamp. These operating ends are provided with the usual squared shoulder adapted to receive a link or the like for operating screws.

It will be observed that the face 20 of the member 16 closely engages the inner face of the casing and is shaped to correspond thereto and that the operating screws are so disposed as to prevent an engagement with the casing thus preventing difficulty in operating the clamp after placing the spring within the case.

Those familiar with the art are aware that several of the inner turns of a clock-work spring separate when the main body of the spring is held by the binding wire as suggested by Fig. 3. The jaws 16' being thin, allow their ready insertion intermediate the turns where separate and being of the same size throughout their length prevents the clamp from being moved upwardly, as would be the case were a tapered jaw inserted intermediate the turns.

In the modified form shown in Figs. 4 and 5, a link 20 is pivotally connected with the member 15 and a link 21 with the member 16, these links being pivotally connected to one another as at 22. This link connection between the two members prevents the jaws of the clamp from moving out of alignment when one or both of the screws become completely disengaged and also prevents the parts from becoming separated. The

advantages of this form will be apparent to those familiar with the art.

It is to be understood that the forms of my invention herein shown and described are to be taken as preferred examples of the same, and that various changes in the shape, size and arrangement of the parts shown may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

What I claim is:

1. In a clamp for inserting springs in spring casings, a pair of clamping members, each provided upon one end with a clamping jaw of approximately uniform thickness throughout its length, a clamping screw and an adjusting screw connecting said members, the operating ends of said screws being disposed to one side of said member, said clamping screw having threaded engagement with one of said members and having its inner end abutting the other of said members, said adjusting screw being rotatably mounted in but free from threaded engagement with said first named member and having threaded engagement with said last named member.

2. In a clamp for inserting springs in spring casings, a pair of clamping members, each provided upon one end with a clamping jaw of approximately uniform thickness throughout its length, a clamping screw and an adjusting screw connecting said members, the operating ends of said screws being disposed to one side of said members, and means for holding said jaws in alinement

when one or both of said screws is out of engagement with one of said members.

3. In a clamp for inserting springs in spring casings, a pair of clamping members, each provided upon one end with a clamping jaw of approximately uniform thickness throughout its length, a clamping screw and an adjusting screw connecting said members, the operating ends of said screws being disposed to one side of said members, and means for holding said jaws in alinement when one or both of said screws is out of engagement with one of said members, comprising a pair of pivotally connected links, one of said links being pivoted to one of said members and the other of said links being pivoted to the other of said members.

4. In a clamp for inserting springs in spring casings, a pair of similar clamping members each provided upon one end with a reduced portion forming a clamping jaw of approximately uniform thickness throughout its length, a clamping screw and an adjusting screw connecting said members, the operating ends of said screws being disposed to one side of said members, the member remote from said operating ends having a smooth, substantially straight, outer face.

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

HENRY RINN, JR.

Witnesses:

JOHN H. LOESCH,
R. E. KARCH.