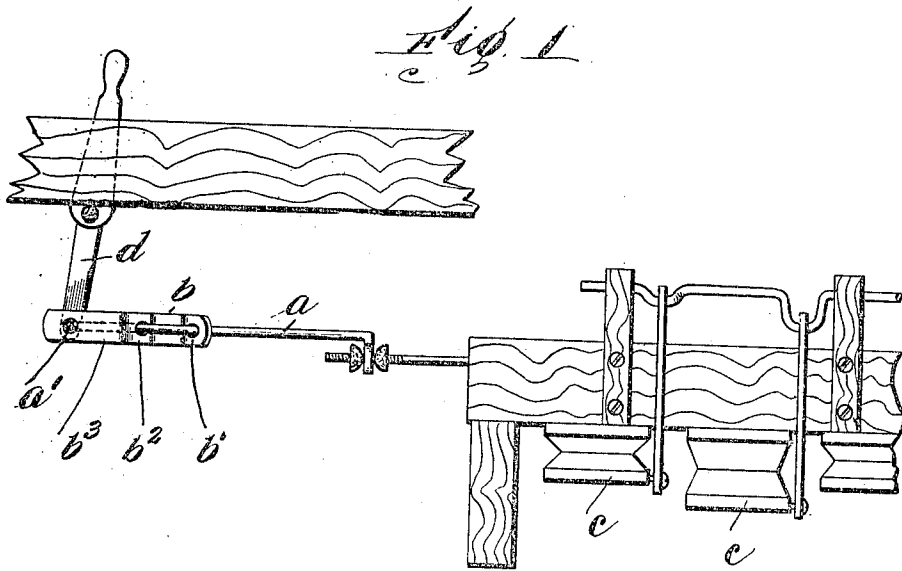
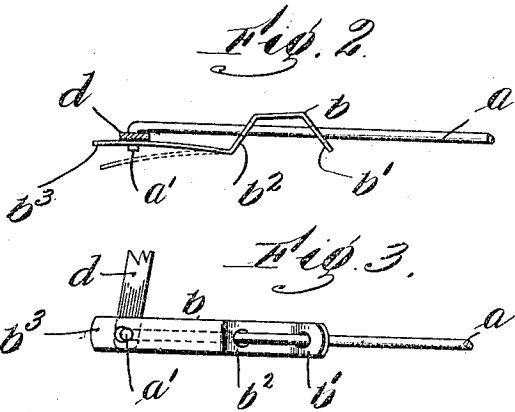
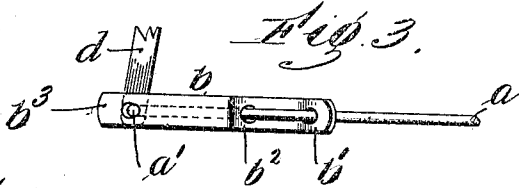
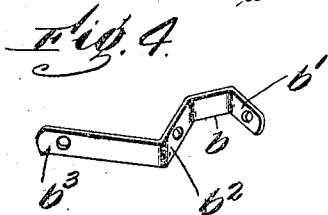
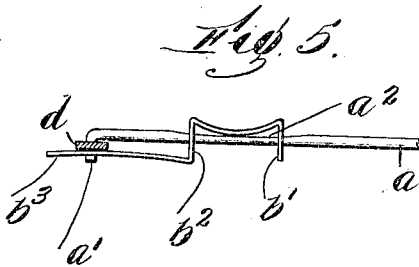


No. 852,422.

PATENTED MAY 7, 1907.

T. DANQUARD.
SPRING CATCH.
APPLICATION FILED JULY 2, 1906.



Witnesses:
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UNITED STATES PATENT OFFICE.

THOMAS DANQUARD, OF NEW YORK, N. Y., ASSIGNOR TO THE AUTOPIANO CO., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

SPRING-CATCH.

No. 852,422.

Specification of Letters Patent.

Patented May 7, 1907.

Application filed July 2, 1906. Serial No. 324,407.

To all whom it may concern:

Be it known that I, THOMAS DANQUARD, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a new and useful Spring-Catch, of which the following is a specification.

My invention relates to an improvement in spring catches such as are used on organ and piano players for making the connection between the tempo lever and motor, and in other places.

The principal objects of the invention are to so construct the catch that it can be made of steel of clock-spring temper so that it will not have to be stamped, bent and finally hardened, as is the case with most of those which are in present use and also to so construct the catch that it will be simpler than is the case at present and easier to manufacture; furthermore to provide a construction which will render connection of the parts of the catch a very simple and easy matter and to provide means for holding the parts together in such a way that they will not easily be disconnected by accident.

Further objects and advantages of the invention will appear below.

Reference is to be had to the accompanying drawing in which,

Figure 1 is an elevation of a portion of an automatic piano showing one application of my improved spring catch, Fig. 2 is a plan of the spring catch. Fig. 3 is a side elevation of the same. Fig. 4 is a perspective view of the catch removed from the wire, and Fig. 5 is a plan of a modified form of wire which comes within the scope of my invention.

The catch in its ordinary form is intended to be applied to a wire *a* which has a hook or bent end *a'*. The wire may be round, as shown in Fig. 2, or flattened at the point *a'*, as shown in Fig. 5. The flattening is provided for the purpose of keeping the spring from turning on the wire.

The spring *b* itself, which is most clearly shown in Fig. 4, consists of a strip of steel, preferably of clock-spring temper. This strip has two portions *b'* and *b''* located at an angle to each other and they may be separated some distance apart. When the spring is made in this form, the two perforations in the portions *b'* and *b''* being each made per-

pendicular to the surface of the portion in which it is located, and normally somewhat out of alinement so that when the wire is passed through the two perforations, the portions *b'* and *b''* will be brought closer together than they are in normal condition. This provides a certain amount of tension by which the surfaces of the perforations will bear on the wire and hold the spring by friction in any position on the wire in which it may be placed. This is true whether the round or flat wire is used but in case of the flat wire, the turning of the spring on the wire is avoided. The spring is also provided with a projecting tongue *b''*. This tongue is formed at such an angle to the portion *b''* that when the spring is threaded on the wire, a perforation in the tongue can be placed on the hook portion *a'* of the wire and the resiliency of the spring forces the tongue against the body portion of the wire to securely hold any perforated piece that may be placed on the projection *a'* between the body of the wire and the tongue *b''*. The tongue can be bent back when it is desired to disconnect the parts.

The spring catch can be used for many purposes, the one which I have illustrated in Fig. 1 being of considerable importance. In this figure, I have shown the catch as connecting the wire *a*, which extends from the motor of an automatic piano, with the pivoted tempo lever *d* which has a perforation so that it can be placed on the hook portion of the wire in the manner specified above and clearly illustrated in the drawings.

It will be obvious that by placing the spring under tension in the manner indicated, the two portions *b'* and *b''* are forced to make a more acute angle with each other when on the wire than when off and that by pressing them together the tension is relieved and the spring can be moved along the wire until the perforation in the arm comes in proper position with respect to the hook *a'*. Thus a most convenient method of adjustment is provided and the catch automatically assumes the condition of applying pressure to the wire, so that it will ordinarily remain in any position thereon. Although when the catch is applied in the usual way with the perforation on the hook *a'*, it could not turn on the wire, the flattening of the wire as shown in Fig. 5 provides additional means

for preventing this and keeps the catch in proper position when the perforation is out of engagement with the hook.

In the form shown in Fig. 5, the two parts b' and b'' are parallel and the tension is provided by the inwardly extending rounded portion of the spring which engages the flattened or round wire a .

The application of the device, which is shown in Fig. 1, is illustrated by way of example. It is to be understood that the catch can be used for other purposes and that even here a second catch can be substituted for the threaded hook end between the catch shown and the motor.

While I have illustrated and described two particular forms in which I at present prefer to embody my invention, I am aware that many changes may be made in the construction thereof without departing from the spirit of my invention as expressed in the claims.

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

1. A spring catch comprising a resilient strip having two portions located at an angle to each other and each provided with a perforation, and a perforated tongue projecting from one of said portions, the first mentioned perforations being adapted to receive a straight wire, and the third, a projection at an angle from the wire.

2. A spring catch comprising a resilient strip of metal having two portions located at an angle with respect to each other, each being provided with a perforation, said perforations being normally out of alinement with each other, and a tongue projecting from one of said perforations and having a perforation near its end, the angle between said portions being such that when a straight wire is passed through the perforations therein the two portions will be forced to assume a more acute angle with respect to each other than that which they formerly maintained.

3. In a spring catch, the combination of a straight wire having a hook extending therefrom, and a resilient strip of metal having two perforated portions located at an angle to each other, the perforations being so located with respect to each other that when said strip is threaded on said wire the two portions thereof will assume a more acute angle with respect to each other and a tongue extending from one of said portions and having a perforation adapted to receive the hook on said wire, the ordinary resiliency of said tongue normally forcing the perforation therein toward the body of the wire.

4. The combination of a wire having a hook at the end thereof, a strip of steel of clock-spring temper having two portions provided with perforations threaded on said wire and having tension thereon, a tongue constituting a part of said steel strip and having a perforation for receiving said hook, and a lever having a perforation threaded on said hook between the body of the wire and said tongue, the resiliency of the tongue tending to hold the lever against the body of the wire.

5. The combination of a wire having a hook with a spring having two portions provided with perforations through which the wire extends, said spring having tension on the wire and having a tongue constituting a part of the spring and provided with a perforation for receiving said hook, and a lever having a perforation through which said hook passes, the lever being located between the wire and said tongue, the resiliency of the tongue tending to hold the lever against the body of the wire.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

THOMAS DANQUARD. [L. s.]

Witnesses:

WM. P. COLLINS,
CHAS. L. JENKINS.