

No. 713,669.

Patented Nov. 18, 1902.

C. H. OCUMPAUGH.
SPRING HINGE.

(Application filed Aug. 25, 1900.)

(No Model.)

Fig. 1.

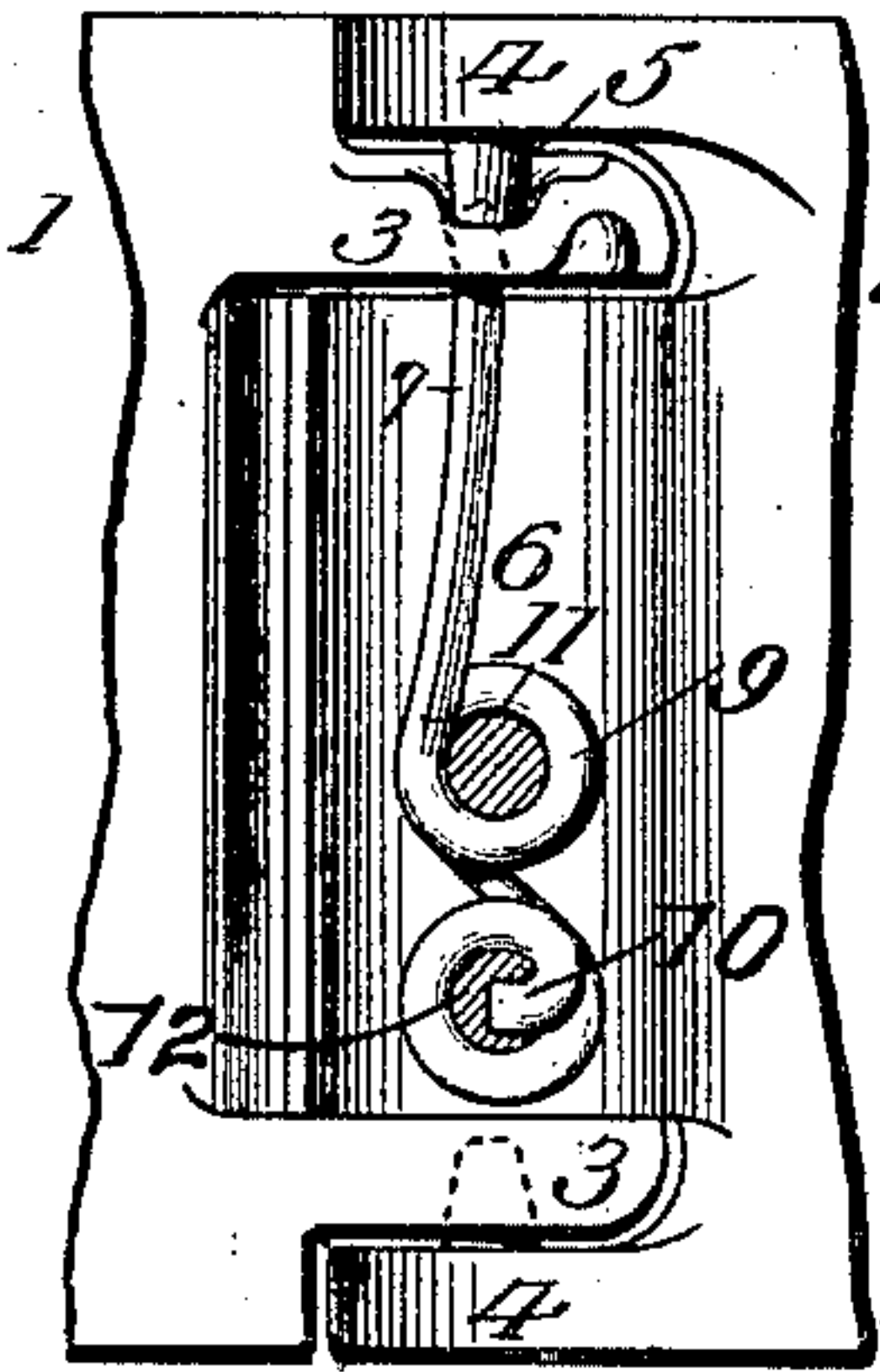


Fig. 3.

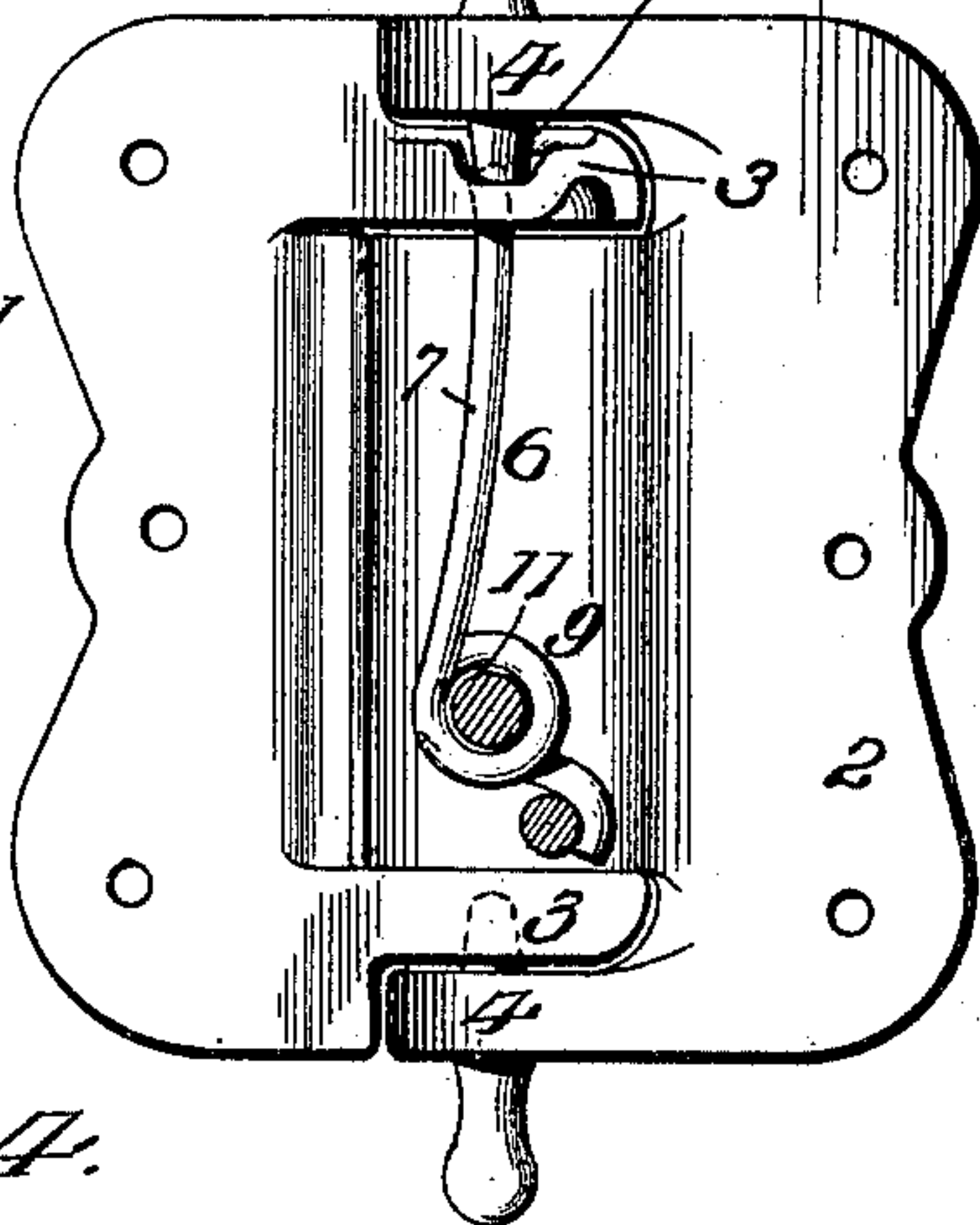


Fig. 2.

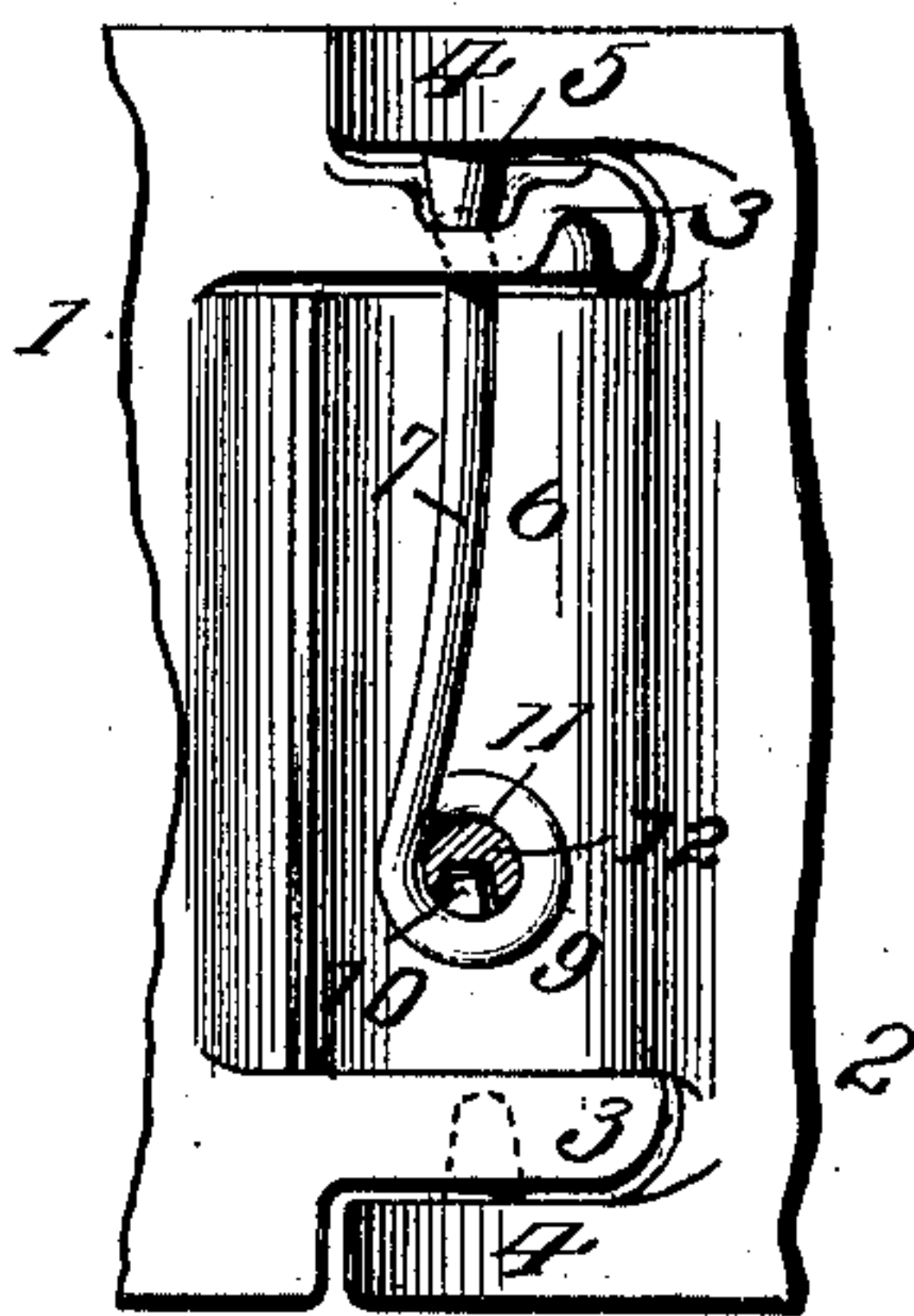


Fig. 4.

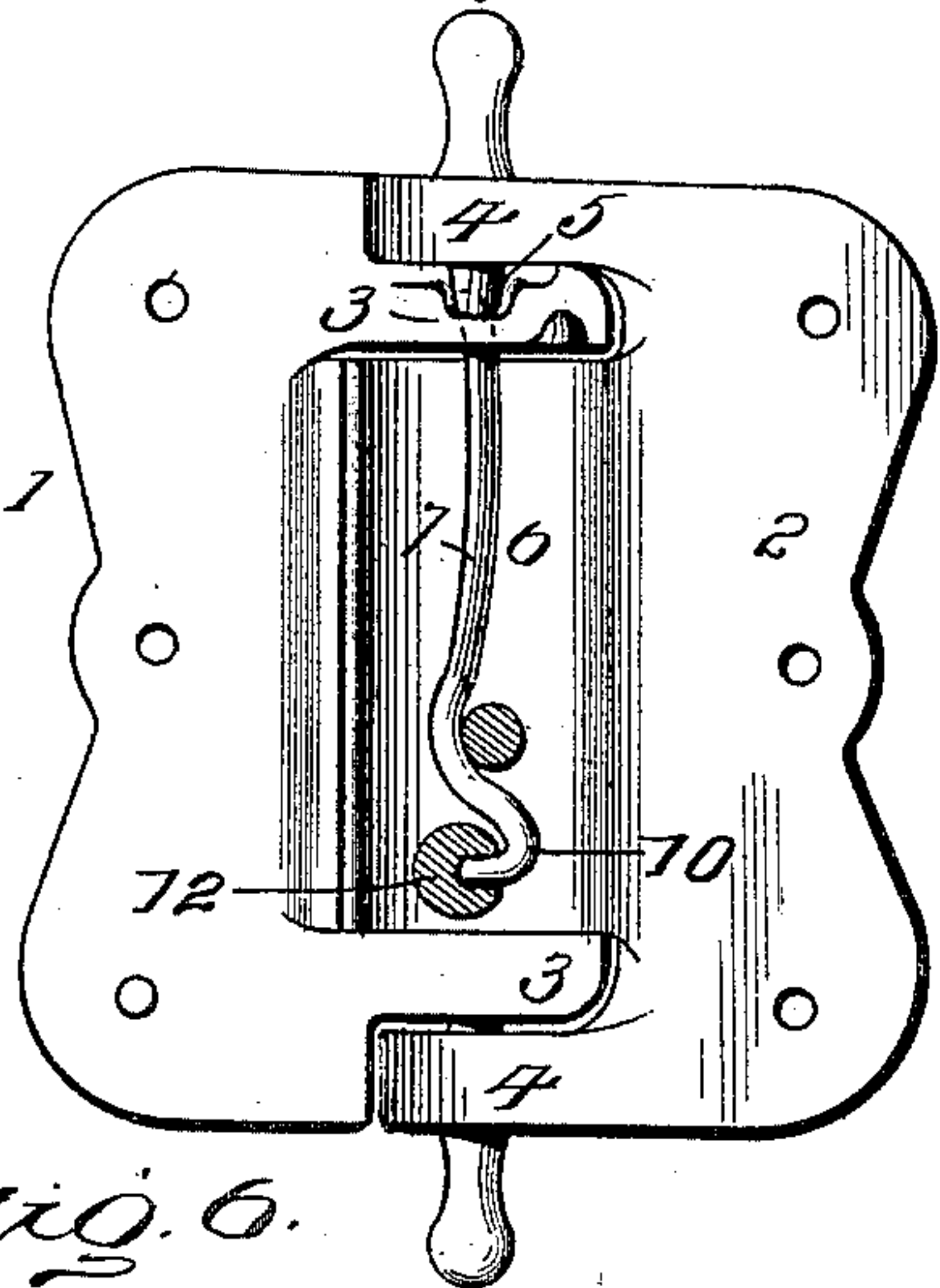


Fig. 5.

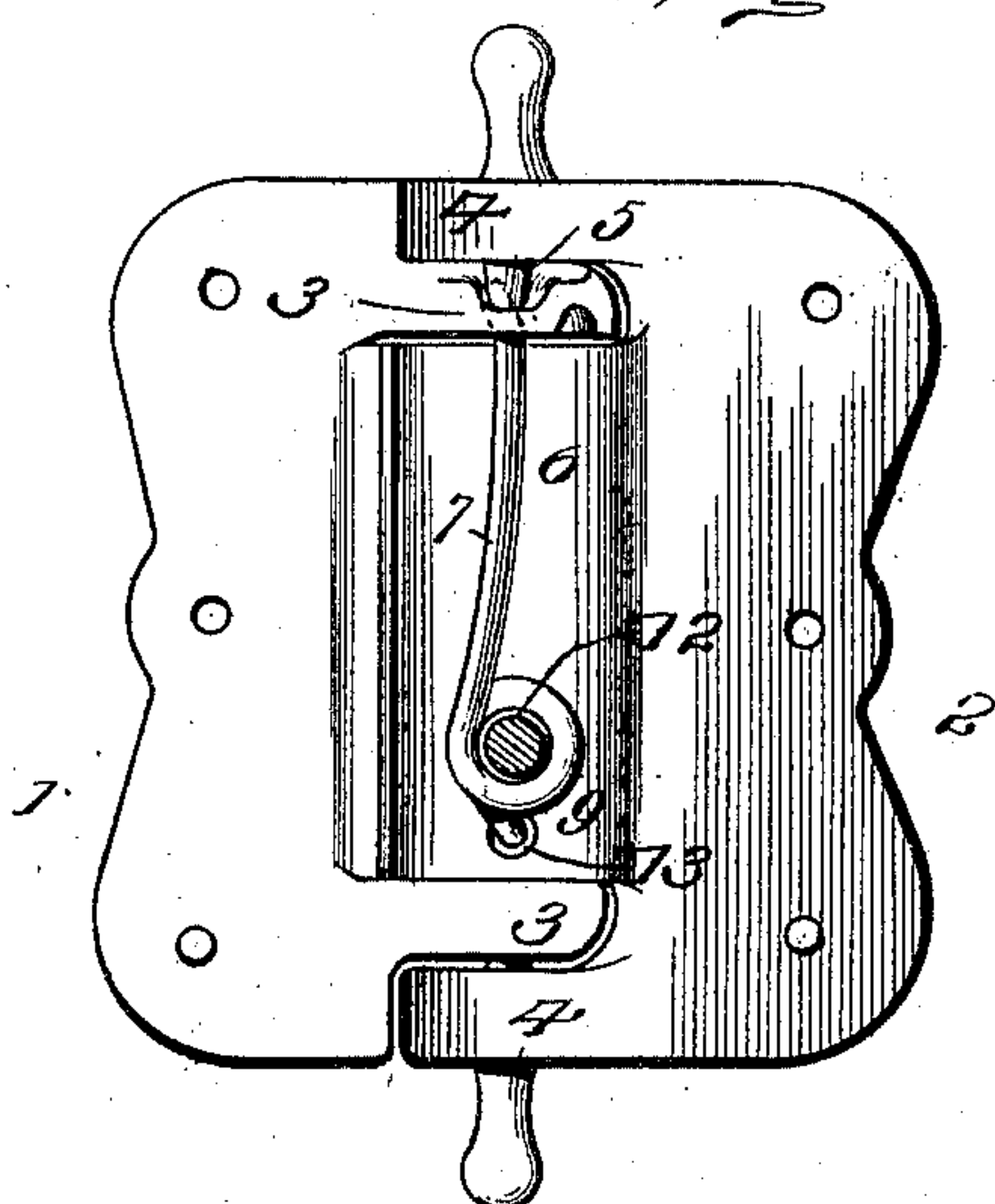


Fig. 6.

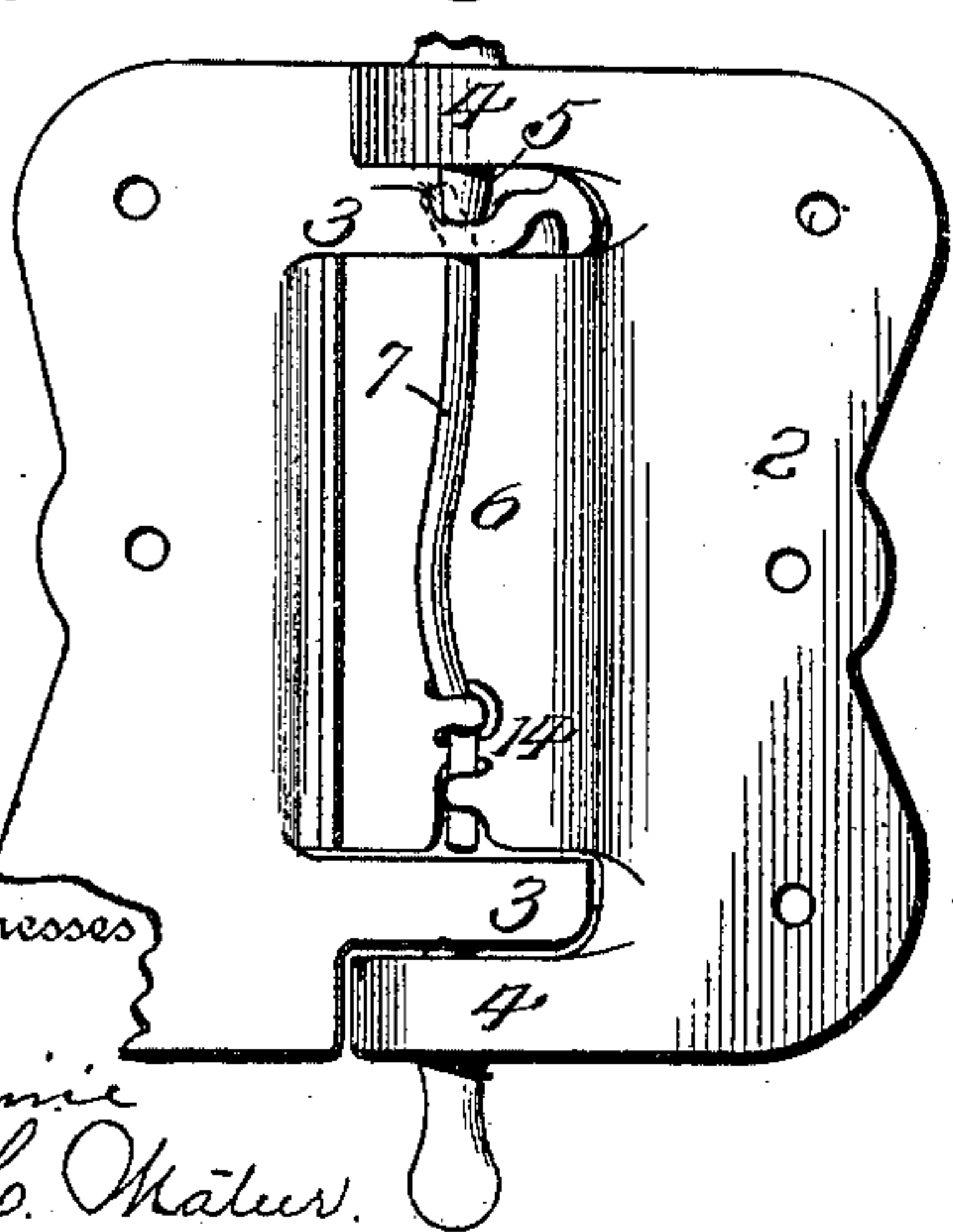
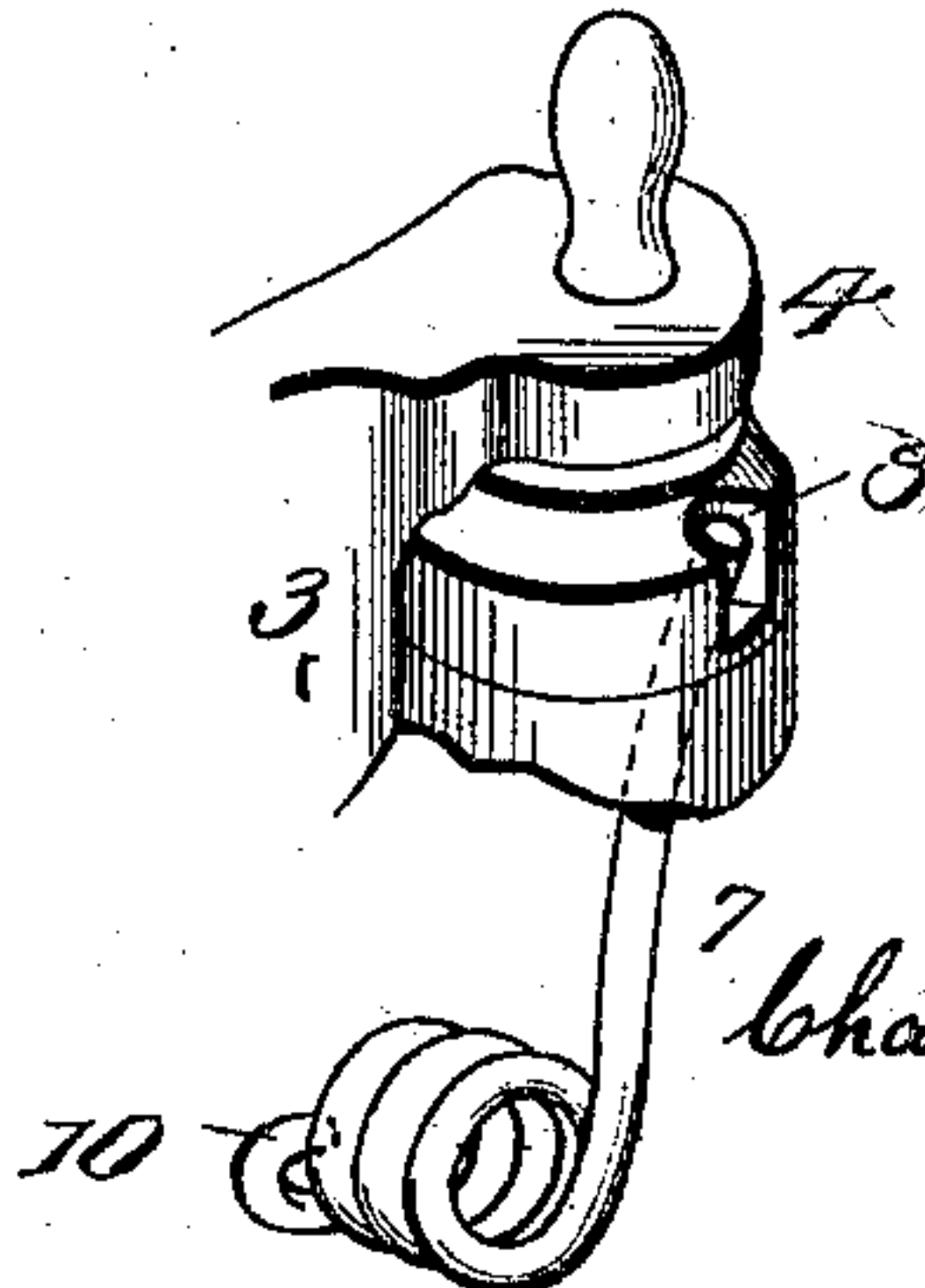


Fig. 7.



Inventor.

Charles H. Ocumpaugh

By

Amj. R. Catlin

Attorney

Witnesses

Johnnie
A. H. O'Kearney

UNITED STATES PATENT OFFICE.

CHARLES HERBERT OCUMPAUGH, OF ROCHESTER, NEW YORK.

SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 713,669, dated November 18, 1902.

Application filed August 25, 1900. Serial No. 27,995. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HERBERT OCUMPAUGH, a resident of Rochester, in the county of Monroe and State of New York, have
5 invented certain new and useful Improvements in Spring-Hinges; 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 pertains to make and use the same.

The invention relates to that class of spring-hinges in which the spring has an end engaged with a knuckle integral with one of the hinge-leaves and its other end medially connected with the other leaf in such manner
15 that the spring tends either to open or close the hinge, according to its situation with respect to an intermediate dead-point.

The object of the invention is to simplify
20 and cheapen the construction and also to facilitate the assemblage of the parts.

In the accompanying drawings, Figure 1 is a partial plan of a spring, posts for securing it in the improved hinge being shown in section. Fig. 2 is a similar view showing the essential features of the spring connection. Figs. 3, 4, 5, and 6 are plans of modifications. Fig. 7 is a partial perspective showing the connection of the spring with a knuckle.

30 Numerals 1 and 2 denote hinge-leaves having respectively knuckles 3 and 4, a knuckle 3 being connected with a knuckle 4 at each end in the usual manner by pivots 5. To leaf 2 is connected a semicylindrical spring-cover 6, as heretofore used.

7 denotes the spring, one end of which is situated in a slot 8 of a knuckle 3. (See Fig. 7.) The opposite end of the spring is fixed to a post or projection at the bottom of the
40 cover 6.

The spring may be fixed to the cover in any approved manner. It is important that it be not pivoted therein, as I have found that such construction is objectionable in that it defeats to a large extent the effectiveness of the
45 spring.

In the instances illustrated in Figs. 1 and 2 an end of the spring is formed into a coil 9, situated at or near the hinge-axis and terminating in a bend 10, fixed in a slot of a post 12, standing in the bottom of the cover. A similar connection with a post is shown in

Fig. 4, the spring having no coil. The coil is situated near one end of the spring, the longer arm of which extends tangentially to the
55 coil and in the line of the hinge-pivots, and is connected to a knuckle and occupies the situation sometimes occupied by a pivot-rod. The opposite end of the spring extends beyond the coil a distance less than the diameter
60 of said coil and is entered into and concealed and protected by the slot or hole made to receive it within the cover. The spring-coil when employed is placed about a post and its end dropped into a slot, as indicated, the other
65 end being introduced into a knuckle-slot 8.

In the form shown in Fig. 3 the spring has a coil surrounding a post in the bottom of the cover and an end situated between said post and another and bent about the latter. In
70 other cases the slotted post being omitted the spring end may be entered into a hole 13 in the cover, as shown in Fig. 5. In other cases, such as indicated in Fig. 6, an approximately straight wire is connected, as usual,
75 at one end to a knuckle and has the other fixed in a socket 14 in the bottom of the cover, the inclosing parts of said socket serving the same general purpose as the vertical posts. In case of the omission of the coil a saving of
80 wire is effected, as the coil has in practice very little operative effect, the loss of which can be compensated by a slight increase in the resiliency of the straight wire. In every case the spring-wire extension heretofore required to
85 connect the spring with a perforated leaf is avoided and the assemblage of the spring with the hinge facilitated and a saving made in the cost of the spring.

I am aware of Patent No. 622,435, describing a hinge having leaves pivoted together by means of a single pin extending approximately the full length of the hinge and having a spring situated laterally with respect to said pin and transversely thereto, said spring
95 being coiled about a post fixed to a cover, and such device is not of my invention. By the present improvement the spring has a double connection with the cover at right angles thereto and is situated practically in line
100 with the short hinge-leaf pivots, all substantially as shown and described, whereby the spring is shortened and its efficiency increased, and whereby also it is centrally situ-

uated, there being a reduction of metal both in the spring and in the pivotal connection of the hinge-leaves, and whereby also the casting of the cover and a hinge-leaf is facilitated
5 in manufacture.

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

1. In a spring-hinge, the combination of the
10 two leaves united by knuckles having short pivot connections situated between them, a cover attached to a leaf, a spring one end of which is secured to a knuckle of a leaf and has a coil near its other end, and a slotted
15 post fixed to the cover and surrounded by the spring-coil, said spring having its end opposite its knuckle-secured end situated within the coil and in the slot of the post.

2. In a spring-hinge, the combination of the
20 two leaves having knuckles and short pivots

and joined together by the knuckle-pivots, of a cover, a post in the cover situated at right angles to the face of the leaves, a spring-coil surrounding the post and having one end attached to the knuckle of one leaf and the
25 other end attached to a part of the spring-cover immediately adjacent the coil in the line of the pivots and intermediate the ends of the cover, the points of attachment of the spring ends being at opposite ends of the
30 hinge and substantially in line with the short pivots.

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

CHARLES HERBERT OCUMPAUGH.

Witnesses:

E. C. HEMPEL,

A. M. ZIMMER.