

No. 796,677.

PATENTED AUG. 8, 1905.

I. B. ROSENCRANTZ.  
PROTECTIVE CAP FOR TUNING PINS.  
APPLICATION FILED OCT. 26, 1904.

FIG. 1.

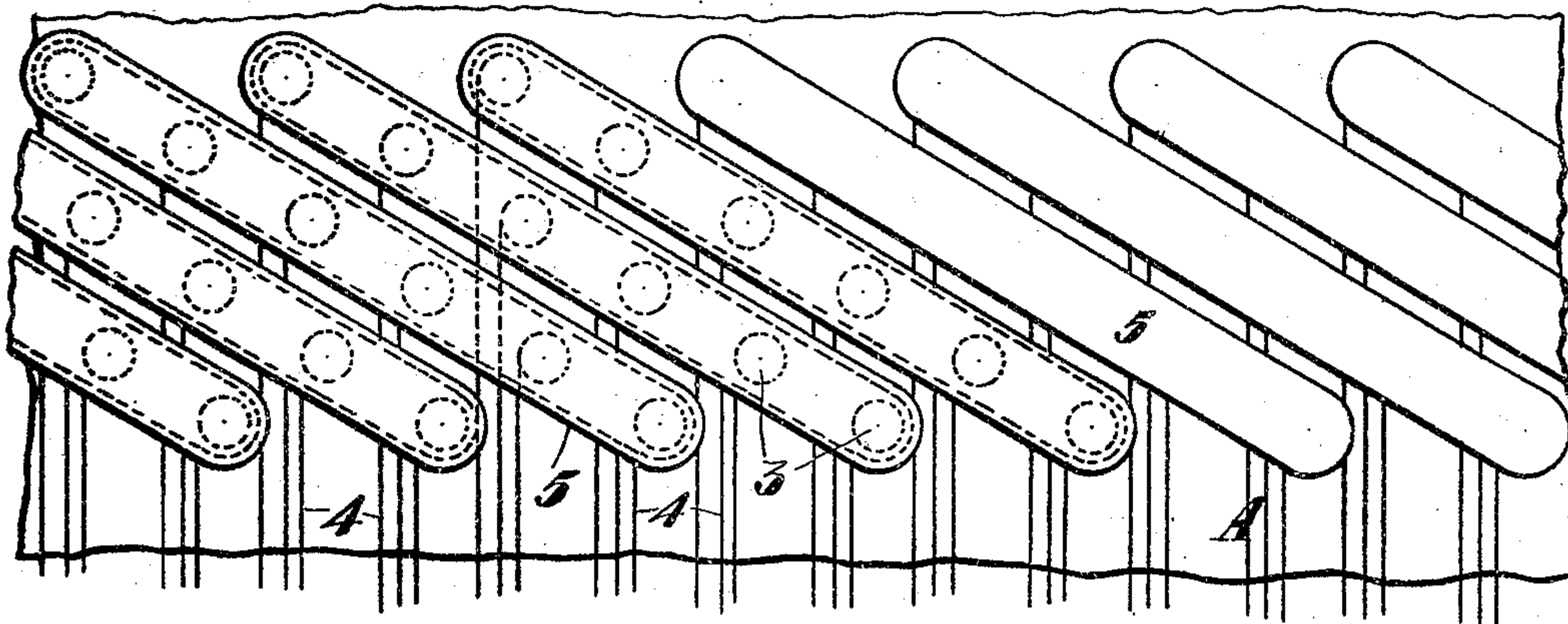


FIG. 2.

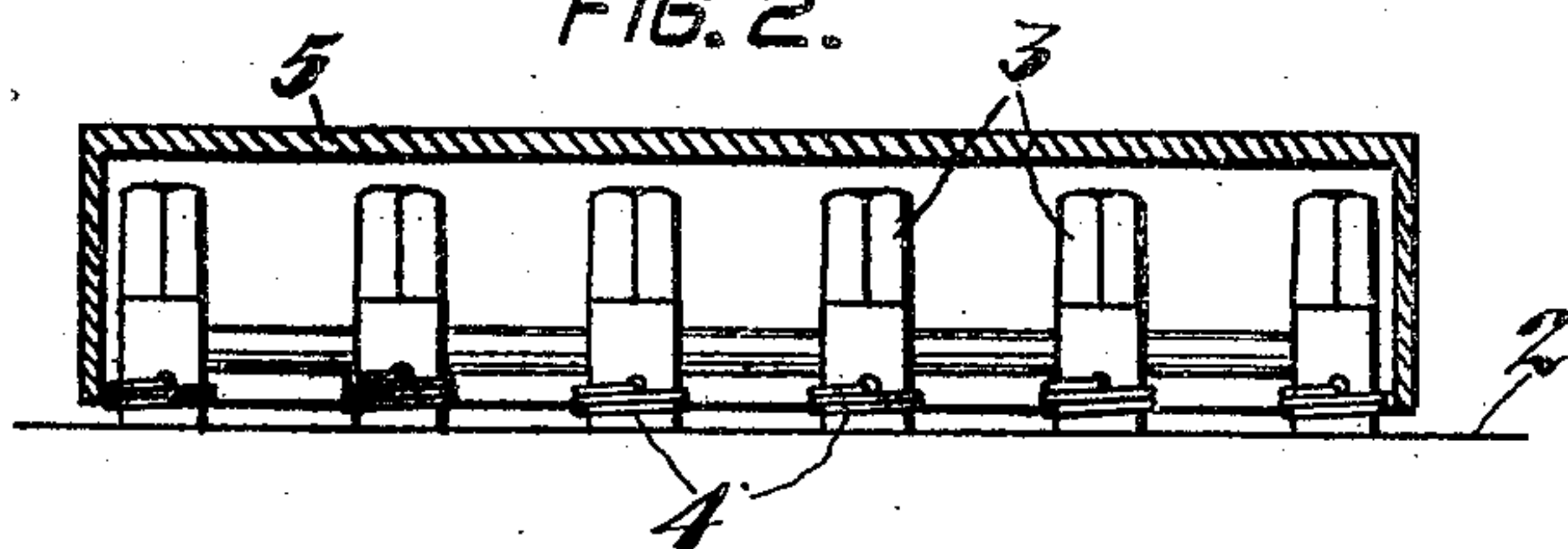


FIG. 3.

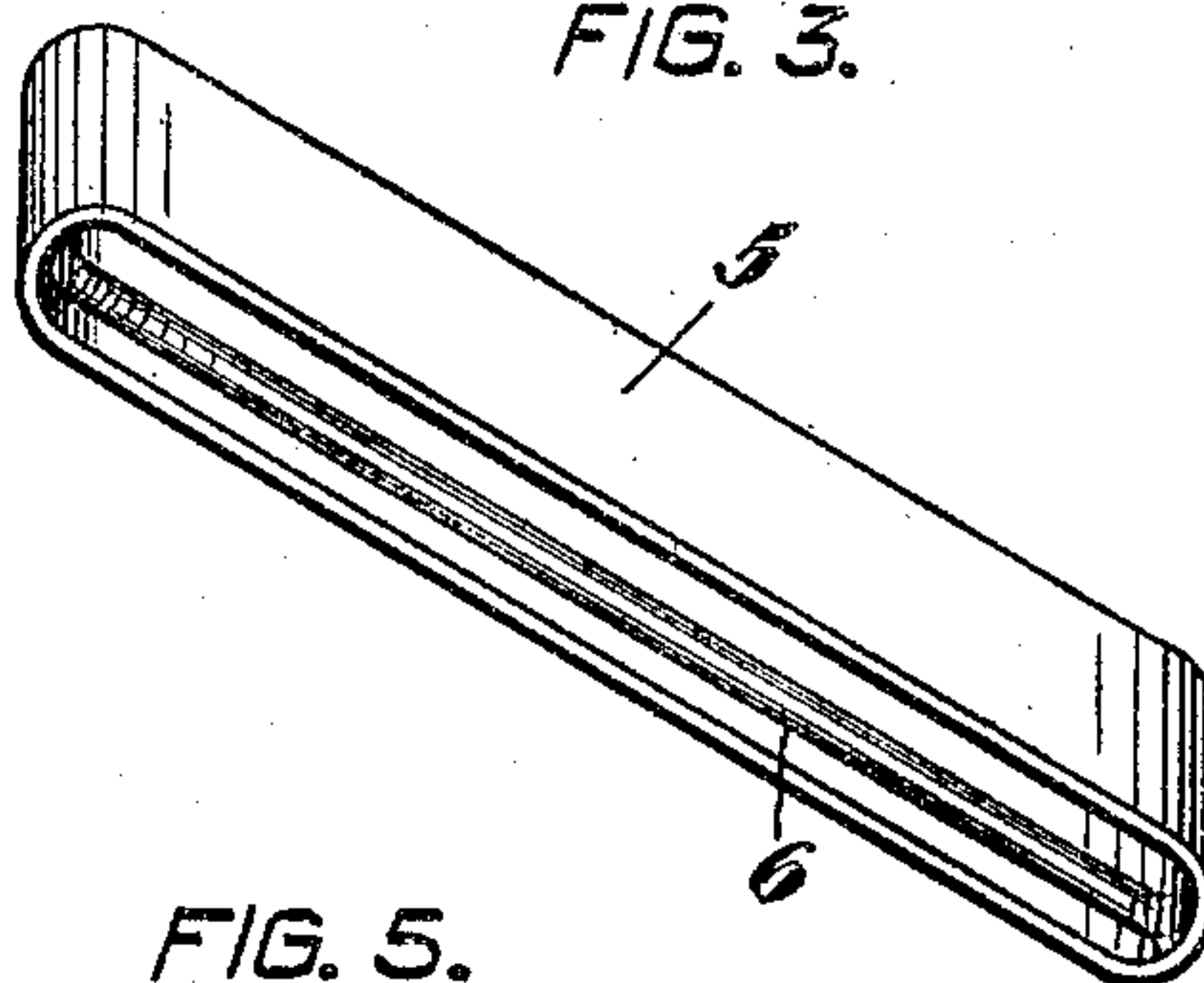


FIG. 4.

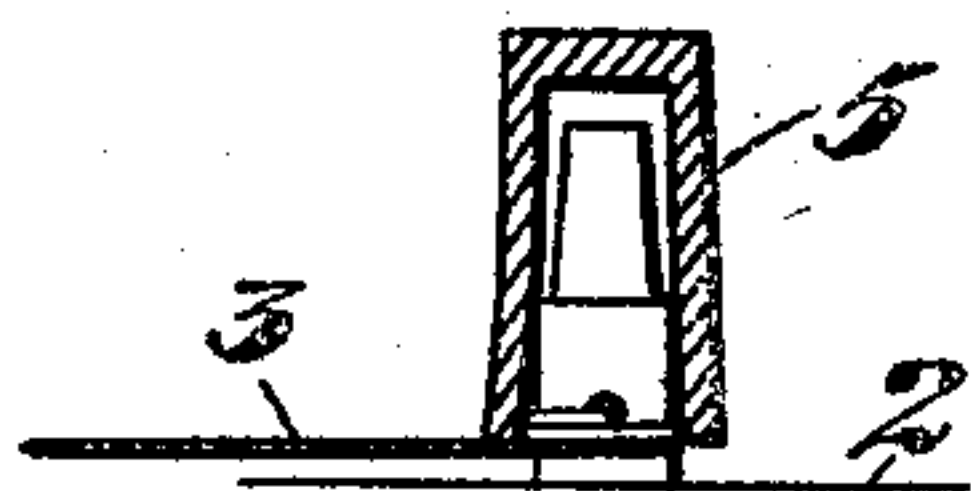


FIG. 5.

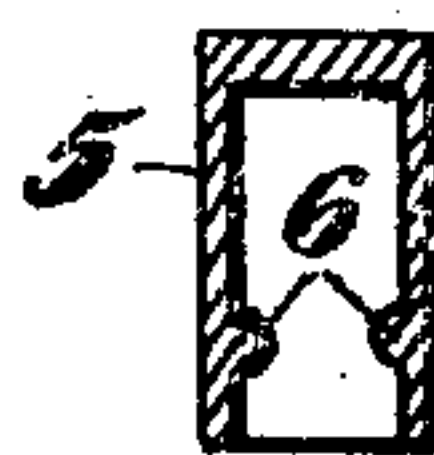


FIG. 6.

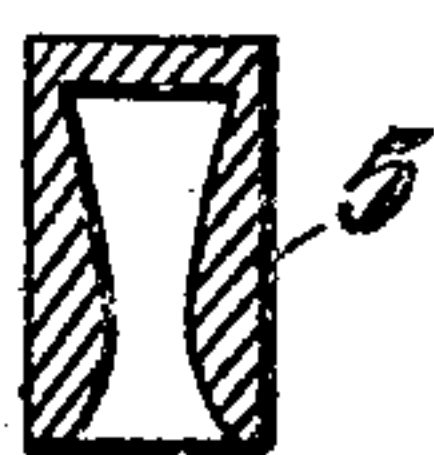
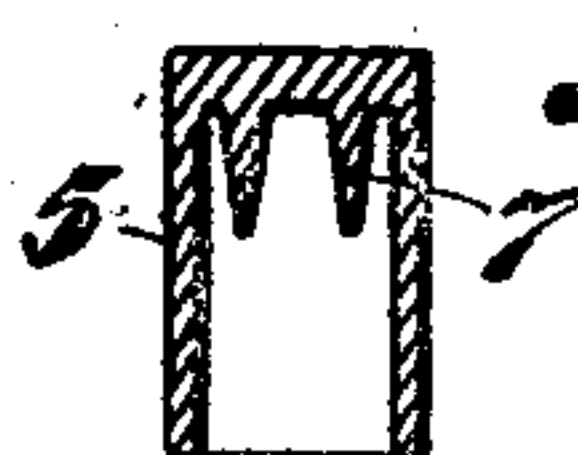


FIG. 7.



WITNESSES,  
Chas. F. Chapin.

*Chas. F. Chapin*

INVENTOR,

*Isidor B. Rosencrantz*  
By *Geo. H. Strong* att.



# UNITED STATES PATENT OFFICE.

ISIDOR B. ROSENCRANTZ, OF ALAMEDA, CALIFORNIA.

## PROTECTIVE CAP FOR TUNING-PINS.

No. 796,677.

Specification of Letters Patent.

Patented Aug. 8, 1905.

Application filed October 26, 1904. Serial No. 230,063.

*To all whom it may concern:*

Be it known that I, ISIDOR B. ROSENCRANTZ, a citizen of the United States, residing at Alameda, in the county of Alameda and State of California, have invented new and useful Improvements in Protective Caps for Piano Tuning-Pins, of which the following is a specification.

My invention relates to a removable covering for the tuning-pins of pianos.

It is well known that the strings of pianos and other instruments are more liable to get out of tune where they and their tuning-pins are subjected to any considerable or sudden changes in temperature. This is due particularly to the tendency of the pins to expand or contract, and so put the strings out of tune.

The object of my invention is to provide a simple inexpensive practical protective cap or covering for the tuning-pins which may be quickly and easily applied to the pins of any piano and which will grip all the pins alike to hold it in place, and at the same time will allow for the proper circulation of air about all the pins and not allow one pin to be affected by temperature more or less than any other pin.

The invention consists of the parts and the construction and combination of parts, as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

Figure 1 is a plan view of a portion of a string-frame, showing the application of my invention. Fig. 2 is a longitudinal section of cap and pins. Fig. 3 is a perspective view of cap. Fig. 4 is a cross-section of cap and pin. Figs. 5, 6, and 7 are modified forms shown in cross-section.

A represents the string-frame, 2 the pin-block, and 3 the tuning-pins, to which are attached in usual fashion the strings 4. These pins are usually tapered and made polygonal at the top to receive a tuning-key and screw into the wooden pin-block 2. The pins generally stand in diagonal rows, each row having from one to six pins. I employ a long narrow protective cap 5, adapted to fit over all the pins in any one row, and a cap is provided for each row, so that all the pins will be protected. The cap is preferably of flexible rubber or like elastic material, with back or top somewhat thicker than the sides to preserve the shape of the cap. I have found it desirable for many reasons to make these caps plain and to fit alike over all pins and to in-

close all pins alike, so as to allow the air to circulate alike as to all pins, because if one pin is more inclosed or more unprotected than another that pin is liable to be acted on differently from the other pins, whereby undesired results follow.

The caps may be made in various styles and forms. For instance, in Fig. 4 the cap is made with plain flexible sides and the inside distance between the sides is less than the diameter of the pins, so that when the cap is pressed down on the pins it will grip them lightly but securely to hold them in place, which is essential, particularly in upright pianos, where the pins extend horizontally.

In Fig. 5 the walls are made with the opposed longitudinally-extending interior beads 6 to grip the sides of the pins.

In Fig. 6 the walls are made plano-convexed in cross-section, with the interior convexities adapted to engage the opposite sides of the pins.

Fig. 7 shows a cap with two longitudinal integral flexible flanges 7 on the inside of the top of the cap to grip only the ends of the pins, leaving air to circulate around all sides of the major portion of the pins.

In all these cases it is to be observed that all the pins are gripped alike, but that none of the pins are engaged on all four sides. Thus the pins are protected from sudden changes of temperature and from moisture, thereby preventing rust. The air can circulate freely between all the pins of each set, and any changes in temperature will affect all pins alike, and the strings will keep in tune a much longer time than where the pins are uncovered or where, if covered, the air has not the same freedom of access to all the pins.

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

1. A cover for piano tuning-pins which consists of an elastic cap having a greater length than width and adapted to cover a plurality of fixed pins, said cap having supplementary means on its inside to embrace the opposite sides only of all the pins alike and to allow a free circulation between all the pins.

2. The combination with a stationary tuning-pin, of a protective cap therefor composed of contractible material and having a normal interior transverse diameter less than the diameter of the pin whereby when placed

over the latter it will grasp two sides only of the pin and will leave an air-space about the remaining sides of said pin.

3. A protective cap for a piano tuning-pin said cap composed of contractible material and the distance between whose opposite inner walls is normally less than the diameter of the pin whereby said pin is engaged on two opposite sides only and the remaining sides of the pins are unclosed for the free circulation of air.

4. A protective cap for piano tuning-pins, composed of flexible material and of greater

length than width and having interior longitudinal integral portions to engage the opposite sides of all the pins alike to retain the cap in place, at the same time permitting the free circulation of the air between the several pins.

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

ISIDOR B. ROSENCRANTZ.

Witnesses:

ALFRED A. ENQUIST,  
S. H. NOURSE.