

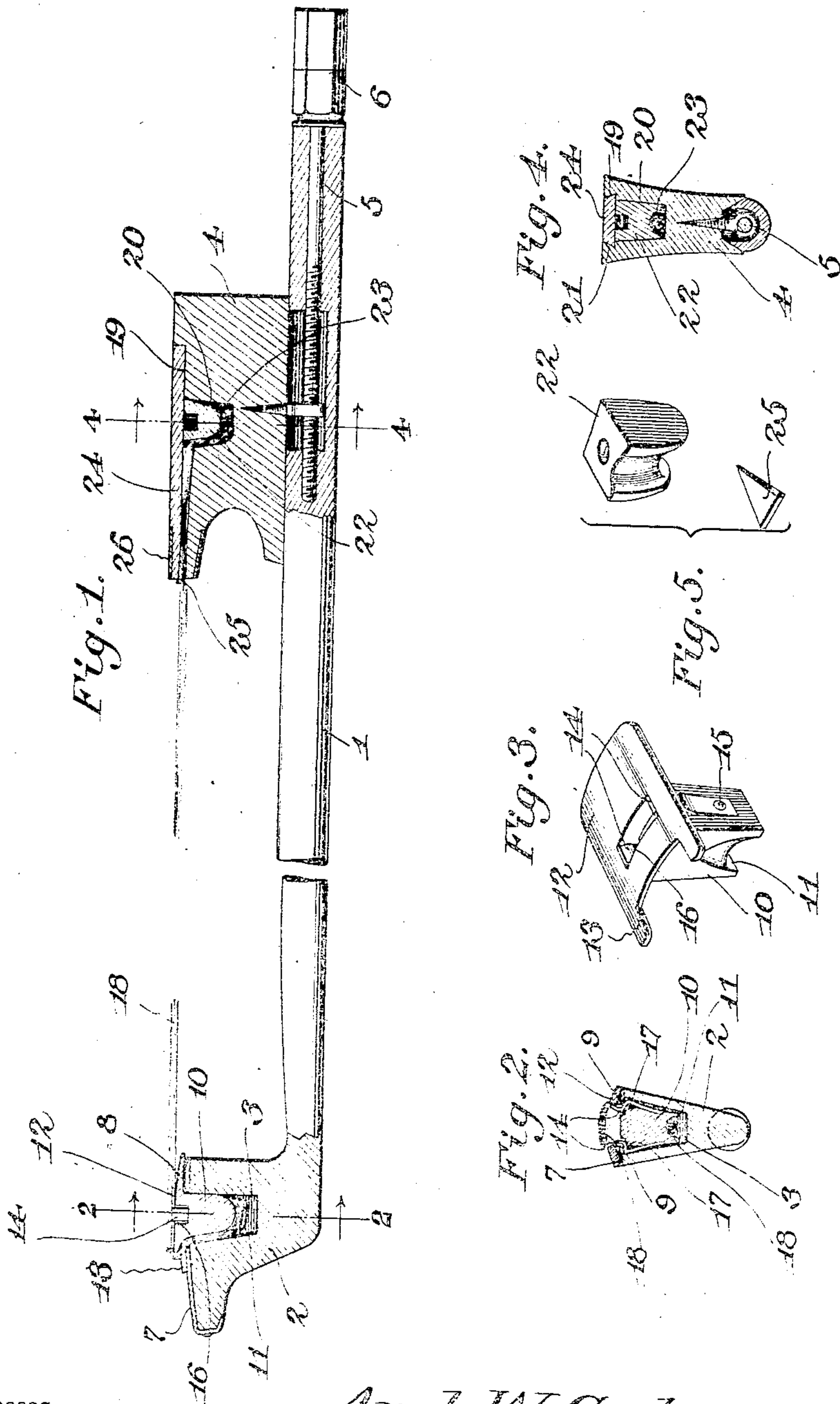
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PATENTED JULY 12, 1904.

A. W. CARLSON.  
VIOLIN BOW.

APPLICATION FILED APR. 8, 1904.

NO MODEL.



Witnesses  
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# UNITED STATES PATENT OFFICE.

AXEL WILHELM CARLSON, OF ELY, MINNESOTA.

## VIOLIN-BOW.

SPECIFICATION forming part of Letters Patent No. 764,558, dated July 12, 1904.

Application filed April 9, 1904. Serial No. 202,387. (No model.)

*To all whom it may concern:*

Be it known that I, AXEL WILHELM CARLSON, a citizen of the United States, residing at Ely, in the county of St. Louis and State of Minnesota, have invented a new and useful Violin-Bow, of which the following is a specification.

This invention relates to violin-bows, and has for its object to provide for the detachable connection of the hairs with the head and frog of the staff, thereby to permit convenient replacement of the hairs when broken or injured.

A further object of the invention is to have the same embodied in such form as to be applicable to ordinary violin-bows without materially altering or changing the same.

It is furthermore designed to permit of the convenient replacing of broken or damaged sets of hairs without any previous skill or experience in order that a player may replace the hairs without being required to return the bow to a shop or factory.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details of the structure may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a longitudinal sectional view of a violin-bow equipped with the devices of the present invention. Fig. 2 is a cross-sectional view on the line 2 2 of Fig. 1. Fig. 3 is a detail perspective view of the wedge or plug for cooperation with the head of the staff. Fig. 4 is a cross-sectional view on the line 4 4 of Fig. 1. Fig. 5 is a detail perspective view of the wedge or plug for cooperation with the frog.

Like characters of reference designate corresponding parts in each and every figure of the drawings.

Referring to the drawings, 1 designates the staff of any ordinary violin-bow, terminating at one end in the usual head 2, which is pro-

vided with a tapered socket 3. At the opposite end of the staff is an ordinary frog 4, which is adjustable upon the staff by means of the usual adjusting-screw 5, upon the outer end of which is carried the tip 6.

Upon the recessed face of the head 2 a metallic plate 7 is secured in any suitable manner, and this plate is provided with an opening 8 to expose the open end of the socket, and opposite edges of the opening overhang the socket, so as to form flanges 9.

Fitted within the socket 3 is a wedge or tapered plug 10, the lower end of which is bifurcated, as at 11, while its outer end is provided with an enlarged head 12, the forward end of which is forked or bifurcated to produce opposite fingers 13. Spring-catches 14 are let into opposite sides of the plug and secured thereto at their lower ends by suitable fastenings 15, whereby their outer ends are free to move laterally. The free ends of these catches pierce the head of the plug and work in a transverse opening 16, formed therein, whereby access may be had to the outer free ends of the catches to draw the same inwardly for the purpose of disengaging their corresponding intermediate shoulders 17 from the keeper-flanges 9 upon the plate 7, carried by the head of the staff, whereby the plug may be removed from the head.

In fastening the set of hairs 18 to the head of the staff one end of the set of hairs is introduced into the socket in the head of the staff, after which the plug 10 is forced into the socket, so as to carry the hairs inward therewith until the catch-shoulders 17 snap beneath the keeper-flanges 9, whereby the end of the set of hairs is snugly wedged between the plug and the walls of the socket, and the opposite end of the set of hairs may be drawn rearwardly across the outer end of the head for connection with the frog. It will here be noted that the set of hairs fits in the forked forward end of the head of the plug, so as to prevent the hairs from working around to the side of the plug and to maintain the hairs in a straight line across the head, whereby the hairs cover the outer free ends of the spring-catches, and thereby protect the same against accidental disengagement from the keeper-



flanges. To release the set of hairs, the exposed ends of the catches are drawn inwardly by pressing the same between the thumb and forefinger whereby the catch-shoulders 17 may be withdrawn from the flanges 9, and the plug is then free to be removed from the socket and to release the hairs. To connect the rear end of the set of hairs to the frog, the outer face of the latter is provided with a longitudinal recess 19, which intersects the inner end of the frog, and in the back of this recess there is a socket 20, the inner sides of the recess being undercut to form overhanging flanges 21. The rear end portion of the set of hairs is placed within the recess 19 with its extremity thrust into the socket 20, after which a tapered plug 22 is thrust into the socket, the inner end of the plug being bifurcated or forked, as at 23, to snugly embrace the end of the set of hairs. After the plug has been pushed in flush with the back of the recess 19 a slide 24 is introduced through the open end of the recess and forced rearwardly therein, so as to cover the rear portion of the hairs and the plug, the side edges of the slide of course being beveled to underlie the undercut flanges of the recess. A suitable wedge 25 is driven in beneath the outer end of the slide, and a ferrule 26, previously placed upon the set of hairs, is then slid upon the inner end of the frog, so as to hold the slide in place. By withdrawing the ferrule upon the set of hairs and then pushing out the slide by means of the blade of a pocket-knife or other suitable implement the plug 22 may be exposed and then removed to release the rear end of the set of hairs.

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

1. In a violin-bow, a staff having a head which is provided with a socket for the reception of a set of hairs, a keeper within the socket, and a removable plug to fit the socket and provided with a spring-catch for engagement with the keeper.

2. In a violin-bow, a staff having a head which is provided with a socket, a plate secured to the head and provided with an opening to expose the socket, opposite edges of the opening in the plate overlapping the socket, and a plug to removably fit the socket and provided with spring-catches for engagement

with the portions of the plate which overlap the socket.

3. In a violin-bow, a staff having a head which is provided with a socket, a keeper for the socket, a plug to fit the socket, and a spring-catch carried by the plug with its outer free end projected beyond the plug for access thereto and provided with an intermediate shoulder for engagement with the keeper of the socket.

4. In a violin-bow, a staff having a head which is provided with a socket, a plug to removably fit the socket and provided with an enlarged head, a keeper within the socket, and spring-catches carried by opposite sides of the plug with their free outer ends projected through the head of the plug and working in an opening therein to give access to the catches, each catch having an intermediate shoulder to engage the keepers of the socket.

5. In a violin-bow, a staff having a head which is provided with a socket, a plate fitted to the head and having an opening exposing the socket, opposite edges of the opening in the plate overhanging the socket to form keeper-flanges, a plug to be removably fitted in the socket and provided with an enlarged head having a transverse opening in its outer side, and spring-catches let in flush with opposite sides of the plug with their outer free ends projected through the head and working in the opening therein to give access to the free ends of the catches, each catch having an intermediate shoulder to engage one of the keeper-flanges of the plate on the head.

6. A fastening of the character described comprising a plate having an opening, a plug to fit within the opening, and spring-catches carried by opposite sides of the plug with their free ends projected beyond the outer end of the plug to give access thereto, intermediate portions of the catches having shoulders to snap into engagement with the under side of the plate when the plug is thrust into the opening.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

AXEL WILHELM CARLSON.

Witnesses:

A. J. THOMAS,

CHAS. A. RATHOFF.