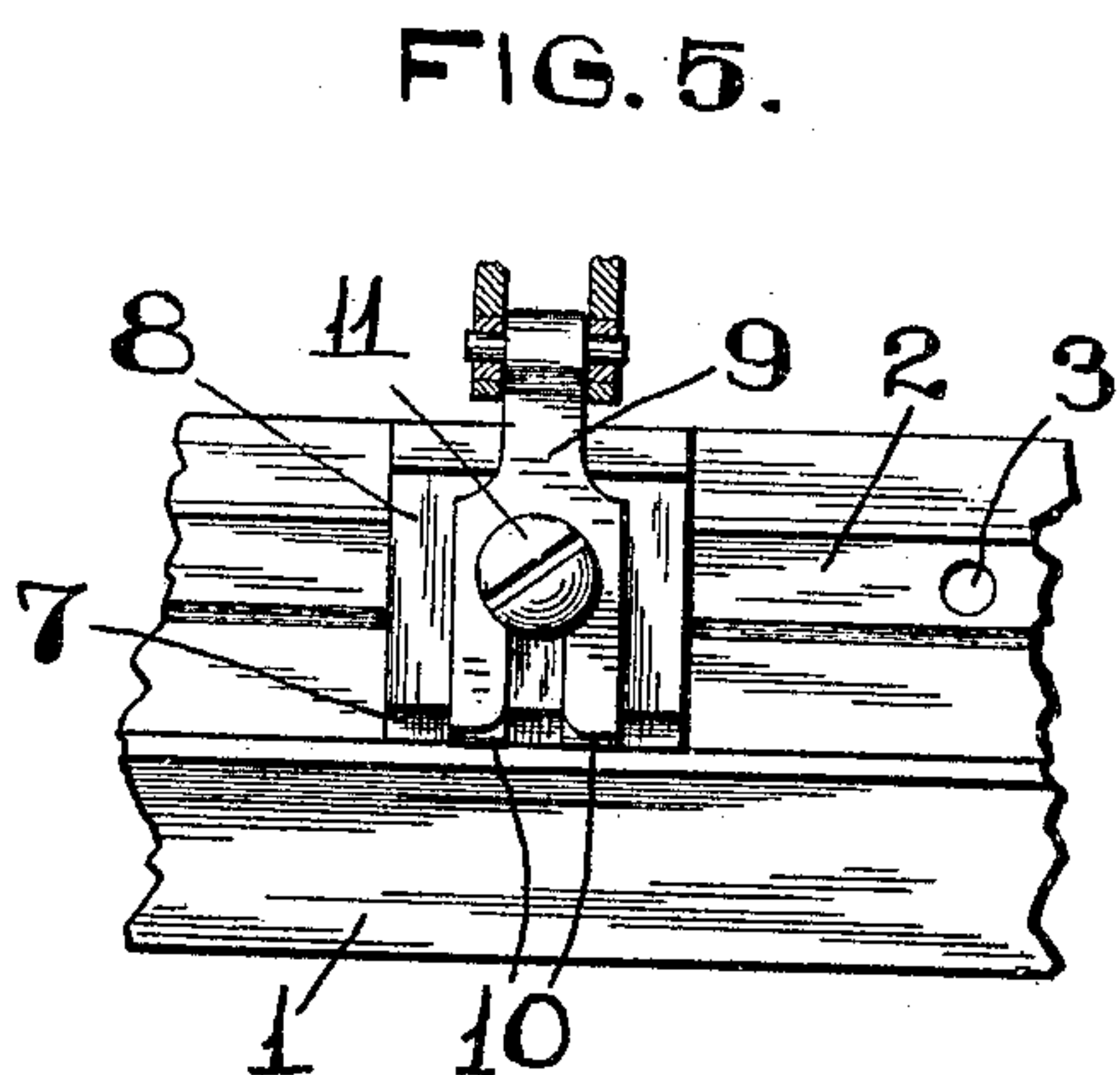
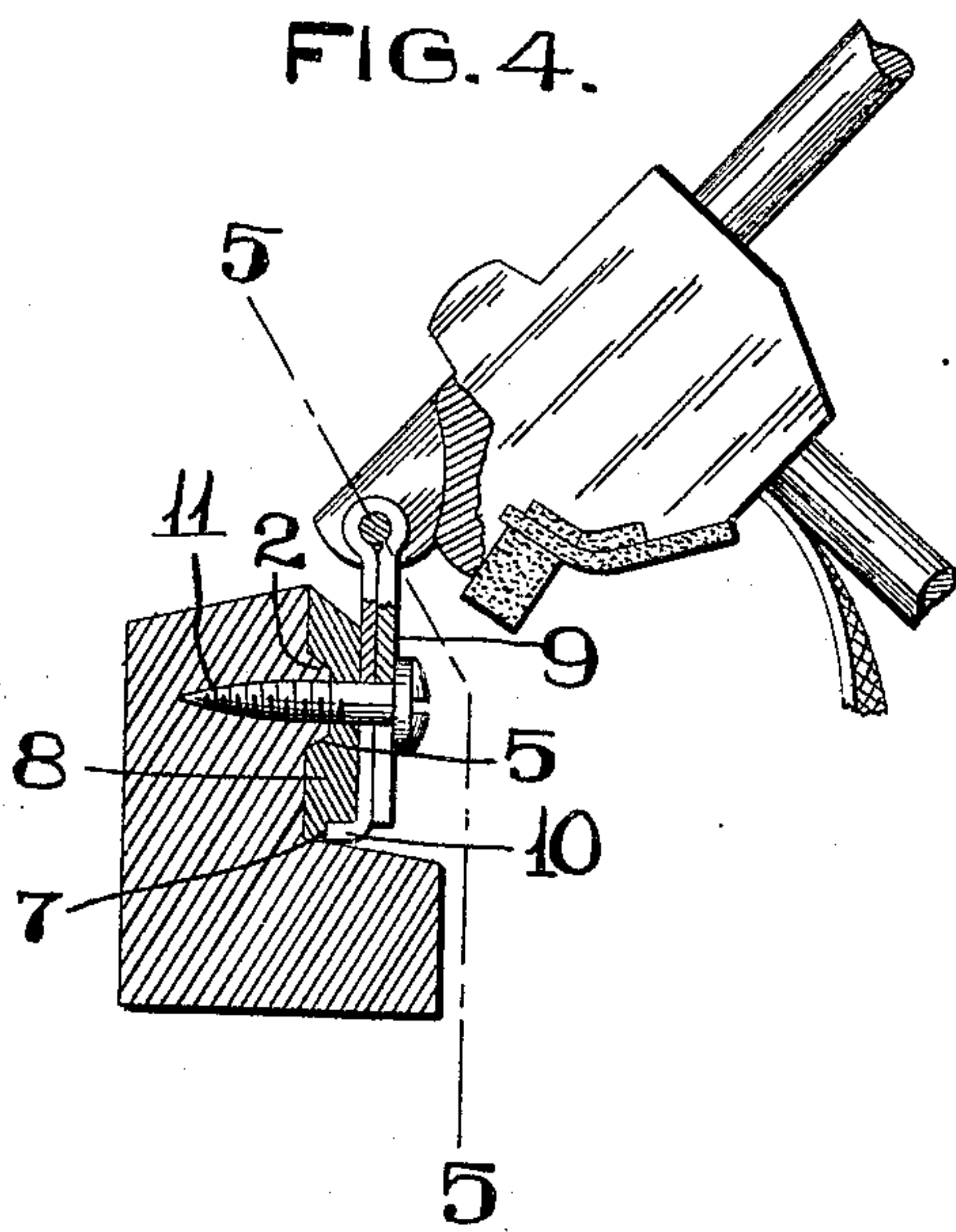
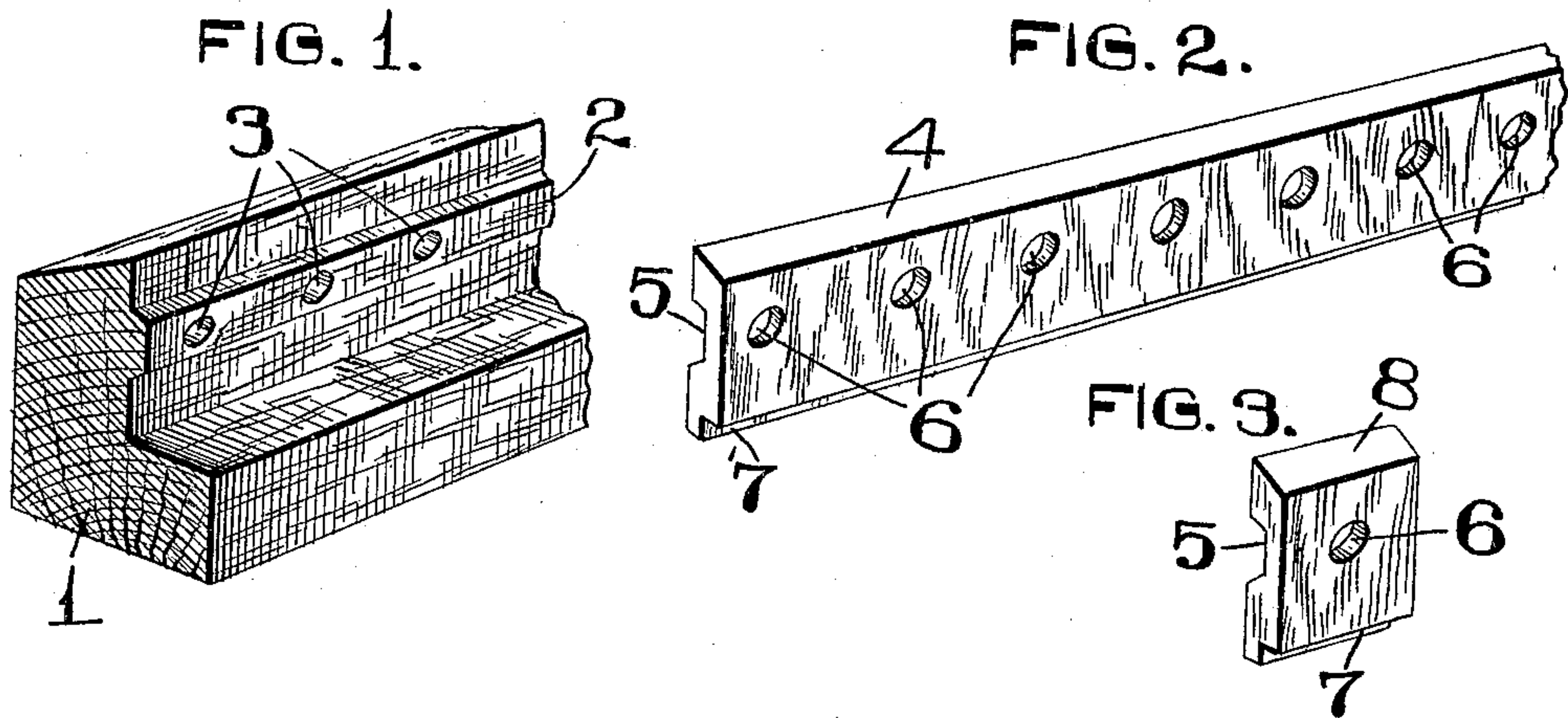


No. 821,455.

PATENTED MAY 22, 1906.

F. G. BILLINGS.  
RAIL ATTACHMENT FOR PIANO ACTIONS.  
APPLICATION FILED OCT. 31, 1905.



ATTEST.  
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# UNITED STATES PATENT OFFICE

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## RAIL ATTACHMENT FOR PIANO-ACTIONS.

No. 821,455.

Specification of Letters Patent.

Patented May 22, 1906.

Application filed October 31, 1905. Serial No. 285,354.

*To all whom it may concern:*

Be it known that I, FREDERICK GEORGE BILLINGS, a citizen of the United States, and a resident of Milwaukee, Wisconsin, have invented certain new and useful Improvements in Rail Attachments for Piano-Actions, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to rail attachments for piano-actions; and the object of my invention is to provide a strip or series of blocks which are to be attached to the wooden rail now commonly used in piano-actions, upon which strip or blocks are seated metallic hammer-butt flanges.

In the rails of piano-actions as now constructed there is provided a continuous bead into which pass the screws that secure the hammer-butt flanges to said rail, and where wooden flanges are made use of said wooden flanges are provided on their inner faces with grooves to accommodate this bead. The metallic hammer-butt flanges as now constructed are not adapted to be placed directly against this bead, and it is my intention to provide a continuous filler or series of blocks which can be easily and quickly attached to the rail over the bead, and thereby arrange the old form of rail for the reception of the metallic hammer-butt flanges which are now extensively used in piano-actions.

My improved construction is particularly adapted for the repair of old pianos, or it may be used with equal advantage in the manufacture of new pianos, and it is applicable for all makes of pianos and similar mechanical instruments that make use of a continuous rail which carries the greater part of the action.

To the above purposes my invention consists in certain novel features of construction and arrangement of parts, which will be hereinafter more clearly set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of the rail such as is now used in ordinary piano-actions. Fig. 2 is a perspective view of a continuous strip or filler as contemplated by my invention and which is to be attached to the rail. Fig. 3 is a perspective view of one of the series of blocks which are to be attached to the rail. Fig. 4 is a vertical section of a piano-rail equipped with

my improved device and showing a hammer-butt flange connected thereto and the hammer-butt pivoted to said flange. Fig. 5 is a vertical section taken on the line 5 5 of Fig. 4.

Referring by numerals to the accompanying drawings, 1 designates the rail, which is of the usual construction and provided on its front face with a continuous bead 2, through which is formed the apertures 3, that receive the screws that fix the hammer-butt flanges to said rail. These rails are always formed with the grain of the wood running longitudinally of said rail.

4 indicates a continuous filler or strip of wood or analogous material provided on its rear face with a continuous groove 5 of such size as to receive the bead 2. A series of apertures 6 is formed transversely through the filler 4, which apertures coincide with the groove 5, and formed in the lower front edge of the filler is a rearwardly-extending groove 7. This filler is fitted onto the front side of the rail 1 and is secured thereto by means of glue or in any suitable manner, and when so positioned the bead 2 completely fills the groove 5 and the apertures 6 coincide with the apertures 3.

In the construction of the filler the grain of the wood runs transversely relative the length of the strip, so that when positioned on the rail 1 the grain in the filler runs at right angles to the grain in said rail 1, the direction of the grain of said filler being indicated by the vertical shading in Figs. 2, 3, and 5. This forms a very strong arrangement and tends to reduce to a minimum the tendency of the rail to warp out of horizontal alinement.

In some instances I find it preferable to replace the filler 4 by a series of blocks, which are really sections of said filler, there being one of said blocks fitted over each aperture 3.

The hammer-butt flange 9, formed of metal, is provided at its lower end with a laterally-projecting lip 10, which is positioned in the groove 7 when said flange is applied to the rail, and the retaining-screw 11 passing through the aperture in said flange passes through the coinciding apertures 6 and 3 and is firmly seated in the rail 1.

Thus it will be seen how I have provided simple, inexpensive, and efficient means whereby metallic flanges may be quickly and easily attached to piano-action rails of the present construction. The filler strips



or blocks can be quickly attached, and where a single hammer-butt flange is placed in position in an old action one of the blocks 8 may be easily and quickly positioned on the 5 old rail to receive the metallic flange.

In the foregoing description I have specified the filler strips or blocks as being applicable only for hammer-butt flanges; but it will be readily understood by those familiar with 10 the art that these filler strips or blocks may be adapted for use in connection with all the different forms of flanges used in piano-actions of the present construction.

I claim—

15 1. The combination with the beaded rail of a piano-action, of a filler arranged on the front face of said rail and being provided in its rear face with a groove to receive the bead

on the rail, and provided in its lower front edge with a groove; substantially as specified. 20

2. The combination with the beaded rail of a piano-action, of a filler arranged on the front face of said rail, and being provided in its rear face with a groove to receive the bead on the rail, and provided in its lower 25 front edge with a groove, and the grain of which filler extends at right angles to the grain of the rail; substantially as specified.

In testimony whereof I have signed my name to this specification in presence of two 30 subscribing witnesses.

FREDERICK GEORGE BILLINGS.

Witnesses:

MAUD GLYNN,  
F. C. BILLINGS.