

(No Model.)

E. SUEUR.

ZITHER ATTACHMENT FOR MUSIC BOXES.

No. 361,654.

Patented Apr. 19, 1887.

Fig. 1.

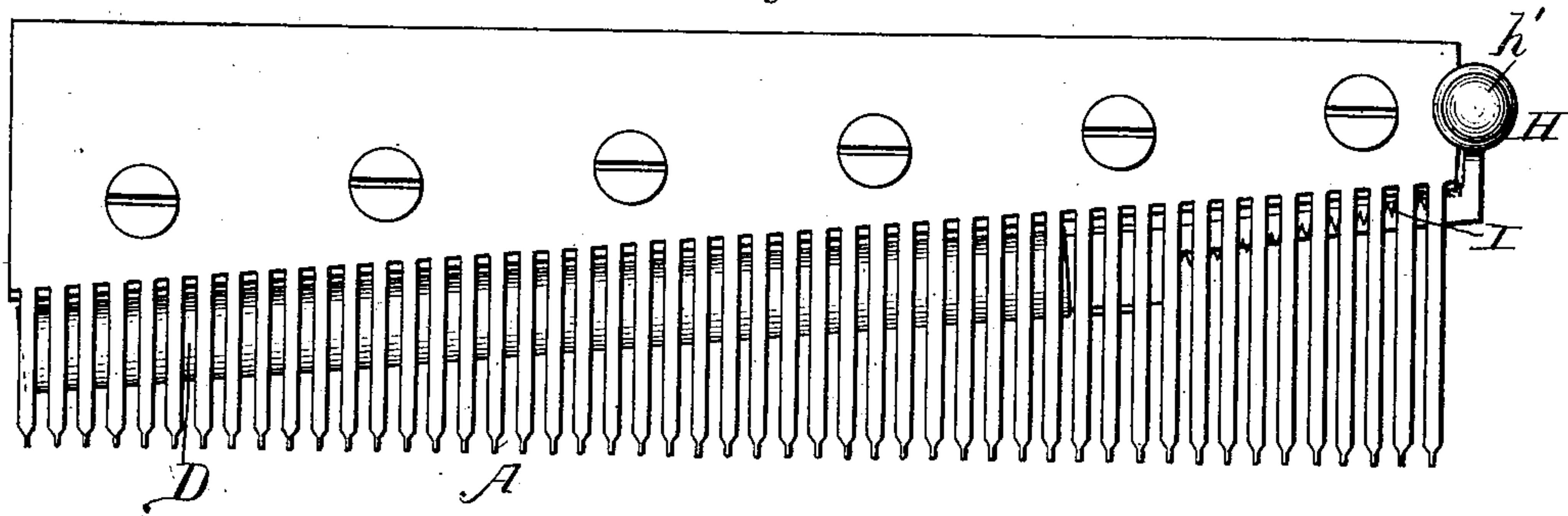


Fig. 2.

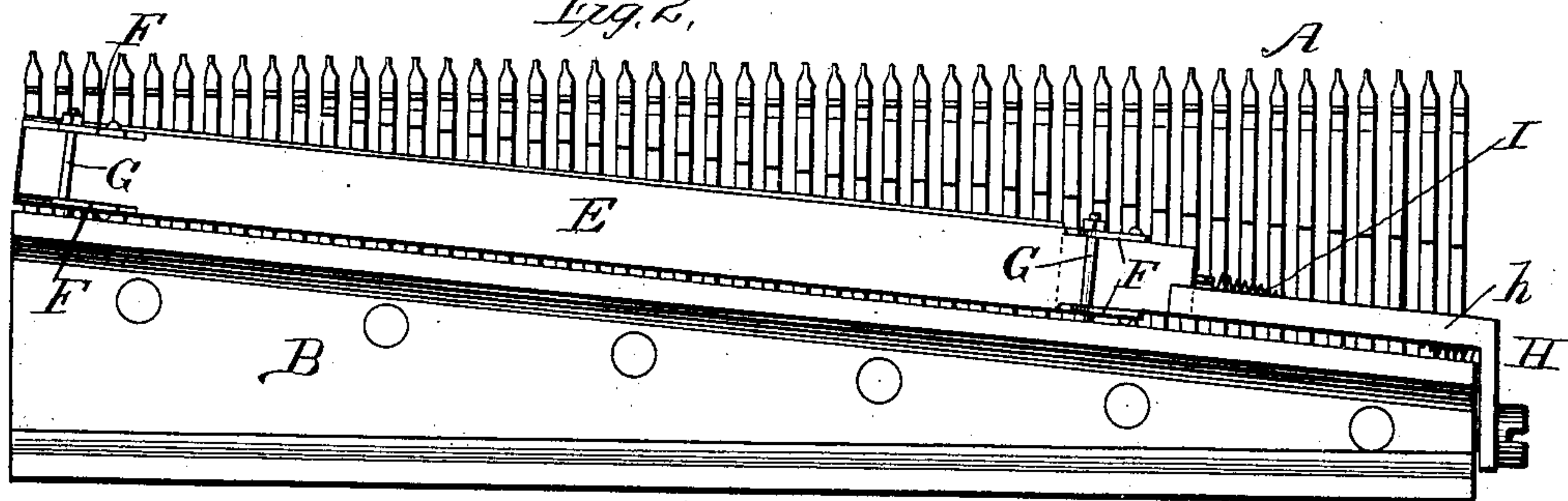


Fig. 3.

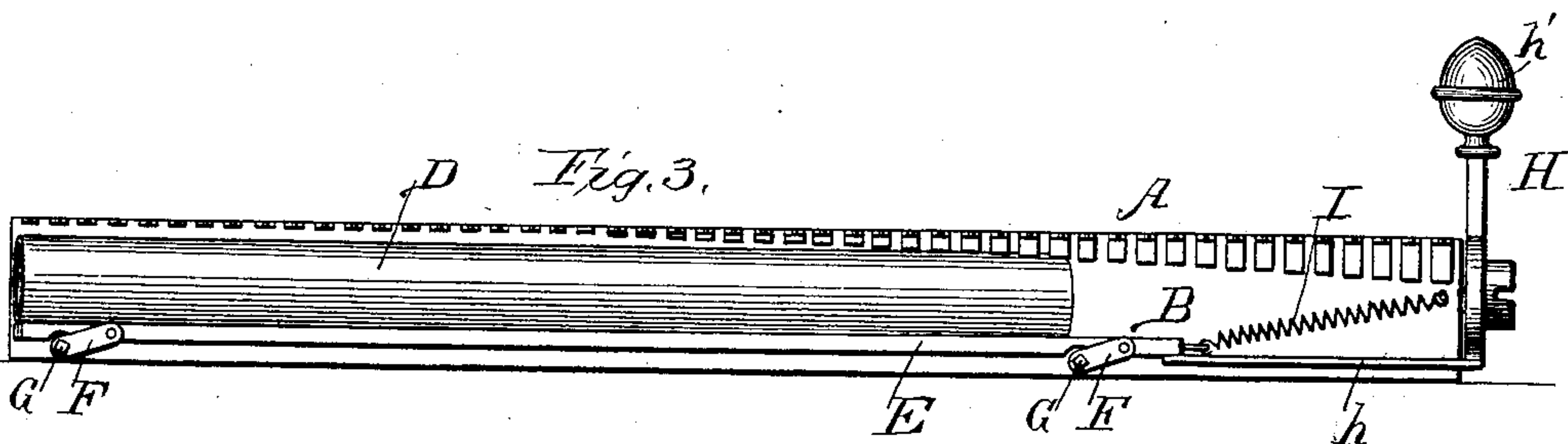
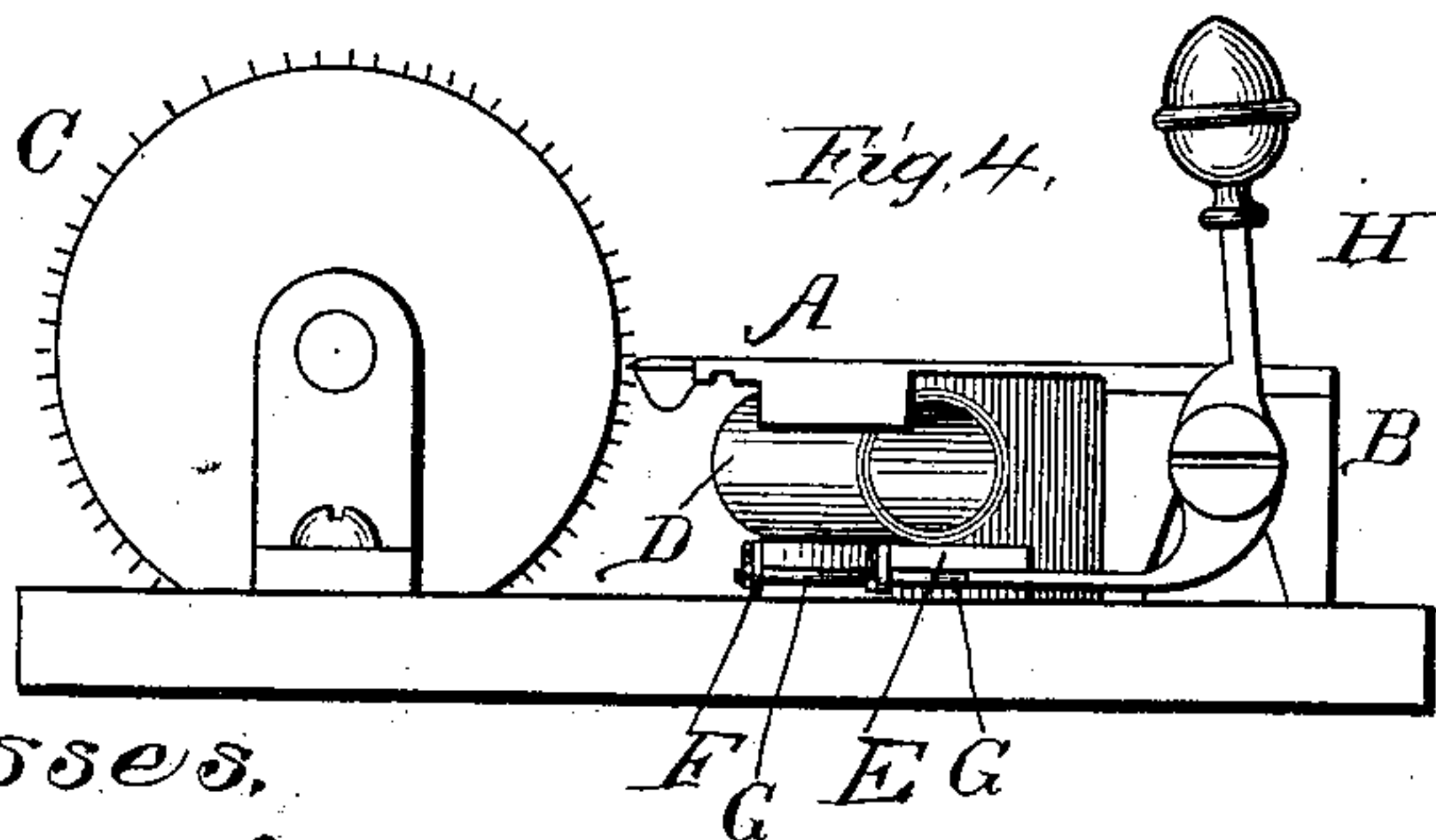


Fig. 4.



Witnesses,
H. Rosenthal
Frederic H. Mills

Edward Sueur

Inventor

By, Chas. E. Page
att'y.

UNITED STATES PATENT OFFICE.

EDWARD SUEUR, OF CHICAGO, ILLINOIS, ASSIGNOR TO LYON & HEALY, OF
SAME PLACE.

ZITHER ATTACHMENT FOR MUSIC-BOXES.

SPECIFICATION forming part of Letters Patent No. 361,654, dated April 19, 1887.

Application filed March 14, 1887. Serial No. 220,889. (No model.)

To all whom it may concern:

Be it known that I, EDWARD SUEUR, a citizen of Switzerland, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Zither Attachments for Musical Boxes, of which the following is a specification.

This invention relates to an improvement in devices commonly known as "zither attachments for musical boxes," and involving, in a musical box, the presence of an elastic roll of paper or analogous material disposed transversely to the teeth of the comb, and so arranged that it can at will be brought against the comb-teeth, in order to produce while the music-box is playing the effect of a zither.

In such zither attachments it has been usual to secure a hollow elastic roll of paper or the like to a strip or bar which is raised and lowered relatively to the comb by the application of power to the strip or bar at a point between its ends. Thus a cam has been used for moving the roll-carrying bar in one direction relatively to the comb and in opposition to a spring, which latter serves as a means for moving the bar in the opposite direction. In some instances such cam has been provided directly upon a lever, while in others the cam has been secured to a rock-shaft provided at one end with a button for turning it and journaled in bearings applied to the metal bed or body-piece to which the comb is generally secured.

The object of my improvement is to provide a simple and efficient device for supporting and operating the strip or bar that carries the elastic zither-attachment roll in a manner whereby parallelism between the elastic roll and the plane of the comb-teeth shall be maintained under all circumstances, thereby avoiding any tendency of the roll-supporting bar to sag at either end and partially fail to accomplish the full desired effect by partial contact or unequal pressure along the line of comb-teeth.

A further object is to provide simple and efficient means whereby, while the parallelism between the elastic roll and the plane of the comb-teeth can be maintained, power can be conveniently and advantageously applied against a spring resistance for bringing the

elastic roll in contact with the comb-teeth, while on the other hand the spring serves as a means for drawing the elastic roll away from the comb-teeth in place of bringing the elastic roll into contact with the comb-teeth, as heretofore, it being observed that where the device is operated by hand to bring the elastic roll against the comb-teeth, as in the present instance, the extent of pressure of the said roll against the teeth can be regulated so as to modify the zither effect, as may be desired.

To the attainment of the foregoing and other useful ends, my said improvement consists in matters hereinafter described, and particularly pointed out in the claims.

In carrying out my invention I provide as a means for supporting the strip or bar that carries the elastic roll two or more (but usually two) pairs of links, which are pivoted to the frame or bed-piece to which the comb is usually attached, the said bar to which the elastic roll is attached being pivotally attached to the links, whereby when power is applied at one end to move such end of the bar and roll thereon toward the comb the opposite end of the bar will move in unison therewith and to an equal extent. The bar is moved toward the comb by a lever pivoted adjacent to one end of the comb, and having a lateral arm arranged to act against the elastic roll-carrying bar in a manner to permit a movement of the lever in one direction to move the said bar toward the comb and against the resistance of a spring, which, under such arrangement, can at one end be attached to an end of the elastic roll-carrying bar and at its opposite end attached to the frame or comb support.

In the drawings, Figure 1 represents a top plan view of the comb of a musical box in connection with my improved zither attachment for musical boxes. Fig. 2 is a bottom plan view, Fig. 3 a side edge elevation, and Fig. 4 an end elevation, of the same.

In said drawings, the comb A is secured to the bed-piece or frame B, and arranged relatively to the toothed or pin cylinder C of a music-box, as usual. The elastic pad or roll D may be composed of paper or other material suited to the purpose for which it is to be used, and is applied along and secured to a strip or bar, E, in any known or desired way.

This bar E is suspended or supported by links F, desirably arranged at points adjacent to the two ends of the bar, although, if preferred, additional links could be employed intermediate of such points. These links are preferably disposed in pairs and hung upon pivots G, that are secured to the bed or frame B, the two links of each pair being arranged, respectively, along the opposite side of the bar E, and either separately pivoted to the side edges of the bar or secured by long pivots passing through the bar, in which latter instance one pivot may serve for each pair of links. It will be evident, however, that the same result could be attained by forming the two links of each bar rigid with one or both pivots and hinging one pivot to the bar and the other to a bearing on the bed-piece, which construction will be apparent without special illustration. In this way, when power is applied at any point to move the bar toward the comb-teeth both pairs of links will move simultaneously and to an equal extent, in which way the pressure of the elastic roll against the comb-teeth will be equal along the entire length of the roll or pad.

The hand or thumb lever H, for operating the bar E in a manner to bring the elastic roll or pad against the comb-teeth, is pivoted to one end of the bed or frame B, to which the comb is secured. This lever extends up to within convenient reach of the operator, and is provided with a laterally-extending arm or finger, *h*, arranged to bear against the bar E adjacent to one end of the bar and in opposition to the resistance of a spring, I. This spring is herein arranged to connect one end of the bar E with the bed or frame B, although its location could of course be changed without affecting its desired function.

Where the elastic roll is arranged below the comb, the arm *h* of the lever may bear against the under side of the bar E, as herein shown,

although, in case it is desired to arrange the elastic pad or roll over the comb-teeth, the spring could of course be disposed to normally raise the roll from the comb-teeth, while the arm *h* could be formed to bear against the top side of the bar E.

While any desired friction device could be used in connection with the lever H, it will be observed that when the bar E is moved to an extent to bring the links at or substantially at right angles to the plane of the comb the position of the links, combined with the elasticity of the pad or roll, and either the friction of the lever H or a weight, *h'*, on the upper end of said lever, will serve to hold the roll against the teeth in opposition to the spring so long as may be necessary. It will be observed, however, that all of said members may involve such ease of adjustment that a weight, *h'*, applied as an ornamental knob to the lever, would be sufficient to hold the roll against the teeth so long as the lever might be permitted to lie at one side of the center of gravity.

What I claim as my invention is—

1. In a musical box, the combination, with the comb, of the zither attachment suspended by links, substantially as and for the purpose described.

2. In a musical box, the combination, with the comb, of a zither attachment suspended by links, and a lever for operating the zither attachment, substantially as and for the purpose described.

3. In a musical box, the combination, with the comb, of the zither attachment suspended by links, the lever H, for moving the zither attachment one way, and the spring for moving the zither attachment in an opposite direction, substantially as described.

EDWARD SUEUR.

Witnesses:

CHAS. G. PAGE,
L. S. LOGAN.