

No. 669,451.

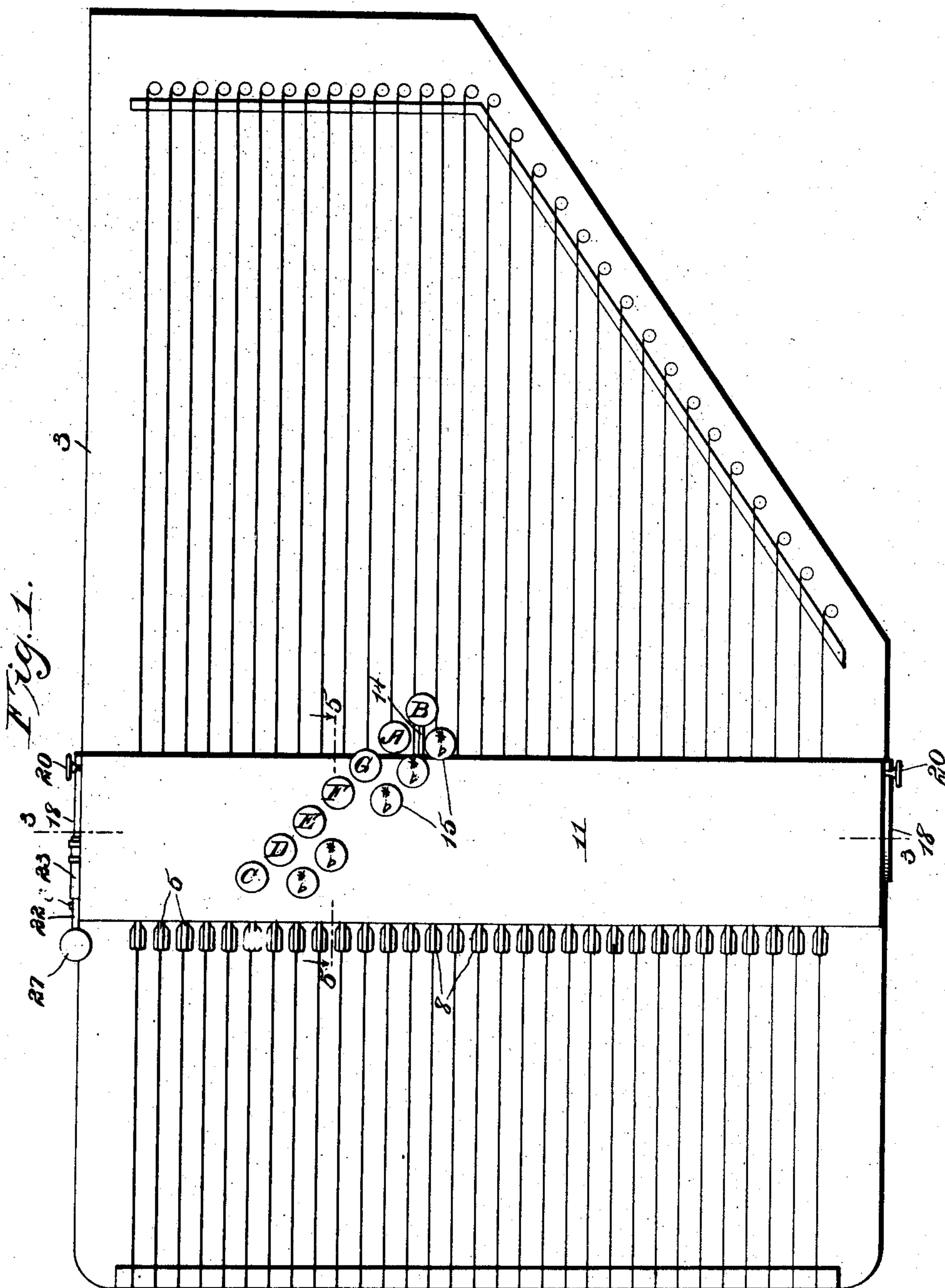
Patented Mar. 5, 1901.

W. A. THALDORF.  
FINGER BOARD ATTACHMENT FOR CITHERNS.

(Application filed Feb. 2, 1900.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses

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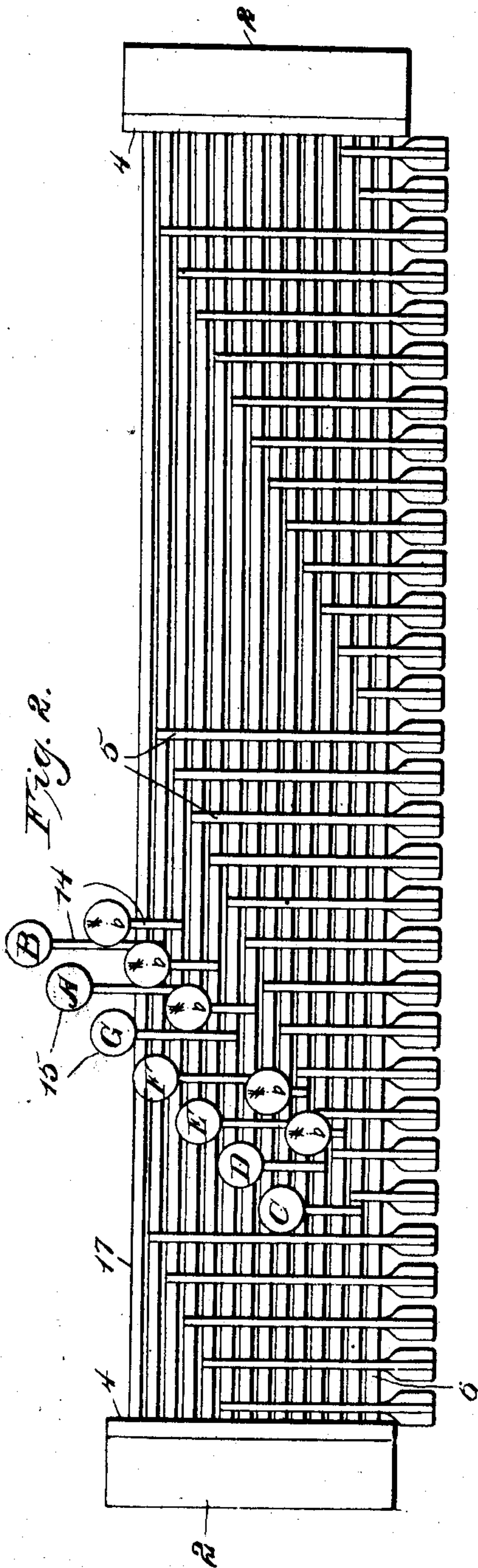
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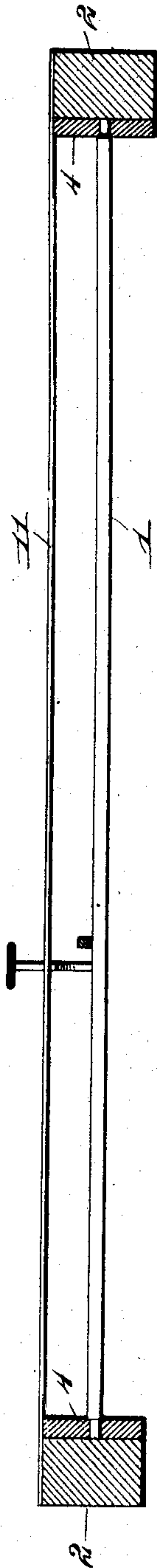
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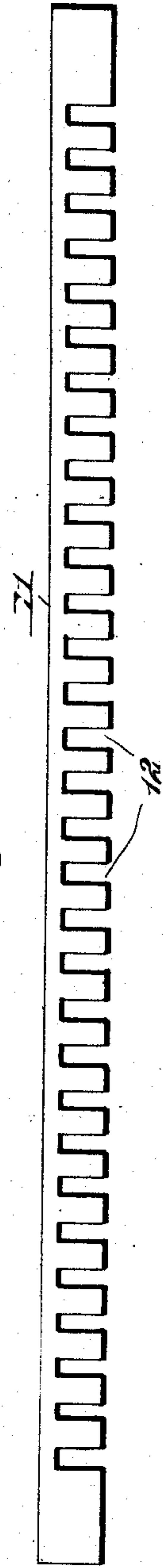
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*Fig. 3.*



*Fig. 4.*



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Fig. 5.

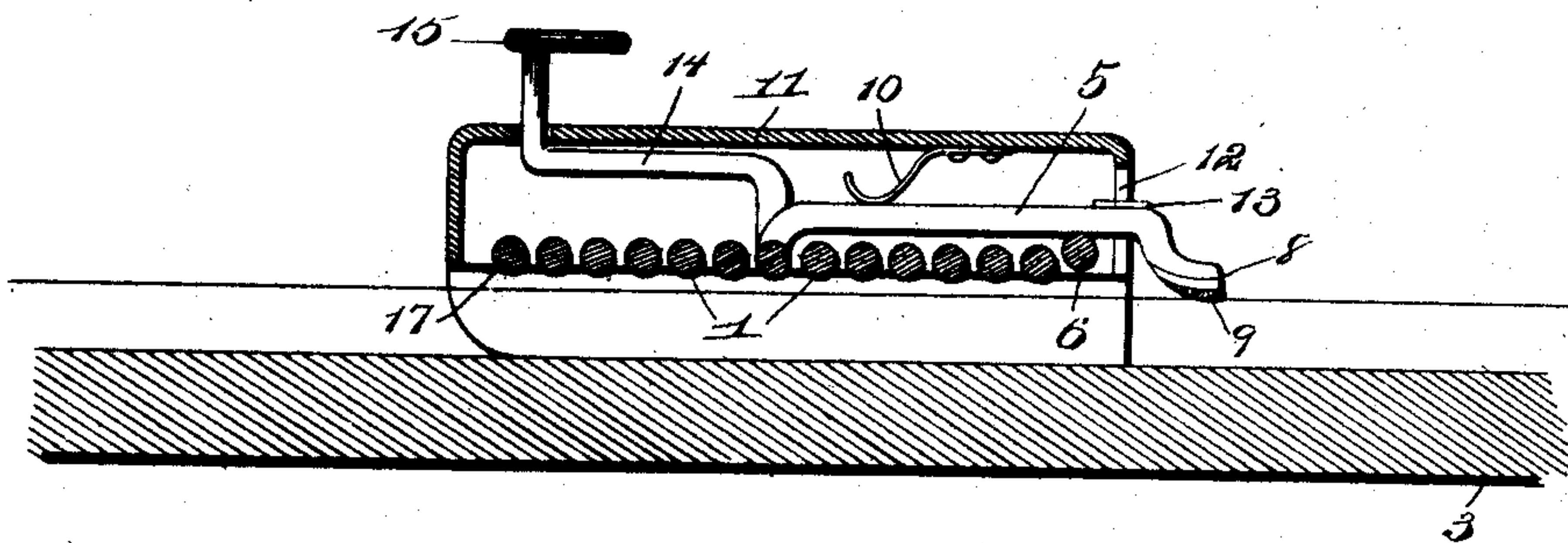


Fig. 6.

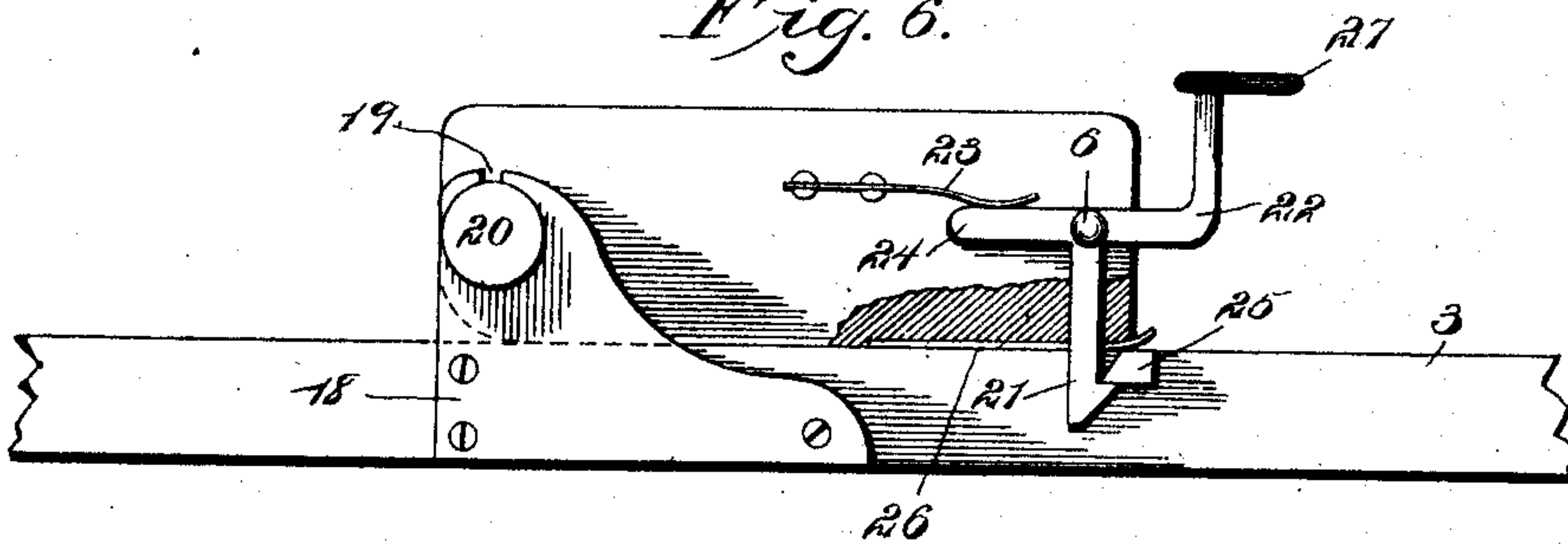
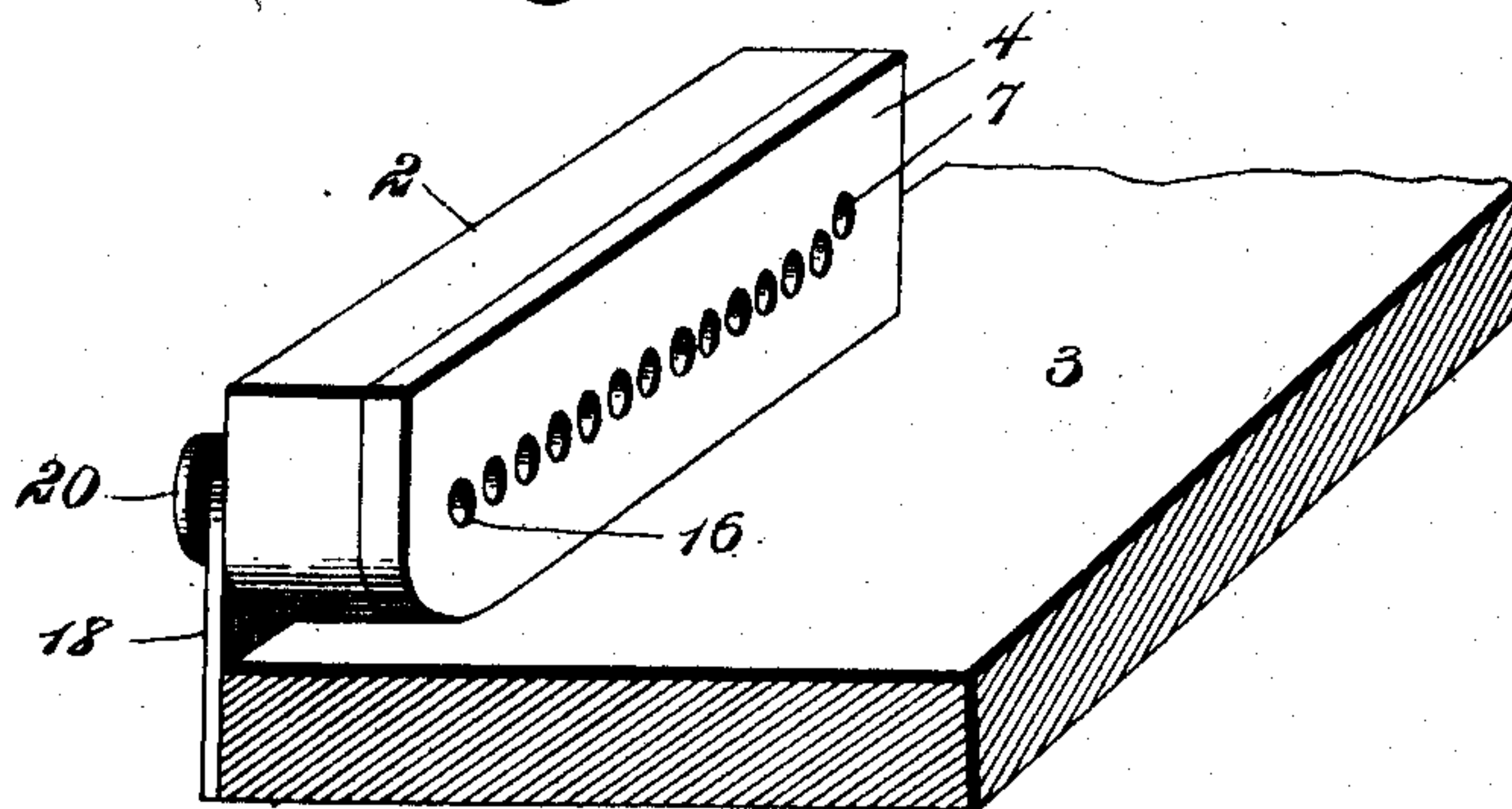


Fig. 7.



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# UNITED STATES PATENT OFFICE.

WILLIAM A. THALDORF, OF NEW WHATCOM, WASHINGTON, ASSIGNOR OF  
ONE-HALF TO AUGUST W. PETERSON, OF LAWRENCE, WASHINGTON.

## FINGER-BOARD ATTACHMENT FOR CITHERNS.

SPECIFICATION forming part of Letters Patent No. 669,451, dated March 5, 1901.

Application filed February 2, 1900. Serial No. 3,722. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM A. THALDORF, a citizen of the United States, residing at New Whatcom, in the county of Whatcom and State of Washington, have invented certain new and useful Improvements in Finger-Board Attachments for Citherns, of which the following is a specification.

The object of this invention is a finger-board attachment for citherns and similarly-strung instruments, whereby it is possible for the performer to release or damp any string, combination of strings, or all of the strings simultaneously at pleasure by simply fingering the appropriate keys with which the attachment is provided.

The construction of the improvement will be fully described hereinafter in connection with the accompanying drawings, and its novel features will be defined in the appended claims.

In the accompanying drawings, Figure 1 represents a top view of a simple form of cithern, showing the invention applied thereto; Fig. 2, a top view of the attachment, the cover or top board thereof being removed; Fig. 3, a longitudinal sectional view taken through the attachment on line 3 3 of Fig. 1; Fig. 4, a longitudinal elevation of the inclosing case or cover of the attachment; Fig. 5, a transverse vertical sectional view taken on the line 5 5 of Fig. 1; Fig. 6, a view in end elevation, showing one of the mountings on which the attachment is pivotally supported and the mechanism for retaining the attachment in operative engagement with the strings and for releasing it from such engagement; and Fig. 7 a perspective view showing one of the end bearing-plates for the rock-shafts.

In carrying out the invention a series of parallel rock-shafts 1 are mounted in the end blocks 2, so as to lie in a normally horizontal plane above the strings of the instrument 3. For the purpose of this mounting and to provide for the free turning of the shafts a suitable metal plate 4, having bearing-openings, is affixed to the inner face of each end block. These shafts are preferably twelve in number, corresponding to and representing the twelve tones of the chromatic scale of music, the instrument illustrated being strung for

the playing of such tones; but a fewer number of shafts would be sufficient were the instrument provided with the simpler form of scale of eight tones, as the purpose of each shaft is simply to control the strings having the same designation or tone in the various octaves throughout the instrument's range. Each shaft is therefore provided along its length with a series of damper-arms 5, which are rigidly secured to said shaft at points thereon intersected by the strings of like designation. These damper-arms are of such length and formation as to extend over the shafts which may lie in front of that on which they are respectively mounted and rest when the attachment is released on the rod 6, which passes through the opening 7 in the bearing-plate 4 and the end block 2, thus tying the end blocks together. Normally the rod 6 forms a stop to limit the downward movement of the damper-arms. At their ends the damper-arms are bent downwardly, so as to lie in close proximity to the plane of the strings, and provided with a foot or plate 8, to which is affixed a suitable damper-pad 9. These arms lie normally so as to have the damper-pad bearing on the string, and to increase the force of such contact and make the action more positive and prompt in responding a series of springs 10 are secured on the under side of the inclosing case 11, (shown in Fig. 5,) which bear, respectively, upon one of the damper-arms of each rock-shaft and hold the said arms under slight tension. The front side of the case 11 is provided with a series of slots 12, through which the damper-arms 5 extend and in which they have their movement, a cushion or pad 13 being provided each damper-arm on its upper face at the point where the same contacts with the case in the raising movement.

The shafts carrying the dampers are rocked by means of key-levers 14, with which each shaft is provided. These levers are rigidly secured to their respective shafts at such points as to assemble them at one side of the instrument and are of such varying lengths as to bring their keys 15 into two rows arranged diagonally to the strings, by which arrangement the left hand may assume a position for fingering productive of great fa-



cility and a better command over the attachment in another important operation to be hereinafter set forth. These levers 15 for the most part are confined within the inclosing case 11 and have a portion bent to a vertical position, which portion extends through an opening in the top of said casing, while a slot is provided in the rear wall of the case for each of those levers that extend beyond the same.

In Fig. 2 the operation of the keys may be traced, as the rock-shafts are indicated by the designation of the key carried by each. Thus it will be readily seen that by pressing down the key C the shaft C will be rocked or turned, thereby lifting the damper-arms secured thereto and which normally rest upon and depress the strings C. This operation not only leaves the strings C free to vibrate, but by the raising of the dampers the same indicate the string or strings to be picked and permit of such picking without requiring any great care to avoid picking the other strings, which though struck will not sound.

There are times when from the character of the piece to be played or from the desire of the player all the strings of the instrument should be left free to vibrate, and the provision for throwing the attachment out of operation, as well as into operation, is one of the important features of the invention and will now be referred to in detail.

The end blocks 2 are each provided with a hole 16 near their rear ends, through which extends a rod 17, the said rod extending beyond the outer face of the blocks to form a trunnion or pivot. A plate 18 is suitably affixed to the frame of the cithern and is provided with a slit 19, in which the trunnion part of rod 17 rests. A suitable knob or head 20 is secured to the ends of the rod 17, which is preferably reduced at the ends and provided with screw-threads to enter a screw-threaded socket in the end knobs. The blocks 2 at their rear are rounded from the under side to permit them to be raised at their forward ends, turning on the pivot-rod 17. The left-hand block 2 is provided on its outer face near its front end with a catch 21, forming a part of a key-lever 22, pivotally mounted on the rod 6. A spring 23 is arranged to bear on an arm 24 of said key-lever for bringing the catch into position to engage the lug on projection 25, both cap and lug having inclined side engaging faces to cause the locking to ensue from pressure on the end blocks 2.

The attachment is forced down to its engaged or normal position against the pressure of a flat spring 26, working within a recess in the under side of left-hand block 2, the tension of which spring upon the pressing down of the releasing-key 27, which releases the catch from its engaged position, will cause the attachment to be raised to such position as will lift all the dampers from the strings. This action of throwing the attachment out of operation is designed to accom-

plish by the thumb of the fingering hand without any change of position of that hand, while the attachment may be as conveniently returned to its engaged or normal position by slight pressure on the same, as above indicated.

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

1. A finger-board attachment for citherns and similarly-strung instruments, the same comprising a series of dampers adapted to rest normally upon the strings, key-operated levers for respectively raising said dampers, and means whereby the entire series of dampers may be simultaneously raised from, or brought into engagement with, the strings, comprising a tilting support for said dampers, a latch device for securing the support, and a spring for raising said support when the latch is released.

2. A finger-board attachment for citherns and similarly-strung instruments, the same comprising a series of rock-shafts arranged transversely to the strings thereof, a pivoted support for said shafts, damper-arms secured to said shafts and adapted to rest normally on said strings, a key-lever on each shaft, and a stop for said damper-arms extending parallel to the rock-shafts.

3. A finger-board attachment for citherns and similarly-strung instruments, the same comprising a pivoted frame or support, a series of rock-shafts mounted in said frame and arranged transversely to the strings thereof, damper-arms normally resting on the strings, springs for holding said arms normally under tension, a key-lever on each of said shafts, a catch device for securing the frame in depressed position and a key for releasing the catch device.

4. A finger-board attachment for citherns and similarly-strung instruments, the same comprising parallel pivoted end blocks; a series of rock-shafts supported by said blocks and arranged transversely to the strings thereof; damper-arms secured to said shafts, and adapted to rest normally on said strings; and key-levers, one on each of said shafts closely assembled and arranged so as to bring the keys thereof in one or more rows running diagonally to the strings; and means for tilting said blocks.

5. A finger-board attachment for citherns and similarly-strung instruments, the same comprising a tilting frame or support, a series of rock-shafts mounted in said frame and arranged transversely to the strings thereof and provided with damper-arms for the strings, key-levers for operating said arms, a catch device for holding the tilting frame depressed, a key for releasing the catch, and a spring for elevating the frame.

6. A finger-board attachment for citherns and similarly-strung instruments, the same comprising a series of rock-shafts arranged transversely to the strings thereof, and pro-



vided with damper-arms for the strings, and key-levers for operating said arms, the said attachment being pivotally mounted on the instrument to permit of raising the damper-arms simultaneously, a spring for raising said attachment, a catch, and a key in close proximity to the key-levers of the rock-shafts.

7. A finger-board attachment for citherns and similarly-strung instruments, the same comprising a suitable frame mounted to tilt on said instrument, a series of rock-shafts supported in said frame, damper-arms on said shafts adapted to normally rest on the strings of said instrument, a key-lever on each of

said shafts for raising the damper-arms, a support for said damper-arms when the attachment is released, a spring for raising said attachment, a spring-actuated catch for holding the said attachment against the tension of said raising-spring, and a releasing key-lever for said catch, substantially as described, and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM A. THALDORF.

Witnesses:

J. E. RYERS,

JOHN R. CRITES.