

No. 671,217.

Patented Apr. 2, 1901.

E. KLABER.

ADJUSTABLE TUNE SHEET SUPPORT FOR MUSICAL INSTRUMENTS.

(Application filed Mar. 6, 1900.)

(No Model.)

Fig. 1.

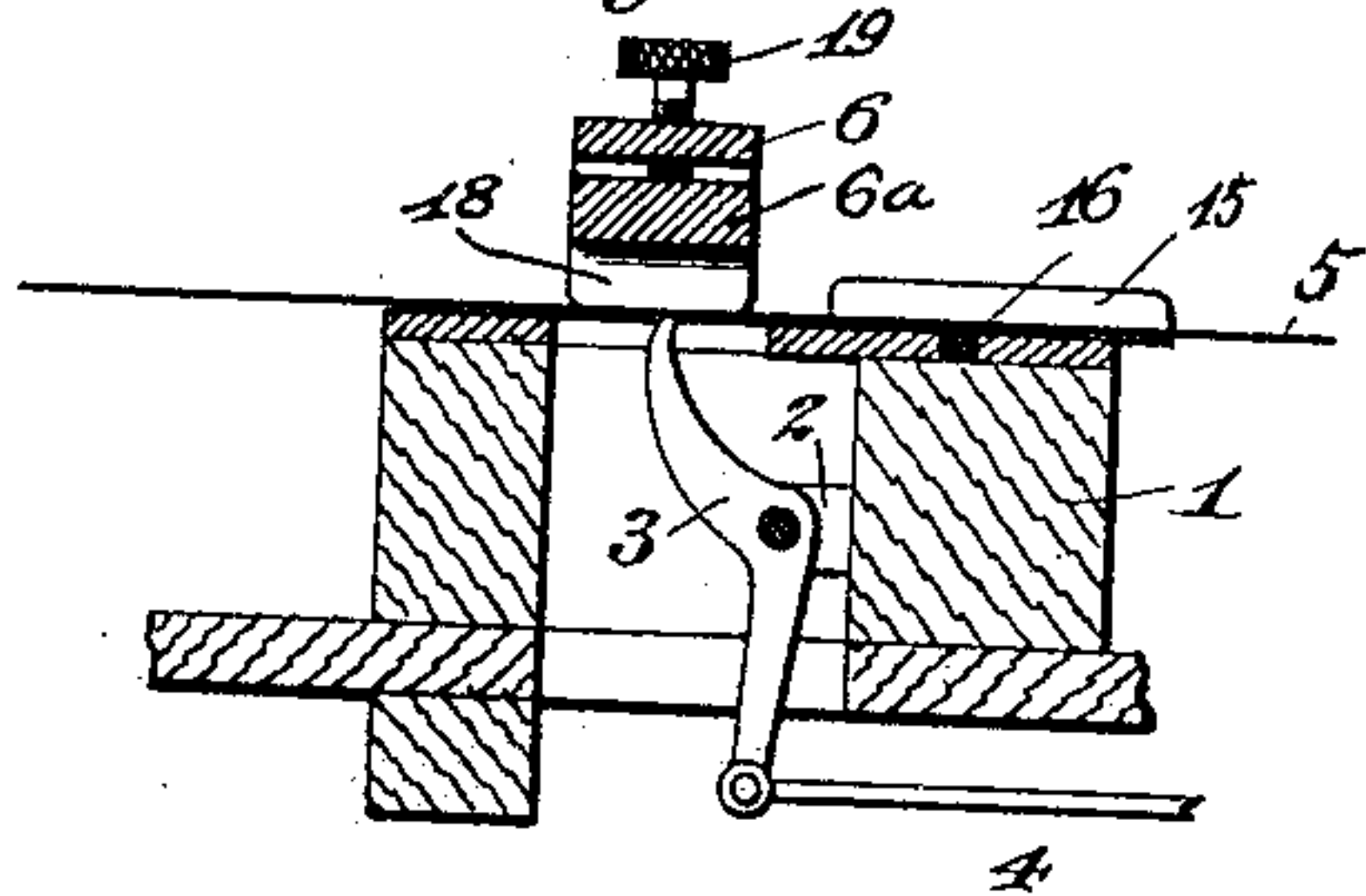


Fig. 2.

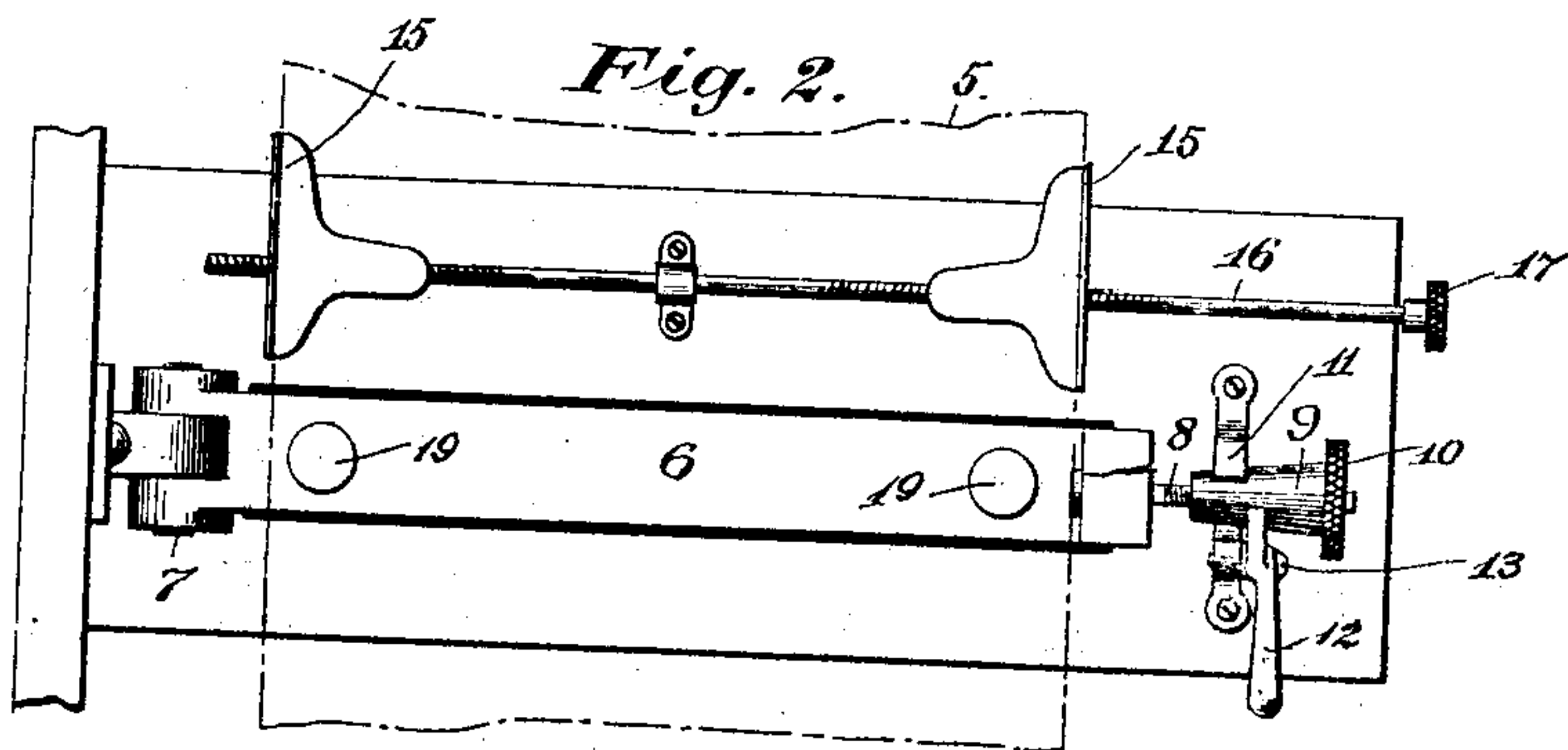


Fig. 3.

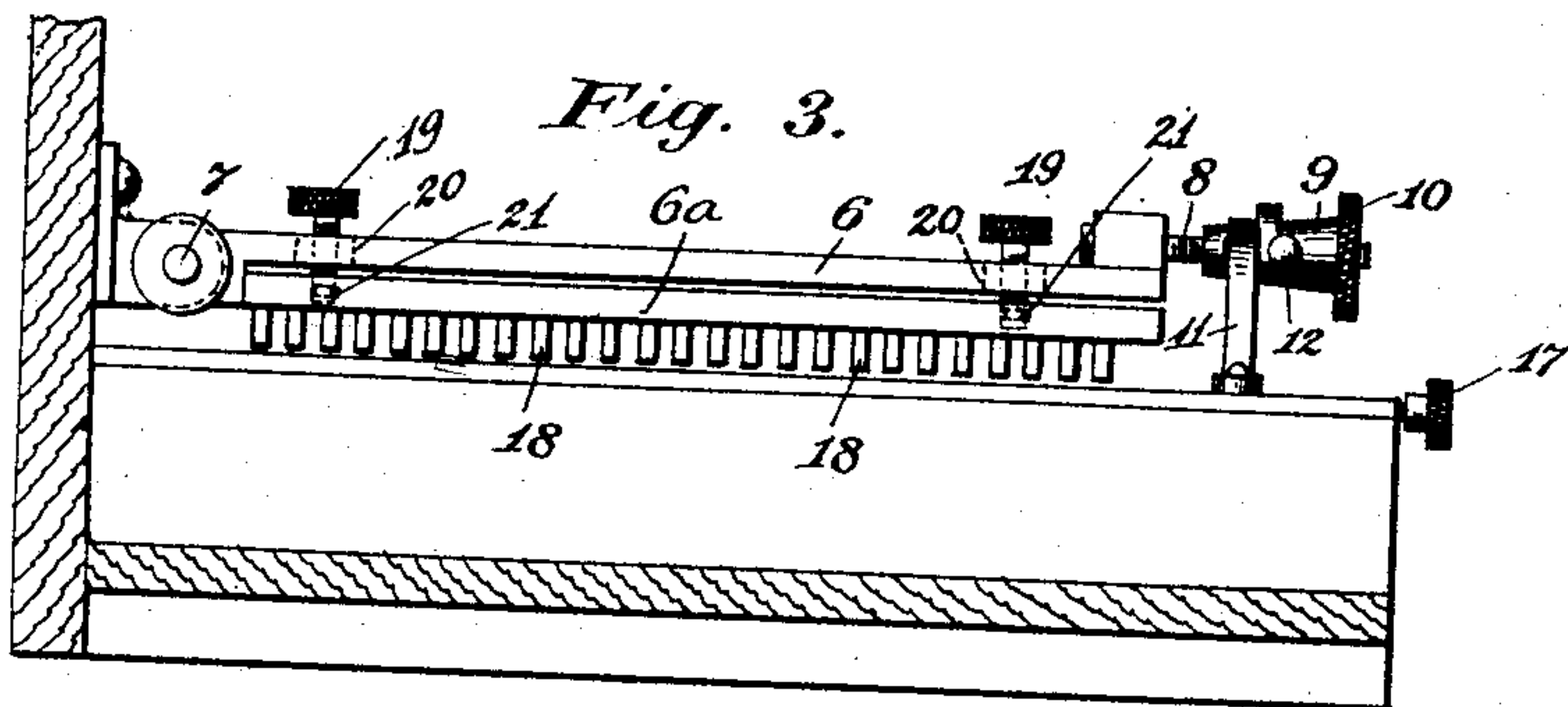
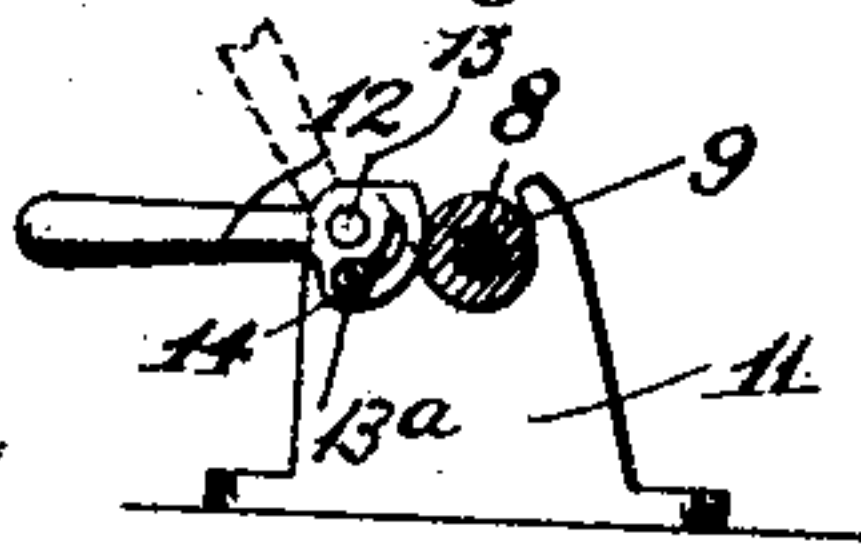


Fig. 4.



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ADJUSTABLE TUNE-SHEET SUPPORT FOR MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 671,217, dated April 2, 1901.

Application filed March 6, 1900. Serial No. 7,511. (No model.)

To all whom it may concern:

Be it known that I, EMILE KLABER, a subject of the Queen of Great Britain, residing in the borough of Manhattan, in the city and State of New York, have invented certain new and useful Improvements in Adjustable Tune-Sheet Supports for Mechanically-Played Musical Instruments, of which the following is a specification.

10 In self-playing or mechanically-played musical instruments, such as pianos and the like, having hammers actuated by a motor-drum engaging with friction-toes for the several notes which are dropped upon the drum by
15 means of a perforated tune-sheet passing over controlling-dogs in the shape of bell-crank levers, which normally retain the friction-toes out of contact with the motor-drum by pressure against the imperforate parts of
20 the tune-sheet, but in passing the perforations corresponding with the desired musical notes are released, so as to drop the corresponding friction-toes in contact with the motor-drum, it is customary to employ a
25 hinged bearing-bar resting upon the tune-sheet directly over the line of bell-cranks or retaining-dogs, so as to sustain the upward pressure against the tune-sheet and keep this in contact with the bell-cranks. A practical
30 difficulty with this device results from the wearing caused by friction of the traveling tune-sheet against the upper ends of the bell-cranks or dogs, so that after a time the dogs fail to provide the necessary support to re-
35 tain the friction-toes out of contact with the motor-drum. Several devices have been employed in connection with the pressure-bar to compensate for the wear of the bell-cranks or retaining-dogs, so as to maintain their op-
40 erative relation with the tune-sheet; but the adjustment of such compensating devices involves considerable trouble and some care in manipulation in order to preserve the practical effectiveness of the device. In order to
45 obviate these difficulties, I have provided, in connection with the hinged pressure-bar, an adjusting device by which the end of the bar representing the treble notes, where the principal wear occurs, can be set up to its work
50 to compensate for the wear referred to.

In the accompanying drawings, Figure 1 is a transverse section of the supporting bed or

frame over which the perforated tune-sheet travels in an automatic piano-playing mechanism of the kind referred to, showing also 55 the tune-sheet, the pressure-bar, and one of the retaining-dogs or bell-cranks. Fig. 2 is a plan view of the same, showing the pressure-bar and tune-sheet guide and indicating in dotted lines the position of the travel- 60 ing tune-sheet. Fig. 3 is a front elevation of the same parts. Fig. 4 is a detail representing my improved adjusting device, partly in section.

The construction and operation of the mo- 65 tor-drum and the friction-toes—one for each note—engaging therewith being well known and understood in the art do not require specific description and are not shown in the drawings. 70

1 represents portions of the frame having a central cavity, within which are mounted on brackets 2 the bell-cranks 3, one for each note, having pivoted to their lower ends rods 4, connecting each with its corresponding 75 friction-toe, so as to retain said toe in normal position out of contact with the drum by the depression of the upper end of the bell-crank by contact with the imperforate part of the tune-sheet 5. Over tune-sheet 5 and directly 80 above the upper ends of the horizontal range of bell-cranks or retaining-dogs 3 is the pressure-bar 6, fulcrumed at 7 and having at its free end a horizontal screw 8, which projects within an elongated nut or threaded sleeve 9 85 of conical periphery, formed at its base with a milled head 10 to admit of rotating it with the thumb and finger. The nut 9 forms a bearing or support for the horizontal projecting screw 8, and the latter firmly supports 90 against upward pressure the free end of the hinged pressure-bar 6. The conical form of the said nut 9 is to adapt it to vary or adjust the vertical height at which it supports the bar 6. The horizontal conical nut 9 is sup- 95 ported in an overhanging seat prepared for it in a standard 11 and is secured in this bearing by a detent 12, having an arc-formed bearing-face and pivoted at 13 concentrically with its face, but above the center of the con- 100 ical nut 9, so that when in normal position (shown in Fig. 4) said detent acting in conjunction with the overhanging arm of the bearing 11 will retain the nut in said bearing,

and thereby hold the bar 6 down to its work. The detent 12 is formed with a concentric slot 14, working on a stud 13^a, as shown in Fig. 4, so as to permit a limited oscillation of the detent-lever 12, as indicated in dotted lines, for releasing the conical nut 9 and pressure-bar 6 when the latter is to be lifted for the insertion of the tune-sheet.

As a preferable mode of providing vertical adjustment I construct the pressure-bar 6 in two parts, as shown in Fig. 3—that is to say, with a separate face-bar 6^a, on which the ribs 18 are formed, connected to the main bar 6 by thumb-screws 19, whose threads work in fixed nuts 20 in the main bar 6, while their ends are flanged or grooved, as shown, to engage with glands or pins 21 in the face-bar 6^a, permitting their rotation while retaining the face-bar 6^a in connection with the main bar 6 and permitting the adjustment of the face-bar at either or both ends to any degree of prominence by turning the respective screws 19.

The tune-sheet travels upon and between flanged guides 15, mounted on an adjusting-rod 16, which is formed with right and left threads and with a milled head 17 for rotating it, so that by turning the rod in either direction the flanged guides 15 may be made to approach or recede from one another in order to adjust them in distance apart to suit the width of the tune-sheet.

On the under side of pressure-bar 6 are the customary ribs 18, which serve to hold the tune-sheet down to its work. The tune-sheet passes beneath said ribs, so as to permit the upward projection of the upper ends of the bell-cranks or retaining-dogs 3 through the apertures of the tune-sheet and between the ribs 18 as the tune-sheet travels.

The following is what I claim as new and desire to secure by Letters Patent:

1. In combination with the range of retaining-dogs the tune-sheet guide and supporting-frame of a self-playing or mechanically-played musical instrument, a pressure or retaining bar, mounted adjustably over the range of retaining-dogs or bell-cranks upon which the tune-sheet operates and means for varying the height or depression of the said pressure or bearing bar, substantially as explained.

2. In combination with a range of bell-cranks or dogs, adapted to be operated on by a moving tune-sheet, and a ribbed pressure or bearing bar to retain the tune-sheet in proper relation to the said retaining-dogs; a conical bearing-nut 9 having a threaded connection with the end of the pressure or bearing bar, and a bearing 11 for conical nut, by which the bar is held in the required position of adjustment, relatively to the bell-cranks or dogs on which the tune-sheet operates as explained.

3. The combination of the range of bell-cranks or dogs, 3, on which a suitable tune-sheet may operate a hinged pressure or bearing bar adapted to retain the tune-sheet in proper relation to the dogs or bell-cranks, a conical pressure-nut 9, having screw connection with the end of the pressure or bearing bar, a bearing 11, for the said conical nut, and a dog 12, to retain or release the said conical nut and thereby the bearing or pressure bar to which it is attached, substantially as described.

4. In an automatic musical instrument, the combination with the pressure-bar, the hinged frame carrying said bar, means carried by said frame for applying a graduated pressure on the bar, and a securing device which secures said frame and bar in place.

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