

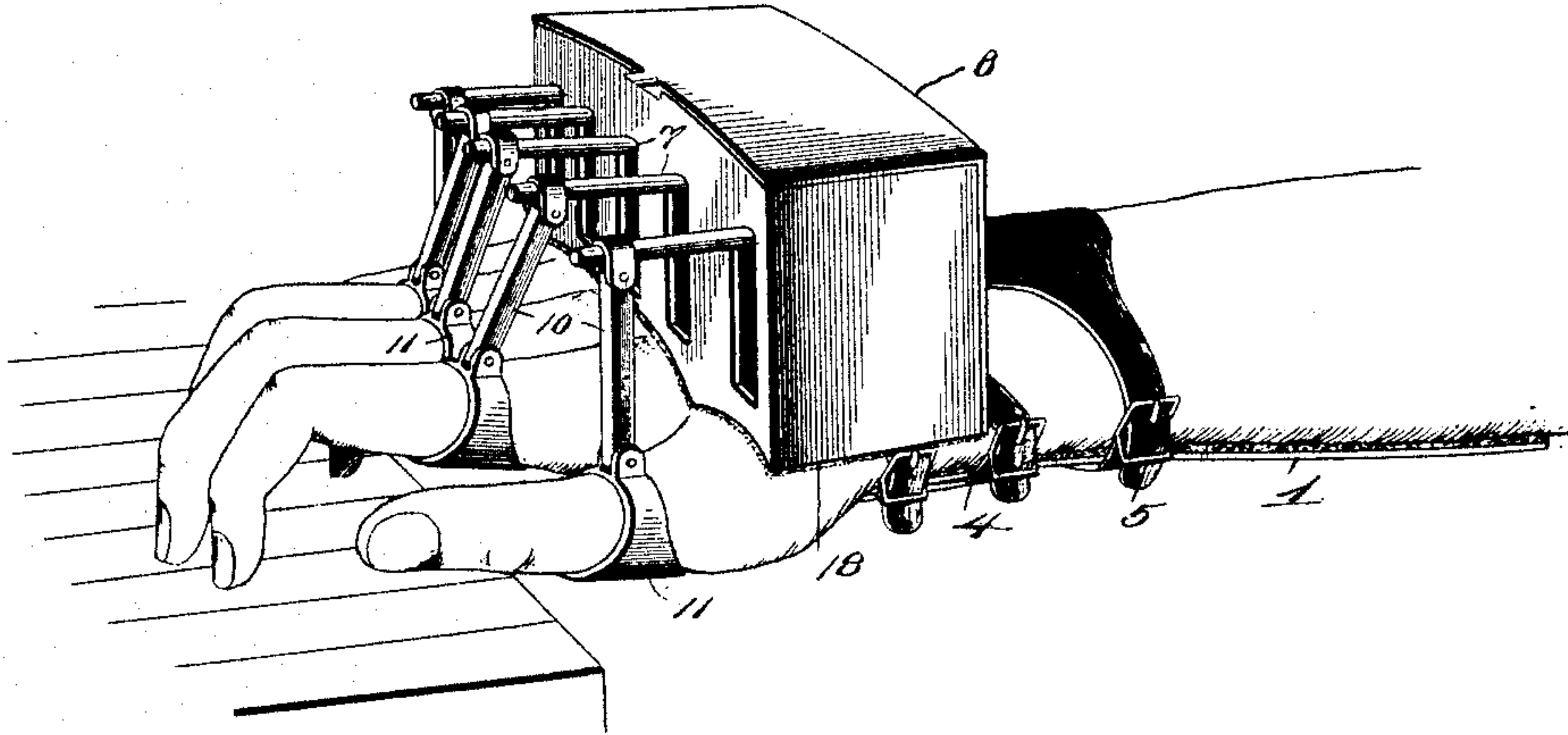
(No Model.)

E. V. THOMPSON.  
HAND AND ARM SUPPORT FOR PIANO PLAYERS.

No. 585,799.

Patented July 6, 1897.

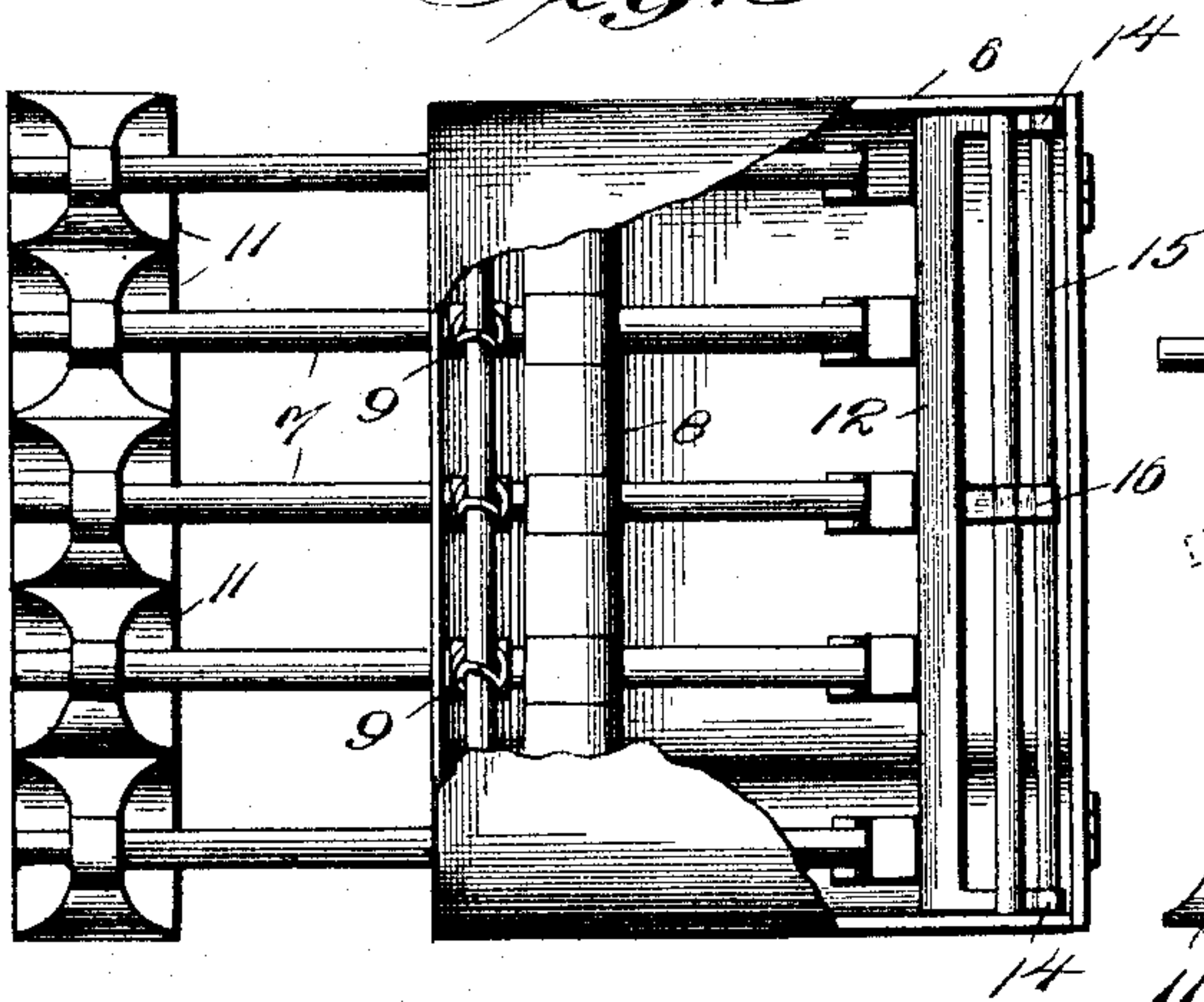
*Fig. 1.*



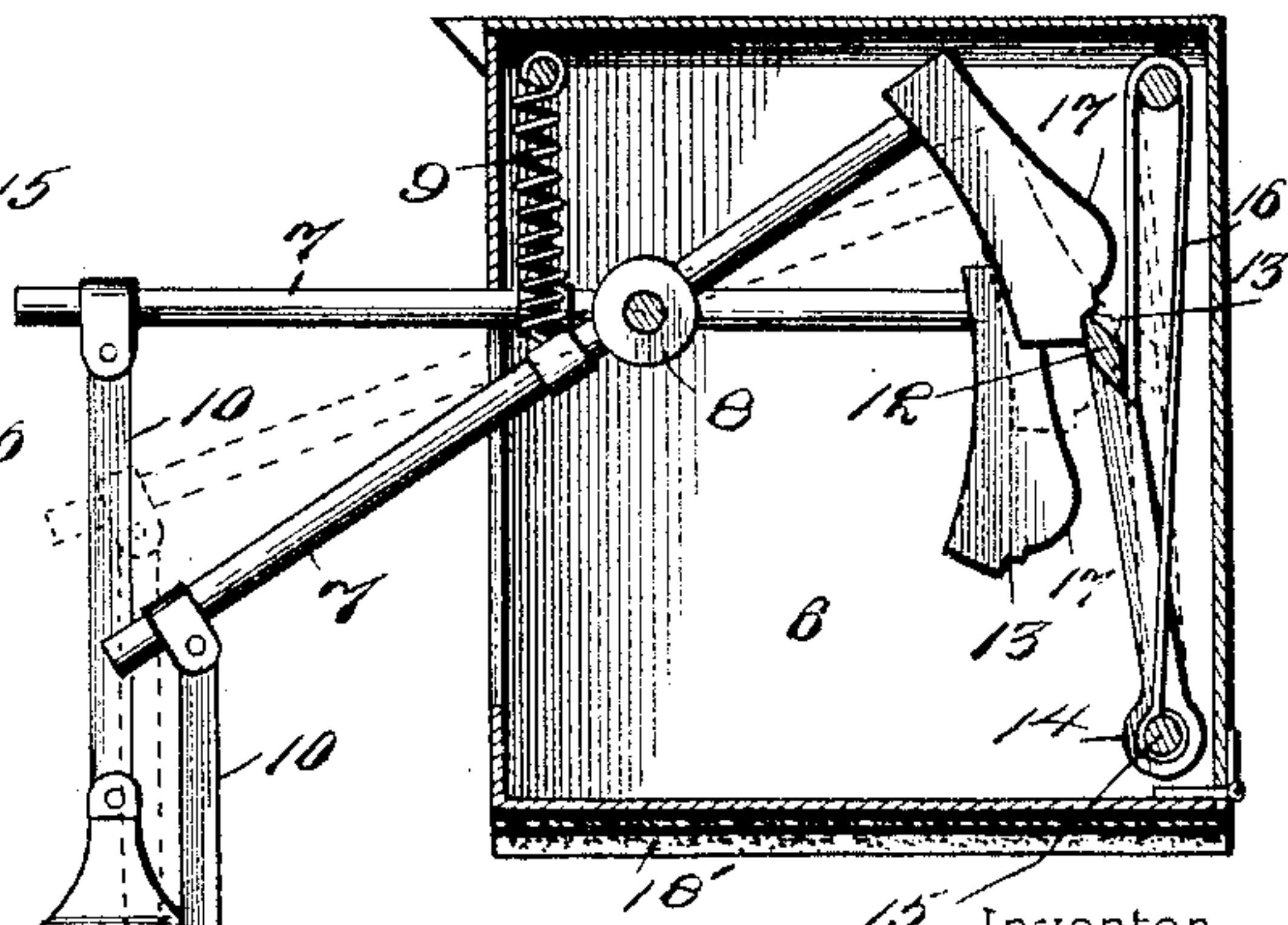
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses

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# UNITED STATES PATENT OFFICE.

ELLA V. THOMPSON, OF GRAYSON, KENTUCKY.

## HAND AND ARM SUPPORT FOR PIANO-PLAYERS.

SPECIFICATION forming part of Letters Patent No. 585,799, dated July 6, 1897.

Application filed October 13, 1896. Serial No. 608,774. (No model.)

*To all whom it may concern:*

Be it known that I, ELLA V. THOMPSON, a citizen of the United States, residing at Grayson, in the county of Carter and State of Kentucky, have invented a new and useful Hand and Arm Support for Piano-Players, of which the following is a specification.

My invention relates to a hand and arm support for piano-players, the same being particularly designed to give to beginners and those who have acquired bad habits the correct position of the arm, hand, and wrist when the fingers are in playing position, and, furthermore, to provide a device adapted to assist in attaining a sustained touch, wherein a finger which has depressed a key remains in that position until another finger is depressed to actuate the succeeding key.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a device constructed in accordance with my invention, the same being shown applied. Fig. 2 is a detail view of the arm-rest detached. Fig. 3 is a plan view of the spring-actuated finger-supports, the casing being partly broken away. Fig. 4 is a vertical central section of the same, showing in dotted lines the relative positions of the parts at an intermediate point in the descent of one of the finger-supports.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The arm-rest is of sectional construction and comprises a main or body portion 1, to which is hinged an auxiliary or hand portion 2, the latter being curved or bowed upwardly and fitted with a cushion 3 to rest in the palm of the hand and fill the cavity thereof to maintain the hand in the proper position. This arm-rest is secured firmly to the arm or hand of the operator by means of straps or bands 4 and 5, provided with suitable buckles or equivalent fastening devices, which are capable of adjustment to suit the size of the hand of the performer. Flexibly connected, as by one of said straps or bands, with the auxiliary or hand section of the arm-rest is a casing 6, in

which is fitted a series of finger-supports 7 for independent engagement with the fingers of the performer. In the construction illustrated these finger-supports consist of levers 55 mounted coaxially upon a transverse spindle 8 within the casing and provided with actuating or return springs 9, by which the outer or front ends of the levers are yieldingly held 60 in their elevated position. Flexibly connected, as by an interposed link 10, with the front or free ends of the finger-supporting levers are finger-rests 11, which in the construction illustrated consist of rings to encircle the fin- 65 gers, the same having broadened lower sides to prevent displacement upon the fingers and being adapted to occupy positions between the main knuckles and the first finger-joints, as shown in Fig. 1. The links allow forward 70 and rearward movement of the rings, and thus allow sufficient freedom to permit the performer to depress a finger with facility and yet prevent said finger from occupying a wrong position, by reason of the support be- 75 ing applied at the point described.

In addition to providing yielding means for holding the fingers in their elevated or normal positions I desire to employ means for maintaining one lever in its adjusted or de- 80 pressed position until another lever is actuated, and hence I have adopted a locking device consisting of a bar 12, which is yieldingly held in position to engage shoulders or projections 13 upon a segmental head at the 85 rear end of each lever, said bar being preferably continuous and hence serving for all of the levers. This locking-bar is provided with arms 14, mounted upon a transverse pivot- 90 pin 15, and arranged in operative relation with said bar is a spring 16, whereby it is normally held in operative or engaging position.

Each head, in addition to shoulders or projections to engage the locking-bar, is provided 95 with a trip-cam 17, located above the shoulder or projection and adapted, as the head is elevated by the depression of the finger-rest, to move the locking-bar rearwardly beyond its engaging position and release any lever 100 which may be engaged thereby. Hence when a lever is depressed by means of a finger it is engaged by the locking-bar and held in that position until the depression of another lever



causes the displacement of the locking-bar and the release of the first-named lever, when the latter promptly returns to its normal or elevated position. In practice the effect of this operation is to hold a finger depressed, and hence maintain the same in striking position until the succeeding finger is depressed, thus practically demonstrating to the pupil the principles of the sustained or sostenuto (legato) touch.

The sections of the arm-rest are hinged together, as shown at 18, to allow upward-swinging movement of the auxiliary or hand section, but prevent downward movement thereof, whereby the hand may be raised in the act of striking a key, but is held from being depressed below its normal or proper position.

As shown in the drawings, the under side of the casing is concaved to conform approximately to the curvature of the back of the hand, and the extension in which the thumb-lever is mounted is arranged in a slightly-depressed position to suit the position of the thumb with relation to the fingers of the performer's hand. The under side of the casing is also provided with a felt or equivalent pad or covering, as shown at 18', for contact with the back of the hand.

From the above description it will be seen that the apparatus is so constructed that the moment the performer begins to raise a finger it is drawn quickly to its fully-extended position, with the end of the finger raised to the proper height above the plane of the keys before the finger can be again depressed, thus accustoming a pupil to strike the keys rather than press them, and thereby giving an efficient finger motion to overcome the tendency of some pupils to depend upon the arm and wrist motion. In other words, it induces an independent finger movement without interfering with the wrist movement, each finger being raised to its full height before it can be again depressed to the striking position. This function of the apparatus also tends to strengthen the fingers.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. A sectional hand and arm support for piano-players, the same comprising connected main and auxiliary sections adapted to be secured to the inner or under surfaces, respectively, of the arm and hand, the auxiliary sec-

tion being upwardly convexed to fit in the hollow of the palm, and the joint between the main and auxiliary sections occurring in the plane of the wrist-joint and consisting of stop-hinges, whereby the auxiliary section may be raised from, but cannot be depressed below, the plane of the main section, substantially as specified.

2. In a device of the class described, a plurality of yielding finger-supports provided with means for attachment to the fingers of a performer's hand and adapted to resist the downward movement thereof, locking devices for securing each support in its depressed position, and thereby securing the attached finger in its operative position, and tripping devices actuated by the finger-supports for releasing previously-depressed supports engaged by the locking devices, substantially as specified.

3. In a device of the class described, a plurality of yielding finger-supports provided with means for independent attachment to the fingers of a performer's hand, locking devices for securing the supports in their depressed or operative positions, and means for successively tripping the locking devices to release engaged finger-supports as succeeding finger-supports are depressed, substantially as specified.

4. In a device of the class described, a plurality of yielding finger-supports and means for independent attachment thereof to the fingers of a performer's hand, shouldered heads carried by the finger-supports, a yielding locking-bar for engaging the shoulders of said heads, and means carried by the supports for successively disengaging the locking-bar from the heads carried by previously-depressed supports, substantially as specified.

5. In a device of the class described, a plurality of yielding finger-supports and means for attaching the same to the fingers of a performer's hand, said supports consisting of spring-actuated levers, heads carried respectively by the said levers and provided with shoulders and contiguous trip-cams, and a spring-actuated locking-bar for engagement with said shoulders, and adapted to be repressed by the trip-cam of one lever to release a previously-depressed lever, substantially as specified.

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

ELLA V. THOMPSON.

Witnesses:

CLARA H. FIELD,  
WINFIELD SCOTT.