(No Model.)

A. WYDMAN, Dec'd.

H. E. WYDMAN, Administratrix.

HARP.

No. 562,447. Patented June 23, 1896.

Fig. 5.

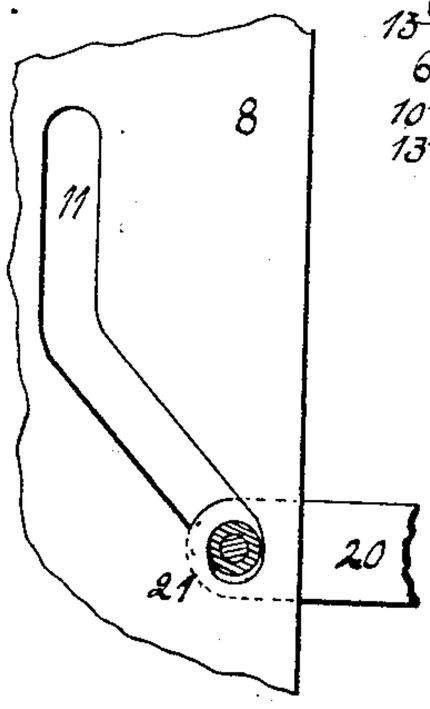


Fig. 1.

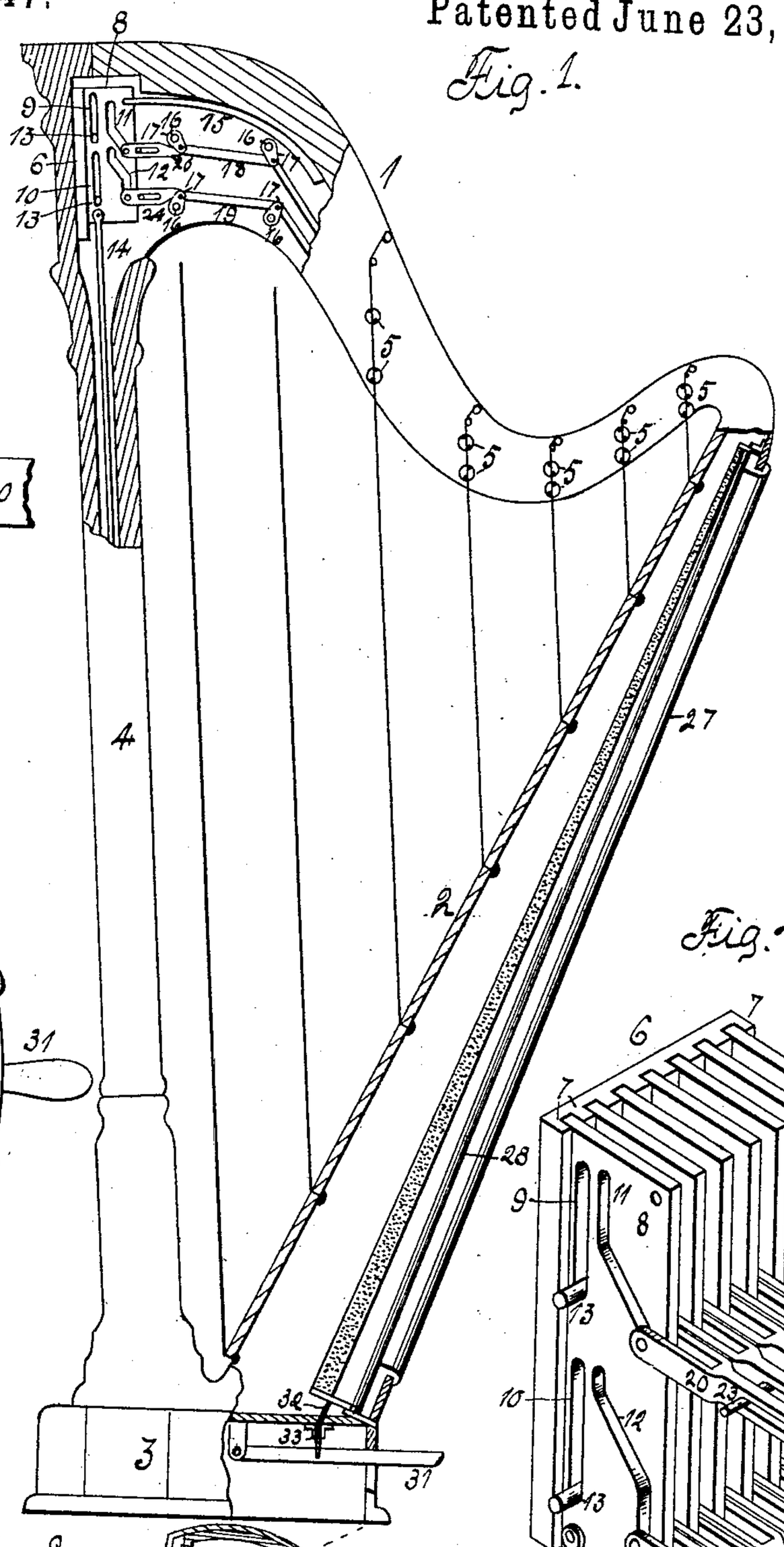


Fig. 3.

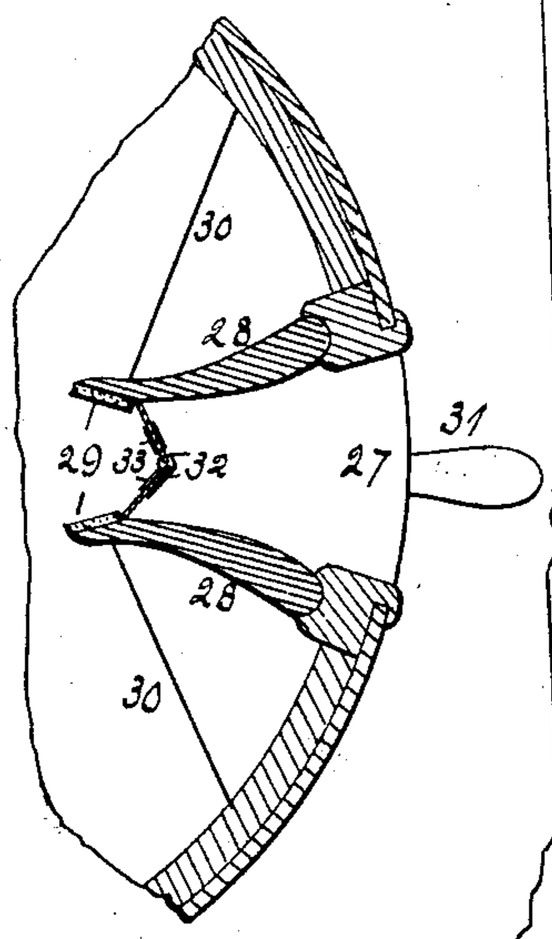
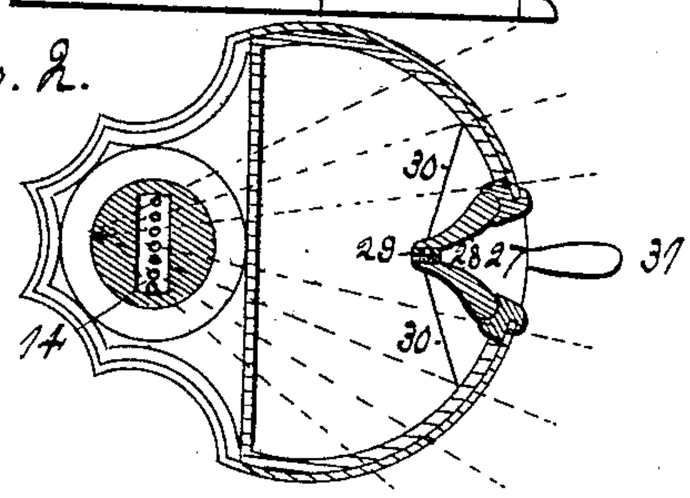


Fig. 4.

Fig. 2.



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UNITED STATES PATENT OFFICE.

HANNAH E. WYDMAN, OF ROCKFORD, ILLINOIS, ADMINISTRATRIX OF AUGUST WYDMAN, DECEASED.

HARP.

SPECIFICATION forming part of Letters Patent No. 562,447, dated June 23, 1896.

Application filed March 6, 1896. Serial No. 582,151. (No model.)

To all whom it may concern:

Be it known that AUGUST WYDMAN, deceased, late a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, did in his lifetime invent new and useful Improvements in Harps, of which the following is a specification.

The object of this invention is to form a connection between the sharping and flatting forks and the treadle in a single or double action harp, and the further object is to form a swell for a harp composed of two pivoted sections.

In the accompanying drawings, Figure 1 is an elevation of a harp, partly in section, showing the improvements. Fig. 2 is a transverse section near the base, showing the arrangement of the swell. Fig. 3 is an enlarged transverse section showing the swell. Fig. 4 is an isometrical representation of the mechanism for operating the sharping and flatting forks. Fig. 5 is an enlarged view of a portion of one of the plates and the roller connection with the arm connected with the forks.

The harp in the main is of the usual construction, consisting of the head 1, sounding-board 2, base 3, and column 4. The head 1 is provided with forks 5 for sharping and flatting the strings, and in the drawings the improvement is shown as operating upon one string of each octave. In the head of the harp is formed a recess of sufficient size to accommodate the operative parts, and to one wall is secured a plate 6, provided with lengthwise projections 7. A series of plates 8, and in the make-up of a harp seven being employed, have two lengthwise grooves 9 and 10 and two cam-shaped grooves 11 and 12. These plates are located in the grooves formed by the lengthwise projections 7, and pins 13, passing through the lengthwise slots 9 and 10, serve to guide the plates in the direction of their length. To the lower end of each of the plates is connected a rod 14, which extends downward through the column and is connected to a pedal in the usual manner. A spring 15 is secured at one end to the head, its free end having a connection with one of the plates. Each plate has a similar spring connection.

Each of the sharping and flatting forks 5 has a shaft 16, supported by the head of the harp, and each shaft has an arm 17 extending therefrom. The arms of the flatting-forks are connected by rods 18, and the arms of the sharping-forks by rods 19, and as either set of rods are moved all strings controlled by that set will be operated upon in unison.

Each of the series of rods has a connection with the vertically-sliding plates 8. The rods 18 have such a connection through a horizontally-sliding bar 20, which has a pivotal connection at one end with the first fork, and its other end made in two arms which receive the plate and support a roller 21, (shown at Fig. 5,) which is located in the cam-shaped groove 11. This bar has a lengthwise opening 22, and a pin 23 passes through the opening and is held by the head of the harp. The other bars of the upper series are of the same construction and supported upon the pins 23.

A bar 24, of the same construction as the bars of the upper series, has an elongated opening 25, through which a pin 26 passes. The roller of this bar is located in the cam-shaped groove 12. The other bars of this lower series are supported by the pin 26, as shown at Fig. 4.

When the parts are in the position as shown at Fig. 1, the strings are at their greatest length and are consequently flatted. In moving the plate downward the bar 20 will move inward until the vertical portion of the groove is reached. This movement will cause the upper row of forks to turn so as to engage the strings, thereby shortening their length and consequently placing them in their natural condition. During this movement of the plate the lower bar 24 has remained stationary, its roller running in the straight portion of the groove 12. A further downward movement of the plate will cause the lower bar 24 to move inward by reason of its roller moving in the cam portion of the groove, and this movement will cause the lower set of forks to turn and engage the strings, thereby shortening their length and sharping them; but this

movement will not move the upper set of forks, as the roller of the bar 20 will move in the vertical portion of its groove, and upon the pedal being released the spring 15 will return the plate to its original position.

The rear wall of the sounding-board 2 has an opening 27, extending about its length, and to each side of this opening are located wings 28, having a pivotal connection with the casing at its ends. To the inner faces of each of these wings are secured felt strips 29. In this instance elastic bands 30 are employed to hold the wings separated, as shown at Fig. 3, and in order to close them a treadle 31 is employed to which cables 32 are connected, their other ends connected to the wings. Grooved faced rollers 33 are located in the path of the cables and receive them. By a depression of the treadle the wings are brought together at their free ends, as shown at Fig. 2, against the action of the elastic bands, and upon releasing the treadle the springs will separate the wings. The sound will be louder when the wings are separated, and they may be held separated any distance with the range of their movements.

The arrangement shown in the drawings is for a double action, while only one set of forks may be employed, thereby producing a single action.

What is claimed as the invention is—

1. In a harp, the combination of the head portion, a series of forks acting upon the strings to change their pitch, a vertically-movable plate guided in suitable supports, said plate provided with a cam-groove extending in its lengthwise direction, a connection between the forks and plate, whereby a movement may be imparted to the connection at substantially right angles to the plate by means of a connection with the cam-groove.

2. In a harp, the combination of a head portion, two series of forks acting upon the strings to change their pitch, a vertically-movable plate guided in suitable supports, said plate provided with two cam-grooves extending in its lengthwise direction a connection between each series of forks and its cam-groove, whereby a movement may be imparted to the connection at substantially right angles to the plate by means of a connection with the cam-grooves.

3. In a harp, the combination of a sounding-board, an opening therein extending in its lengthwise direction, two wings, one at each side of the opening and closing together at the center, and means for moving the wings.

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