No. 775,162. PATENTED NOV. 15, 1904.

R. S. BOWEN.

PEDAL ACTION FOR PIANOS.

APPLICATION FILED JULY 23, 1904.

NO MODEL.

Fig. 1.

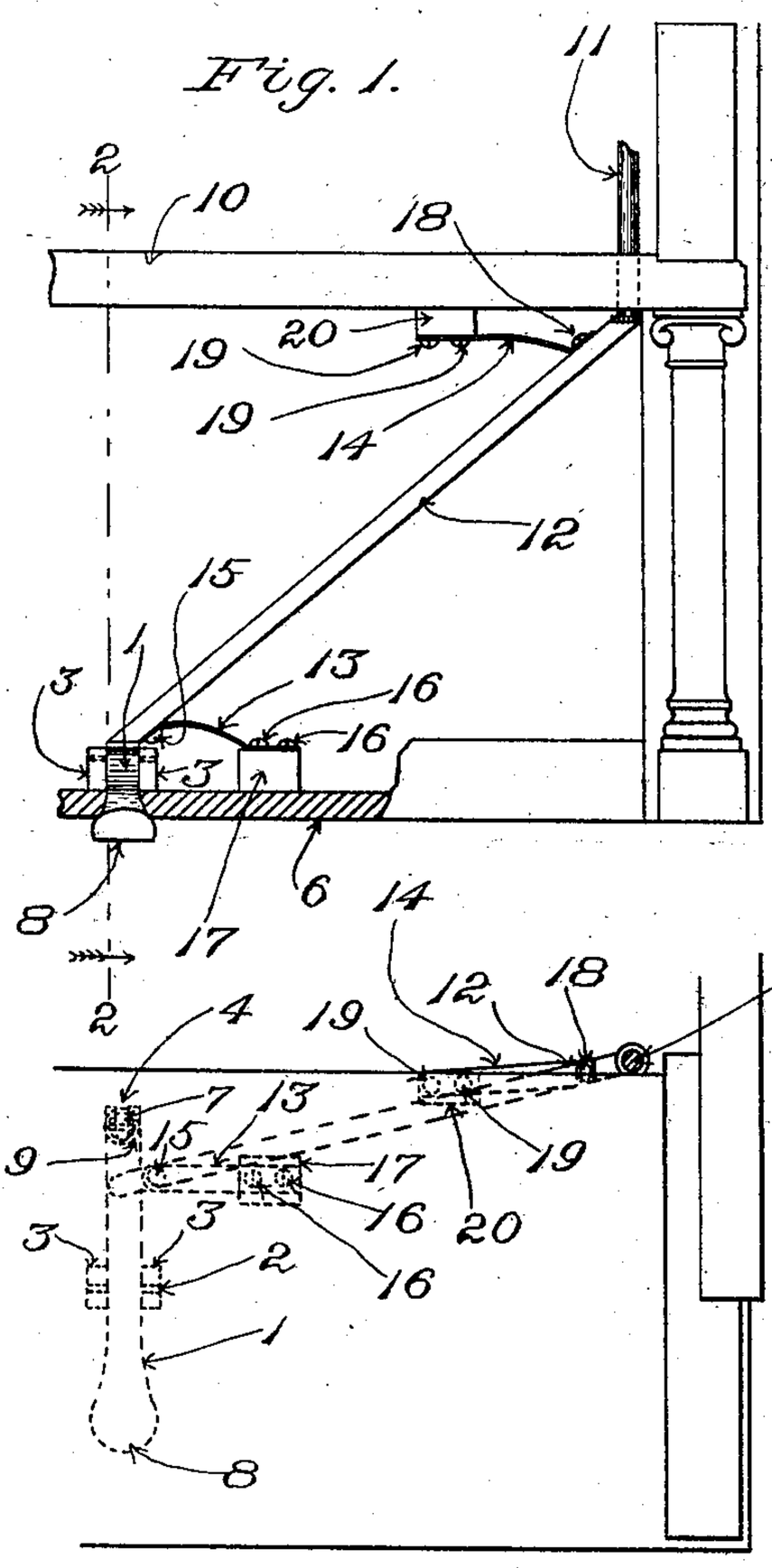

Fig. 2.

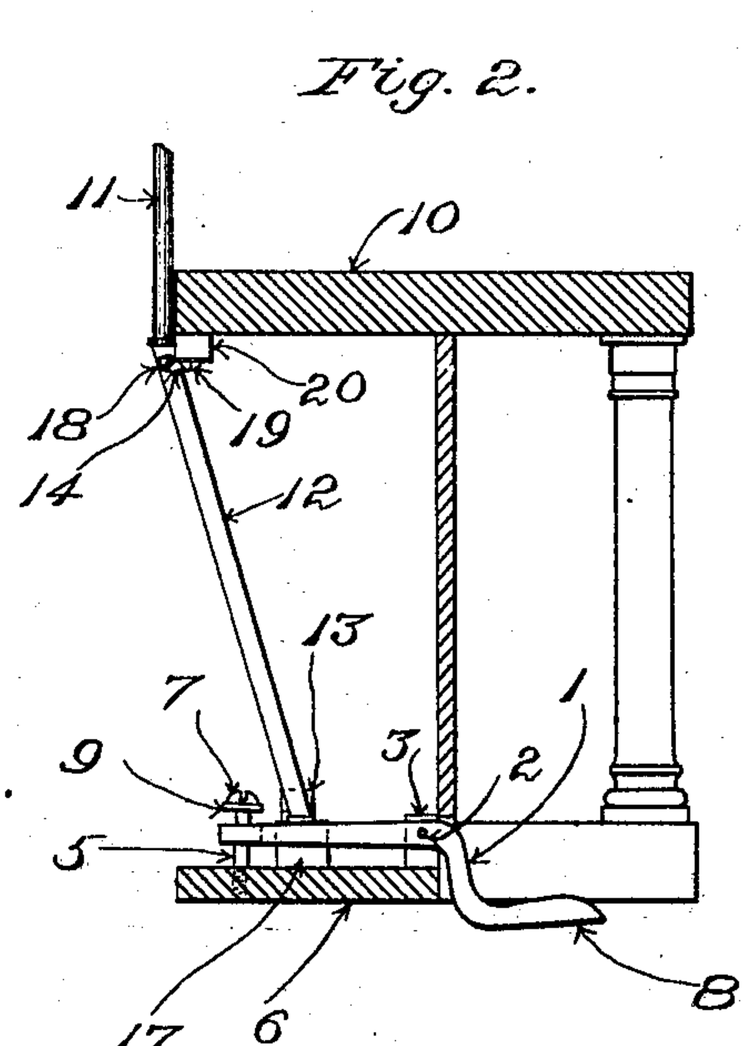

Fig. 4.

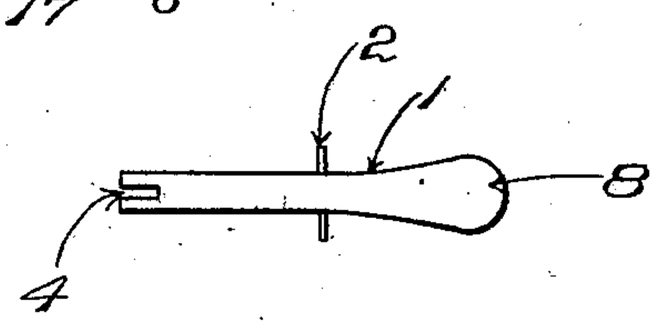

Fig. 3.

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No. 775,162. Patented November 15, 1904.

UNITED STATES PATENT OFFICE.

ROBERT S. BOWEN, OF BROOKLINE, MASSACHUSETTS, ASSIGNOR TO CHICKERING & SONS, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

PEDAL-ACTION FOR PIANOS.

SPECIFICATION forming part of Letters Patent No. 775,162, dated November 15, 1904.

Application filed July 23, 1904. Serial No. 217,805. (No model.)

To all whom it may concern:

Be it known that I, ROBERT S. BOWEN, a citizen of the United States, residing at Brookline, in the county of Norfolk, State of Massachusetts, have invented a certain new and useful Improvement in Pedal-Actions for Pianos, of which the following is a specification, reference being had therein to the accompanying drawings.

In the drawings, Figure 1 is a partly sectional front view of portions of a piano having an embodiment of the invention applied thereto. Fig. 2 is a view in vertical section on line 2 2 of Fig. 1 looking in the direction indicated by the arrows at the ends of such line. Fig. 3 shows the parts of Figs. 1 and 2 in plan. Fig. 4 shows a pedal in plan detached.

Having reference to the drawings, one of the pedals of a piano is represented at 1, it being pivoted at 2 at an intermediate point in its length upon suitable supporting-blocks, which are indicated at 3 3. The rear extremity of the pedal is notched, as at 4, and within the notch is received the stem of a stop-screw 5, projecting from the bottom board 6 of the piano-case. The projecting flange of the head 7 of the said stop-screw serves by its action in connection with the top of the said extremity of the pedal to limit the extent of the movement which is communicated to the pedal by pressure upon the pedal-foot 8. A sound-deadening washer 9 is fitted upon the stem of the stop-screw beneath the head 7. Portion of the key-bottom of a piano is indicated at 10, and at 11 is shown portion of one of the rods or dowels for operating the dampers or soft stop or other mechanism of the piano. As thus far referred to, the parts are old and well known and may be of usual character and construction.

For the purpose of transmitting movement from the pedal 1, which is located at the middle of the length of the front of the piano, to a rod or dowel 11, which is located at or adjacent one end of the piano, I dispense with the lever-pivoted beam, rock-shaft, or other device which heretofore has been employed, and I use instead a bodily-movable or floating transmitting-bar 12. The lower end of the said transmitting-bar is engaged with the rear extremity of the pedal, and its upper end is engaged with the rod or dowel 11, that is operated therefrom. In the present instance the lower end of the transmitting-bar is engaged with the rear extremity of the pedal by making contact with the upper surface of the said extremity and resting thereupon, as shown, and the upper end of the transmitting-bar is engaged with the lower end of the rod or dowel 11 by projecting beneath the said lower end and supporting the said rod or dowel. The transmitting-bar is inclined upwardly and in the present instance rearwardly also from the pedal to the rod or dowel 11. It is retained in working position and guided in its movements by means of a swinging link 13 at its lower end and a similar link 14 at its upper end. One end of the link 13 is attached by a screw 15 to the lower end of the thrust-rod, while the other end thereof is attached by screws 16 16 to a block 17, which is secured upon the bottom board 6. One end of the link 14 is attached by a screw 18 to the upper end of the transmitting-bar, while the other end thereof is attached by screws 19 19 to a block 20, that is secured to the under side of the key-bottom 10. The links 13 14 act as radius-links and control the transmitting-bar when the latter is actuated by movement communicated to the pedal, so that its lower end shall remain in working relations with the rear extremity of the pedal and its upper end shall remain in working relations with the rod or dowel 11 and so, also, that the direction of the movement transmited to the rod or dowel shall be parallel with that of the pedal. The links 13 and 14 act with elastic force with a tendency to depress the transmitting-bar, thereby producing the requisite tension. To this end they are spring-actuated, being preferably constituted of steel springs, which simplifies the construction and renders the employment of other springs unneces-

sary, although it is not necessary in all cases that the tension should be secured by resiliency inherent in the links themselves.

I claim as my invention—

1. In a pedal-action, the combination with a pedal and a damper-actuating or the like connection located out of line with each other, of a bodily-movable transmitting-bar intermediate the said pedal and connection, and means to control the said transmitting-bar in its movements.

2. In a pedal-action, the combination with a pedal and a damper-actuating or the like connection located out of line with each other, of a bodily-movable transmitting-bar occupying an inclined position with its lower end in operative engagement with the pedal and its upper end in operative control of the said connection, and means to guide the said transmitting-bar in its movements.

3. In a pedal-action, the combination with a pedal and a damper-actuating or the like connection located out of line with each other, of a transmitting-bar, and links controlling the said transmitting-bar in its movements derived from the pedal.

4. In a pedal-action, the combination with a pedal and a damper-actuating or the like connection located out of line with each other, of a bodily-movable transmitting-bar extending at an inclination between the said pedal and the said connection, and spring-actuated to produce the requisite tension.

5. In a pedal-action, the combination with a pedal and a damper-actuating or the like connection located out of line with each other, of a transmitting-bar intermediate the said pedal and said connection, and upper and lower radius-links controlling the said transmitting-bar in its movements.

6. In a pedal-action, the combination with a pedal and a damper-actuating or the like connection located out of line with each other, of a transmitting-bar intermediate the said pedal and said connection, and spring-actuated radius-links controlling the said transmitting-bar in its movements.

7. In a pedal-action, the combination with a pedal and a damper-actuating or the like connection located out of line with each other, of a transmitting-bar intermediate the said pedal and said connection, and the spring radius-links by which the said transmitting-bar is controlled in its movements.

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

ROBERT S. BOWEN.

Witnesses:

CHAS. F. RANDALL,

EDITH J. ANDERSON.