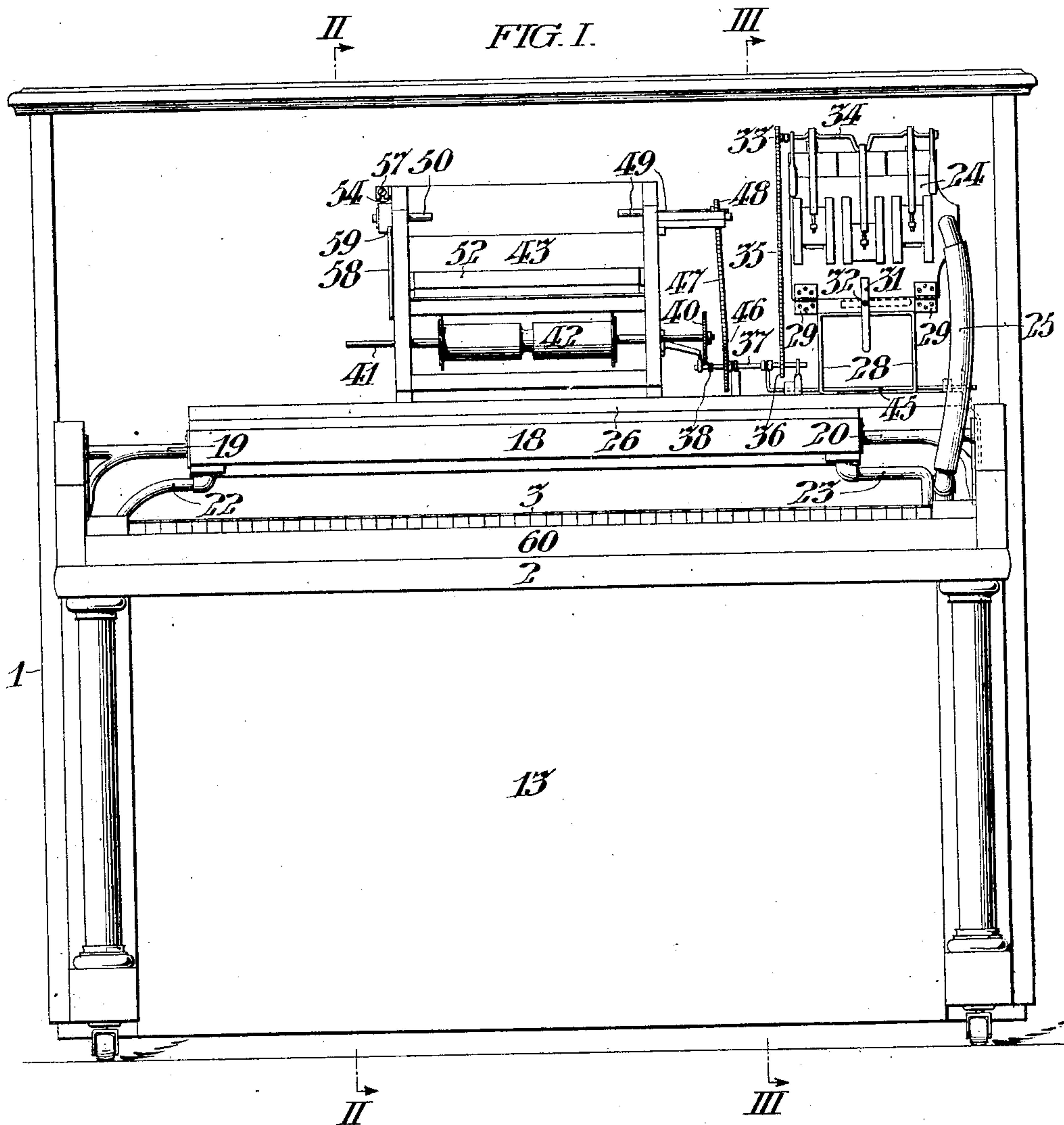


No. 859,496.

PATENTED JULY 9, 1907.

F. J. HEPPE,  
MUSICAL INSTRUMENT.  
APPLICATION FILED NOV. 13, 1903.

3 SHEETS—SHEET 1.



WITNESSES:

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*John C. Bergner*

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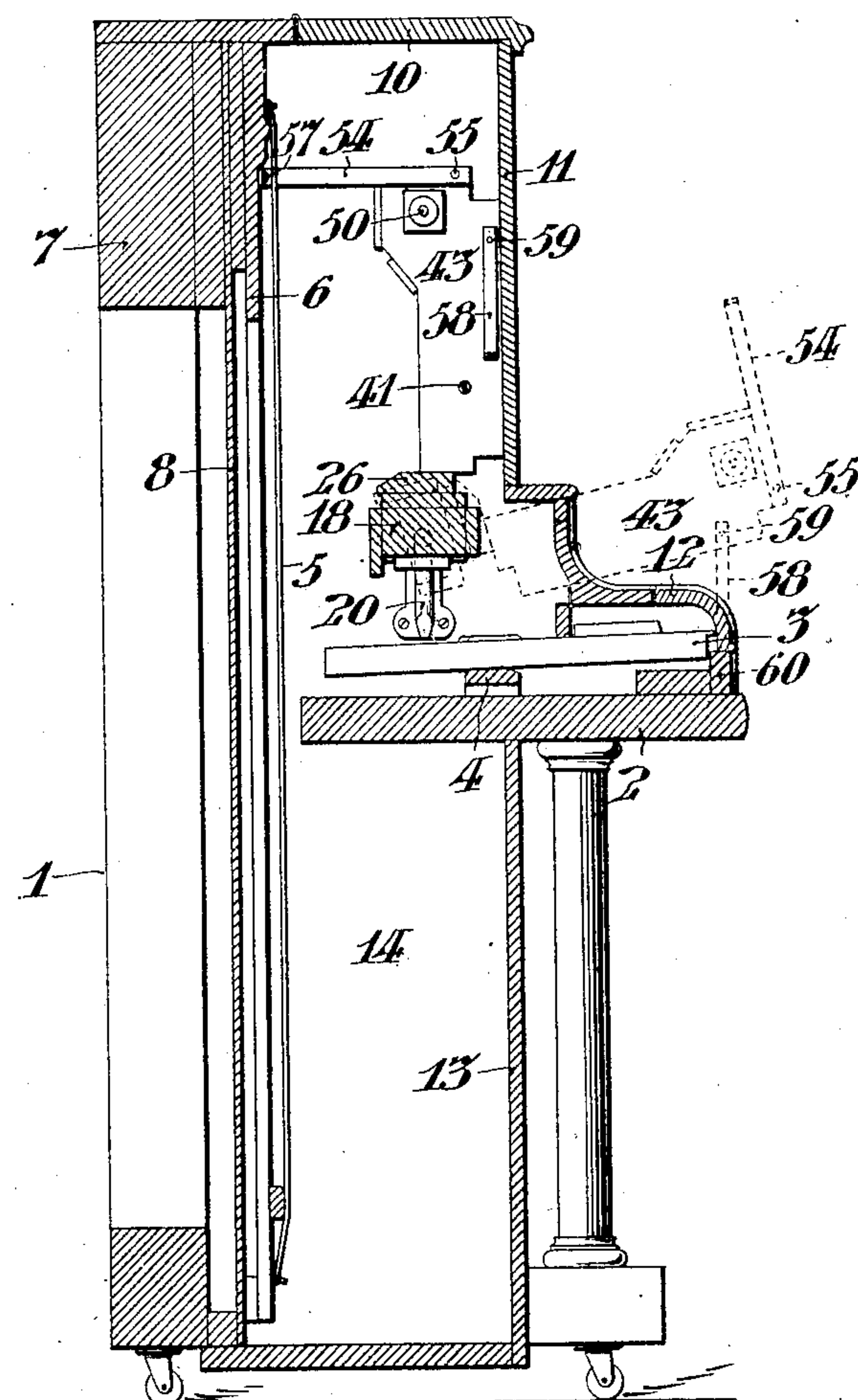
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3 SHEETS—SHEET 2.

*FIG. II*



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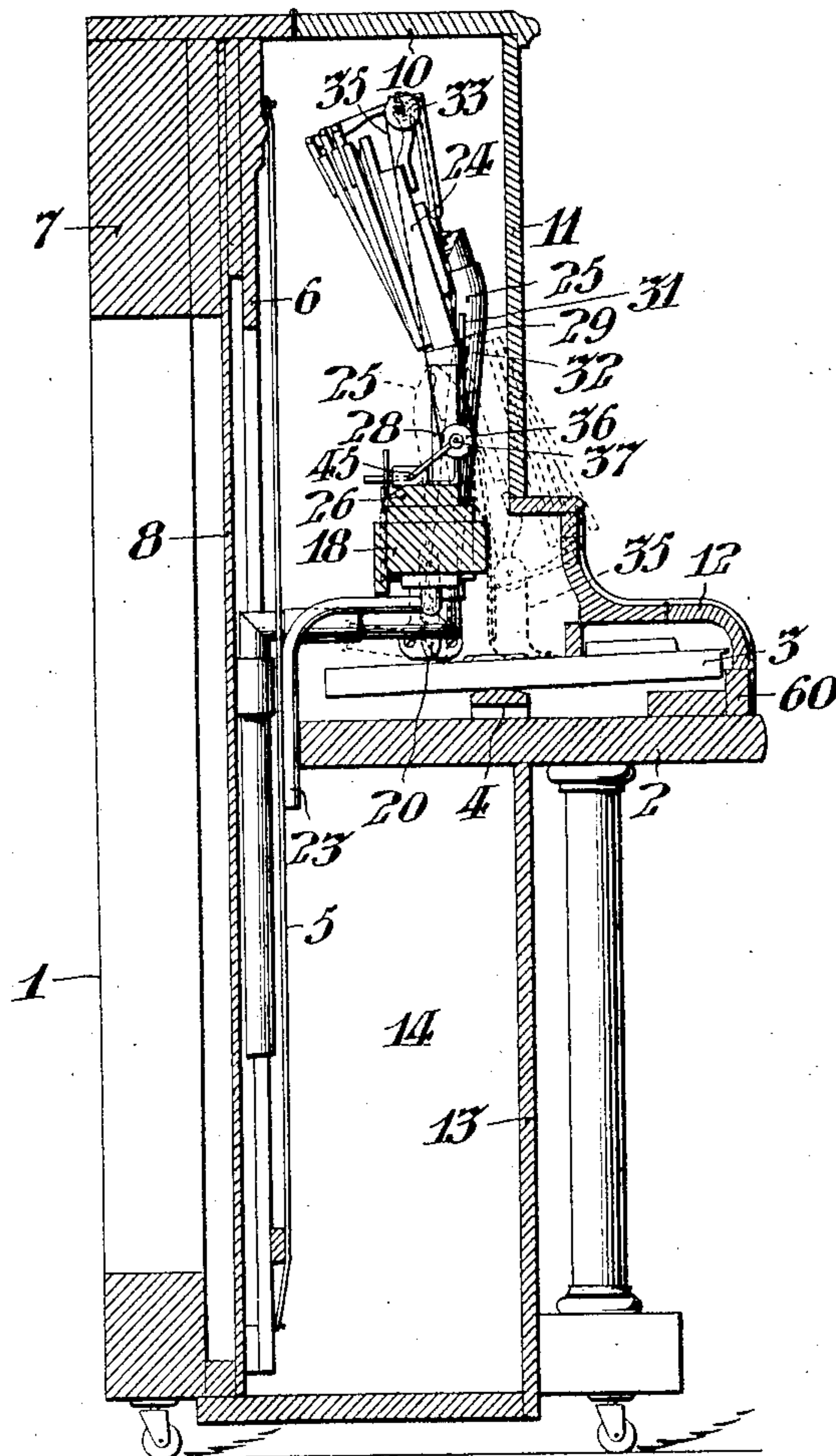
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3 SHEETS—SHEET 3.

FIG. III.



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# UNITED STATES PATENT OFFICE.

FLORENCE J. HEPPE, OF PHILADELPHIA, PENNSYLVANIA.

## MUSICAL INSTRUMENT.

No. 859,496.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed November 13, 1903. Serial No. 181,039.

*To all whom it may concern:*

Be it known that I, FLORENCE J. HEPPE, of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Musical Instruments, whereof the following is a specification, reference being had to the accompanying drawings.

My invention relates to pianos and similar instruments, comprising automatic playing mechanism permanently adjusted in operative relation with their sounding devices; for instance, mechanism of the class controlled by a web of perforated paper which is progressed with respect to a pneumatic tracker bar provided with a series of apertures corresponding with a series of sounding devices in the instrument. In such instruments, as ordinarily constructed, the automatic playing mechanism is so connected and arranged with respect to the sounding devices as to interfere with the operation of tuning or adjusting the latter, and necessitate the disintegration of such mechanism to secure access to the sounding devices. Such construction and arrangement is therefore, disadvantageous in that the services of an ordinary tuner must be supplemented by the services of one skilled in the handling of the particular automatic playing mechanism involved, to effect the tuning or adjustment of such an instrument.

Accordingly, it is an object of my invention to provide automatic playing mechanism of the class described so constructed and arranged that when adjusted in operative connection with the instrument which it is to play, it may be shifted to afford access to said instrument without being disintegrated. Such an arrangement is advantageous in that an ordinary tuner may secure access to the sounding devices of the instrument without any knowledge or experience with respect to the particular playing mechanism involved.

The form of my invention hereinafter described comprises an upright piano provided with automatic playing mechanism which is mounted above the key board to oscillate upon suitable pivotal supports in the piano casing, so as to fold downwardly and outwardly at the front and thus afford access over it to the piano strings and action. I also find it convenient, as hereinafter described, to arrange the pneumatic motor of said automatic playing mechanism to independently oscillate upon its support.

My invention comprehends the various novel features of construction and arrangement hereinafter more definitely specified and claimed.

In the drawings, Figure I, is a front view of an upright piano having its upper front panels removed to show a convenient embodiment of my invention. Fig. II, is a vertical sectional view of said instrument, taken on the line II, II, in Fig. I. Fig. III, is a vertical sectional view of said instrument taken on the line III, III, in Fig. I.

In said figures, 1, is the piano casing comprising the

bed 2, for the keys or digitals 3, pivoted on the balance rail 4. Said digitals connect with any suitable form of action comprising hammers to operate the strings 5, on the metallic string frame 6, which latter is provided with the wooden back supports 7, and sounding board 8. Said casing 1, also comprises the usual upper lid 10; removable front panel 11, inclosing the action; the hinge cover 12, for the manual comprising the digitals 3; and, the removable front panel 13, inclosing the chamber 14, below the key bed, in which chamber the main bellows, chest, etc., of the playing mechanism may be conveniently mounted. However, the last named parts of the playing mechanism may be of ordinary construction and are omitted from the drawings as they form no part of the present invention.

Referring to Fig. I, 18, is a pneumatic chest of the automatic playing mechanism which is mounted to oscillate upon the brackets 19, and 20, projecting from the respectively opposite ends of the casing 1. Said chest 18, is provided with suitable flexible pneumatic conduits 22, and 23, which lead to the main chest, and bellows below the key bed 2. The chest 18, supports the wind motor 24, which is provided with a suitable flexible pneumatic conduit 25, leading to the main bellows. Said motor 24, is connected with the board 26, on said chest by the standard 28, to which it is hinged at 29. Said motor 24, is normally maintained in the position shown in full lines in Figs. I and III, by the latch 31, which is pivoted at 32; but upon turning said latch to the position shown in dotted lines in Fig. I, said motor may be folded from the position shown in full lines in Figs. I and III, to the position shown in dotted lines in Fig. III, thus affording access to the strings 5, and tuning pins which extend behind it.

The wheel 33, on the crank shaft 34, of said motor 24, is connected by the band 35, with the wheel 36, on the reciprocatory shaft 37, carrying the pinion 38, which latter, according to the position of said shaft, is adapted to engage or disengage the gear wheel 40, upon the shaft 41, of the take up roller 42, which is mounted to rotate in the tracker box 43. By the term tracker box, I mean the box which contains the tracker bar, the music roll and the takeup roller. The position of said shaft 37, is determined by the slide rod 45, which is provided with any suitable means to effect its manual reciprocation. Said shaft 37, is also provided with the wheel 46, connected by the band 47, with the wheel 48, on the shaft 49, in axial alinement with the bearing shaft 50. Said bearing shafts 49, and 50, are arranged to rotate in the tracker box 43, and support a music roll so that the perforated web unwound therefrom upon the take up roller 42, is properly progressed over the tracker bar 52, which latter is connected in any convenient manner with the pneumatic devices comprising the automatic playing mechanism.



The chest 18, and the parts supported thereby, as above described, is retained in the normal position shown in full lines in Figs. I, II, and III, by the latch 54, which is pivoted at 55, upon the side frame of the box 43, and has a notch at its free end engaging the screw stud 57, projecting from the string frame 6. When it is desired to afford access to all of the strings and tuning pins of the piano, said latch 54, may be up-  
 10 43, and motor oscillated into the position shown in dotted lines in Fig. II, in which position the strut 58, which is pivoted at 59, upon the tracker box, swings outwardly and supports the box and chest aforesaid by contact with the rail 60.

15 It may be noted that whether the wind motor 24, is oscillated independently of the chest 18, as above described or whether said chest and wind motor are oscillated together the flexible conduits 22, 23, and 25, are not disconnected, but are simply flexed in the ab-  
 20 normal position and are automatically restored to their normal condition when the wind motor and chest are returned to their normal position.

It is to be understood that I do not desire to limit myself to the precise details of construction and ar-  
 25 rangement herein set forth, as it is obvious that various modifications may be made therein without departing from the essential features of my invention.

# I claim:—

1. In an upright piano, the combination of the casing, the strings, and the key bed; a horizontal board mounted 30 above the level of the key bed and within the casing with the strings; a tracker box and a pneumatic motor supported within the casing upon said board; flexible pneumatic connections operatively related to both the motor and the tracker box; and pivotal supports for the board 35 below said board and in such relation to said flexible connections that together with the tracker box and the motor it may be swung downwardly from its obstructive position in front of the strings, without severance of the pneumatic connections for the purpose of exposing the strings 40 for tuning or repair.

2. In a musical instrument comprising a series of sounding devices, the combination with a pneumatic chest; of pivotal supports for said chest; a latch arranged to detachably retain said chest in normal position; a pneu- 45 matic motor; pivotal supports for said motor; a latch arranged to normally retain said motor in stationary relation to said chest; and, a strut arranged to automatically support said mechanism in its abnormal position, substantially as set forth. 50

In testimony whereof, I have hereunto signed my name at Philadelphia, Pennsylvania this eleventh day of November 1903.

FLORENCE J. HEPPEL.

## Witnesses:

PHILIP WUEST, Jr.,  
 ARTHUR E. PAIGE.