W. F. DEITEMEIER.

DISAPPEARING PLAYING ATTACHMENT FOR PIANOS.

APPLICATION FILED OCT. 12, 1914.

1,154,846.

Patented Sept. 28, 1915.

2 SHEETS—SHEET 1.

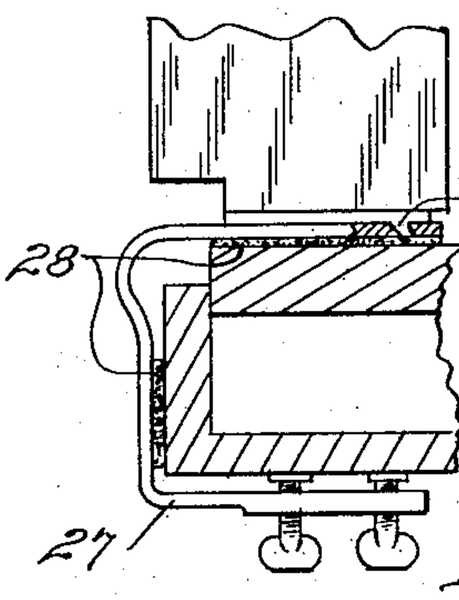

Fig. 2.

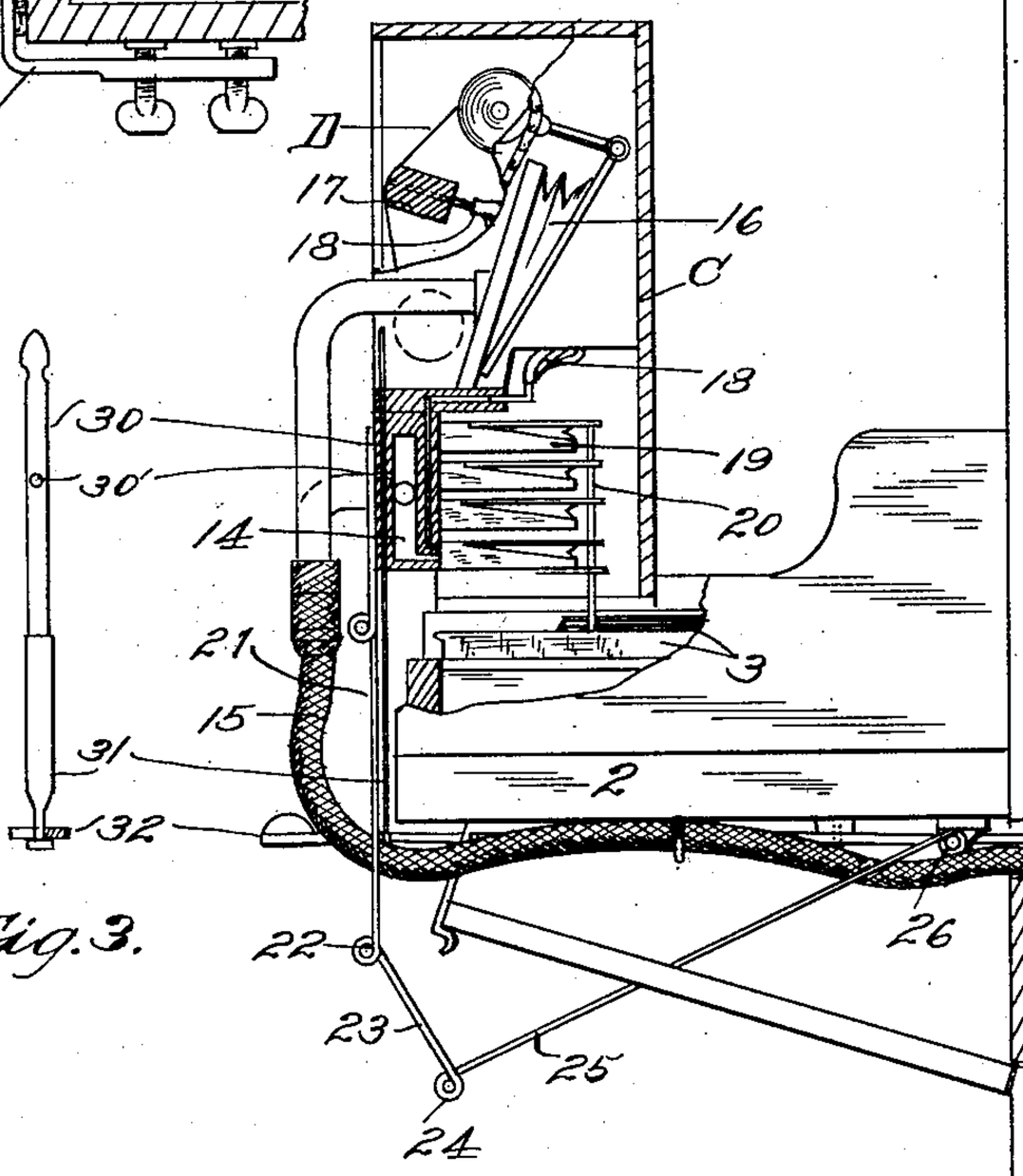

Fig. 3.

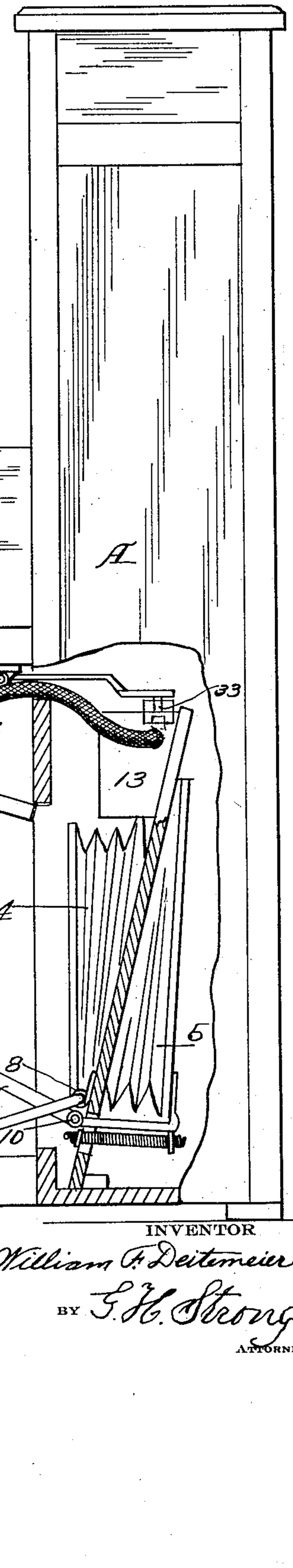

Fig. 1.

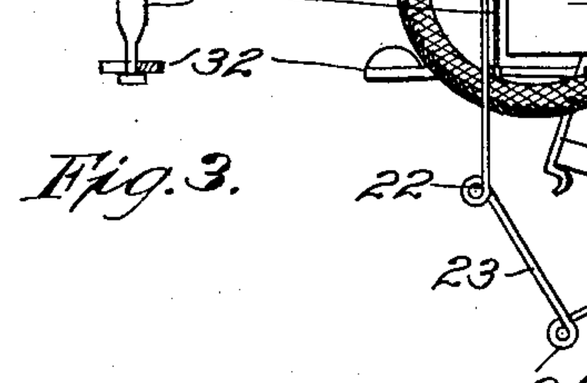

Fig. 4.

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2 SHEETS—SHEET 2.

Fig. 7

Fig. 6.

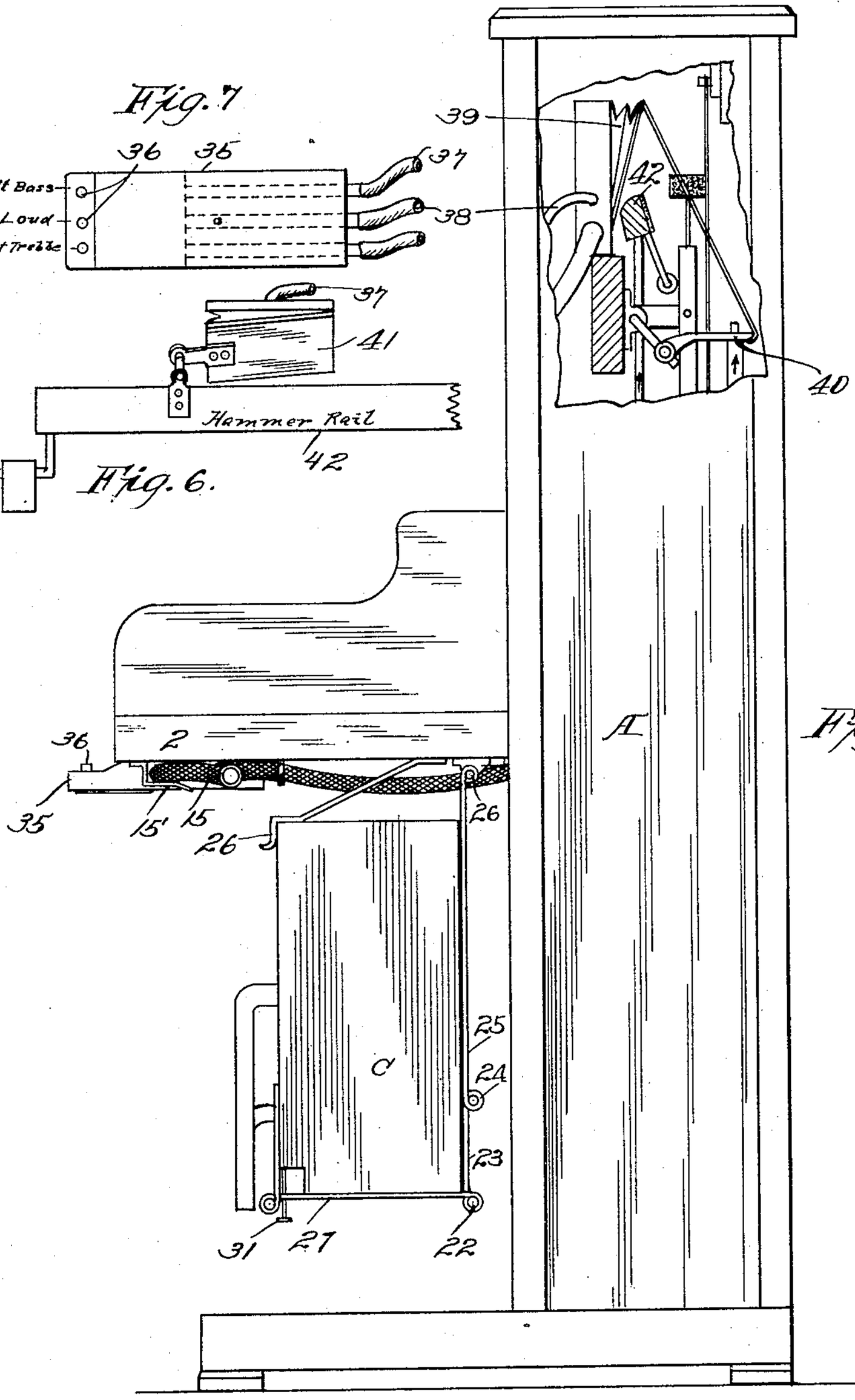

Fig. 5.

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DISAPPEARING PLAYING ATTACHMENT FOR PIANOS.

1,154,846. Specification of Letters Patent. Patented Sept. 28, 1915.

Application filed October 12, 1914. Serial No. 866,223.

To all whom it may concern:

Be it known that I, WILLIAM F. DEITEMEIER, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Disappearing Playing Attachments for Pianos, &c., of which the following is a specification.

This invention relates to player pianos and organs, and particularly to an attachable and disappearing player for ordinary pianos and other keyboard instruments.

It is one of the objects of my present invention to provide a player that is readily attachable to any ordinary piano and which may be easily arranged over the keys for operating them or may be folded beneath the key-table when not in use to allow free manual access to the keys.

It is a further object of the invention to provide a player which is compact in structure and in which are organized the web-winding and rewinding mechanism and its motor, the stack of pneumatics and a wind chest common thereto, and the tempo or indicating lever; and to provide a simple, compact power or air plant readily installed in the piano case and with service connections attachable quickly to the player when this is adjusted over the keys and which may be concealed when disconnected.

Other objects will be disclosed in the following specification.

The invention consists of the parts and the construction and combination of parts as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

Sheet 1: Figure 1 is a side elevation of a piano, partly broken away to disclose the power plant, and the player cabinet in section arranged in playing position for operation upon the keys. Fig. 2 shows in detail the cabinet clamp. Fig. 3 is a front elevation of the tempo indicator. Fig. 4 is a front elevation of the pedals. Sheet 2: Fig. 5 is a side elevation of the piano broken away to show the hammer rail and the pneumatic of the damper retractor. Fig. 6 is a front elevation of a portion of a hammer rail and its pneumatic unit. Fig. 7 is a plan view of a swiveled hanger for the valves of the units of the hammer rails and the retractor.

A represents a piano case, 2 the key table with the keys 3, 4—5 the bellows, and 6 the pedals. The pedals are pivoted upon a bow-shaped frame 7, hinged at 8 in the case and are connected, at their inner ends, by links 9 to the bellows backs. This special feature is of advantage because by simply swinging the frame up the pedals are carried up and automatically positioned within the casing by the action of the links 9, which are pivoted at 10 eccentric to the hinge of the frame 7. Another important feature of the pedal structure is the provision of automatically operating props for the frame 7, these consisting of legs 12 swinging freely on the transverse shank of the frame 7, so that as this is swung out and down, the legs normally and readily drop into supporting position on the floor, and, when the frame is up, hang close to the base of the bellows in the case and thus occupy but little fore and aft space. The operation of the pedals and bellows exhausts air from a valve chamber 13 on the base board.

A particular feature of my invention is the key-operating structure or player which consists of a cabinet or frame C, including a wind-chest 14 which is connectible to the chamber 13 by a flexible conductor 15, and also including a winding and rewinding mechanism and its motor 16 for moving the usual perforated music web D across a tracker-board 17. Motor 16 is connected also by a detachable tube 15 to the exhaust box or chamber 13. From the tracker-board runs a number of tubes 18, each communicating with a respective pneumatic unit 19, longitudinal, superposed rows of which are mounted in the cabinet C communicating with the wind-chest 14. Each pneumatic unit 19 is provided with a stem 20 designed to actuate a contiguous key 3 of the keyboard.

In carrying out the desired features of concealing the player attachment, when not in use or when the piano is to be played as an ordinary piano by hand, or of arranging the player for mechanical playing as occasion requires, the cabinet is provided at each end with a hinged strap 21 pivoted at 22 to a short link 23, to which is jointed at 24 a suspension link 25. The opposite end of each link 25 is hinged at 26 well back on the bottom of the key-table 2. Thus the coördinate ends sets of links and hinges permit the removing of the cabinet C from playing position over the keys 3, Fig. 1, to a concealed or non-use position, Fig. 5, where it

is suspended upon and by the link trains 21, 23 and 25 and latched by a simple catch 26.

To avoid marring the instrument in any way, the cabinet, when mounted for playing, interlocks with complementary members which may comprise clamps 27, one for each key-block of the key-table. The clamps are preferably padded, as at 28, to protect the wood and finish of the instrument. The interlocking may be accomplished in any suitable manner and here comprises lugs 29, attached to the bottom of the cabinet, engaging the adjacent clamps 27.

A tempo indicator 30 is pivoted at 30′ in the cabinet and has a slidable section 31 for extension below the cabinet to couple with a lever 32 pivoted on the bottom of the key-table and for shifting the valve 33 in the exhaust chamber 13. When the cabinet is to be dismounted and concealed, the section 31 is uncoupled from the lever 32 and is then slid up out of view.

Tone magnitude is controlled by a disappearing hanger 35 pivoted on the bottom of the key-table and carrying valves 36 from which tubes 37—38 lead to a pneumatic 39, connected to the lever of the damper retractor 40 and to a pneumatic 41 connected to and operating the usual hammer rails, one of which is shown at 42 in Fig. 7.

When the cabinet C is to be dismounted, the conductors 15 are disconnected therefrom and bent beneath the key-table to which is secured a hook 15′ to receive the ends of the conductors. Thus I have provided a pneumatic player for keyboard instruments involving a cabinet containing compactly arranged, key-operating pneumatics and their common wind chest and a tracker-board with a web-winding and rewinding motor; the cabinet being easily and quickly mounted in playing position over the keys and which may be conveniently supported inconspicuously beneath the key-table and out of the way when access to the keys is desired.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. The combination with a keyboard musical instrument and a pneumatic power plant arranged in the case of the instrument, of a pneumatic playing structure connectible with said plant and adapted to be mounted above the keys of the instrument for actuating the same and for removal therefrom to permit access to the keys for manual playing.

2. The combination with a keyboard musical instrument and a pneumatic power plant contained therein, of a structure including key-operating pneumatics coördinate with the plant, and means connecting said structure and the case of the instrument, said structure being thereby adapted for arrangement over the keys for actuating the same and adapted for removal from the playing position.

3. The combination with a keyboard musical instrument and a pneumatic power plant, of a structure including key-operating pneumatics coördinate with the plant, and means connecting said structure and the case of the instrument, said structure being thereby adapted for arrangement over the keys for actuating the same and adapted for removal from the playing position to a concealed position below the key-table of the instrument and supported there in an upright position by said means.

4. In combination with a keyboard musical instrument and a pneumatic power plant permanently contained therein, a stack of web-controlled, key-operating pneumatics adapted for communication with said plant and connected to the case of the instrument so as to be folded to and from a playing position over the keys.

5. In combination with a keyboard musical instrument and a pneumatic power plant located entirely therein, a stack of web-controlled, key-operating pneumatics adapted for communication with said plant and connected to the case of the instrument so as to be folded to and from a playing position over the keys from and to a concealed position below the key-table.

6. In combination with a keyboard musical instrument and a pneumatic power plant, a stack of web-controlled, key-operating pneumatics adapted for communication with said plant and connected to the case of the instrument so as to be folded to and from a playing position over the keys from and to a concealed position below the key-table, the connecting means comprising a plurality of flexible pivoted suspension devices.

7. In combination with a keyboard musical instrument and a pneumatic power plant, a stack of web-controlled, key-operating pneumatics having a detachable flexible communication with said plant and connected to the case of the instrument so as to be folded to and from a playing position over the keys from and to a concealed position below the key-table, the connecting means comprising flexible suspension devices, and means attachable to the case of the instrument without marring the same for bearing the stack of pneumatics while disposed above the keys.

8. In combination with a keyboard instrument, a pneumatic power plant, a cabinet foldably connected to the instrument in such manner as to always maintain an upright position and adapted to be disposed above the keys thereof and containing a series of web-controlled pneumatics for operating the keys, a common exhaust wind chest coördi-

nate with the power plant, and a web winding and rewinding, pneumatically operated mechanism for a music web.

9. In combination with a keyboard instrument, a pneumatic power plant, a cabinet foldably connected to the instrument in such manner as to always maintain an upright position and adapted to be disposed above the keys thereof and containing a series of web-controlled pneumatics for operating the keys, a common exhaust wind chest coördinate with the power plant, a web winding and rewinding, pneumatically operated mechanism for a music web, a tempo indicator, and a lever connectible to said indicator and mounted on the instrument for controlling a valve of the power plant.

10. In combination with a keyboard instrument, a pneumatic power plant, a cabinet foldably connected to the instrument and adapted to be disposed above the keys thereof and containing a series of web-controlled pneumatics for operating the keys, a common exhaust wind chest coördinate with the power plant, a web winding and rewinding, pneumatically operated mechanism for a music web, a tempo indicator, a lever connectible to said indicator and mounted on the instrument for controlling a valve of the power plant, and a disappearing hanger pivoted on the instrument casing carrying valves of pneumatics for controlling the action members of the instrument.

11. The combination in an automatic player piano with the hammer retractor of the action thereof, of a pneumatic unit, the moving leaf of which is connected to and operates said rail, an exhaust chamber connected to the unit, and a disappearing hanger on the casing of the instrument carrying a plurality of valves for controlling the operation of the unit.

12. The combination with a keyboard musical instrument and a pneumatic power plant, of a structure including key-operating pneumatics coördinate with the plant, and means connecting said structure and the case of the instrument, said structure being thereby adapted for arrangement over the keys for actuating the same and adapted for removal from the playing position to a concealed upright position below the keytable of the instrument.

13. The combination with a keyboard instrument, of a player attachment therefor adapted to be folded into operative and inoperative position, and means for supporting said player in its inoperative position, said means comprising a flexible link having pivotal connection with the keyboard instrument, a second link connected to the player, and a plurality of intermediate pivoted connecting links.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM F. DEITEMEIER.

Witnesses:
JOHN A. BUNNEY,
E. H. NORMAN.