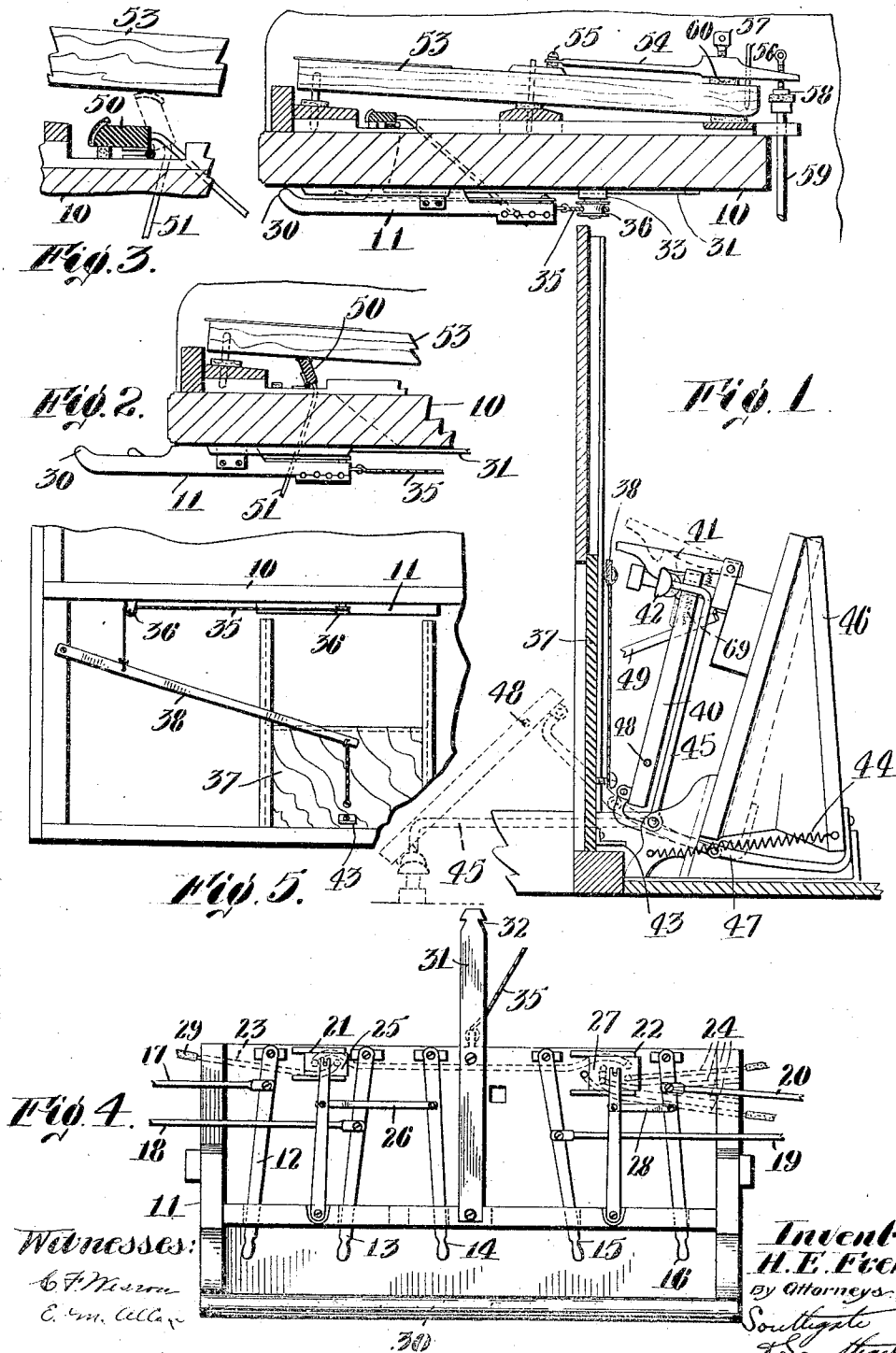


H. E. FRENCH.  
MUSICAL INSTRUMENT.  
APPLICATION FILED SEPT. 28, 1908.

991,494.

Patented May 9, 1911.



# UNITED STATES PATENT OFFICE.

HORACE EDGAR FRENCH, OF NEWCASTLE, INDIANA, ASSIGNOR TO KRELL-FRENCH PIANO CO., OF NEWCASTLE, INDIANA, A CORPORATION OF INDIANA.

## MUSICAL INSTRUMENT.

991,494.

Specification of Letters Patent.

Patented May 9, 1911.

Application filed September 28, 1908. Serial No. 454,992.

### *To all whom it may concern:*

Be it known that I, HORACE EDGAR FRENCH, a citizen of the United States, residing at Newcastle, in the county of Henry and State of Indiana, have invented a new and useful Musical Instrument, of which the following is a specification.

This invention relates to a mechanical musical instrument or player, and is chiefly adapted for use on the pneumatic type thereof.

The principal objects of the invention are to provide an improved means for supporting, exposing, and operating the various controlling devices or levers; to provide an improved mechanism for operating the lower panel, and means whereby all the said devices will be controlled by said lever supporting means in a convenient and simple manner.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings, in which,

Figure 1 is a sectional view of a portion of a pneumatic piano player showing one way in which the several features of this invention may be applied thereto; Fig. 2 is a similar view of a part of the device showing the parts in position for locking the keys; Fig. 3 is an enlarged detail view of the key lock; Fig. 4 is a plan of the drawer or slide showing the controlling device; and Fig. 5 is an elevation from the rear showing how the lower panel is operated.

The key-bed 10 is shown as provided on the bottom thereof with a drawer or slide 11 on which are located the various controlling devices. It is shown as provided with a muffler operating lever 12, a lever 13 for operating the forte or loud pedal, a choker operating lever 14, a tempo lever 15, and a re-roll lever 16, but it will be understood that it may be provided with more or less controlling devices or levers according to the type of instrument to which it is applied. Connecting wires 17 to the muffler, 18 to the loud pedal, 19 to the tempo, and 20 to the re-roll are also illustrated. The drawer or slide is also provided with a choker box 21 and a re-roll 22, and with air channels 23 and 24 for said boxes respectively. The choker valve 25 is connected

with the lever 14 by a link 26, and a re-roll valve 27 is connected to the lever 16 by link 28, all of which will be readily understood. The air channels 23 and 24 are connected with corresponding devices on the instrument by means of flexible connections 29 so that the controlling mechanism may be mounted on the drawer or slide so as to move out and in therewith and expose the operating ends of the levers when it is drawn out.

The front end of the drawer or slide is provided with a raised rib 30 which engages the bottom of the key bed when in closed position so as to conceal the levers and which serves as a hand-rest for the operator when the drawer or slide is pulled out. The drawer is provided with a guide 31 which has notches 32 (Fig. 4) in the end adapted to co-act with stops 33 for limiting its outward motion. Means is connected with this drawer or slide whereby when it is pulled out this will not only expose the controlling devices in the proper position for operation, but will open the lower panel, release the pedals so that they will drop out, and lock the keys. The means whereby these results are secured according to the present drawings will now be described.

The drawer is provided with a flexible connection 35 passing over pulleys 36 on the bottom of the key-bed and connected with a vertically sliding lower panel 37 by means of a lever 38. This system of connections is reduced to a very simple form so that when the drawer is pulled out the panel will be raised. In raising the panel the pivoted pedals 40 are exposed, and not only that, but a latch 41 which operates on a member 42 on the pedal supports 45 to hold the pedals in folded position is engaged by a projection 43 on the inside of the panel and raised as indicated in dotted lines in Fig. 1, so as to permit the pedals to be forced out by means of a spring 44 which normally closes the bellows 46. The pedals are connected with the bellows 46 by links 47 or in any other desired manner.

The pedals 40 are at an angle of approximately 45 degrees to the horizontal supports 45 when they are out in the dotted position in Fig. 1. In order to fold them into the piano, they must be compressed to the same

position as these supports. When folding them into the piano a pin 48 on the side of each pedal engages into the grooved end of a pivoted tongue or pedal trip 49 which forces the pedals back into the proper position, and this tongue is released by a spring 69 as soon as this is accomplished. They are then pressed rearward farther until the cross bar 42 passes under the latch 41 which by means of a spring immediately drops down and catches the same. The operation of pulling the drawer forward raises the panel 37. The projection 43 raises the latch 41 on its upward motion, which releases the trap work and the pedals are thrown forward by the coil spring 44 which is in tension. When the pedals are folded up the projection 43 passes beyond the latch 41 and does not touch the same in returning. The movement of putting the pedals back into position is accomplished by pushing the same rearward with one movement of the foot, which not only raises the pedal mechanism, but compresses the pedals into proper position and pushes them into position, where they are automatically locked by the latch 41.

The key lock 50 consists of a pivoted bar located in the key-bed under the front ends of the keys. It is provided with an arm or lever 51 which is connected with the drawer or slide so that the pulling out of the latter will swing the key lock into the position shown in full lines in Fig. 2, so as to engage the bottoms of the keys 53 and hold their forward ends up during the automatic playing of the instrument.

Each key is shown as having an attachment 54 in the form of a lever which is pivotally connected on a vertical pivot 55 near the center of the key. The attachment shown herein is one which comes within the scope of my prior invention set forth in my Patent No. 905304 granted December 1 1908, but it is shown in a form which is comparatively simple, as the pivot 55 may consist of a simple screw and the attachment is held from getting out of proper position by means of a downwardly projecting pin 56 engaging in a recess in the back of the key.

As in my above mentioned patent the attachment is provided with a capstan screw 57 for connection with the action, and with an adjustable disk 58 for connection with the striking pneumatics through sliding rods 59.

It will be observed that as in my above mentioned patent, the capstan screw is located over a cushion 60 which is on the rear end of the key so that the instrument may be played either mechanically or automatically, so as to get, in the latter case, a touch approaching that of the human hand.

While I have illustrated and described a

preferred embodiment of the invention, I am aware that many modifications may be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore I do not wish to be limited to all the details of construction shown, but

What I do claim is:—

1. The combination with the key-bed of a mechanical playing instrument, of a reciprocable drawer mounted under the key-bed and capable of being drawn out in front in position to serve as a hand-rest and having a plurality of air channels therein, and controlling devices mounted to move with the drawer and having means operable independently of the motion of the drawer for controlling said air channels.

2. The combination with the key-bed of a mechanical playing instrument, of a hand-rest mounted under the key-bed and capable of being drawn out in front and having a plurality of air channels therein, controlling devices mounted to move with the hand rest and movable independently thereof for controlling said air channels, and flexible connections for said air channels attached to the hand rest.

3. In a music playing device, the combination with the keybed and keys, of a key-lock, a drawer under said keybed, a controlling device mounted on the drawer and adapted to be concealed by said drawer when closed, and means operated by the drawer for raising the key-lock under the front ends of the keys when the drawer is pulled out to expose the controlling devices.

4. In a device of the class described, the combination with the key-bed, of a drawer under the key-bed, controlling devices on the drawer, a pivoted key lock, a lever on the key-lock, means for operating said lever automatically by drawing out the drawer for rocking the key-lock into contact with the bottoms of the keys, a panel, and means connected with said drawer for operating the panel.

5. The combination with the key-bed, of a drawer, controlling devices adapted to be concealed thereby, a key-lock, a vertically sliding panel, a lever for lifting the panel, means connected with said drawer for operating the key-lock, and a flexible connection between the drawer and said lever for opening the panel, when the slide is drawn out.

6. In a musical instrument, the combination with the key-bed, of a slide therefor, a key lock, a lower panel, pedals, and means connected with said slide whereby when it is pulled out the keys will be locked, the panel will be raised, and the pedals will swing out into exposed position.

7. In a musical instrument, the combination of a lower panel, a keybed, means lo-

cated on the bottom of the keybed for opening the panel, pedals, a latch for locking the pedals in the instrument, and means on the panel for engaging and lifting said latch  
5 and releasing the pedals when the panel is opened.

In testimony whereof I have hereunto set

my hand, in the presence of two subscribing witnesses.

HORACE EDGAR FRENCH.

Witnesses:

LAWRENCE FRAIZER,  
MYRON E. MILLIKAN.