

F. W. DRAPER.  
 SELECTOR FOR AUTOMATIC PLAYERS.  
 APPLICATION FILED MAR. 23, 1911.

1,021,305.

Patented Mar. 26, 1912.

2 SHEETS—SHEET 1.

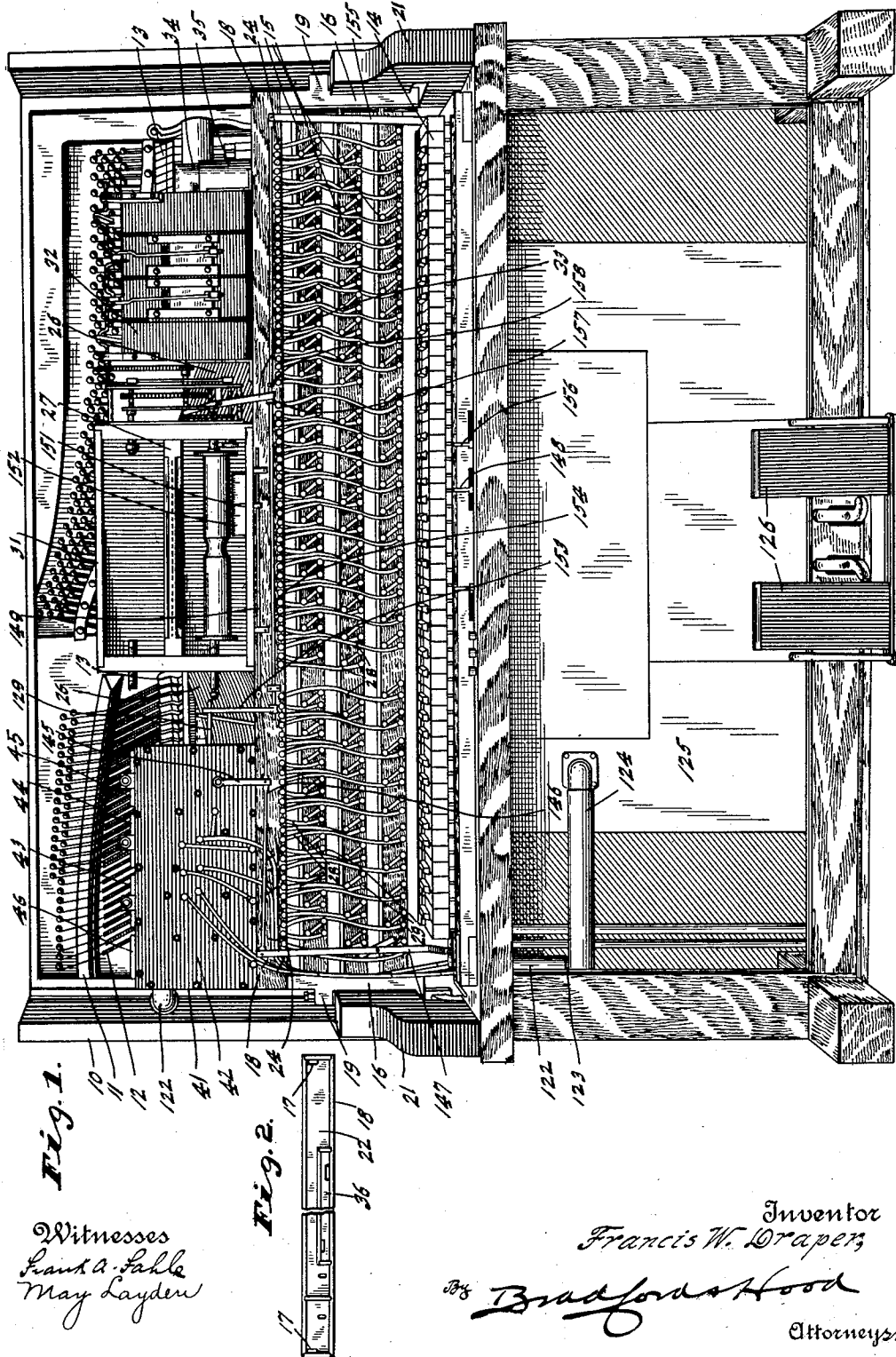


Fig. 1.

Fig. 2.

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Fig. 3.

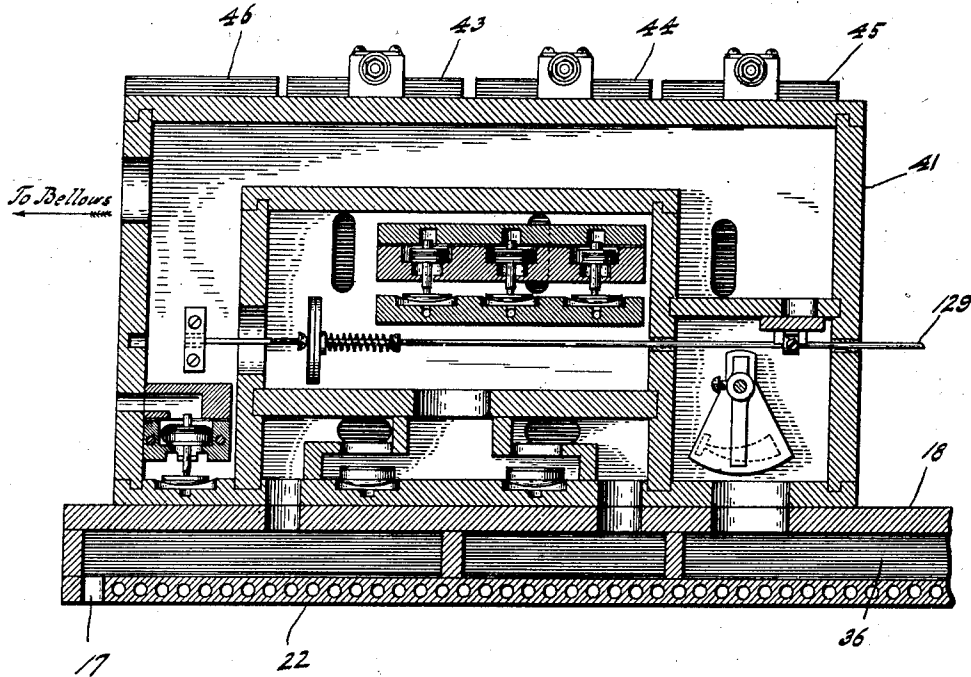
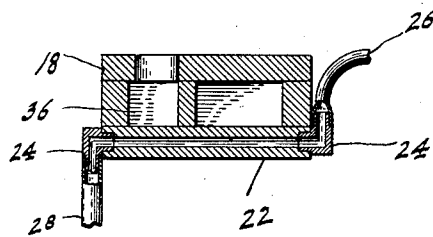


Fig. 4.



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# UNITED STATES PATENT OFFICE.

FRANCIS W. DRAPER, OF RICHMOND, INDIANA, ASSIGNOR TO THE STARR PIANO COMPANY, OF RICHMOND, INDIANA, A CORPORATION OF INDIANA.

## SELECTOR FOR AUTOMATIC PLAYERS.

1,021,305.

Specification of Letters Patent.

Patented Mar. 26, 1912.

Original application filed August 24, 1910, Serial No. 578,780. Divided and this application filed March 23, 1911. Serial No. 616,349.

*To all whom it may concern:*

Be it known that I, FRANCIS W. DRAPER, a citizen of the United States, residing at Richmond, in the county of Wayne and State of Indiana, have invented a new and useful Selector for Automatic Players, of which the following is a specification.

The object of my invention is to so arrange the pneumatic action, the expression mechanism, and the sheet driving mechanism that they may be readily removed from the piano casing as a unit, the construction being such that a withdrawal of a single main trunk connection with the bellows mechanism is all that is necessary.

This application is a division of my co-pending application Serial No. 578,780, filed Aug. 24, 1910.

The accompanying drawings illustrate my invention.

Figure 1 is a perspective view of a player piano constructed in accordance with my invention; Fig. 2 a plan on a reduced scale of the main wind trunk with the top removed; Fig. 3 an elevation of the interior of the expression box, the cover having been removed, and Fig. 4 a fragmentary transverse section through the main wind trunk.

In the drawings, 10 indicates the usual inclosing casing of the piano provided with the usual scale rib 11 and strings 12, action 13 and finger keys 14. The pneumatic actions (preferably comprising primary, secondary, and power pneumatics,) act upon the piano action 13 in any desired manner and are arranged in several horizontal series carried by transverse action trunks 15, these several trunks being connected at their opposite ends to vertical wind trunks 16—16 which, at their tops, are connected through openings 17—17 with a main transverse wind trunk 18. These several parts are firmly, though detachably, connected together to form a unitary structure, the parts of which may be disassembled only by first removing the structure as a whole from the piano casing. Each of the vertical trunks 16 is provided with an outwardly projecting ledge 19 adapted to rest upon the upper edge of the side rail 21 of the casing 10.

The bottom board 22 of trunk 18 is transversely pierced by a plurality of parallel passages, one for each tracker board opening and mounted in opposite ends of each passage are two nipples 24, only one of each

pair of which is shown. The back nipple 24 of each pair is connected by a tube 26, which may conveniently be flexible as usual, with an opening in the tracker board 27, and the front nipple 24 of each pair is connected by a tube 28 with a similar nipple 29 which leads to the pouch of the primary pneumatic. Mounted upon the top of the main transverse wind trunk 18, at about its middle, is the open faced box 31 which carries the tracker board 27 and the associated sheet winding rolls, said associated sheet winding rolls being driven in a well known manner, in either direction, by means of a wind motor 32 which is also supported upon the top of the wind trunk 18 and connected to the sheet driving roll by reversing gearing of any well known form controlled by a shifting lever or other controlling member 33. The main wind trunk 34 of the motor is connected by a readily detachable flexible connection 35 with the main chamber 36 of the wind trunk 18. Mounted upon the opposite end of the top of wind trunk 18 is the controller box 41, one side of which is closed by a readily removable cover board 42. Mounted upon the rear of box 41 is a base controller 43, a treble controller 44, a motor controller 45 and an action rail controller 46. The main chamber of box 41 communicates with a pipe 122 which is readily detachable from a fitting 123 connected by a pipe 124 with the vacuum chamber 125, the vacuum in which is maintained by the usual pedals 126, and bellows not shown. The exhaust of air from the motor is controlled by means of a valve within box 41 which valve is connected to a lever 145.

Lever 145 is connected by a link 146 to a lever 147 connected in any suitable and common manner with a controlling lever 148 which is arranged at the front of the key bed and this link 146 is connected with the rod 149 slidably mounted in suitable bearings as shown in Fig. 1 and provided with a pointer 151 arranged to traverse a tempo scale 152 mounted within sight within the tracker board box 31. The connection between the main vacuum chamber 125 and the pneumatic action is controlled to some extent by a valve within box 41 and provided with a protruding valve stem 129. The particular arrangement of this valve forms the subject matter of a companion application Serial No. 616,348 of even date

herewith, and will not be described in detail here.

Rod 129 is projected through one of the end boards of box 41 as clearly shown in 5 Figs. 1 and 2, and to this projected end is secured an arm 153 which is connected to a rod 154 slidably mounted in suitable bearings on the front of the upper wind trunk 18 and this rod is connected by a lever 155 10 and any ordinary and usual intermediate connections with a roll controlling lever 156 mounted at the front of the key board. Rod 154 carries a pair of separated collars 157 and 158 and between which the driving 15 gear controlling lever 33 is extended, the said collars being sufficiently separated so that the air valves connected to rod 129 may be moved from open to closed position and vice versa without causing any action 20 of lever 33, which serves to reverse the action of the motor on the music sheet.

It will be seen from the above that the motor, the sheet driving mechanism, the pneumatic action, and all of the controlling 25 mechanism by means of which these various parts are controlled, excepting only the connections between some of the levers and the key board levers by means of which the operation is actually obtained, is formed 30 into a single unitary structure which lies entirely above the key board immediately in front of the piano action and this entire structure may be lifted bodily from the piano case thereby exposing the piano action, 35 and bringing the pneumatic action out of the casing by a single operation.

I claim as my invention:

1. In a player mechanism, the combination, with a piano, of a main transverse wind 40 trunk, and a pneumatic action trunk, a sheet-driving mechanism, a pneumatic motor, and an expression box, all supported by the main wind trunk and with it forming a unitary structure removably mountable in 45 the piano case in front of the action thereof and above the key bed, the action trunk, motor and expression box being in pneumatic connection with the main wind trunk and said expression box comprising expres- 50 sion mechanism for controlling the pneumatic action, a motor controller, a sound-volume controller, and a cover member removable from the expression box to render accessible the interior thereof.

2. In a player mechanism, the combination, with a piano, of a main transverse wind 55 trunk, and a pneumatic action trunk, a sheet-driving mechanism, a pneumatic motor, and an expression box, all supported 60 by the main wind trunk and with it forming a unitary structure removably mountable in the piano case in front of the action thereof and above the key bed, the action trunk,

motor and expression box being in pneumatic connection with the main wind trunk 65 and said expression box comprising expression mechanism for controlling the pneumatic action, a motor controller, and a cover member removable from the expression box to render accessible the interior thereof. 70

3. In a player mechanism, the combination, with a piano, of a main transverse wind trunk, and a pneumatic action trunk, a sheet-driving mechanism, a pneumatic motor, and an expression box, all supported 75 by the main wind trunk and with it forming a unitary structure removably mountable in the piano case in front of the action thereof and above the key bed, the action trunk, motor and expression box being in pneumatic connection with the main wind trunk. 80

4. In a player mechanism, a main transverse wind trunk divided into compartments, a pneumatic action trunk arranged 85 below the main trunk, vertical trunks connecting the main and action trunks into a unitary structure, a pneumatic motor mounted on the main wind trunk and connected with one of the chambers thereof, an expression box also mounted upon said main wind trunk 90 and having a plurality of compartments connected with the several chambers of the main trunk, a motor controller and expression controllers mounted on said expression box and communicating therewith, and 95 valve mechanism arranged within the expression box for controlling the controllers carried thereby, said expression box having a removable cover which, when removed, renders accessible the valve mechanism 100 within the box.

5. In a player mechanism, a main transverse wind trunk divided into compartments, a pneumatic action trunk arranged 105 below the main trunk, vertical wind trunks connecting the main and action trunks into a unitary structure, a pneumatic motor mounted on the main wind trunk and connected with one of the chambers thereof, an expression box also mounted upon said main 110 wind trunk and having a plurality of compartments connected with the several chambers of the main trunk, a motor controller and expression controllers mounted on said expression box and communicating there- 115 with, and valve mechanism within the expression box for controlling the controllers carried thereby.

In witness whereof I have hereunto set my hand and seal at Richmond, Indiana, this 120 18th day of March, A. D. one thousand nine hundred and eleven.

FRANCIS W. DRAPER. [L. S.]

Witnesses:

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WILL H. WHITELY.