B. G. AUSTIN.

HARP DEVICE FOR ORGANS.

APPLICATION FILED MAR. 12, 1915.

1,167,144. Patented Jan. 4, 1916.

Fig. 1.

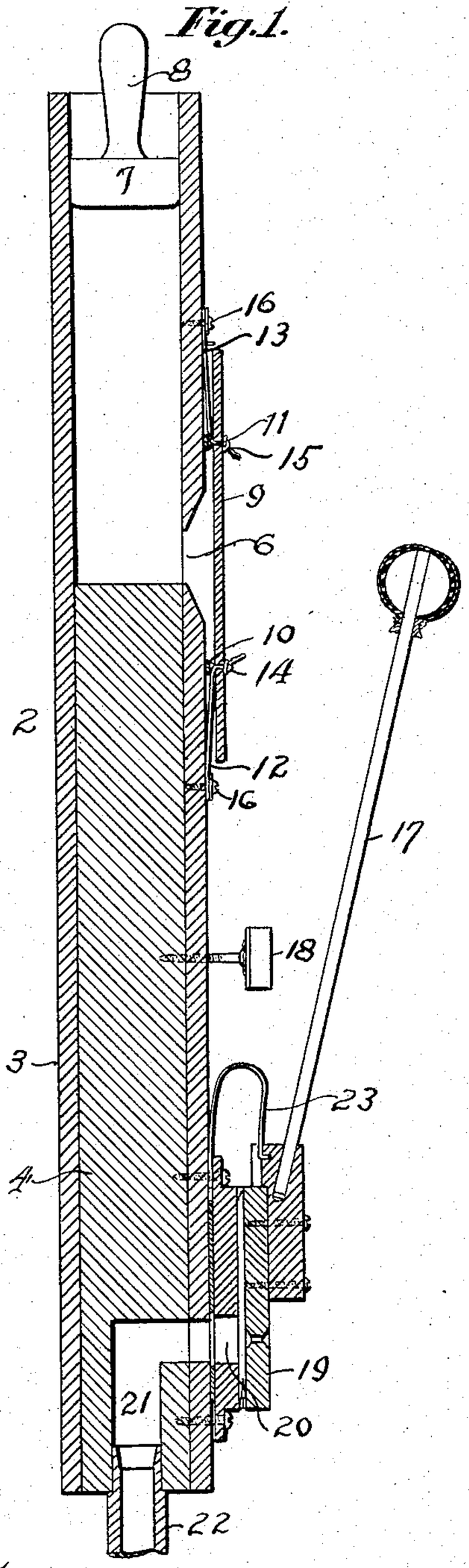
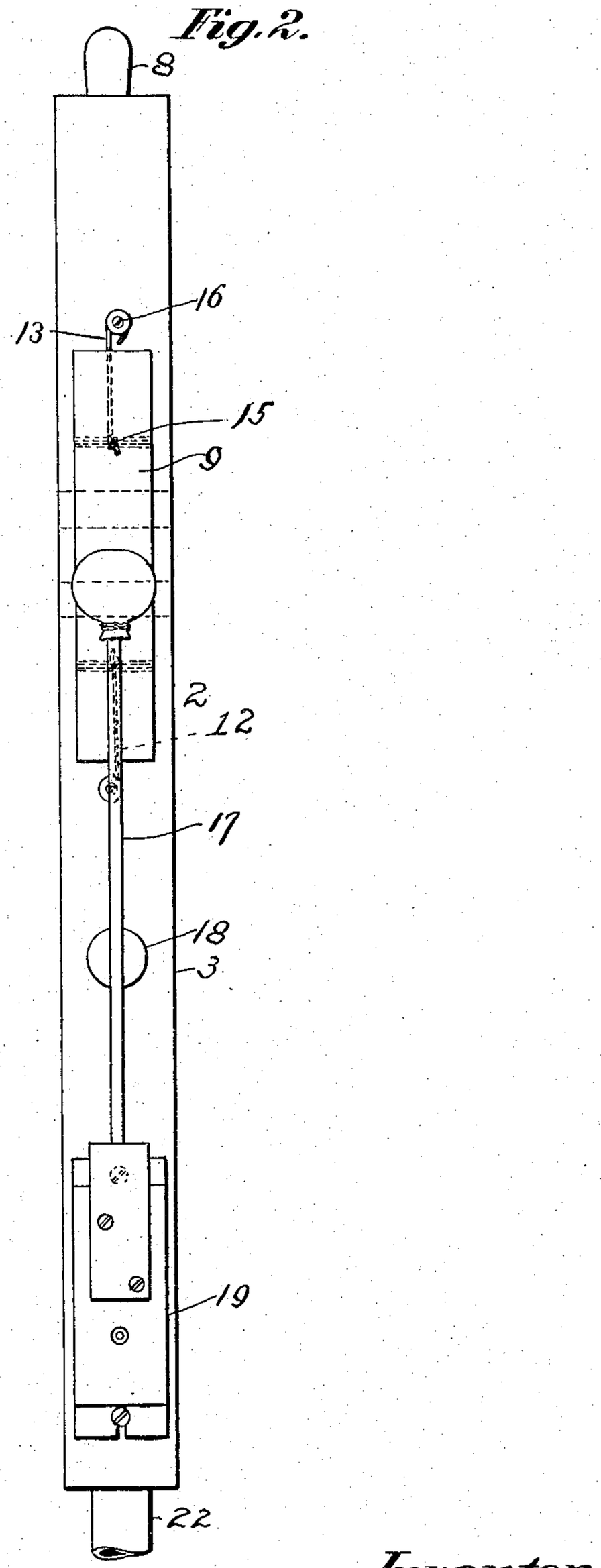


Fig. 2.



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HARP DEVICE FOR ORGANS.

1,167,144. Specification of Letters Patent. Patented Jan. 4, 1916.

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To all whom it may concern:

Be it known that I, BASIL G. AUSTIN, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Harp Devices for Organs, of which the following is a specification.

This invention relates to harp devices for organs.

While a harp device involving my invention is susceptible of general use in the art of music, it is of especial utility when incorporated in or forming part of a pipe organ.

One of the objects of the invention is the provision of an article of the character set forth which is exceedingly compact, simple in construction, and by which agreeable and pleasant tone effects are obtained.

The appliance possesses other features of novelty and advantage, which with the foregoing will be stated at length in the following description, wherein I will set forth that one of the several forms of embodiment of the invention which I have selected for illustration in the drawings accompanying and forming part of the present specification, this showing being provided to enable those skilled in the art to practice the invention. I do not restrict myself to said disclosure; I may depart therefrom within the scope of the invention in several respects, defined by the claims following said description.

Referring to said drawings: Figure 1 is a longitudinal sectional view, and, Fig. 2 a front elevation of a harp device involving my invention.

Like characters refer to like parts in both views.

There may be cases where but one of these devices is used, for instance, in an organ. Generally, however, there will be a set of them arranged in one or more scales or otherwise to suit particular necessities.

The device comprises a sounding member such as a bar, and a resonator, the resonator being of a shape corresponding to the well-known form of an organ pipe, so that the harp device can be used interchangeably with the organ pipes which is a feature of importance. This resonator like such a pipe, is somewhat elongated as is the sounding member or bar to which I have alluded, the two extending in parallelism or as it might otherwise be stated, the sounding member extending in the direction of the length of the resonator which is another advantageous feature, as by it compactness is insured. The resonator itself is new, and the manner in which the sounding member is associated therewith is also new. The sounding member is also mounted in a novel and advantageous manner.

The resonator shown is denoted in a general way by 2 comprising as shown the hollow body 3 of wood or metal or a composition of materials as may be preferred. In the tubular or hollow body 3 is mounted a core 4 which closely fits within the body 3, the two being rigidly connected in any desirable manner, for example, the core may be glued into the body. Said core may be made of any desirable material, for instance any one of those mentioned in connection with the tubular body 3. The resonator 2 has a mouth as 6 formed as shown in the tube 3 thereof, the inner or upper end of the core 4 being practically coincident with the lower edge of the mouth 6.

In the space in the upper part of the resonator 2 and slidable comparatively freely within the tube 3 thereof is the plug 7 adjustable longitudinally of the resonator to define the pitch of the air column within the space or chamber in which said plug is situated. As shown this plug 7 is provided with an outwardly extending manipulating handle 8.

Extending across the mouth 6 of the resonator is a suitable sounding member such as the bar 9 which as illustrated is flat and of elongated rectangular form. The sounding member as will be inferred may vary as to shape and material, although I ordinarily make it of brass. This sounding bar 9 is disposed exteriorly of the resonator 2 extends longitudinally and crosses the mouth 6 thereof, being flexibly

suspended. It has a bearing against suitable non-resonant parts, such as the felt pads 10 and 11 placed above and below the mouth 6, so that that part of the sounding bar 9 which crosses said mouth is free for vibration which, however, is not transmitted to the pads 10 and 11. These pads which may be made of felt, rubber or other suitable material can be attached in any desirable manner to the front face of the resonator.

To hold the sounding bar 9 in proper engagement with the pads 10 and 11 without in any wise interfering with the vibration of said bar, flexible elements as 12 and 13 may be provided, these flexible elements consisting advantageously of pieces of fish cord as it is known in commerce. The two pieces of cord are passed through perforations in the sounding bar 9 opposite the pads 10 and 11 respectively and are knotted as at 14 and 15 on the front side of the bar which acts as a convenient means for preventing the cords from being pulled from place. The outer ends of the cords are fastened to the resonator by means of screws as 16 threaded into the front of said resonator and between the heads of which and the outer ends of said cord washers serving their customary function may be interposed. This construction maintains the sounding bar 9 in proper operative relation with the two pads or their equivalents without in any wise interfering with its proper vibration.

The hammer for the sounding bar is denoted by 17. On the front of the resonator is the customary stop 18 coöperative with the hammer 17. While the hammer 17 or its equivalent may be mounted and operated in any desirable manner, I prefer that it and its operating part be carried upon the resonator, so that the resonator and the hammer and actuating mechanism present a unit which can be mounted or dismounted as such. The hammer is preferably pneumatically operated, and in the present case acts by pressure. The bellows 19 act satisfactorily in this connection. The shank of the hammer is connected with the outer or swinging board of the bellows, the inner flap or board of the bellows being attached as by one or more screws to the resonator. The inner board of the bellows has a port 20 in register with one end of the right angular port 21 in the foot or base of the resonator, the pipe 22 for the supply of air under pressure being fitted into the other end of said port 21. As shown said port 21 is formed in the outer or foot end of the core 4. The operative movement of the hammer 17 is effected as will be understood by the bellows 19, retractive movement of the hammer being accomplished in any desirable way, for example by the spring 23. It will be clear that upon the expansion of the bellows 19 the head of the hammer 17 will be caused to strike the sounding bar 9, and when the pressure is cut off, the spring 23 will return the hammer 17 to its initial position.

It will be noticed that the flexible carriers 13 extend longitudinally of and oppositely from the resonator 2 and that they are situated in the space between the sounding member 9 and resonator.

What I claim is:

1. A device of the class described comprising a resonator having a duct, a sounding member on the resonator, a hammer for the sounding member, and a pneumatic to which said hammer is connected, the pneumatic being on the resonator, the resonator, the sounding member, the hammer and the pneumatic constituting a unit and being mountable and dismountable as such, and the pneumatic being in communication with said duct.

2. A device of the class described comprising a resonator having a duct, a sounding member and a pneumatic both carried by the resonator, the pneumatic being in communication with said duct, and the resonator with the sounding member and the pneumatic being mountable and dismountable as a unit.

3. A device of the class described comprising a resonator having a duct, a sounding member and a bellows both supported by the resonator, the bellows being in communication with said duct, a hammer supported by the movable member of the bellows, a spring connected with said movable member and with the body of the resonator for expanding the bellows, the resonator with the sounding member and the bellows being mountable and dismountable as a unit.

4. A device of the class described comprising an elongated resonator, a sounding member extending longitudinally of the resonator, and flexible cords connected with the sounding member and extending oppositely therefrom in the direction of the length of said resonator, said cords being connected with the resonator.

5. A device of the class described comprising an elongated resonator, a sounding member extending longitudinally of the resonator, cords located between the sounding member and the resonator, the sounding member being perforated and the cords being extended through the perforations and provided with retaining means on the front of the sounding member, the cords extending oppositely to each other and longitudinally of the resonator, the cords being connected at their ends with the resonator.

6. A device of the class described comprising an elongated resonator having a mouth, a sounding bar crossing the mouth and disposed in the direction of the length of the resonator, flexible cords between the resonator and the sounding bar, the latter being

perforated and the cords extending through the perforations at opposite sides of said throat and being knotted on the front of the sounding bar, said cords extending oppositely to each other and their terminals being connected with the resonator.

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

BASIL G. AUSTIN.

Witnesses:
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