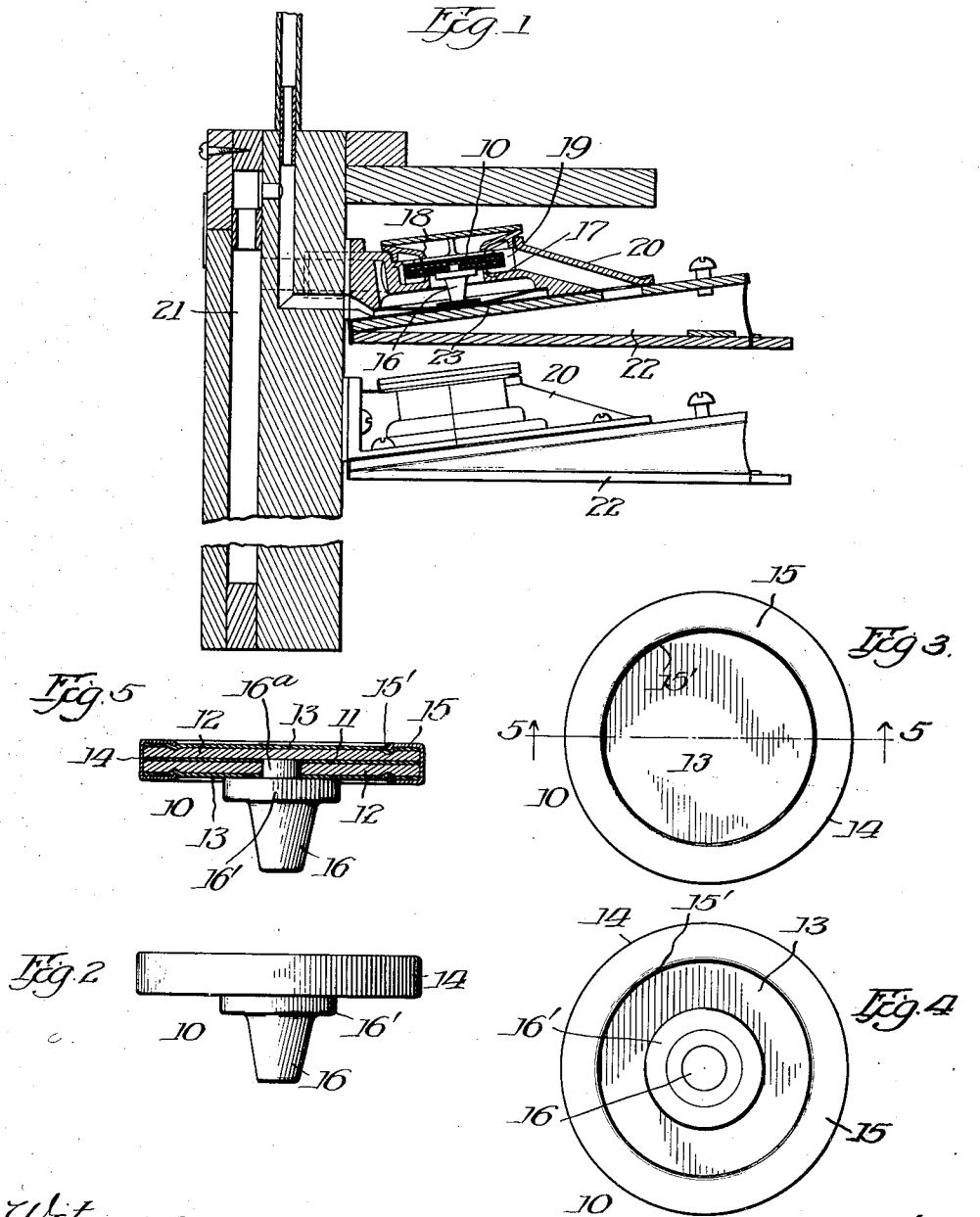


E. C. HISCOCK.
VALVE FOR PNEUMATIC PLAYER ACTIONS.
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1,240,848.

Patented Sept. 25, 1917.



Witnesses:

Geo. C. Division
Eugene L. Fiedakofsky

Inventor
EMORY C. HISCOCK.

By Pond & Wilson,
Attys.

UNITED STATES PATENT OFFICE.

EMORY C. HISCOCK, OF OAK PARK, ILLINOIS, ASSIGNOR TO JOHN C. FARWELL, OF CHICAGO, ILLINOIS.

VALVE FOR PNEUMATIC PLAYER-ACTIONS.

1,240,848.

Specification of Letters Patent.

Patented Sept. 25, 1917.

Original application filed July 15, 1914, Serial No. 851,027. Divided and this application filed May 15, 1915. Serial No. 28,274.

To all whom it may concern:

Be it known that I, EMORY C. HISCOCK, a citizen of the United States, residing at Oak Park, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Valves for Pneumatic Player-Actions, of which the following is a specification.

This invention relates to improvements in pneumatic actions for player pianos, and has reference more particularly to an improved structure of control valve for such actions. The chief object of the invention is to provide a control valve that will be uniform in its operation and not liable to be affected by changes in temperature or hygroscopic conditions of the atmosphere. Another object of the invention is to produce a valve structure of the character specified that shall be very durable, easily and cheaply manufactured, free from any sticking tendency, and sensitive in operation.

With these and other minor objects in view the invention consists in the new and improved valve structure for pneumatic player actions and similar devices substantially as hereinafter described and pointed out in the claims.

In the accompanying drawing I have illustrated a preferred embodiment of my invention and also the principal intended application of the same, and referring thereto—

Figure 1 is a vertical sectional view partly in side elevation of a portion of a pneumatic player action employing my improved valve structure;

Fig. 2 is an enlarged side elevation of the valve;

Fig. 3 is a top plan view of the same;

Fig. 4 is a bottom plan view; and

Fig. 5 is a diametric section on the line 5—5 of Fig. 3, the valve stem appearing in elevation.

My improved control valve, which is designated as an entirety by the numeral 10 is formed of a plurality of superposed thin flexible disks held together by a peripheral container and has a valve stem secured centrally to one side of said group of disks. In the preferred construction herein illustrated the disk assembly comprises a central thin disk 11 of paper, a pair of felt

disks 12 on either side thereof, and a pair of outer disks 13 of thin sheet rubber or light material, such as leather treated to render the same moisture proof. The container consists of a thin sheet metal annulus 14 surrounding the periphery of the disks and having its edges inturned over the peripheral edge portions of the outer disks 13, as shown at 15, and preferably crimped upon said disks as shown at 15' (Fig. 5) to firmly and securely unite said edges at their peripheries. The valve stem 16 is formed with a widened base member 16' and with a reduced shank or tenon 16^a which latter is entered about half way into the series of disks and, with the base member 16', is securely cemented to the latter.

Fig. 1 of the drawings illustrates the chief intended application of my improved valve, wherein it will be seen that the valve body itself operates between lower and upper valve seats 17 and 18 within the valve chamber 19 of a control valve housing 20 that is secured to the main wind-chest 21 and communicates with the power pneumatic 22, the valve stem 16 resting upon the motor diaphragm 23 which actuates the valve under variations in pressure on opposite sides of said diaphragm, all as well understood in player actions of this type.

The described construction of control valve affords a very light, uniform and durable valve that is substantially free from variations of weight and form under climatic changes and is extremely sensitive to the action of the air.

This present application constitutes a division of an application heretofore filed by me on the 15th day of July, 1914, Serial No. 851,027.

I claim:

1. As a new article of manufacture, a two-faced valve for pneumatic player actions comprising a series of superposed thin flexible disks, the outermost disk on each side being of moisture-proof material, a container embracing the margins of said outermost disks, and a valve-stem secured centrally to one of said faces.

2. As a new article of manufacture, a valve for pneumatic player actions comprising a series of superposed thin, flexible disks of substantially equal diameter, a container

therefor consisting of a thin metal annulus having its edges bent over the edges of the outermost of said disks, and a valve stem secured centrally to one side of said disks.

- 5 3. As a new article of manufacture, a valve for pneumatic player actions comprising a central paper disk, felt disks on either side of said central disk, and outer disks of

thin sheet rubber, a thin metal container embracing the peripheral portions of said disks, 10 and a valve stem cemented to one side of said valve and having a central shank or tenon extending part way through the series of disks.

EMORY C. HISCOCK.