This invention has relation to "feather" valves for gas compressors and has for its object the provision of novel means for preventing the breakage of the feather strips with which said valves are equipped.

Considerable trouble has been heretofore experienced in the breaking of the feather strips by the falling thereon of particles broken from the valve springs and from other causes and it had become a problem to devise adequate means of protection. It has been suggested and embodied in practice to cover the "feather" strips with a screen and to fasten strips with a screen and to fasten the same in position by means of screws or bolts passing through the valve section or by means of clamps, but difficulty has been experienced in maintaining the screws or clamps in position and preventing them from becoming dislodged and falling into the cylinder whereby causing considerable damage to the same.

According to the usual practice, the valve was made in two pieces and the feather strips inserted between the same, the latter being bolted together.

According to my present method of construction, the valve is made in three parts, that is, the lower section, is divided into two parts and the screen is inserted between these parts, where it is securely held without the usual holding screws and is prevented from working loose and contacting with the piston of the compression pump. The webs have also been enlarged to give the same area as before.

In the accompanying drawing, illustrating a preferred embodiment of the invention:

Figure 1 is a bottom plan view of the valve;
Figure 2 is a side view;
Figure 3 is a sectional view on the line 3—3 of Figure 2; and
Figure 4 is a section on the line 4—4 of Figure 1.

In the embodiment of the invention as here illustrated there is disclosed a "feather" or plate valve of the type common to gas and air compressors, such valves being each secured as a unit in a port or passage of the compressor.

In the present form there is provided an upper body section 5, an intermediate body section 6' and a lower body section 6''. The upper body section is formed as a thick disk having a series of parallel slots 11 extending thereacross and terminating in spaced relation to the periphery of the disk and each end. These slots flare laterally from the lower side of the disk to its upper side and are separated by ribs 19 trapezoidal in cross-section. In the bottom of the disk is a shallow recess 13 circular in plan and forming a chamber for the valve proper. The intermediate body section 6' is also in the form of a disk and is preferably of the same diameter as the upper section 5. This intermediate section is likewise provided with a series of parallel slots 14 separated by bars 15, the slots 14 being disposed in alignment with the bars 12 and with the lateral solid portions of the disk 5. Consequently the bars 15 are aligned below the slots 11. The slots 14 taper contractingly from their lower ends up. The parts 5 and 6' may thus be said to form the body proper. On top of the member 6' in the recess 13 rests the valve plate which is a disk of thin sheet metal provided with parallel slots 16 separated by bars 17. The slots 16 register with the slots 11 when the valve is open and are closed by the upper ends of the bars 15 when the valve is closed. Similarly, the bars 17 register with the bars 12 when the valve is open and close the upper ends of the slots 14 when the valve is closed. The lower body member or retaining member 6'' is also of disk form and is provided with parallel slots 18 separated by bars 19, the slots 18 being aligned below the slots 14. Between the members 6' and 6'' is a protective screen 10 which is thus supported, not only between the peripheral portion of the members 6' and 6'' but also between the bars 15 and 19. The parts are secured together by suitable bolts 8 and nuts 9.

It will be obvious that, in the event of pieces breaking from the thin plate valve such pieces will drop onto the screen 10 and cannot pass down the passage or port into
the cylinder of the compressor and thus work injury to the piston and to the cylinder walls.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

It is obvious that changes may be made in the form and construction of the invention without departing from the principles thereof. It is not, therefore, desired to confine the invention to the exact form herein shown and described but it is desired to include all such as come within the scope claimed.

Having thus described the invention, what is claimed is:

1. A plate valve having a body provided with slots in its upper and lower portions staggered in relation to each other, a valve plate having slots corresponding to the upper slots of the body and working between the upper and lower slotted portions of said body, a screen extending across the slots in the lower portion of the body, a screen retaining member beneath said screen and having slots registering with the lower slots of the body, and means to secure the retaining member to the body.

2. A plate valve having a body provided with slots in its upper and lower portions staggered in relation to each other, a valve plate having slots corresponding to the upper slots of the body and working between the upper and lower slotted portions of said body, a screen extending across the slots in the lower portion of the body, a screen retaining member beneath said screen and having slots registering with the lower slots of the body, and means to secure the retaining member to the body, said slots being separated by bars and the lower body bars and the bars of the retaining member serving to clamp the screens between adjacent slots.

In testimony whereof I affix my signature.

JOSEPH KLIMEK.