We claim:

1. A diaphragm valve comprising:

a valve body defining a flow passage extending to an internal valve cavity;

a valve seat disposed in the valve cavity and surrounding the flow passage;

a diaphragm disposed in the valve cavity, the diaphragm including an axially fixed outer periphery and an axially flexible central portion movable between a closed position in sealing engagement with the valve seat and an open position axially spaced apart from the valve seat; and

an actuator including an actuator housing assembled with the valve body and an actuating arrangement axially movable within the actuator housing between a first position holding the diaphragm in the closed position and a second position permitting movement of the diaphragm from the closed position to the open position, wherein the actuating arrangement comprises:

an actuator stem extending through a lower bore in the actuator housing;

an actuator button disposed between a lower end of the actuator stem and the diaphragm for contact with the diaphragm; and

a bearing member disposed between the actuator stem and the actuator button, wherein an upper portion of the bearing member is received in a lower socket portion of the actuator stem, and a lower portion of the bearing member is received in an upper socket portion of the actuator button;

wherein the upper socket portion of the actuator button includes an annular wall, and wherein the lower bore of the actuator housing and the lower socket portion of the actuator stem define an annular recess receiving the annular wall of the upper socket portion.

2. The diaphragm valve of claim 1, wherein the bearing member is secured with the lower socket portion of the actuator stem.

3. The diaphragm valve of claim 2, wherein the bearing member is press fit into the lower socket portion.

4. The diaphragm valve of claim 2, wherein the lower socket portion is crimped over the bearing member.

5. The diaphragm valve of claim 2, wherein the lower socket portion is snap-fit over the bearing member.

6. The diaphragm valve of claim 1, wherein the bearing member includes a convex upper portion.

7. The diaphragm valve of claim 6, wherein the lower socket portion of the actuator stem includes a concave inner face portion providing increased surface contact with the convex upper portion of the bearing member.

8. The diaphragm valve of claim 1, wherein the bearing member includes a convex lower portion.

9. The diaphragm valve of claim 8, wherein the upper socket portion of the actuator button includes a concave inner face portion providing increased surface contact with the convex lower portion of the bearing member.

10. The diaphragm valve claim 1, wherein the bearing member is spherical.

11. The diaphragm valve of claim 1, wherein the bearing member includes a material having a greater hardness than a material of the actuator stem and a material of the actuator button.

12. The diaphragm valve of claim 1, wherein the bearing member includes a material having a lower thermal conductivity than a material of the actuator stem and a material of the actuator button.

13. The diaphragm valve of claim 1, wherein the bearing member includes ceramic.

14. The diaphragm valve of claim 1, wherein the actuator stem and actuator button include metal.

15. The diaphragm valve of claim 1, wherein the actuator button is manufactured from powdered metal.

16. The diaphragm valve of claim 1, wherein the actuator stem includes a fluid driven piston.

17. The diaphragm valve of claim 1, wherein the actuator button is loosely retained with the actuator stem and the bearing member by assembly of the valve body with the actuator housing.

18. The diaphragm valve of claim 1, wherein the actuator button is angularly movable with respect to the actuator stem.

19. The diaphragm valve of claim 1, wherein the annular wall is a first annular wall, and the lower socket portion of the actuator stem includes a second annular wall, wherein the lower bore of the actuator housing and the second annular wall define the annular recess.

20. A diaphragm valve comprising:

a valve body defining a flow passage extending to an internal valve cavity;

a valve seat disposed in the valve cavity and surrounding the flow passage;

a diaphragm disposed in the valve cavity, the diaphragm including an axially fixed outer periphery and an axially flexible central portion movable between a closed position in sealing engagement with the valve seat and an open position axially spaced apart from the valve seat; and

an actuator including an actuator housing assembled with the valve body and an actuating arrangement axially movable within the actuator housing between a first position holding the diaphragm in the closed position and a second position permitting movement of the diaphragm from the closed position to the open position, wherein the actuating arrangement comprises:

an actuator stem extending through a lower bore in the actuator housing;

an actuator button disposed between a lower end of the actuator stem and the diaphragm for contact with the diaphragm; and

a bearing member disposed between the actuator stem and the actuator button,

wherein an upper portion of the bearing member is received in a lower socket portion defined by an annular wall of the actuator stem, and a lower portion of the bearing member is received in an upper socket portion defined by an annular wall of the actuator button;

wherein one of the upper socket portion and the lower socket portion includes a concave inner face portion, with the bearing member press fit into the one of the upper socket portion and the lower socket portion, and the concave inner face portion providing increased surface contact with a convex portion of the bearing member.

21. The diaphragm valve of claim 20, wherein the one of the upper socket portion and the lower socket portion is the upper socket portion.

22. The diaphragm valve of claim 20, wherein the one of the upper socket portion and the lower socket portion is the lower socket portion.

23. The diaphragm valve of claim 20, wherein the convex portion of the bearing member is a first convex portion, wherein the other of the upper socket portion and the lower socket portion includes a concave inner face portion providing increased surface contact with a second convex portion of the bearing member.

24. The diaphragm valve of claim 20, wherein the annular wall of the actuator button surrounds the annular wall of the actuator stem.

25. The diaphragm valve of claim 20, wherein the lower socket portion of the actuator stem is received in the upper socket portion of the actuator button.

26. The diaphragm valve of claim 20, wherein the actuator button is loosely retained with the actuator stem and the bearing member by assembly of the valve body with the actuator housing.