

31. The Junker thermoelectric safety device model STG 1 (see fig. 33)

The Junker safety device consists of the following parts:

1. Spring loaded push button
2. Gas valve
3. Housing
4. Sensing element with the hot junction of the thermocouple (Feeler)
5. Enamel insulated copper thread
6. Electromagnet
7. Outer tube
8. Armature
9. Spring

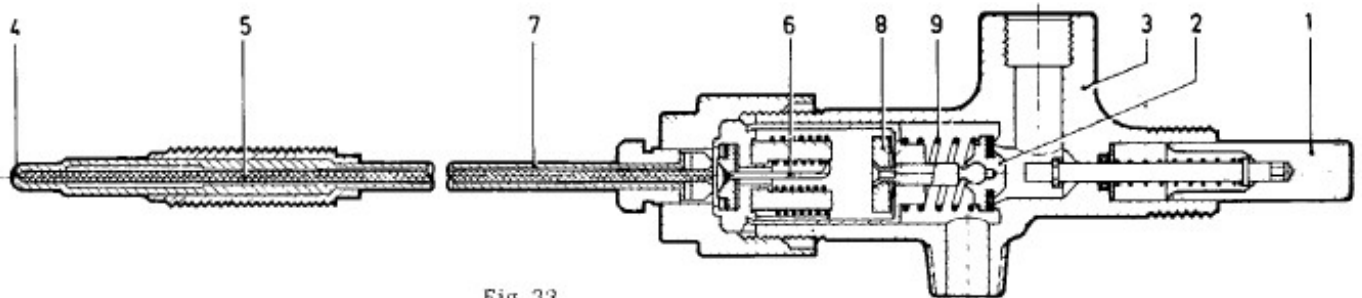


Fig. 33

The thermoelectric safety device functions as follows:

By pressing the push button (1) the gas valve (2) is opened and the gas can pass the housing (3) on to the burner. At the burner the feeler (4) is located. When the gas flame of the burner is lit, some heat is transferred to the feeler (4). The hot junction of the thermocouple is thus heated and an electric current is generated. This current passes through the copper wire (5) to the electromagnet (6) and back through the outer tube (7). As soon as the electric current is generated, the electromagnet attracts the armature (8) with the valve (2). The push button can then be released.

As long as current is flowing, the valve is kept open and allows gas to pass to the burner.

When the flame is extinguished, the heat transfer to the hot junction is interrupted and no electric current is generated. The armature (8) with the valve (2) is then forced back by the spring (9) and the gas flow through the valve (2) is closed.

Important: When lighting the burner the push button (1) should be pressed firmly, otherwise the gas may not get to the burner properly.