

The major components of the single-plate clutch are the clutch release mechanism, the cover plate and pressure plate, and the clutch plate. Fig. 197 shows diagrammatically the design of a single-plate clutch. To provide for the largest possible friction area, almost the whole of the diameter of the flywheel is used.

The clutch plate is provided with friction material on both sides. This plate is pressed against the flywheel by means of the pressure plate on which the power of the clutch spring acts; in this way the engine is coupled to the change-speed gear.

If the clutch must be thrown out of action, the clutch pedal must be actuated. The pressure plate is withdrawn by means of the release mechanism and the clutch plate released. Consequently the clutch is disconnected from the flywheel (see Fig. 197).

Highly-efficient single-plate clutches, as used in tractors, of course are of a more complicated design. For example, several clutch springs can be arranged on the pressure plate or only one central spring be used (Fig. 198).

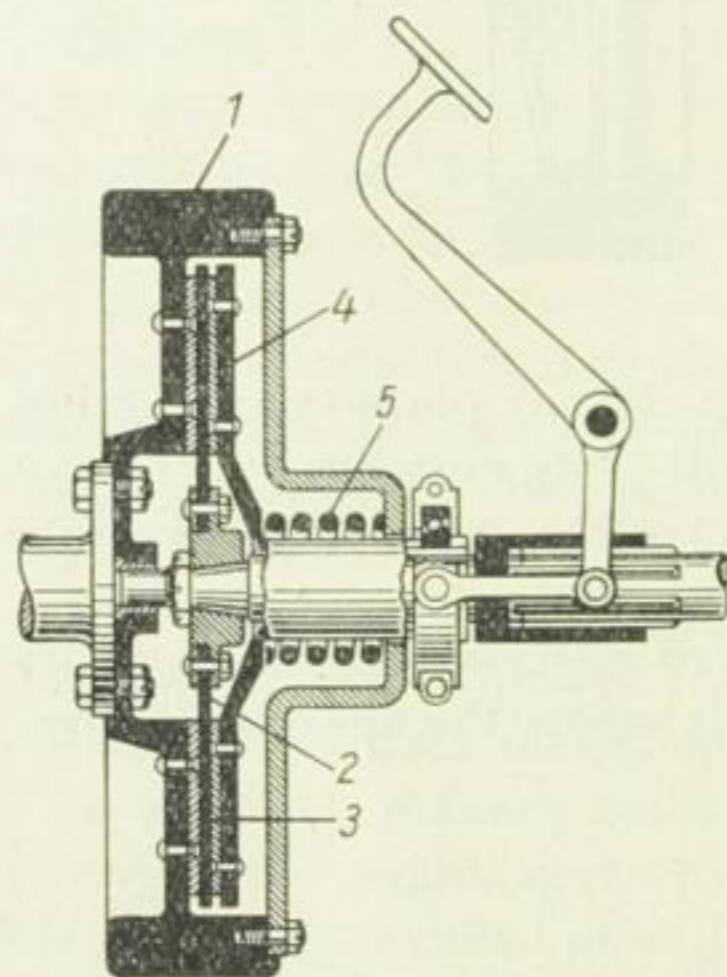


Fig. 198. Single-plate clutch with central spring

- 1 Flywheel
- 2 Clutch disk
- 3 Clutch facing
- 4 Pressure plate
- 5 Central clutch spring

*Double clutch.* A clutch specifically designed for tractors is the double clutch.

This type of clutch is provided with a large and a small clutch disk which are actuated by common clutch springs. The large plate is arranged on a solid clutch shaft and is used to transmit power to the road wheels or track. The small plate is mounted on a hollow shaft and throws an independent power take-off out of or into action (see page 157).

On actuating the clutch pedal, the engine is disconnected from the change-speed gear. Only on further actuating the clutch pedal, the power take-off is disengaged. This double clutch has proved successful for operating heavy implements such as forage harvesters or combines.

*Multi-Plate Clutch.* In this design, several clutch plates are used. The clutch case is larger than that of the above described design and has drivers in the form of lugs or gear teeth, as is shown in Fig. 199. The clutch disks mesh alter-