

## Components of Synchronizing Mechanism

### 1. Sliding sleeve

The tapered inner circumference of the sliding sleeve makes the friction contact with the synchronizing ring. In addition, when the gear is fully engaged, the internal teeth on the sliding sleeve engage with corresponding teeth on the gear, and thereby form a positive coupling.

The sides of the inner circumference of the sliding sleeve are tapered with a shallow V groove in the center which the synchronizing ring engages to retain the sliding sleeve when the gear is engaged (no locking device is therefore needed to hold the selector shaft when gears are engaged) (Fig. 5).

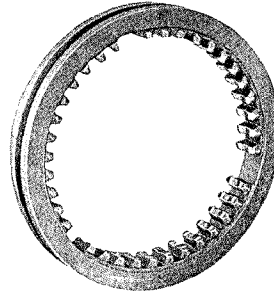


Fig. 5

### 2. Spider

The spider has three arms that carry the sliding sleeve which is free to slide axially. In addition to guiding the sliding sleeve, the spider transmits the drive torque (Fig. 6).

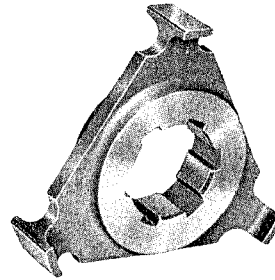


Fig. 6

### 3. Toothed synchronizing drive ring

The toothed ring forms the coupling between the gear and the sliding sleeve. It carries the synchronizing ring and the brake bands (Fig. 7).

The toothed ring of the first gear has two diametrically opposed recesses. The recess with the chamfered edge is for the lug on the inner side of the slider. The lug on the lock ring must never be inserted in the recess with the chamfered edge, but always in the recess that locates the stop.

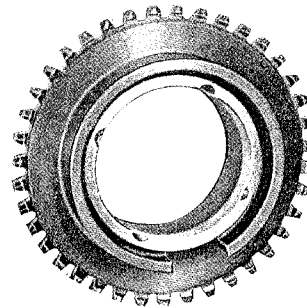


Fig. 7

### 4. Synchronizing ring

The synchronizing ring is a split elastic ring. The V shaped ridge on the outer surface serves both as a synchronizing surface, and a retainer for the ring in the sliding sleeve.

One side of the ring has a groove which, when assembled, must face the lock ring (Fig. 8).

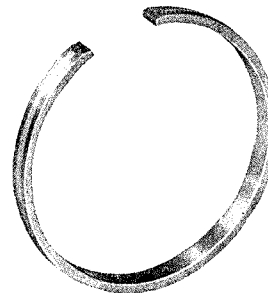


Fig. 8