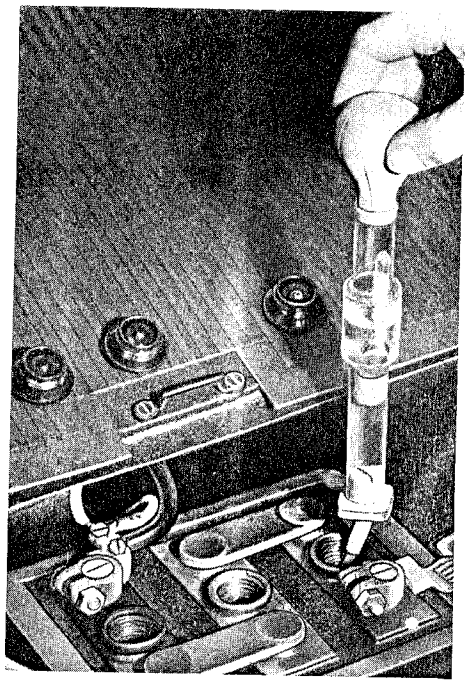

Fig. 37

Battery fully discharged	18° Bé, s.g. 1.142
Battery half charged	27° Bé, s.g. 1.230
Battery fully charged	32° Bé, s.g. 1.285

Electrolyte level

During operation, the electrolyte level in the battery drops due to evaporation. Only distilled water should be added since other water contains chemicals which are harmful to the electrolyte. The electrolyte level should be approx. 10 to 15 mm ($^3/_8$ to $^5/_8$ in.) above the plates. Never add acid, unless it is known that acid has been spilled from the battery. In this case check the specific gravity of the remaining electrolyte and add acid of identical density. If this is not possible, fill the cell with distilled water, charge fully as described, empty the cell and fill with acid of correct strength (1.285 s.g.).

Voltage Test

The full-load test is carried out with a special cell tester consisting of a low-reading voltmeter and a heavy resistance of 80 to 100 amperes capacity connected in parallel. The two prods of this instrument are placed across the terminal posts of each battery cell in turn. The voltage of each cell (normally 2 volts) should not fall below 1.6 volts while taking the reading (10 to 15 seconds). Otherwise the cell is discharged or defective. The difference between the cells should not exceed 0.2 volts.

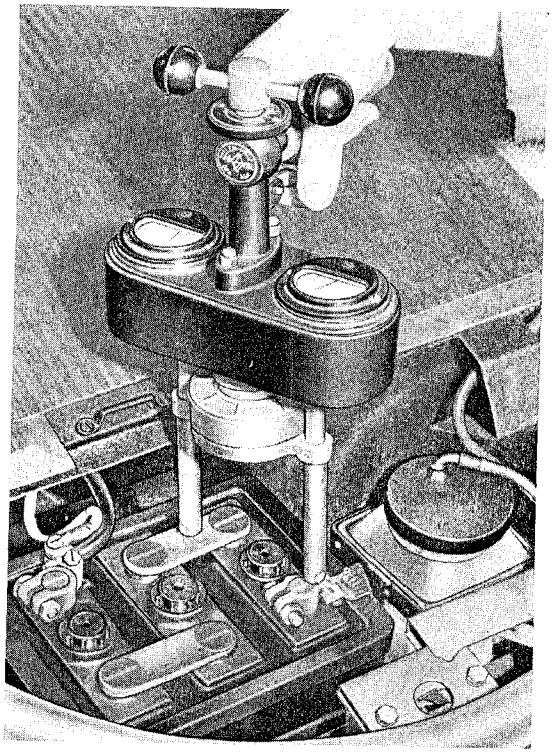

Fig. 38

Care of the Battery

Due to the heavy load imposed on the battery when starting, the average service life of a battery is two years. The battery is stressed very heavily by continuously trying to start an engine which does not fire at once, since a current of up to 250 amperes may be drawn from the battery at this time.

The battery must be held firmly in its mounting. Terminal posts and cable clamps should be kept free from corrosion to prevent excessive electrical resistance.

The terminals should be cleaned with a clean rag or in severe cases with battery terminal cleaner. The posts and cable clamps should be coated with terminal grease to prevent corrosion. Cable clamps which are difficult to remove from the terminal posts due to corrosion should be removed using a battery clamp remover. (Do not use force.)

When working on the battery, clean traces of spilled electrolyte off immediately using common baking soda solution to prevent damage to fabric and metal parts.