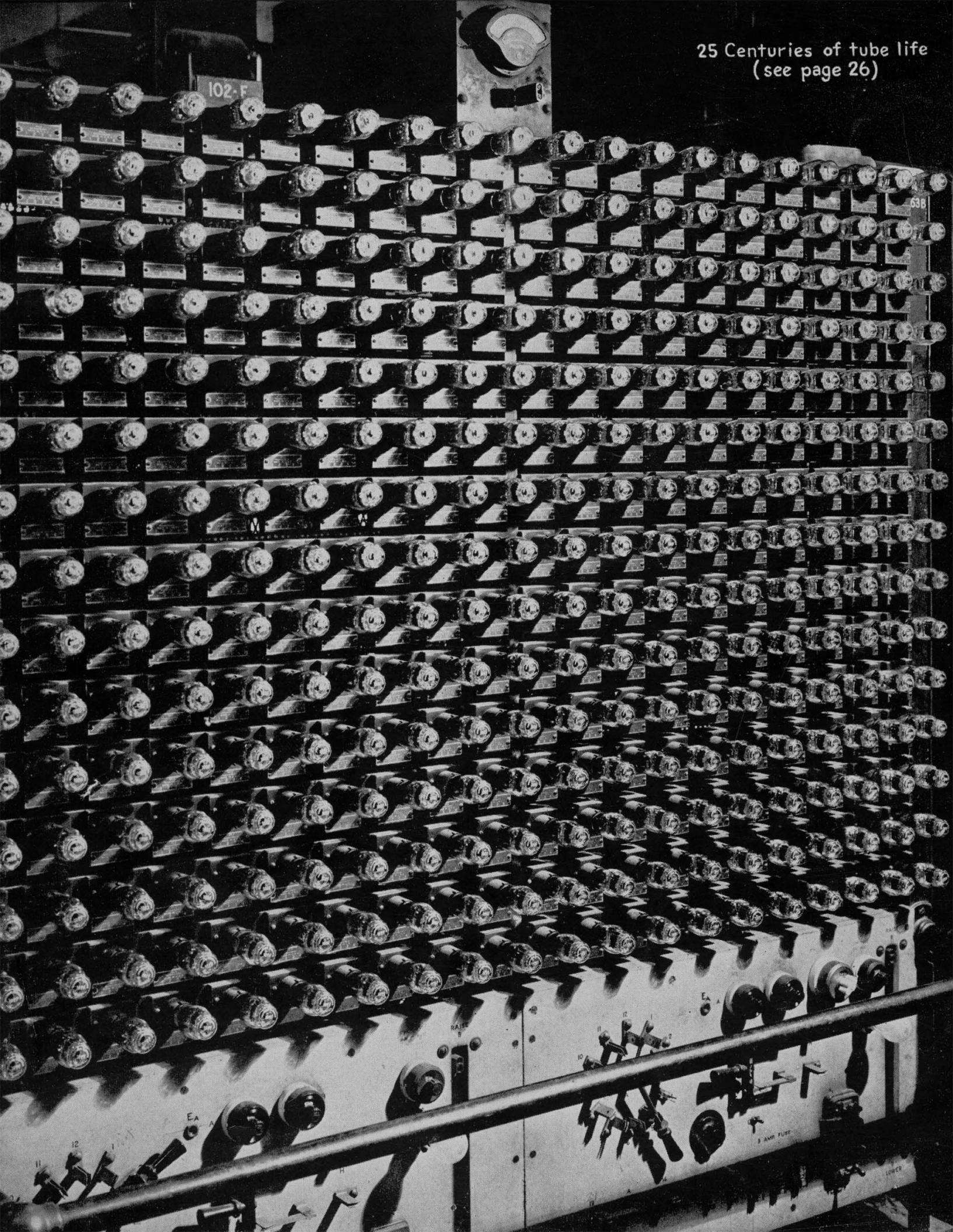
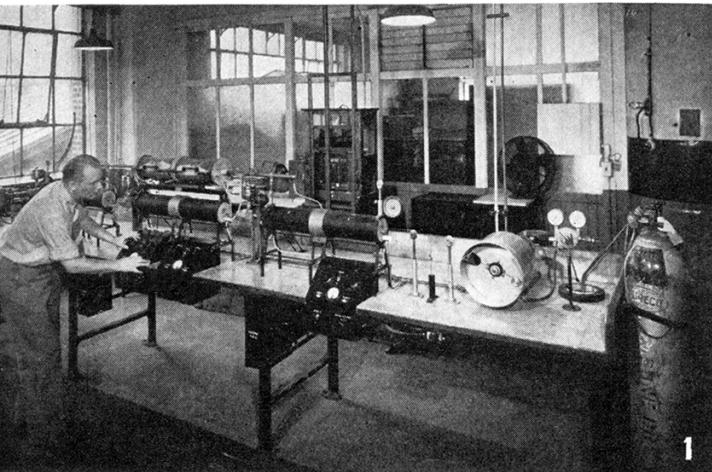


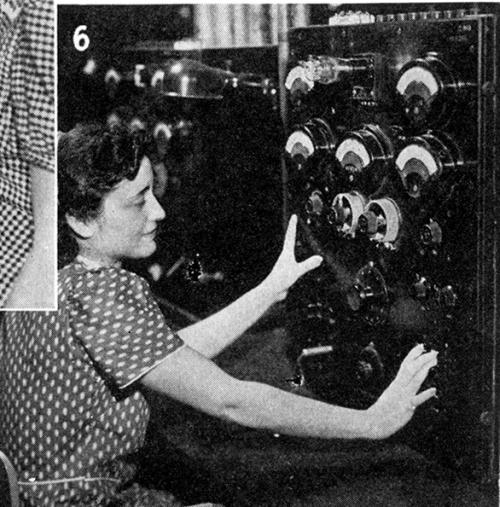
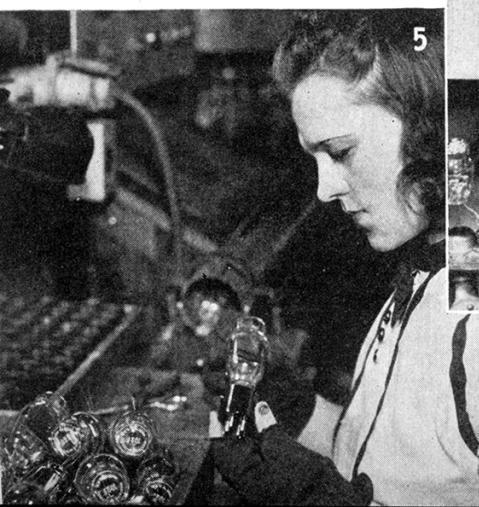
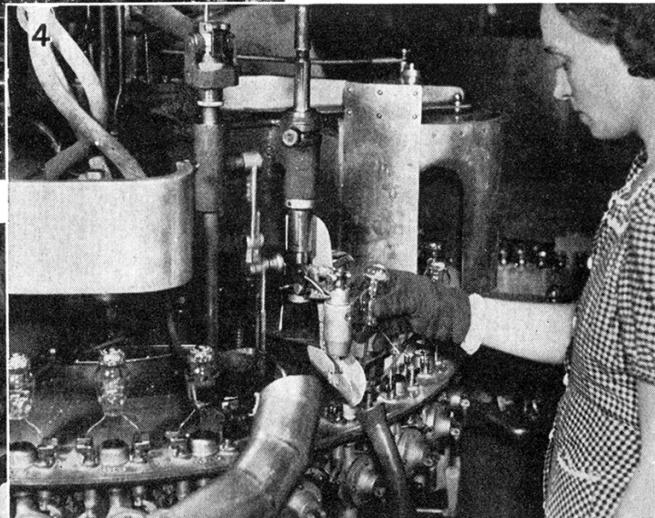
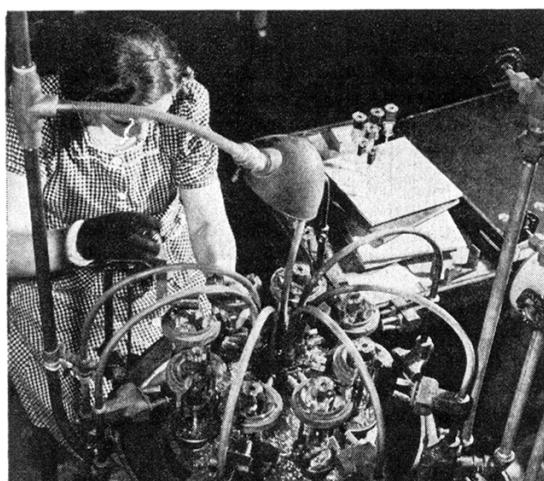
25 Centuries of tube life
(see page 26)





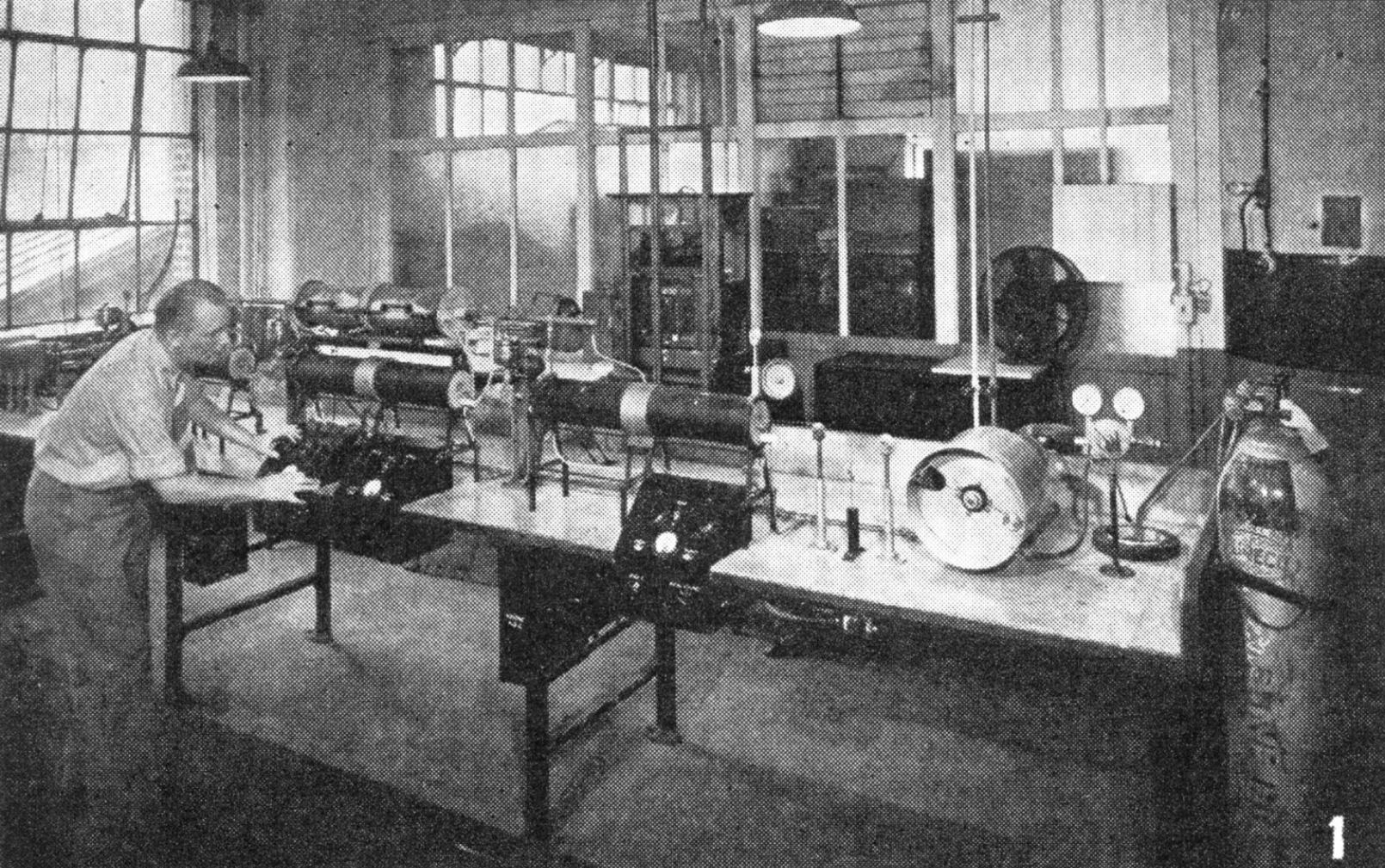
TUBE LIFE: 75,000 HOURS

The new Western Electric type 102F triode repeater tube has a life expectancy of eight and one-half years, continuous operation. Careful manufacture and conservative operation contribute to this phenomenal length of service, perhaps the longest life of any commercial electronic device

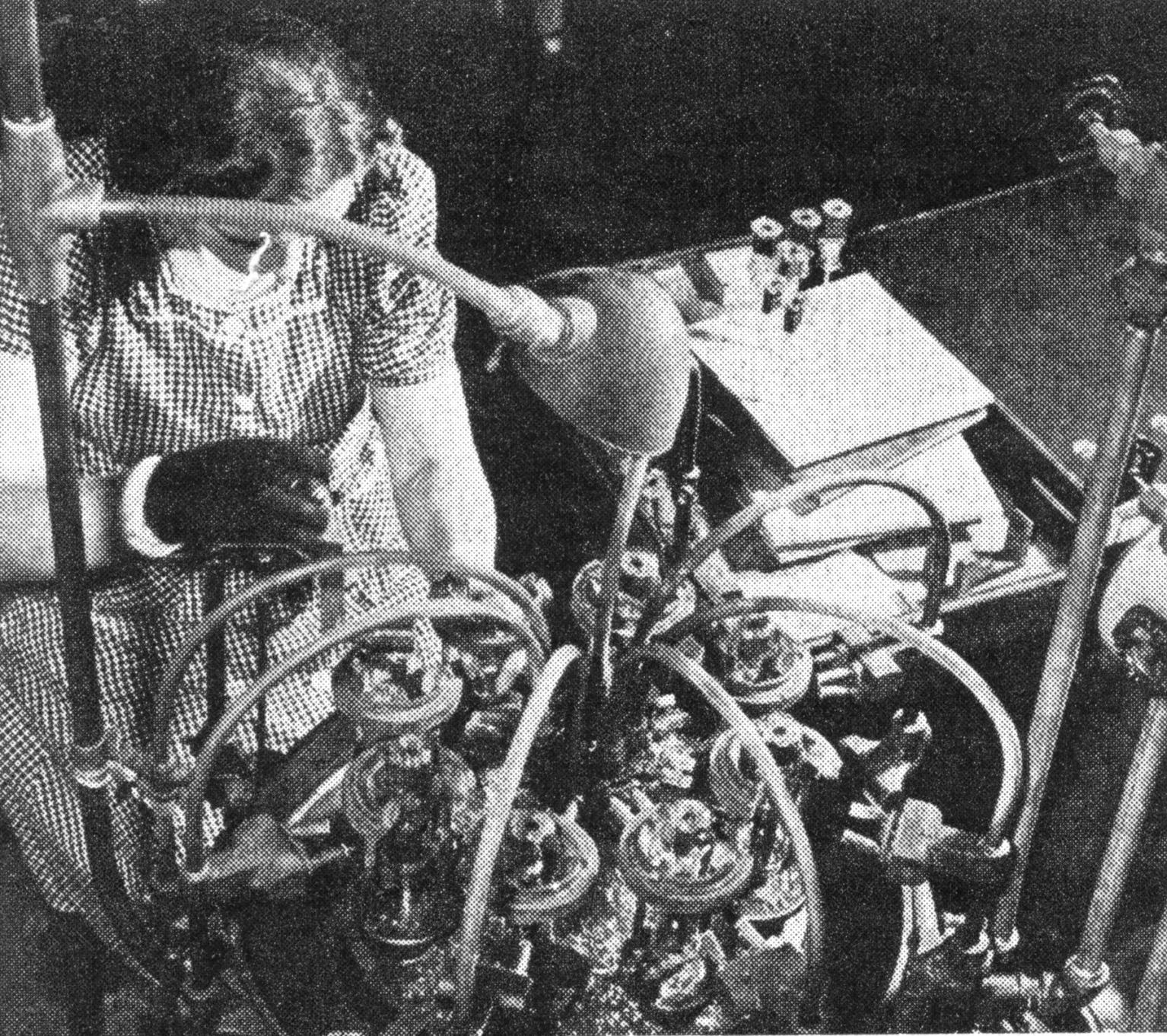


1. The filament coating machine at the Western Electric tube shop. Exact control of this process is necessary to insure long tube life. The filament operates at 2.1 volts, 0.5 ampere
2. Each operator is a master of the entire tube mounting process, rather than of a single operation as is customary in commercial receiving tube manufacture. Here filament, grid, and plate are assembled and welded
3. The tube mount is sealed in to the envelope, a separate operation from the exhaust process. In contrast, sealing-in and exhausting are carried out in one machine in high-speed production of receiver tubes
4. The exhaust machine was designed by Western Electric engineers especially for the purpose. Careful and prolonged bombarding and outgassing eliminate gas which would reduce the tube life
5. The tube base is little different from that of the repeater tubes placed in service twenty years ago. Special alloy tips on the pins require a nice soldering technique
6. Testing for filament activity, filament voltage, impedance, plate current, and grid insulation is performed on each tube, followed by elaborate spot-testing of sample tubes

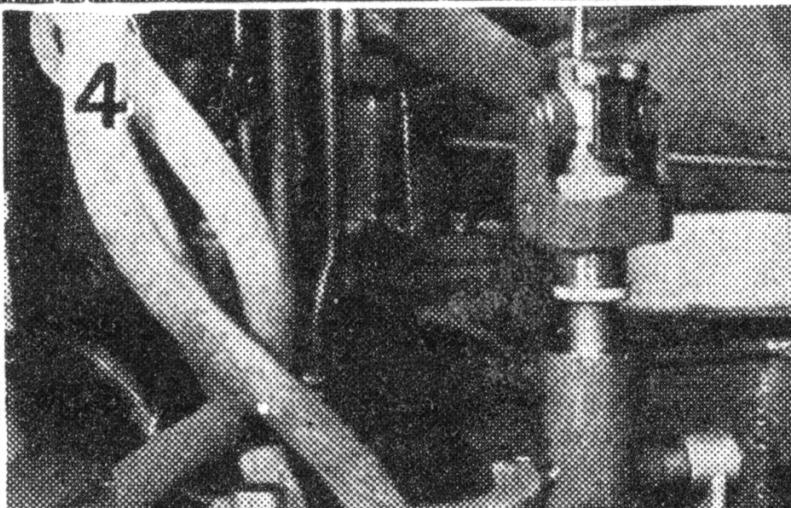
THE COVER: The tubes are aged for 16 hours. The cover shows 300 tubes on the aging rack. If placed in service consecutively, the life of the tubes in this rack would extend back to the founding of Rome

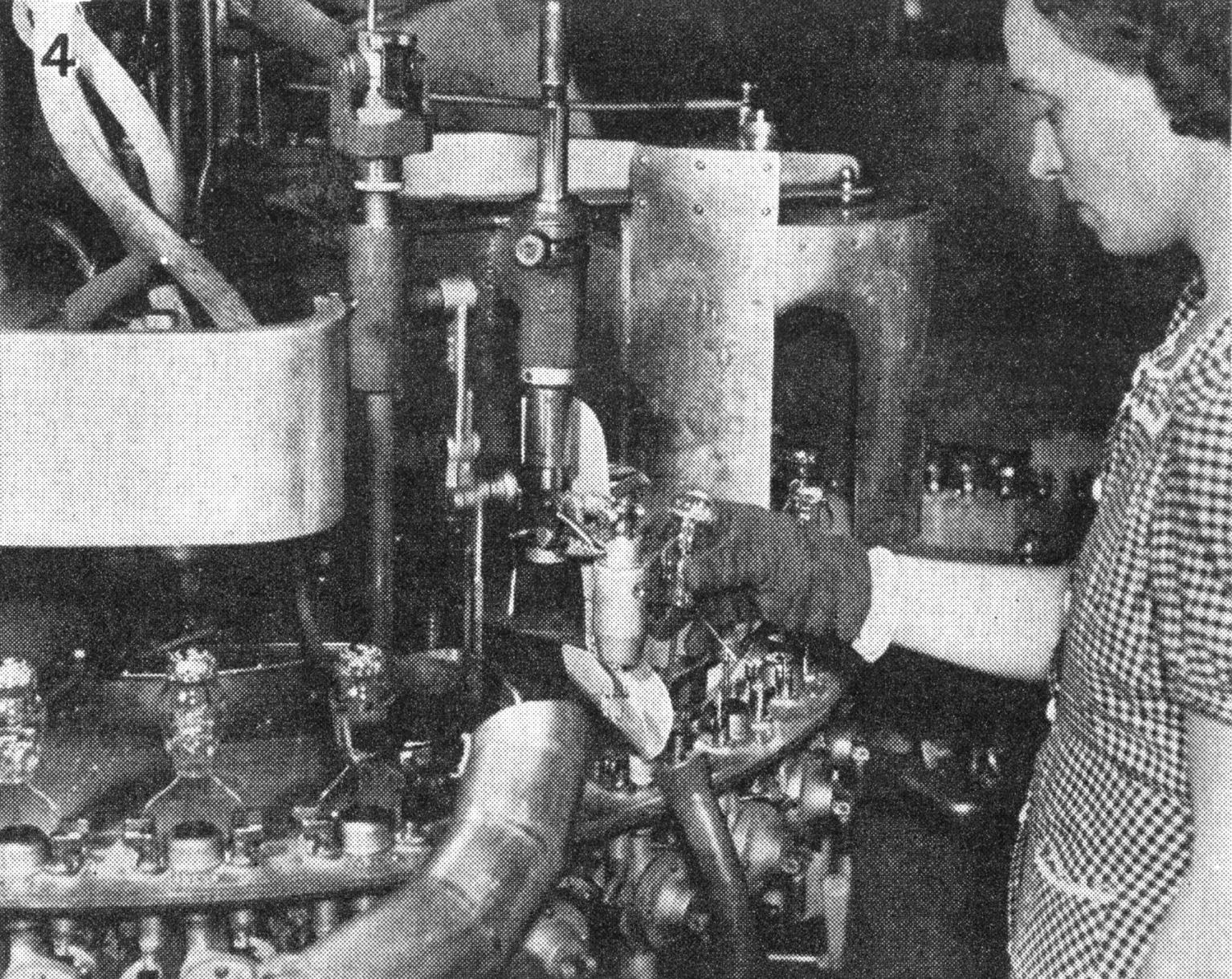




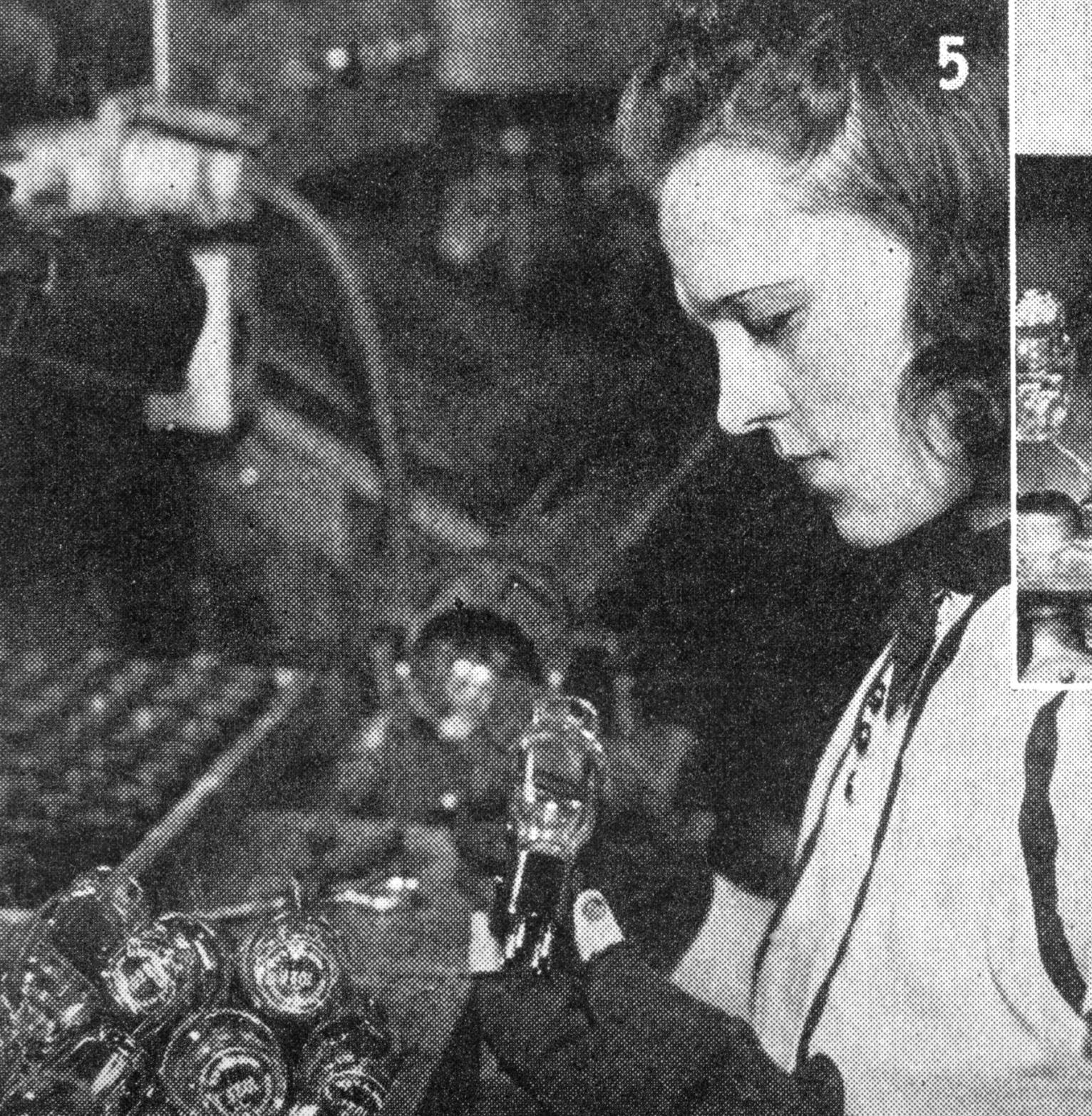


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