

ing. It would be easiest to screen the aerial coil, but in this particular circuit it is preferable to screen the one on which reaction is used.

If this inter-coil coupling is allowed to exist, it will assuredly cause trouble later on, so it is best to make sure in the first place. Whether it is desired to change the valve or not, this practice of screening the regenerative transformer will be found to improve the working of an unstable Browning-Drake; so howlers, please note!

mer. The screening grid is given a positive potential and also needs a bypass condenser of at least .5 mfd. The grid leak on the detector valve, instead of bridging the grid condenser, runs directly to A+, otherwise the high voltage potential from the B battery would be impressed on the grid. Reaction has been omitted to make the diagram more simple. This circuit is the most efficient.

Fig. 3 is a diagram of a modification of the preceding circuit, and is the

vents the direct voltage from passing. Compare this circuit with that of Fig. 2 and points of similarity will be apparent. Instead of the primary winding, a R.F. choke is used and the coupling is obtained via the small condenser.

If a S.G. valve is used with the plate, connection being made on the cap on top, the change over is quite simple, the only additions to the set, besides the valve, being a R.F. choke, a bypass condenser and a mansbridge condenser of at least .5 m.f.d. capacity. These should be screwed down in convenient places so that all wiring will be kept short.

A word about the R.F. choke. If the best results are to be obtained this must be of good quality. Generally speaking, an English R.F. choke will be found to be suitable, as the only purpose, generally speaking, for which a choke is used in America is to obtain reaction by the throttle control method, in which case this component need not have such a high degree of efficiency.

Constructional details for making one's own chokes have been given in the "Record" from time to time (e.g.,

December 21). The control grid lead is connected to the same pin, as in ordinary triodes, and no alteration is here necessary. This is, of course, speaking of the valve on which the plate connection is on the top. Certain makes differ in this respect, and allowance will have to be made when wiring up. The plate connection of the valve socket corresponds to the screening grid, and this will have to be taken from the regenerative primary and connected to B+45 and the .5 m.f.d. condenser. With a length of flexible wire connect the top cap of the valve to one end of the R.F. choke and also to one side of the coupling condenser. The free end of this condenser joins to the grid end of the detector grid coil. The other end of the R.F. choke goes to B+135 and to one side of a 1 or 2 m.f.d. Mansbridge condenser, the other side of which is earthed. It is really quite simple to do the change over, but it is hopeless to try without sticking to an approved circuit. If, when completed, the receiver is unstable, one of the coils will have to be screened, preferably the one embodying reaction.

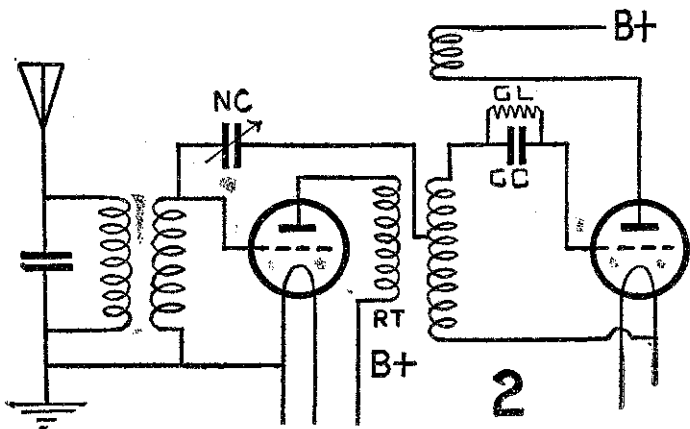


Diagram 2. A three-electrode RF stage (untuned).

If, after screening, reaction is difficult to regulate, either increase the B+ det. voltage slightly or add a few more turns to the tickler coil. Now let us turn our attention to Figs. 1 and 3. These are two circuits of a single stage of R.F. using the screened grid valve. It will be seen that Fig. 1 merely uses the tuned anode method of coupling instead of the R.F. transfor-

mer one most readily adaptable for the average set. A radio frequency choke in the anode of the S.G. valve allows the direct current to flow, but offers a more or less complete barrier to the radio frequency oscillating. These pass through the small coupling condenser to the grid of the detector valve. No alterations to the grid leak are necessary, as the coupling condenser pre-

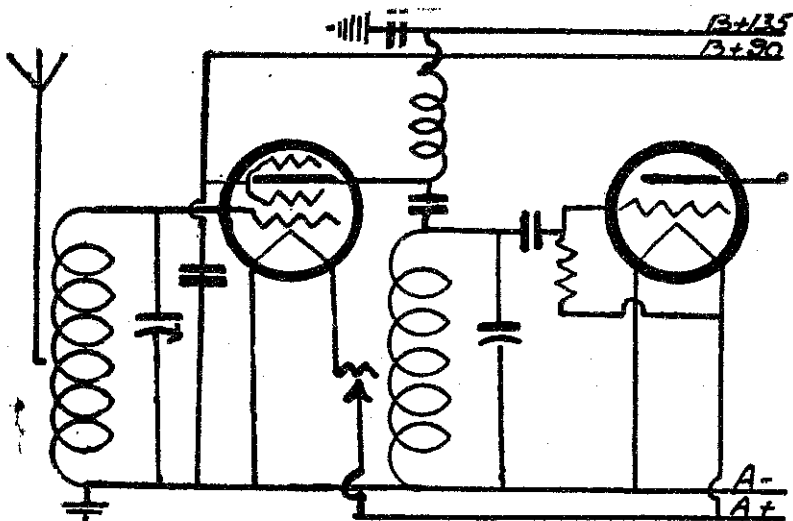


Diagram 3. A variation of tuned anode.

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