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TUNING MECHANISM

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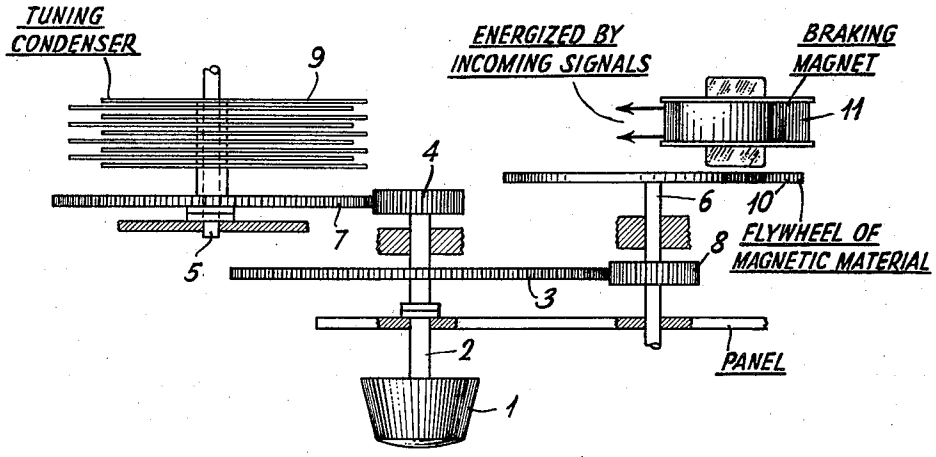

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TUNING MECHANISM

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3 Claims. (Cl. 250—40)

It is known to provide the tuning mechanism of radio receiving sets with an inertia mass (flywheel) so that in case of the tuning knob being driven in a jerky manner it continues moving by the action of the flyheel without any further attendance. Such a device is of particular importance for apparatus comprising a transmission between the tuning knob and the condenser, since otherwise the tuning in such apparatus, especially from one station to another station where stations are widely spaced in the frequency spectrum, would occupy much time. In the known devices the said inertia mass is directly mounted on the shaft of the tuning knob. In order to obtain the effect aimed at this inertia mass should be very large which involves structural difficulties.

The present invention consists in that the flywheel, or the braking disc, is mounted on a separate shaft which is driven and accelerated by the shaft of the tuning knob. Owing to this the flywheel may be given a very small size.

Furthermore, the invention is of great importance for devices, known per se, comprising a brake which, after establishment of correct tuning to a carrier wave, automatically operates by the action of the incoming signal. Such a system is shown, for example, by C. J. Van Loon, Patent No. 2,108,420, issued on Feb. 15, 1938. It has turned out to be extremely efficacious to drive the brake disc, according to the invention, in an accelerated manner while using the brake disc as a flywheel at the same time, if desired. It will be appreciated that it is desirable to stop the tuning condenser as rapidly as possible upon establishment of accurate tuning. This can now be accomplished by proceeding according to the invention. By a judicious choice of the flywheel and the brake it can be ensured that the angle over which the condenser turns further after operating the brake, remains limited to such a value that the tuning is substantially no longer effected. Owing to this the dimensions of the whole braking device are materially reduced.

The invention will be more clearly understood by reference to the accompanying drawing.

In this drawing the tuning knob 1 is secured to the shaft 2, which has mounted on it a toothed wheel 3 having a comparatively large size, and a pinion 4. Two shafts 5 and 6, carrying the toothed wheel 7 and the pinion 8 respectively, are journalled in the frame. The tuning condenser 9 is secured to the shaft 5, whereas the shaft 6 carries the flywheel 10.

Upon turning the tuning knob the shafts 2, 5 and 6 are operated simultaneously. If the tuning knob is jerkily driven the flywheel 10 provides that the system of axes, and the members mounted thereon, continue moving without any further attendance. Due to the fact that the movement of the shaft 6 is greatly accelerated relatively to the shaft 2, a flywheel having a comparatively small size is sufficient. The shaft 2 is given a greatly accelerated movement relatively to the shaft 5 so that when the disc 10 is used as a brake disc, which may for instance be effected by making the flywheel 10 from magnet material and by subjecting it to the action of a braking magnet 11, the substantially unavoidable angular rotation of the brake disc after operating the brake will not affect the tuning. In fact, the said rotation will be transferred in a highly retarded manner to the condenser shaft.

What is claimed is:

1. In a tuning mechanism for a radio receiving set provided with a tuning condenser, a driving shaft and a plurality of driven shafts all arranged in parallel, the tuning condenser being mounted on one of the driven shafts, a combined flywheel and brake disc of magnetic material mounted on a second driven shaft, a braking magnet responsive to incoming signals cooperatively related with said combined flywheel and brake disc and gearing means separately interconnecting each driven shaft with the driving shaft such that rotation of the latter shaft at a certain speed causes the first driven shaft to rotate at reduced speed and the second driven shaft to rotate at increased speed with respect to the driving shaft.

2. In a tuning mechanism for a radio receiving set provided with a tuning condenser, a driving shaft and a plurality of driven shafts, the tuning condenser being mounted on one of the driven shafts, a fly wheel of magnetic material mounted on a second driven shaft, a braking magnet responsive to incoming signals cooperatively related with said flywheel, a large gear and a small gear mounted on the driving shaft, a large gear mounted on the driven tuning condenser shaft meshing with the small gear of the driving shaft, and a small gear on the driven flywheel shaft meshing with the large gear of the driving shaft.

3. Tuning mechanism for radio receiving sets comprising a driving shaft and a pair of driven shafts all arranged in parallel, a tuning condenser mounted on one of the driven shafts, a combined flywheel and brake disc of magnetic material mounted on the other of said driven shafts, a braking magnet cooperatively related with said

brake disc, a large gear and a small gear mounted on the driving shaft, a large gear mounted on the driven tuning condenser shaft meshing with the small gear of the driving shaft, and a small gear on the driven fly-wheel and brake disc shaft meshing with the large gear of the driving shaft, the arrangement being such that rotation of the driving shaft causes rotation of the tuning shaft at reduced speed and the brake disc at increased speed, whereby slight continued angular rotation of the brake disc upon operation of the brake magnet at the desired tuning position of the tuning condenser will have no substantial effect on said tuning position.

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