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A. CROSSLEY ET AL

1,809,509

RADIO TUNING MECHANISM

Filed June 27, 1930

2 Sheets-Sheet 1

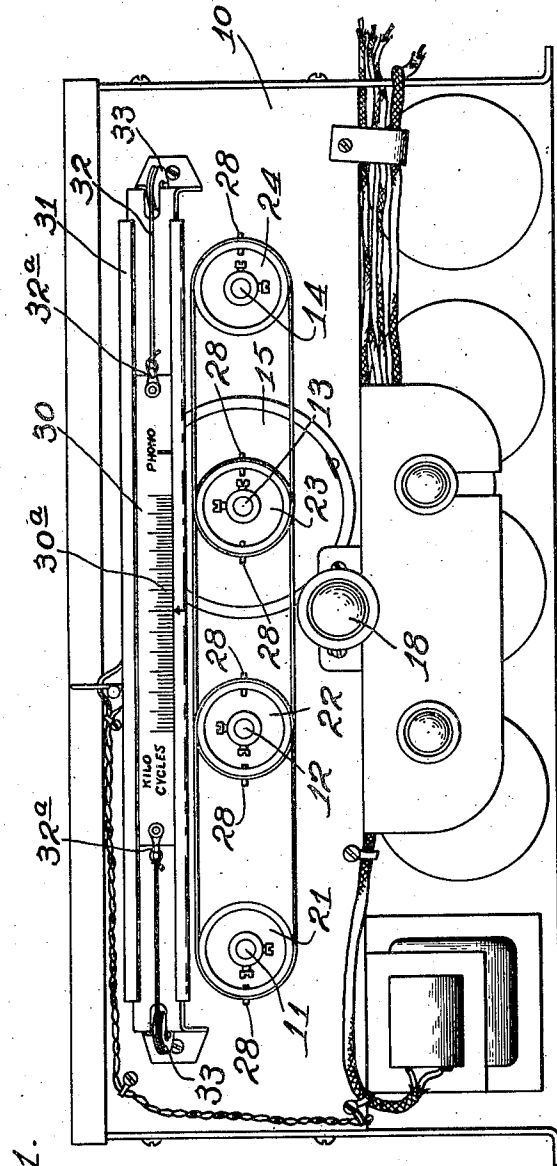


Fig. 1.

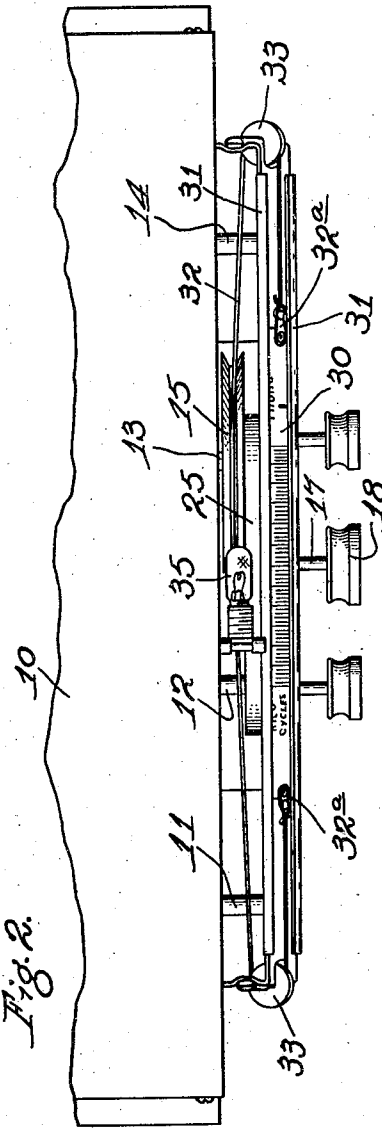


Fig. 2.

Inventors:  
 Alfred Crossley and  
 Leland H. Hansen.  
 By Dupenforth, Lee, Chilton and Wiles.  
 Attys.

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2 Sheets-Sheet 2

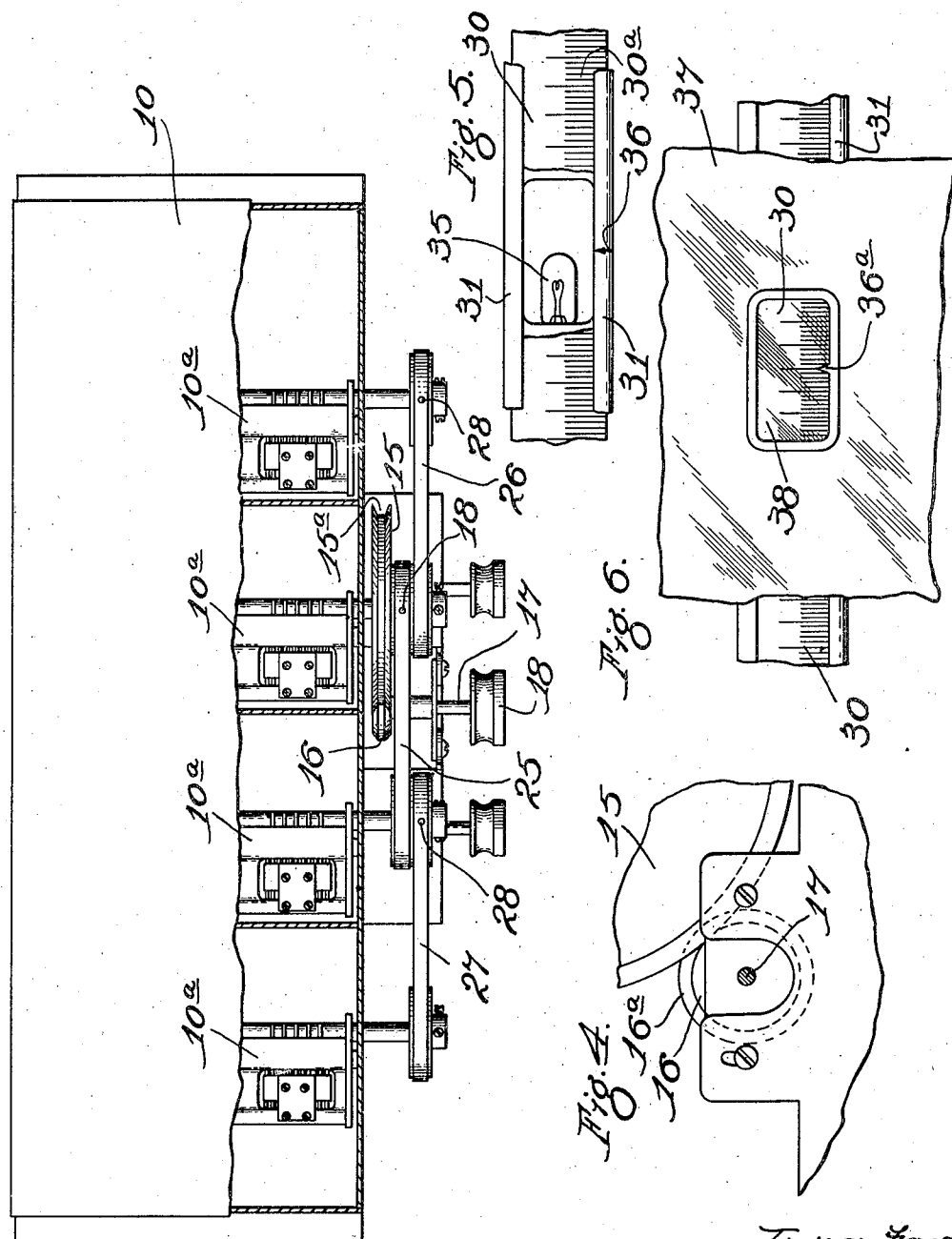


Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

Inventors.  
 Alfred Crossley<sup>2d</sup>  
 Leland H. Hansen.  
 By Dymforth, Lee, Chittenden & Niles.  
 Attys.

# UNITED STATES PATENT OFFICE

ALFRED CROSSLEY AND LELAND H. HANSEN, OF SOUTH HAVEN, MICHIGAN, ASSIGNORS  
TO HOWARD RADIO COMPANY, OF SOUTH HAVEN, MICHIGAN, A CORPORATION OF  
ILLINOIS

## RADIO TUNING MECHANISM

Application filed June 27, 1930. Serial No. 464,409.

This invention relates to improvements in radio tuning mechanism and, more especially, such mechanism adapted for use with radio receivers.

Among the features of our invention is the provision of such mechanism that is simple in construction and operation, and also accurate, durable and efficient.

Another feature of our invention is the provision of a horizontally slidable elongated scale to indicate the setting of the mechanism, thus eliminating all rotatable dials.

Other features and advantages of our invention will appear more fully as we proceed with our specification.

In that form of device embodying the features of our invention shown in the accompanying drawings—

Figure 1 is a view in front elevation; Fig. 2 is a top plan view; Fig. 3 is a view similar to Fig. 2 with the scale removed; Fig. 4 is an enlarged detail view in front elevation of the friction disks; Fig. 5 is an enlarged detail view in front elevation, showing the lamp for illuminating the scale; and Fig. 6 is a similar view showing the window in the front wall of the outer case.

As shown in the drawings, 10 may indicate, in general, the chassis of a radio receiver, the wiring and details of which need not be described, as they form no part of the present invention. It will suffice to say that this chassis, as is frequently the case, may be provided with a plurality of or gang of condensers 10<sup>a</sup> (here shown as four in number). These condensers are controlled by the shafts 11, 12, 13 and 14, and in the tuning of the receiver, in accordance with common practice, it is necessary or desirable to rotate these shafts simultaneously.

Our invention relates to mechanism for manually simultaneously rotating a plurality of shafts, such as the condenser shafts 11, 12, 13 and 14.

This mechanism includes a driven friction disk 15 on the shaft 13, provided with a peripheral groove 15<sup>a</sup>. Numeral 16 indicates a co-operating driving friction disk mounted on the shaft 17 adapted to be manually operated by the knob 18. The disk 16 has a

narrowed periphery 16<sup>a</sup> frictionally engaging the walls of the groove 15<sup>a</sup>, whereby rotation of the knob 18 will rotate the disk 15 and, consequently, the shaft 13 of one of the condensers.

Means are provided for interconnecting the shafts so that as the shaft 13 is rotated, the other shafts 11, 12 and 14 are simultaneously rotated synchronously therewith. Such means include pulleys on the shafts with belts interconnecting the same. These pulleys on the shafts 11, 12, 13 and 14 are indicated by the numerals 21, 22, 23 and 24, respectively, the pulleys 22 and 23 being wide enough to receive two belts. Rotation of the pulley 23 imparts rotation to the pulleys 22 and 24 through the belts 25 and 26, respectively. The pulley 21 is rotated from the pulley 22 through the belt 27.

The belts 25, 26 and 27 are preferably made of thin metal ribbons with little or no stretch. Slippage on the pulleys is prevented by friction and, also, by means of the radial pins 28 in the peripheries of the pulleys projecting through holes in the belts.

Means are provided for visibly showing the setting of the mechanism. Such means includes a horizontally arranged reciprocable elongated scale 30 with suitable markings or calibrations 30<sup>a</sup>. This scale is slidably mounted between the guide members 31, 31. Movement is imparted to the scale by a flexible member, such as a cord 32 wrapped about the groove 15<sup>a</sup> in the disk 15, with its ends passing over the pulleys 33 (adjacent the ends of the guide members 31) and attached to the ends of the scale at 32<sup>a</sup>. The scale 30 may be made of translucent material, such as celluloid, and the markings thereon illuminated by means of a lamp 35 behind the same. Numeral 36 may indicate a stationary mark on one of the guide members 31 to aid in indicating movements of the scale, and in Fig. 6 is shown a portion of the front wall 37 of an outer case provided with a window 38 for viewing the scale 30, the margin of such window containing a stationary mark or arrow 36<sup>a</sup> similar to the mark 36 above described.

While we have shown and described cer-

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tain embodiments of our invention, it is to be understood that it is capable of many modifications. Changes, therefore, in the construction and arrangement may be made without departing from the spirit and scope of our invention, as disclosed in the appended claims, in which it is our intention to claim all novelty inherent in our invention as broadly as permissible, in view of the prior art.

What we regard as new, and desire to secure by Letters Patent, is:

1. In combination with a plurality of shafts, tuning mechanism of the character described, for simultaneously rotating said shafts, said tuning mechanism including; a grooved driven friction disk on one of the shafts; a co-operating driving friction disk; pulleys mounted on said shafts; belts interconnecting said pulleys, whereby rotation of one shaft will simultaneously rotate the other shafts; and an elongated scale reciprocated by a flexible member wound about the groove in the driven friction disk with its ends attached to the ends of the scale.

2. In combination with a plurality of shafts, tuning mechanism of the character described for simultaneously rotating said shafts, said tuning mechanism including; a driven friction disk on one of the shafts, said friction disk being provided with a peripheral groove; a co-operating driving friction disk, the periphery of the same frictionally engaging the walls of the peripheral groove in the driven friction disk; pulleys mounted on said shafts; belts interconnecting said pulleys whereby rotation of one shaft will simultaneously rotate the other shafts; and an elongated scale reciprocated by a flexible member wrapped about the groove in the driven disk with its ends attached to the scale.

Witness our hands this 21st day of June, 1930.

ALFRED CROSSLEY.  
LELAND H. HANSEN.