

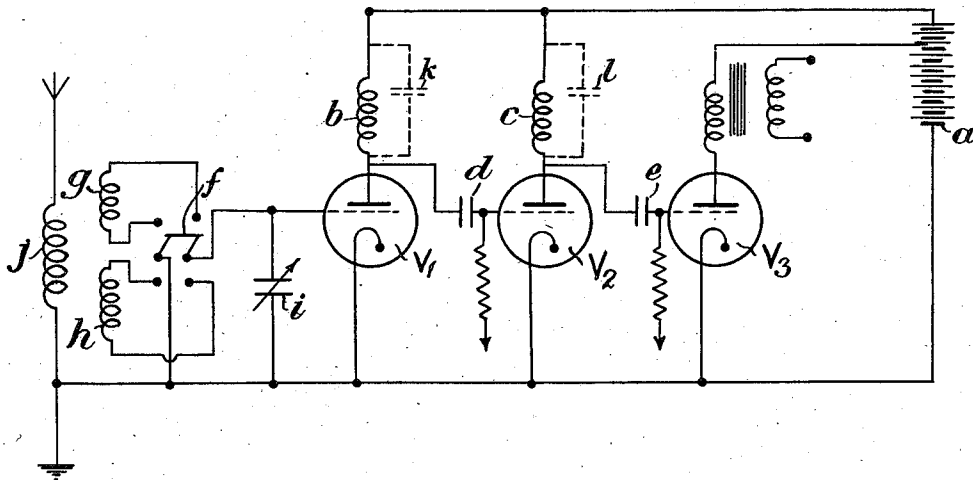
Nov. 5, 1935.

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2,020,126

WIRELESS RECEIVER

Filed Aug. 1, 1930



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UNITED STATES PATENT OFFICE

2,020,126

WIRELESS RECEIVER

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Application August 1, 1930, Serial No. 472,292
In Great Britain September 5, 1929

3 Claims. (Cl. 179—171)

The present invention relates to wireless re-
ceivers of the type adapted for the reception
upon either of two bands of wavelength at will.

According to the present invention a wireless
receiver of the type referred to is provided with
two circuits, one of these circuits having a fixed
resonant frequency within one of the wave bands
to be received and the other having a fixed reso-
nant frequency within the other band, both of
these circuits being operative when receiving
upon either band. The invention may be applied
when more than two wave bands are to be dealt
with.

The invention is illustrated by way of example
in the accompanying drawing.

Referring to the drawing, the high frequency
portion of a wireless receiver comprises two high
frequency amplifying valves V_1 and V_2 followed
by a detector valve V_3 . The anodes of the high
frequency amplifiers V_1 and V_2 are connected to
a source of high tension current a through high
frequency choke coils b and c respectively, and
the anode of the first valve V_1 is connected to
the grid of the second valve V_2 through a con-
denser d . The anode of the second valve V_2 is
similarly connected to the grid of the detector
valve V_3 through a condenser e . The grid cir-
cuit of the first valve V_1 is connected by means
of a suitable switch f to either of two induc-
tances g and h tunable by means of a variable
condenser i connected in parallel therewith and
this circuit is coupled to the aerial and earth
circuit j . One of the tunable inductances g and
 h is used for reception on one wave-band and
the other for the other wave-band.

The two chokes b and c in the anode circuits
are so designed in relation to their associated
capacities (which may be the self capacity of the
coils) that one of them has a resonant frequency
within one band of wave lengths to be received
and the resonant frequency of the other choke
lies within the other band of wave lengths. The
coil capacities are indicated by the dotted con-
densers k and l .

The invention enables the maximum average
amplification over the two wave bands to be ob-
tained without loss of stability.

If desired, condensers may be added to the in-

herent capacities tuning the chokes but the use
of such condensers is preferably avoided.

I claim:

1. An electric valve amplifier including in com-
bination, a plurality of electric valves arranged
in cascade relation to each other and provided
with interstage coupling means each including a
single choke coil device, each of said choke coils
being resonant within separate frequency bands
broadly at fixed frequencies, and means for tun-
ing the input circuit of the amplifier selectively
within each of said separate signal bands.

2. An electric valve amplifier including in com-
bination, a plurality of electric valves arranged
in cascade relation to each other and provided
with interstage coupling circuits tuned to respond
to signals on separate frequency bands, an input
circuit for the amplifier, means for tuning said
input circuit selectively to each of said separate
signal bands, said tuning means including a va-
riable condenser, a plurality of inductances, and
a switching device for selectively connecting said
inductances separately each with said variable
condenser, and said coupling circuits between
said valves each including a single impedance
coupling element, one of which is in the form of
a choke coil resonant at a fixed predetermined
signal frequency within one of said bands, and
another of which is in the form of a choke coil
resonant at another fixed predetermined signal
frequency within another of said bands.

3. A multi-range radio receiving system in-
cluding in combination a plurality of thermionic
valves connected in cascade, an input circuit for
said system constituted by a plurality of induc-
tors and a condenser, a switching device for se-
lectively connecting one or another of said in-
ductors with said variable condenser to deter-
mine to which of several signal bands the sys-
tem will respond, and a single coupling means of
the fixed tuned type between two successive am-
plifying valves resonant at a radio frequency
within one of said bands and a second single
coupling means of the fixed tuned type between
two other successive amplifying valves resonant
to a radio frequency within the other of said
bands.

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