

Nov. 8, 1938.

P. J. HERBST

2,135,577

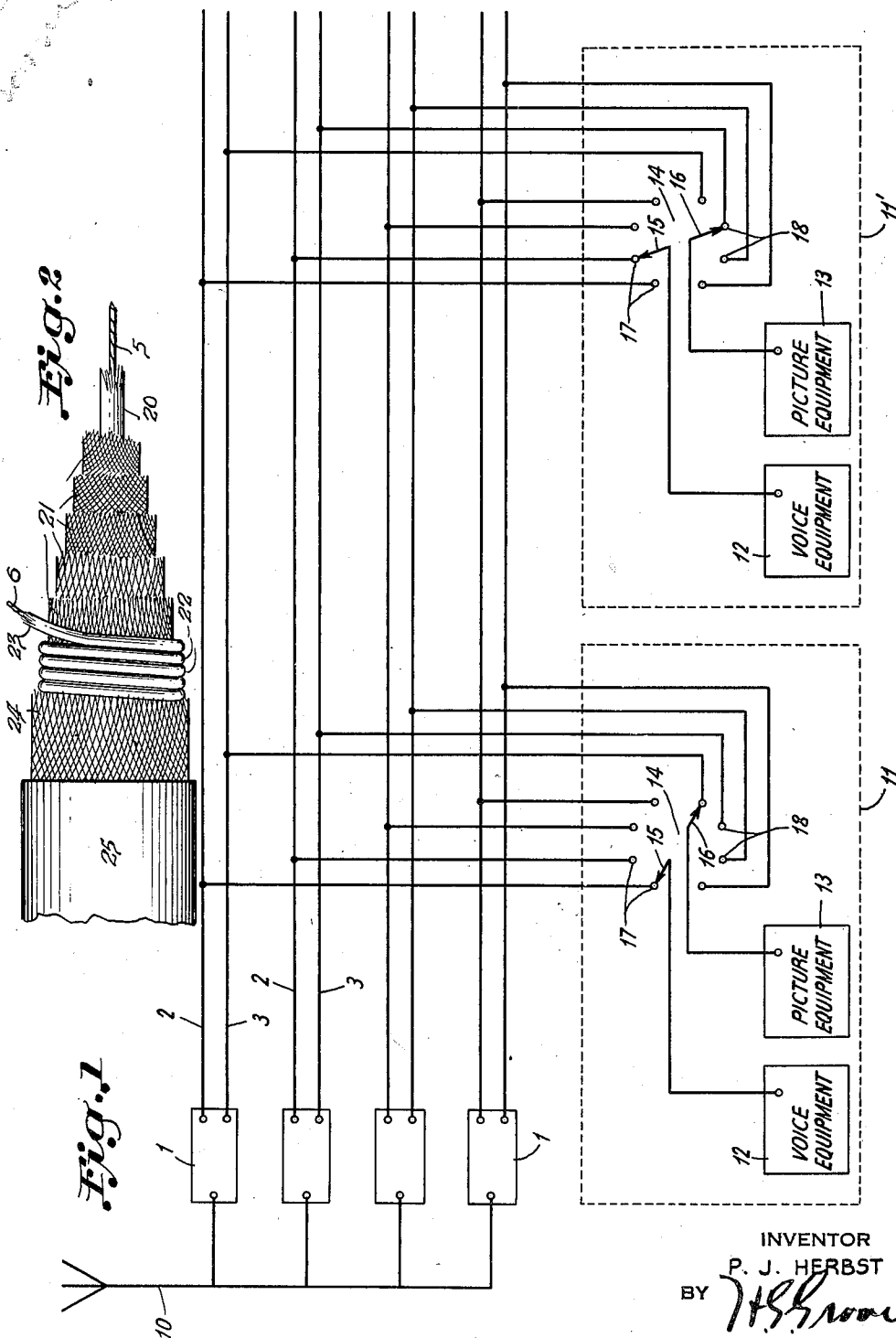
TELEVISION DISTRIBUTION

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*Television
any receiver*

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TELEVISION DISTRIBUTION

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of Delaware

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1 Claim. (Cl. 178—5.6)

An object of this invention is to provide a distribution system for television signals whereby the signals are received at a central position and distributed through a properly loaded cable to a number of different rooms in a building or other structure such, for example, as a ship.

A further object of the invention is to provide a plurality of such receiving units and cables each of which transmits the signals from a different transmitting station and a selecting switch in each room where a receiver is located whereby the picture mechanism may be easily connected to any desired cable.

A still further object is to provide along with such picture equipment, a sound channel with each picture channel and a sound reproducer located near each picture device which may be simultaneously and easily connected to its corresponding sound channel.

Other objects of the invention will become apparent to those skilled in the art as the description thereof proceeds. For a better understanding of the invention, however, reference is made to the accompanying drawing in which Fig. 1 is a schematic circuit diagram of an embodiment of the invention, and Fig. 2 shows the type of cable used therein.

Referring to the drawing an antenna circuit 10 is connected to the input terminals of a plurality of sound and television receivers 1. Each of such receivers embodies well known means for tuning the receiver to any desired station which transmits both voice and picture modulated signals and also for detecting and separating the sound and picture modulation frequencies and also, if desired, separate vacuum tube amplifiers to further amplify the modulation frequency energies. To one output of each such receiver is connected a transmission line 2 which carries the sound modulation frequency to the several rooms of the building, two such rooms being indicated by the closed rectangles 11 and 11'. Each cable or line 2 is uniformly loaded with inductance of the proper value to transmit the various frequencies of the band efficiently and such lines, as also the lines 3, may be of the type disclosed in my application Serial No. 527,655 filed April 4, 1931, granted March 16, 1937 as U. S. Patent 2,073,933, and each such line may be terminated by an impedance of the proper value to prevent reflection effects in a known manner.

To the second output of each receiver is connected a line 3 which transmits to the several rooms the entire band of picture modulation frequencies, this band extending for example over

the frequency range from 0 to 100 or more kilocycles. In each room where reception is desired may be located the voice equipment 12 and the picture equipment 13. The voice equipment may comprise a loud speaker or an audio amplifier together with such a speaker. The picture equipment may comprise any known form of picture reproducer such as that of the cathode ray type. Located in each room adjacent the equipment is a gang selector switch 14 having a plurality of switch blades 15 and 16 which connect with the voice and picture equipment. The switch blade 15 operates over fixed contacts 17 which are connected with the respective lines 2, the blade 16 operating over the contacts 18 which are connected as shown to the respective lines 3. While only two rooms and their equipment are shown, it will be understood that the equipment may be duplicated and the lines extended to supply a large number of rooms of a building with sound and picture signals.

In the operation of the system the operator tunes each of the receivers 1 to a different transmitting station so that the modulation frequencies of the several stations are applied to the transmission lines 2—3. When it is desired to receive from any station in a room, the user by operating a single knob controlling a switch 14 may easily connect his equipment to the desired channel. While for simplicity each of the cables 2—3 has been shown as a single line, each such line is preferably a two conductor cable of the type disclosed in my application before mentioned and as shown in Fig. 2 of the drawing. Such a cable, uniformly loaded with inductive reactance, comprises the pair of conductors 5, 6, conductor 5 being disposed at the axis of the cable and being composed of either solid, or stranded, wire. Conductor 6 is spiralled about the inner conductor 5 and is insulated therefrom. The layer 20 shows the usual insulation of the conductor 5. The layers 21 are braidings, wrappings, or other materials used to build out the diameter of the conductor 5 and also to act as insulation between conductors 5 and 6. It is to be noted that the individual turns 22 of the spiral conductor 6 are insulated from each other by an insulation layer 23, the conductor 6 being either of solid, or stranded, wire. The two conductors 5 and 6 are covered with a braiding 24 to form a cable which may be placed in conduit such as 25 and which may be made of either iron conduit, armoring or metal braiding. Such a cable may be installed in the same manner as house wiring and requires

no special knowledge on the part of the man installing the wiring.

Having described my invention, what I claim as novel and desire to secure by Letters Patent is:

- 5 In a transmission system, the combination of a plurality of receivers each tuned to a different sound and picture modulated signal frequency, low frequency and high frequency transmission lines connected to the audio and to the picture
10 outputs of each of said receivers and extending to a point remote from said receivers, a switching device at said point comprising a plurality of con-

tact points connected to said audio transmission lines, a switch blade arranged to engage said contact points, a sound reproducer connected to said switch blade, a second plurality of contact points connected respectively to the picture trans- 5 mission lines, a second switch blade arranged to engage said last named contacts, a picture reproducing device connected to said last named switch blade and said two switch blades being operated
10 in unison by a common device.

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