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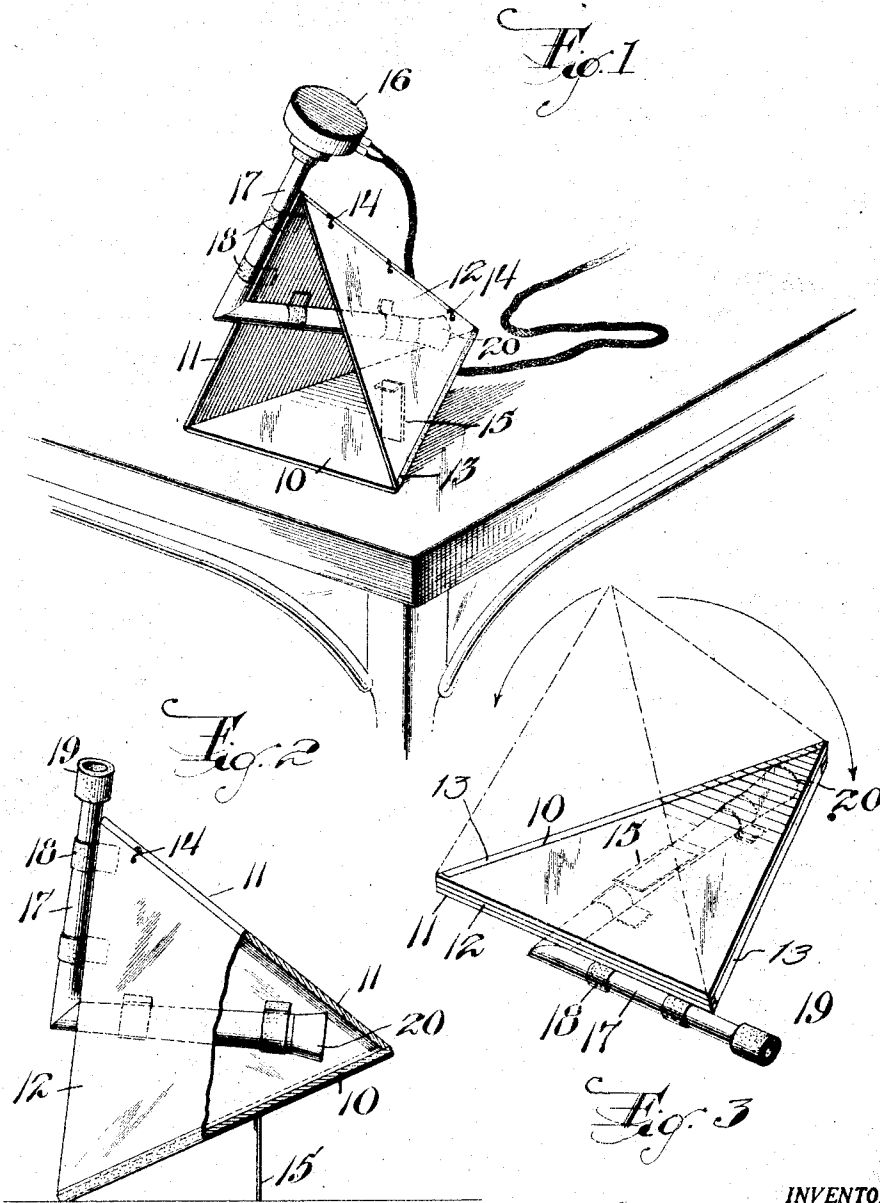
Aug. 25, 1925.

1,550,697

P. E. HAUG

LOUD SPEAKER

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UNITED STATES PATENT OFFICE.

PAUL E. HAUG, OF BROOKLYN, NEW YORK.

LOUD SPEAKER.

Application filed June 7, 1924. Serial No. 713,558.

To all whom it may concern:

Be it known that I, PAUL E. HAUG, a citizen of the United States, and a resident of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Loud Speakers, of which the following is a specification.

This invention relates to a loud speaker particularly adapted for wireless sets and which can be folded to form a small flat article adapted for easy storage and transportation.

The horn, made according to this invention, when extended forms a tapered amplifying horn which is adapted to direct sound received from a telephone receiver. The article is preferably made of wood to provide for a mellow sound and is light in weight and is also of a construction to permit its economical manufacture.

The horn is made up of panels which are preferably connected together by hinged connections so that they can be folded but it will be evident that they can have attaching means adapted for complete disconnection so that the panels can be placed one on top of the other.

The invention is illustrated in the accompanying drawing in which Figure 1 is a perspective view of the horn extended and mounted on a table or similar article of furniture. Figure 2 is a side view of the article shown in Figure 1 with the small end shown in section and Figure 3 is a perspective view of the loud speaker in folded form, the extended disposition of the panels being shown in dotted outline.

While the shape of the panels can be varied within limitations, for the purpose of clear description I show triangular panels, the base panel being shown at 10 and the side panels at 11 and 12. These are triangular and are usually made the same size so that they can lie one on top of the other as shown in Figure 3 and thus occupy but little space and they can be also extended so that their edges are joined as shown in Figures 1 and 2 to form a tapered amplifying horn.

I prefer to secure these panels together by hinges as at 13, these being usually strips of cloth or the like to form joints that confine the sound but are flexible enough to permit the panel 12, for instance, to be folded underneath the panel 10 and then the panel 11 to be folded underneath the panel 12. When the parts are extended to form the

horn they can be held in position by any suitable means and I show in the drawing ordinary small hooks 14 fastened to the edge of the panel 12 and adapted to be hooked over small studs at the outer edge of the panel 11.

When these panels are extended as shown in Figures 1 and 2, any sound received in the small end will be amplified and projected from the large open end of the horn and while the device may be used lying flat on the table, it will have a tendency to throw the sound too high so that I provide a small folding foot 15 hinged by a cloth or a metal hinge to the bottom face of the base panel 10.

While the receiver 16 can be connected to the horn in any desired way, I prefer to place it on the end of the tone arm 17 which I usually form from a pipe that is bent into a right angle formation and secured to the edge of one of the panels as, for instance, the panel 11, by straps or bands 18 and the projecting end having any suitable means such as the rubber collar 19 over which any commercial receiver can be passed and thus attached thereto.

The inner end 20 of the tone arm 17 is disposed so that it is at the small end of the horn when the parts are extended so that the sound issuing from it is thrown back and amplified from the small end of the horn. This form of horn and its disposition is preferred because it lies substantially flat against the panel 11 so that when the device is folded it does not form much of a projection.

It will also be evident that the projecting end of the collar 19, or any other means for attaching the receiver 16, can be disposed so that it extends but a short distance beyond the corner of the assembled or folded panels as will be seen from Figure 3. The tone arm or horn 17 is preferably offset slightly from the panel to which it is attached at the end 20 of the horn so that the centre of the horn at the inner open end is substantially in line with the centre of the angle where the folded panels meet. This provides for a more even distribution of sound and provides for throwing back through the horn the full volume as it is preferred to have no part of the end 20 of the horn bending nearer one panel than another.

I claim:

1. A loud speaker comprising a set of

hinged panels adapted to be placed one on the other when folded and to form a tapered amplifying horn when extended, and an open-ended tone arm secured to one of said panels with one end in the small end of the horn and the other end extended to receive a receiver.

2. A loud speaker comprising a base panel, side panels shaped and disposed so that when assembled the panels form a tapered amplifying horn with its small end closed, coacting means on the panels for holding them in extended position, and a tone arm secured to one of the panels with its inner end open and at the small end of the horn, the other end of said tone arm being adapted for the reception of a receiver.

3. A loud speaker comprising a base panel, side panels, all the panels being triangular and of the same size, one edge of

each of the side panels being hinged to the base panel so that when extended they form a tapered amplifying horn with its small end closed and to lie flat against the base panel when folded.

4. A loud speaker comprising a base panel, side panels, all the panels being triangular and of the same size, one edge of each of the side panels being hinged to the base panel so as to form a tapered amplifying horn when extended and to lie flat against the base panel when folded, and a right angle tone arm secured to one of the panels with its open inner end disposed at the small end of the horn and with its outer end adapted to receive a telephone receiver.

In testimony that I claim the foregoing, I have hereto set my hand, this 28th day of May, 1924.

PAUL E. HAUG.