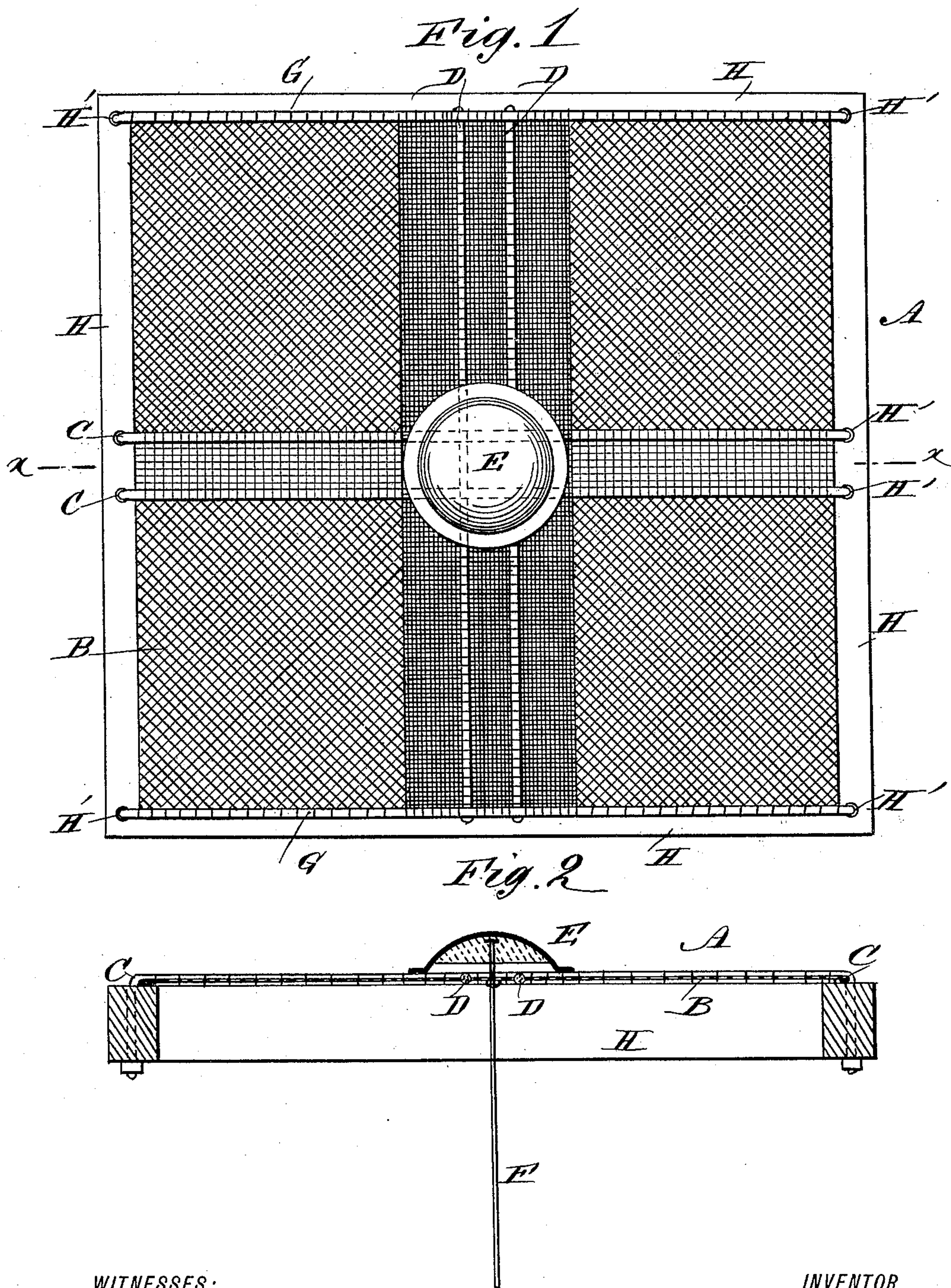


(No Model.)

H. P. JONES.
DIAPHRAGM FOR ACOUSTIC TELEPHONES.

No. 405,483.

Patented June 18, 1889.



WITNESSES:

C. Neveu
C. Sedgwick

INVENTOR.

H. P. Jones.

BY

Munn & Co.

ATTORNEY

UNITED STATES PATENT OFFICE.

HENRY P. JONES, OF NEW YORK, N. Y.

DIAPHRAGM FOR ACOUSTIC TELEPHONES.

SPECIFICATION forming part of Letters Patent No. 405,483, dated June 18, 1889.

Application filed April 4, 1888. Serial No. 269,534. (No model.)

To all whom it may concern:

Be it known that I, HENRY P. JONES, of the city, county, and State of New York, have invented a new and Improved Diaphragm for
5 Acoustic Telephones, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved diaphragm specially adapted for acoustic telephones and serving
10 to soften and gather the spoken sounds, so as to facilitate a perfect transmission of the sounds.

The invention consists of certain parts and details and combinations of the same, as will
15 be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate
20 corresponding parts in both the figures.

Figure 1 is a face view of the improvement, and Fig. 2 is a sectional plan view of the same on the line *xx* of Fig. 1.

The improved diaphragm A consists, principally, of the piece of fabric B, preferably
25 made of silk and woolen threads woven with each other both in the warp and weft. In the fabric B are interwoven the longitudinal rods C, made of wire, wire cables, or catgut strings,
30 or other suitable material, and at right angles to the rods C the rods D are interwoven in the fabric B, which are of similar material and shape to the rods C. At the intersection of the rods C and D is placed and secured to
35 the fabric the button E, connected in the usual manner with the wire F, transmitting the sounds spoken. At two opposite ends of the fabric B are placed the rods G and G', secured to the fabric by stitching or inter-
40 woven in the same. The rods C, D, G, and G' pass at their ends through the apertures H' in a rectangular frame H, and the inner projecting ends are bent over or otherwise secured on the back of the frame H, so as to
45 hold the entire diaphragm to the said rectangular frame H.

The rods C and D may be covered by wool or silk threads before being interwoven in the fabric B.

50 Instead of using only two wires C and D, I may employ any number of such wires, cross-

ing each other near the middle of the fabric B and interwoven in the same.

The rods C and D serve to strengthen and stiffen the fabric B, and at the same time
55 serve as transmitters of the sounds to the button E, and the fabric B, on account of being made of wool and silk, softens the sounds spoken on the diaphragm, thereby facilitating a perfect transmission of the sound to the
60 button E and the wire F.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. As a new article of manufacture, a dia-
65 phragm for acoustic telephones, consisting of a piece of fabric having strands or cables of greater strength than the ordinary wool and weft threads of the fabric interwoven in it, the said strands or cables intersecting each
70 other at the center to form a support for the button and line-wire, substantially as set forth.

2. As a new article of manufacture, a dia-
75 phragm for acoustic telephones, consisting of a piece of silk and woolen fabric having strands or cables of greater strength than the ordinary warp and weft threads of the fabric interwoven in it, the said strands or cables intersecting each other at the center to form
80 a support for the button and line-wire, as set forth.

3. A piece of fabric woven of silk and woolen threads, and rods or cables crossing each other and interwoven in the said fabric, in combi-
85 nation with a button secured in the middle of the fabric at the intersection of the crossing rods or cables, and a wire extending from the said button, substantially as shown and described.

4. The combination, with a rectangular
90 frame, of a piece of fabric woven of silk and woolen threads, rods or cables crossing each other and interwoven in the said fabric and also secured to the said rectangular frame, a
95 button secured in the middle of the said fabric at the intersection of the crossing rods or cables, and a wire extending from the said button, substantially as shown and described.

5. The combination, with a frame, of a piece
100 of fabric woven of silk and woolen threads, rods or cables crossing each other in the mid-

dle of the fabric and interwoven in the said fabric, being also fastened by their ends to the said frame, rods secured to the opposite ends of the fabric and fastened to the said
5 rectangular frame, a button secured in the middle of the fabric at the intersection of the crossing rods or cables, and a wire leading

from the back of the said button, substantially as shown and described.

HENRY P. JONES.

Witnesses:

GEORGE T. JONES,
PATRICK J. BYRNE.