(No Model.)

J. V. HYDER.

MECHANICAL TELEPHONE.

No. 305,453. Patented Sept. 23, 1884.

Fig. 1.

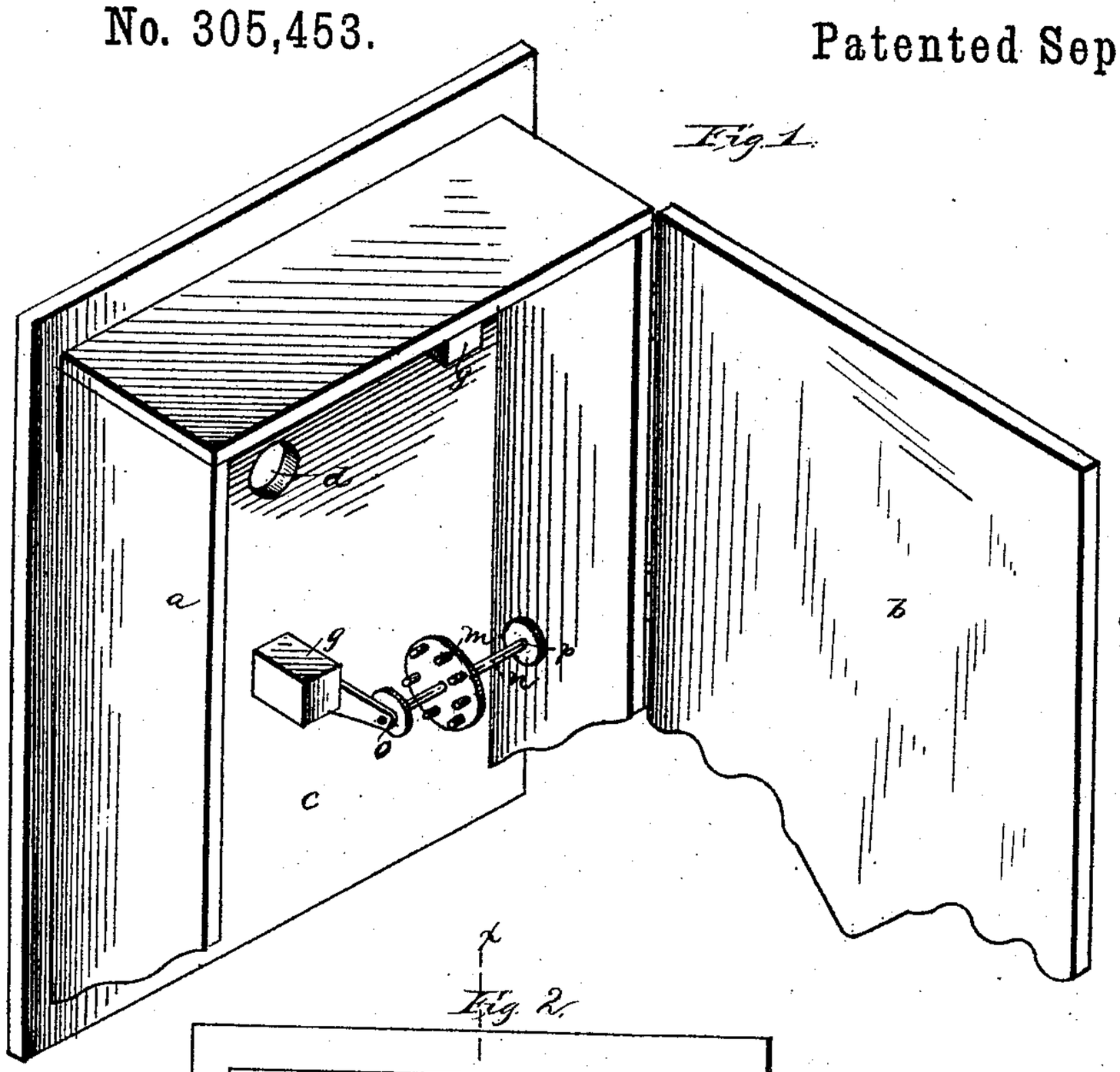


Fig. 2.

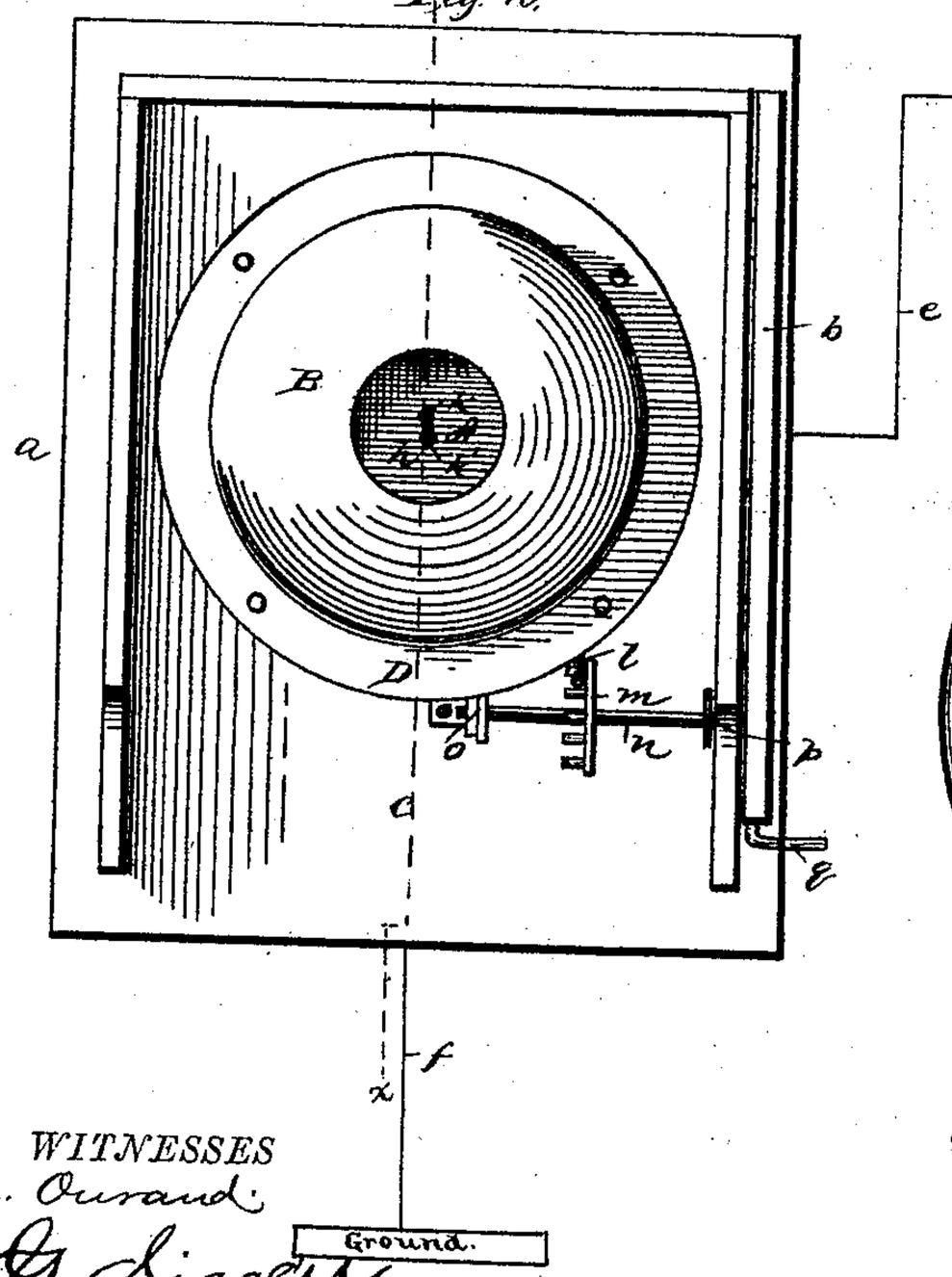


Fig. 3.

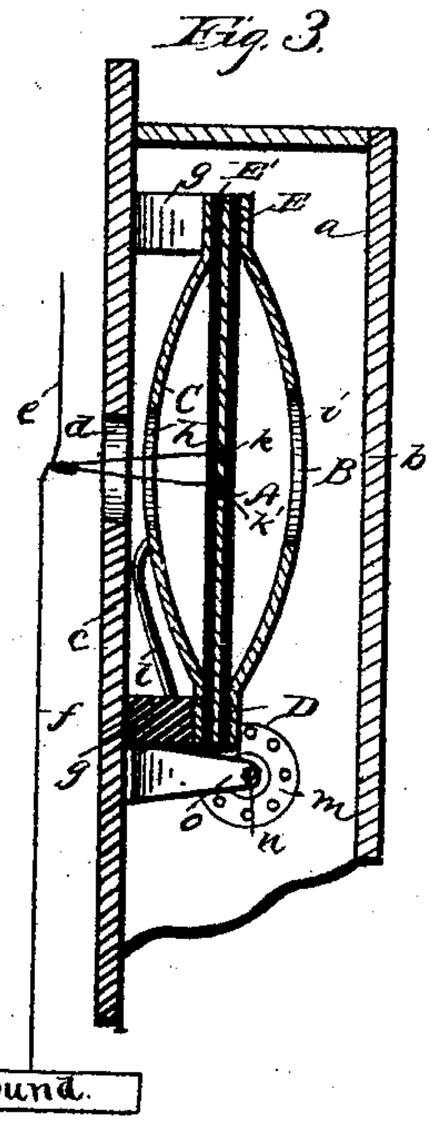
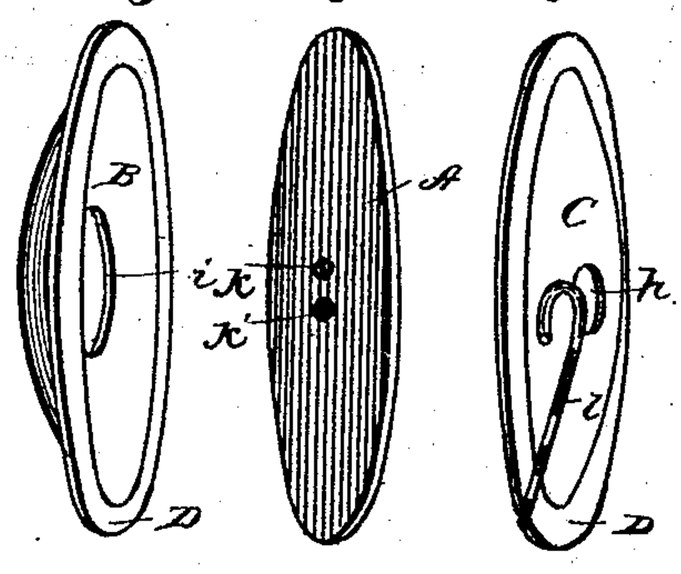


Fig. 4. Fig. 5. Fig. 6.



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UNITED STATES PATENT OFFICE.

JAMES VINCENT HYDER, OF ILLIOPOLIS, ILLINOIS.

MECHANICAL TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 305,453, dated September 23, 1884.

Application filed March 31, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES V. HYDER, a citizen of the United States, residing at Illiopolis, in the county of Sangamon and State of Illinois, have invented a new and useful Mechanical Telephone, of which the following is a specification, reference being had to the accompanying drawings.

This invention has relation to mechanical telephones; and it consists in the construction and novel arrangement of parts, as will be hereinafter fully described, and particularly pointed out in the claims.

Figure 1 is a view in perspective of the telephone-box open, the telephone being removed therefrom. Fig. 2 is a front elevation showing the box open and the telephone in place. Fig. 3 is a vertical sectional view on the line *x x* in Fig. 2. Fig. 4 is a detail view of the plate B. Fig. 5 is a detail view of the diaphragm A, and Fig. 6 is a detail view of the plate C.

Referring by letter to the accompanying drawings, *a* designates the telephone-box, which is bottomless, and is provided with a hinged door, *b*. The rear wall, *c*, of the box is provided with a hole, *d*, through which the main wire *e* and ground-wire *f* pass from the telephone. The telephone rests against three or more rubber blocks or plugs, *g g g*, secured to the rear wall of the telephone-box to insulate it from the box, and is held in place by the tension of the main wire.

The telephone consists of a copper or zinc diaphragm, A, between two concavo-convex metal plates, B and C, having rim-flanges D. The diaphragm is insulated from the plates B and C by rings E E′, of felt, rubber, cloth, or any other sound-insulating material. The diaphragm, interposed rings of sound-insulating substance, and the rims of the plates B and C are all securely riveted together, as shown. The plate C has a central opening, *h*, and the plate B has a central opening, *i*, which is larger than the opening *h* in the plate C. The diaphragm has two holes, *k k′*, near together at its central portion, through which the main wire passes, first in through *k*, then out through *k′*, and outside of the telephone-box through the opening in its rear wall, where the end of the wire, after being twisted, runs to the ground, forming the ground-wire to protect the telephone from lightning, and serves also as a means by which the main wire may be tightened at any time, should it become slackened, by untwisting the wire and pulling on the ground-wire. The plate C has a spring-arm, *l*, soldered to its outer face, and this arm projects downward until it comes in the line of the pins on a pin-wheel, *m*, fixed to a shaft, *n*, having one bearing, *o*, in the box and the other bearing, *p*, in one side of the box, a crank, *q*, being provided to turn the wheel to cause the spring to slip from one pin to another, and thus sound the call. By this construction—*i. e.*, by the use and arrangement of the plates B and C in connection with the diaphragm A—the sound is not so metallic as in the telephones as usually constructed.

This telephone is simple, cheap, and thoroughly efficient ás a mechanical telephone.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a mechanical telephone, the combination of the diaphragm A and the plates B and C, having central openings and rim-flanges, and the sound-insulating rings interposed between the diaphragm and the rim-flanges of the plates, the several parts being securely riveted together, substantially as specified.

2. In a mechanical telephone, the combination, with the telephone composed of the concavo-convex plates B and C, having central openings and rim-flanges, the diaphragm A, having central holes, *k k′*, the sound-insulating rings interposed between the rim-flanges of the plates and the faces of the diaphragm, the said plates, rings, and diaphragm being securely riveted together near their edges, of the telephone-box provided with the sound-insulating blocks of rubber, and the main wire and ground-wire connected to the diaphragm, substantially as specified.

3. In a mechanical telephone, the combination, with the diaphragm A, plates B and C, and interposed sound-insulating rings riveted together near their edges, of the pin-wheel upon a crank-shaft within the telephone-box, and a spring-arm soldered to the plate C and engaging with the pins when the wheel is rotated, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JAMES VINCENT HYDER.

Witnesses:

G. W. CONSTANT,

JOHN D. CONSTANT.