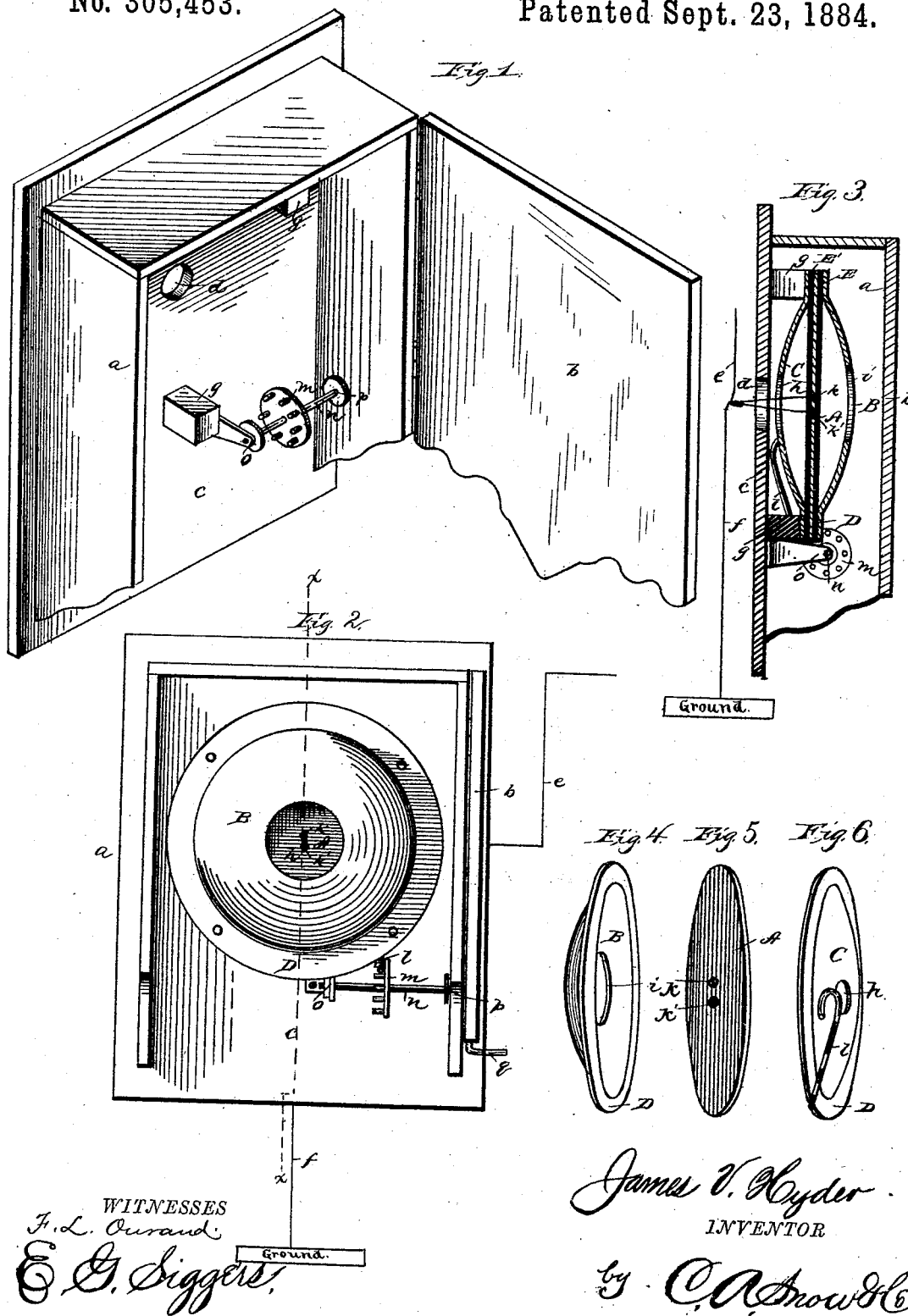


(No Model.)

J. V. HYDER.  
MECHANICAL TELEPHONE.

No. 305,453.

Patented Sept. 23, 1884.



# 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 as 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.