

(No Model.)

W. TAYLOR.

MECHANICAL TELEPHONE DIAPHRAGM.

No. 335,321.

Patented Feb. 2, 1886.

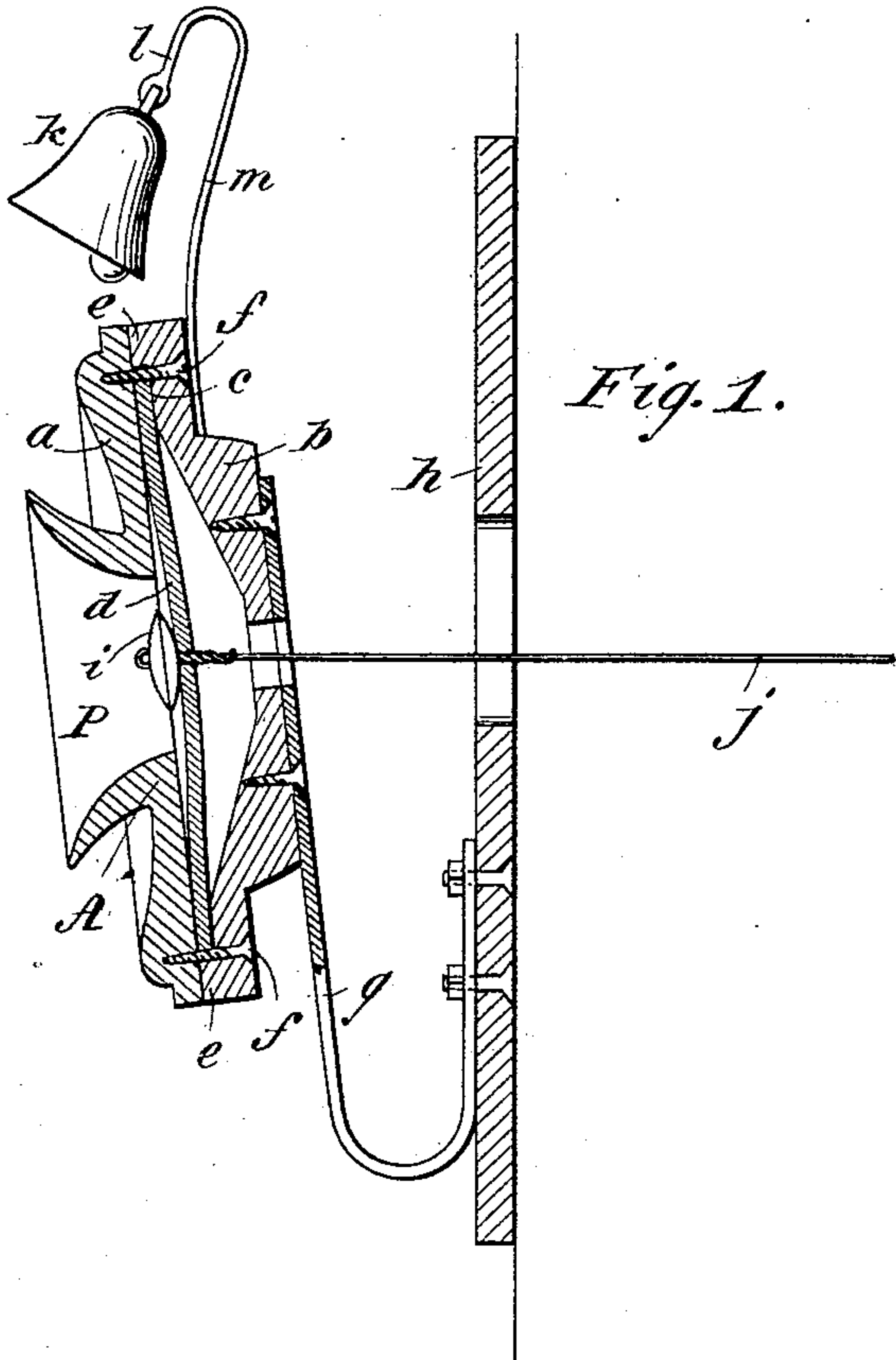


Fig. 1.

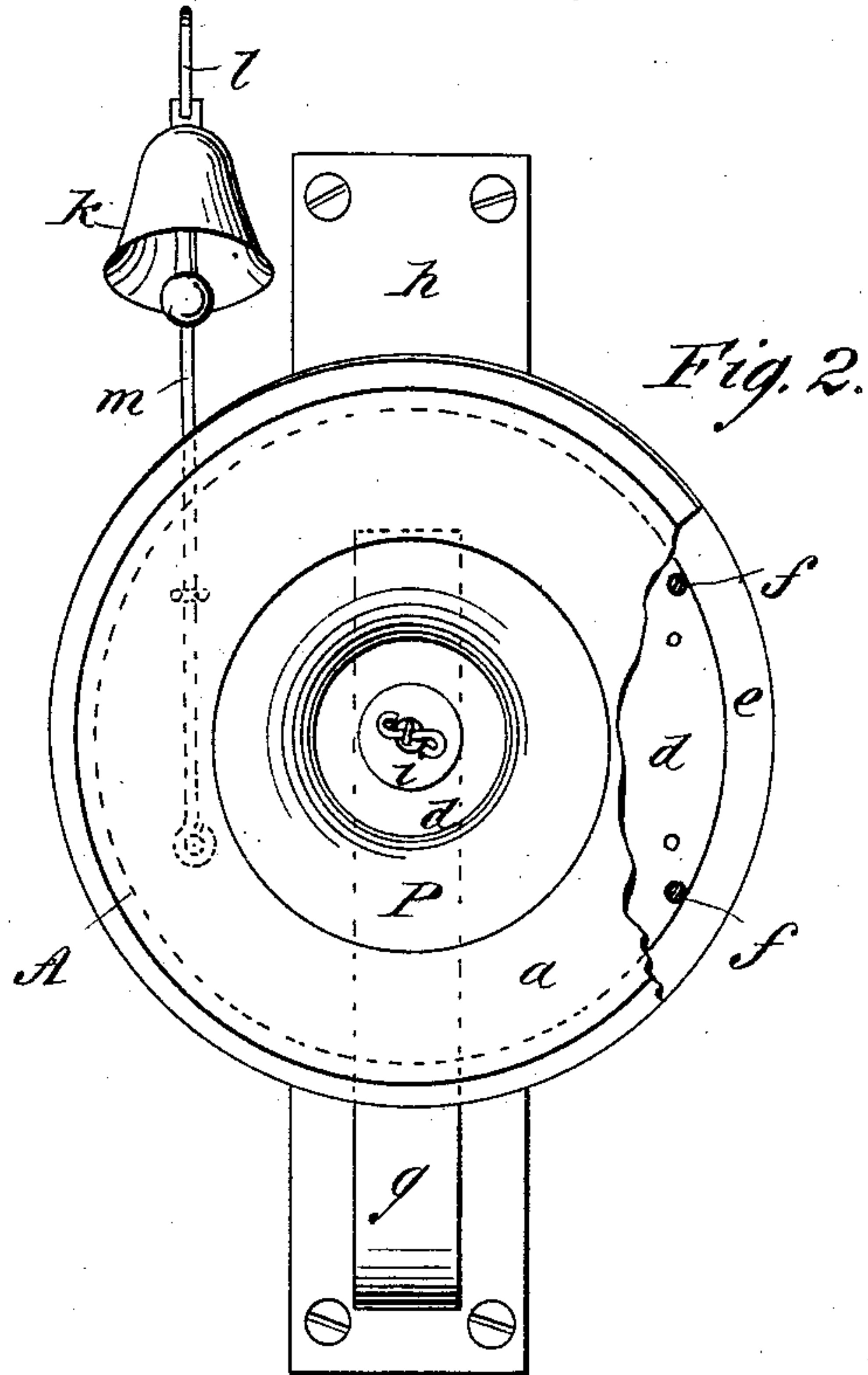


Fig. 2.

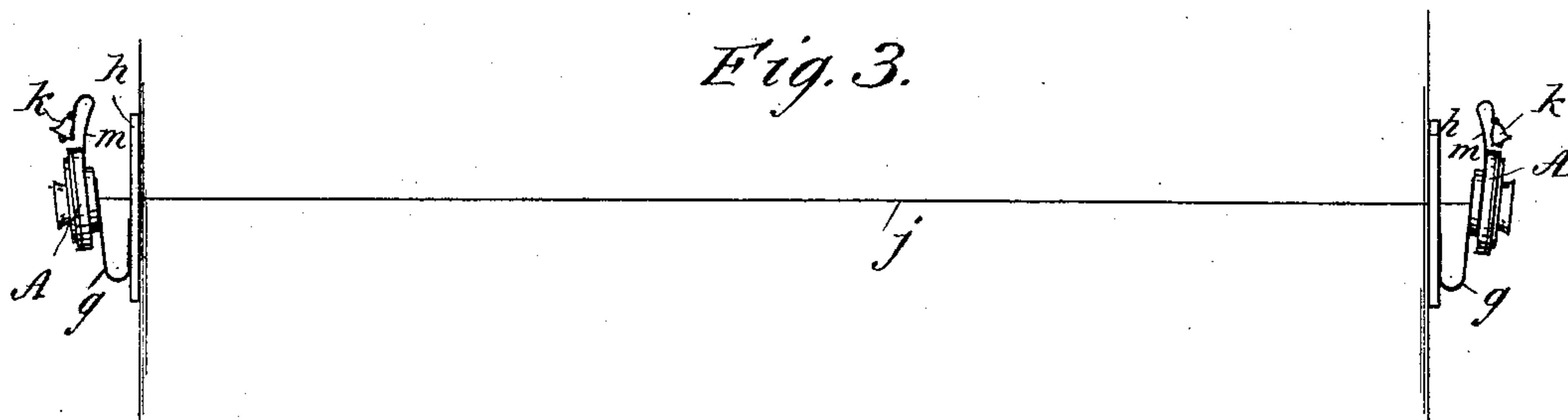


Fig. 3.

Fig. 4.



WITNESSES:

Donn Twitchell

Geo. Mathew Ritter

INVENTOR:

W. Taylor

BY

Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM TAYLOR, OF NILES, MICHIGAN.

MECHANICAL-TELEPHONE DIAPHRAGM.

SPECIFICATION forming part of Letters Patent No. 335,321, dated February 2, 1886.

Application filed August 1, 1885. Serial No. 173,235. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM TAYLOR, of Niles, in the county of Berrien and State of Michigan, have invented a new and Improved Mechanical Telephone and Automatic Call, of which the following is a full, clear, and exact description.

This invention relates, in general, to telephones, having reference more particularly to the diaphragm; and it consists of the detailed construction of the diaphragm, substantially as hereinafter set forth, and pointed out in the claim.

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

Figure 1 is a vertical sectional elevation of a mechanical telephone embodying my invention. Fig. 2 is a face view of the same, a portion of the casing being cut away to disclose the diaphragm. Fig. 3 is a view, on a reduced scale, of two telephones and their connections; and Fig. 4 is a view of the edge of the diaphragm, a portion of the same being shown in section.

The casing A, in which I prefer to mount my improved form of diaphragm, consists of a circular face-plate, *a*, provided with a mouth-piece, P, and a back plate, *b*, in which there is formed an annular recess, *c*, within which the edge of the diaphragm *d* rests, so that the face of the diaphragm will be flush with the rim *e* of the plate *b*, the diaphragm being held against the plate by the nails *s s*. The plates *a* and *b* are united by screws *f f*, which also pass through the outer edge of the diaphragm, and to the back of the plate there is secured a U-spring, *g*, the short arm of which is fixed to the side wall or to a supporting-block, *h*.

Two instruments, such as the one described, are connected by a wire or cord, *j*, each end of which passes through the spring *g* and plate *b*, to and through the diaphragm, to be fixed to a button, *i*, that rests against the face of the diaphragm of each of the instruments, the wire being tightly drawn, so that each of the springs *g* is slightly contracted, the general

arrangement of the line being best shown in Fig. 3.

In order that each instrument may have a call attachment, a bell, *k*, is secured to the short arm *l*, of a looped wire, *m*, the long arm of which is rigidly fixed to the back of the plate *b*.

To sound a call, the instrument at the transmitting end of the line, which may be either instrument, is slightly pushed toward the block *h* and suddenly released, which movement will at first slacken the tension on the other instrument and then restore the tension with a jerk, which will cause the wire *m* to vibrate, and will ring the bell *k* to call the desired party to that end of the line. A spiral or straight spring whether of wood, steel, rubber, or other suitable material, would, equally with the U-shaped spring, answer the purpose, which is, in addition to that mentioned, of affording a means for sounding an alarm or call, to supply a mounting attachment that will be slightly yielding, in order that the line will always be in operative condition in spite of sudden changes in the temperature, for when the instruments are mounted as described the springs will give if the wire *j* is contracted by intense cold, and will take up any slack caused by the expansion of the line in very hot weather.

My improved diaphragm is made of alternate layers of wood or straw pulp pressed into the form of thin sheets or boards and strong cloth, as is best shown in Fig. 4, two or three thicknesses of each style of material being united by any suitable cement. Such a diaphragm is strong and durable, and reproduces the messages in clear and soft tones.

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

A diaphragm consisting of alternate layers of pressed pulp and cloth united by cement, substantially as described.

WILLIAM TAYLOR.

Witnesses:

JACOB B. ULLREY,
EDWIN P. KELLOGG.