

(No Model.)

2 Sheets—Sheet 1.

E. J. BROOKS.

SEAL.

No. 326,199.

Patented Sept. 15, 1885.

Fig. 1.



Fig. 2.

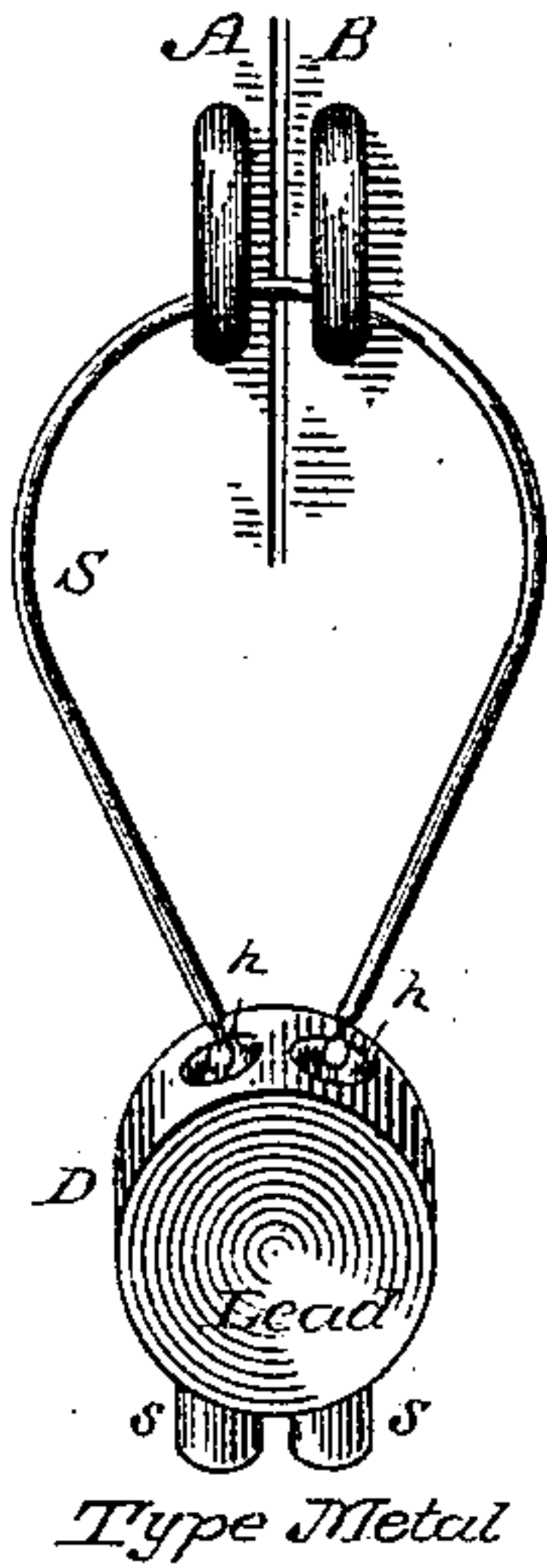


Fig. 3.

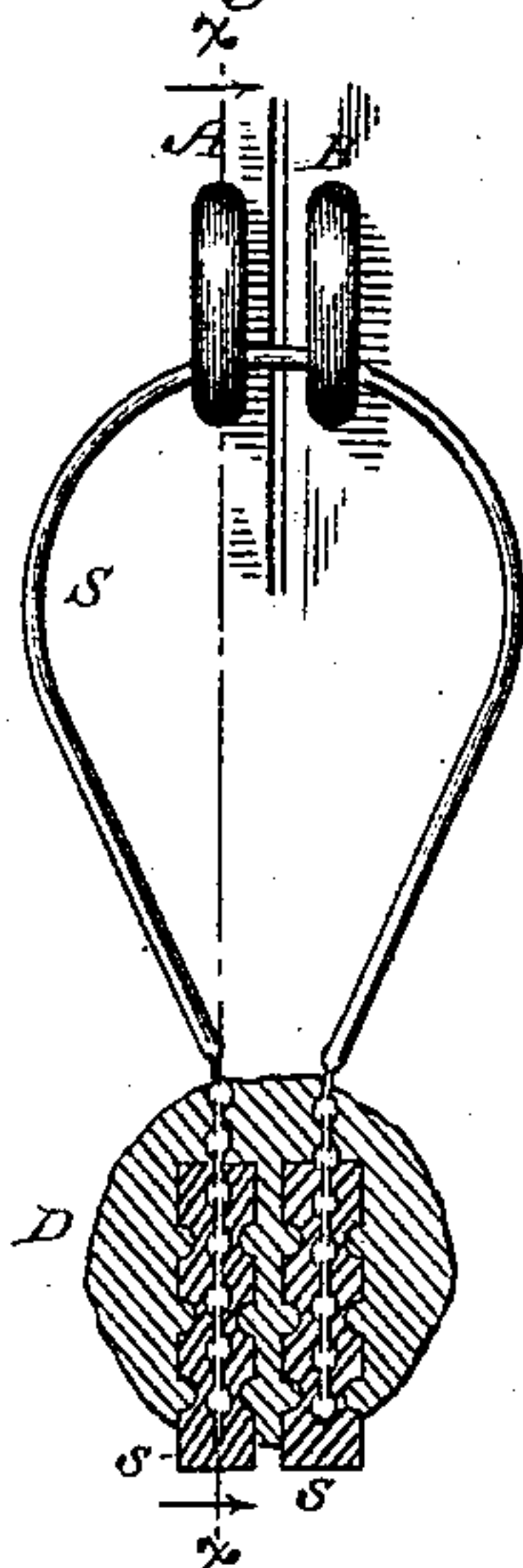


Fig. 3.*

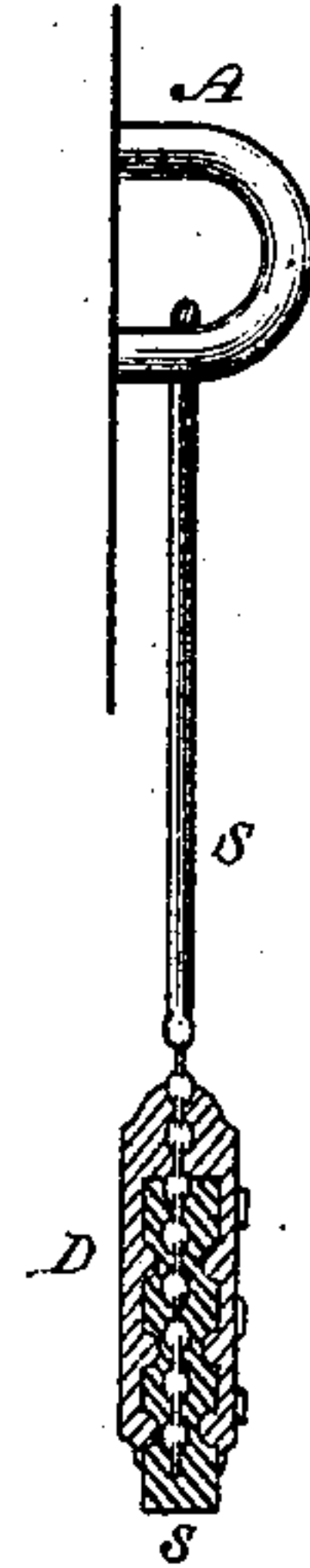


Fig. 4.

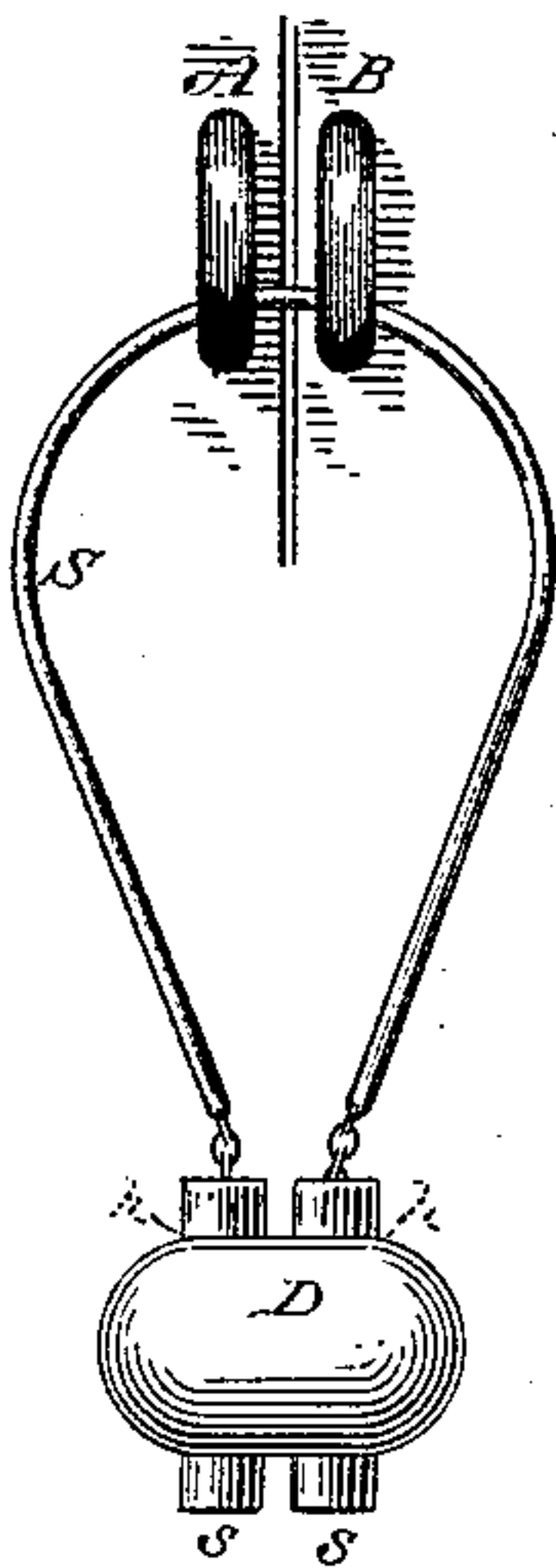


Fig. 5.

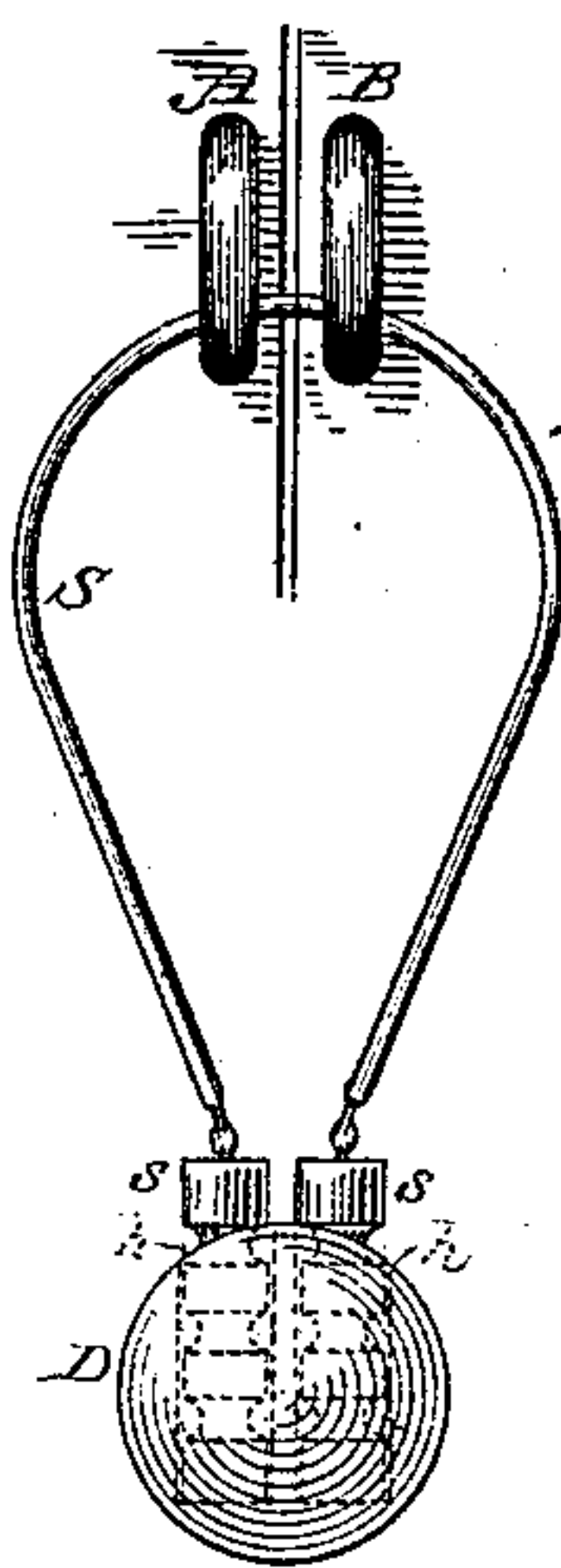


Fig. 6.

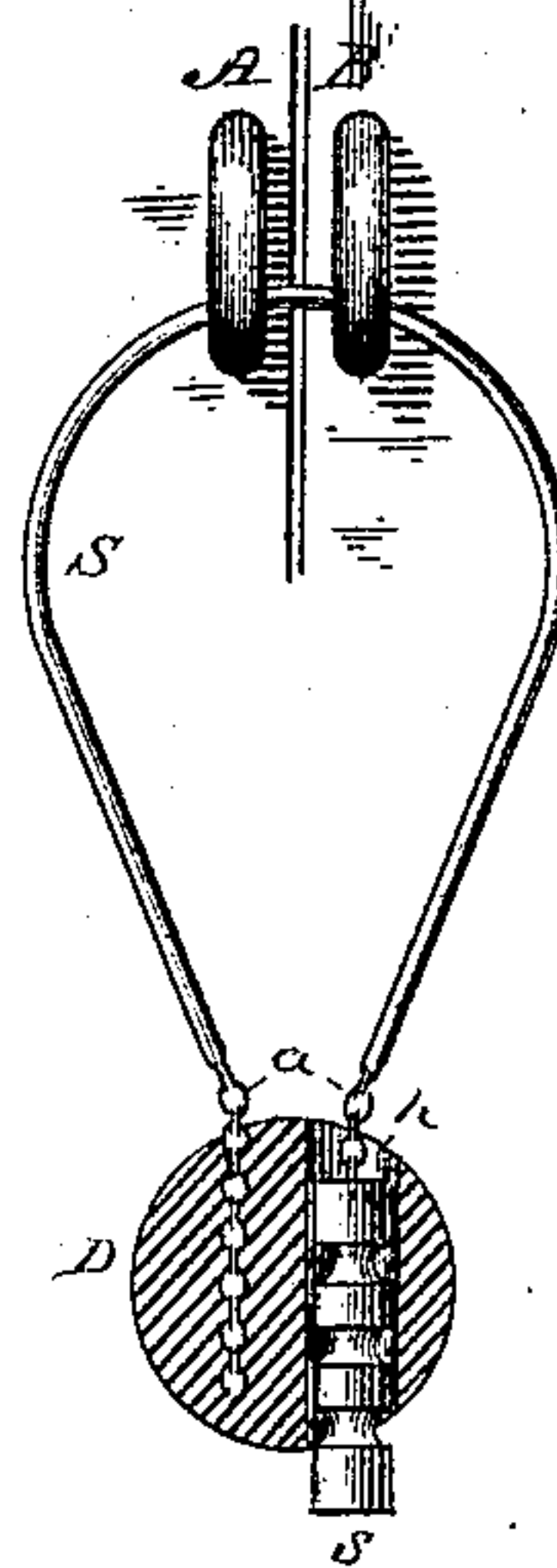


Fig. 7.



Witnesses

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 8.

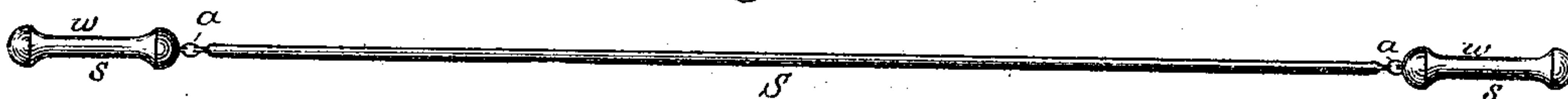


Fig. 9.

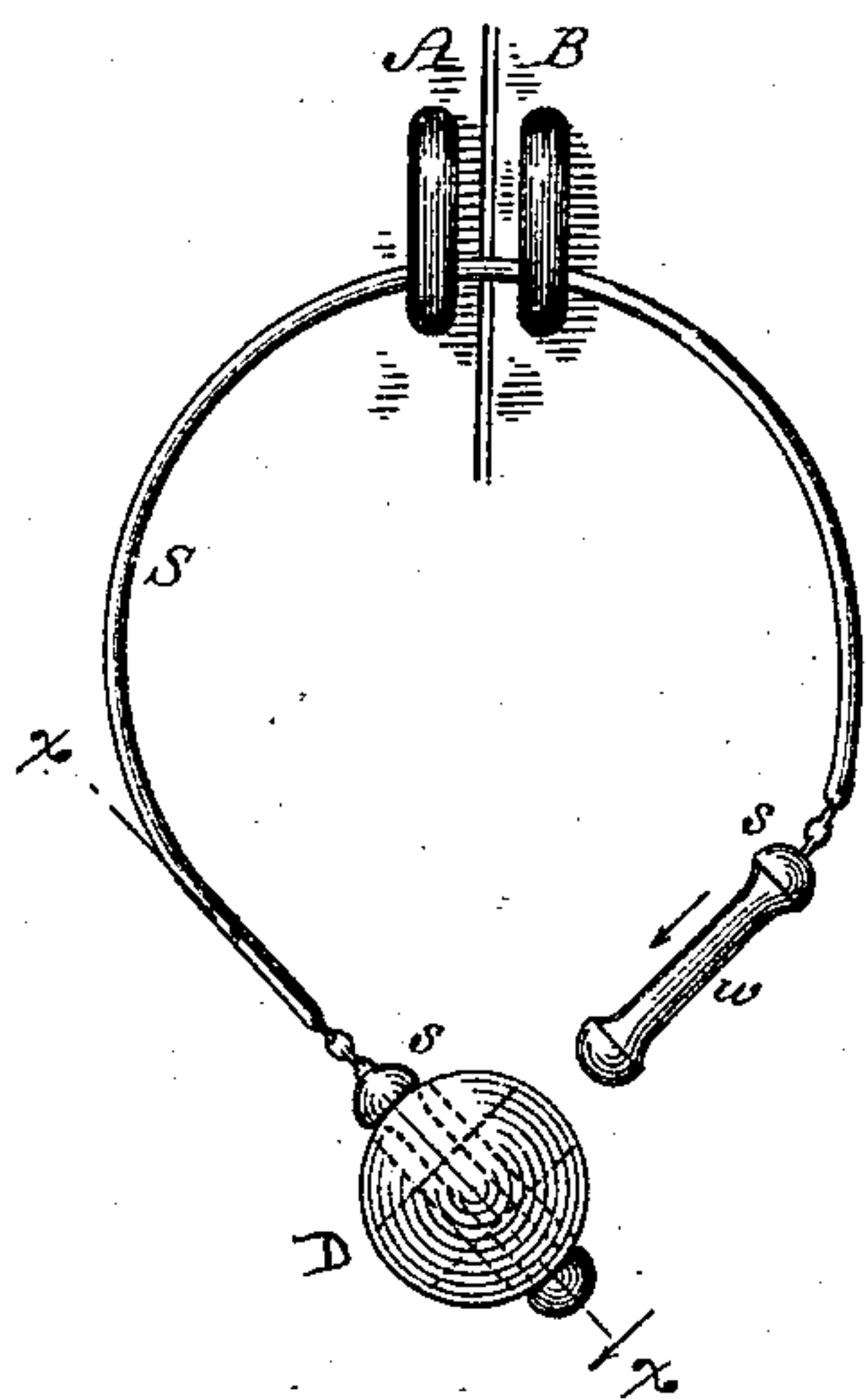


Fig. 10.

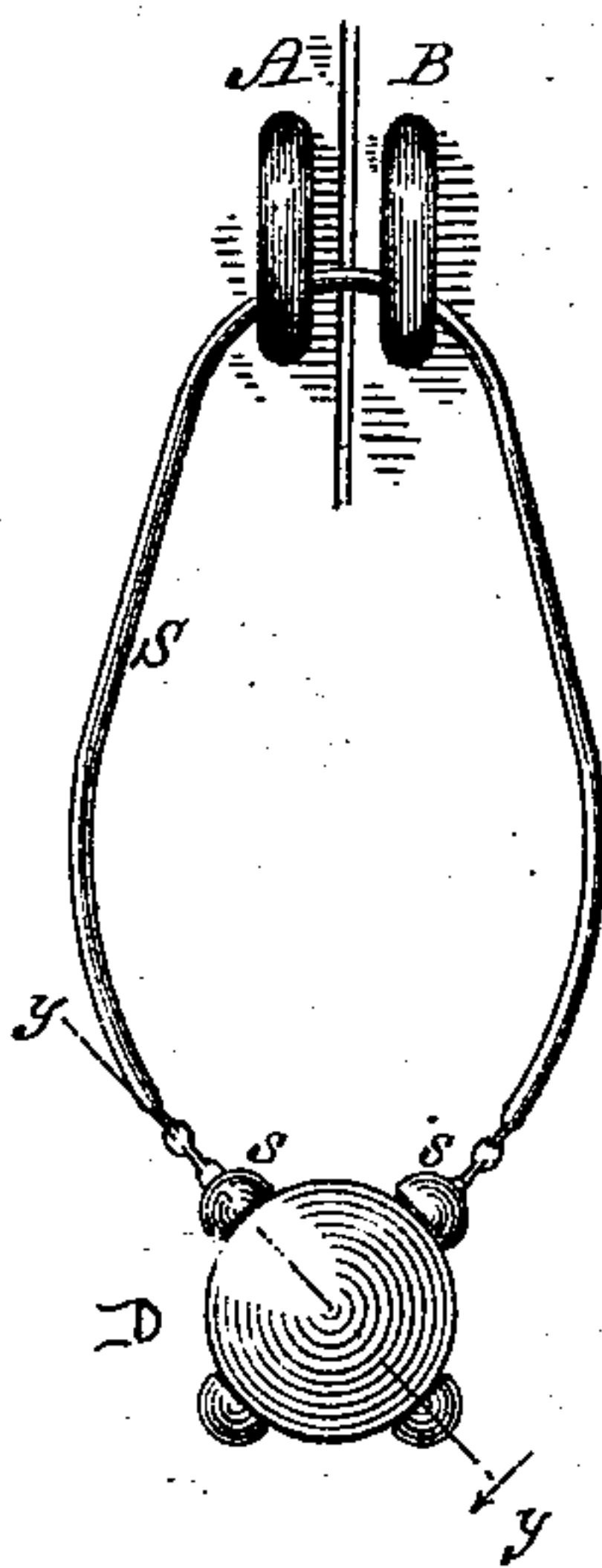


Fig. 11.

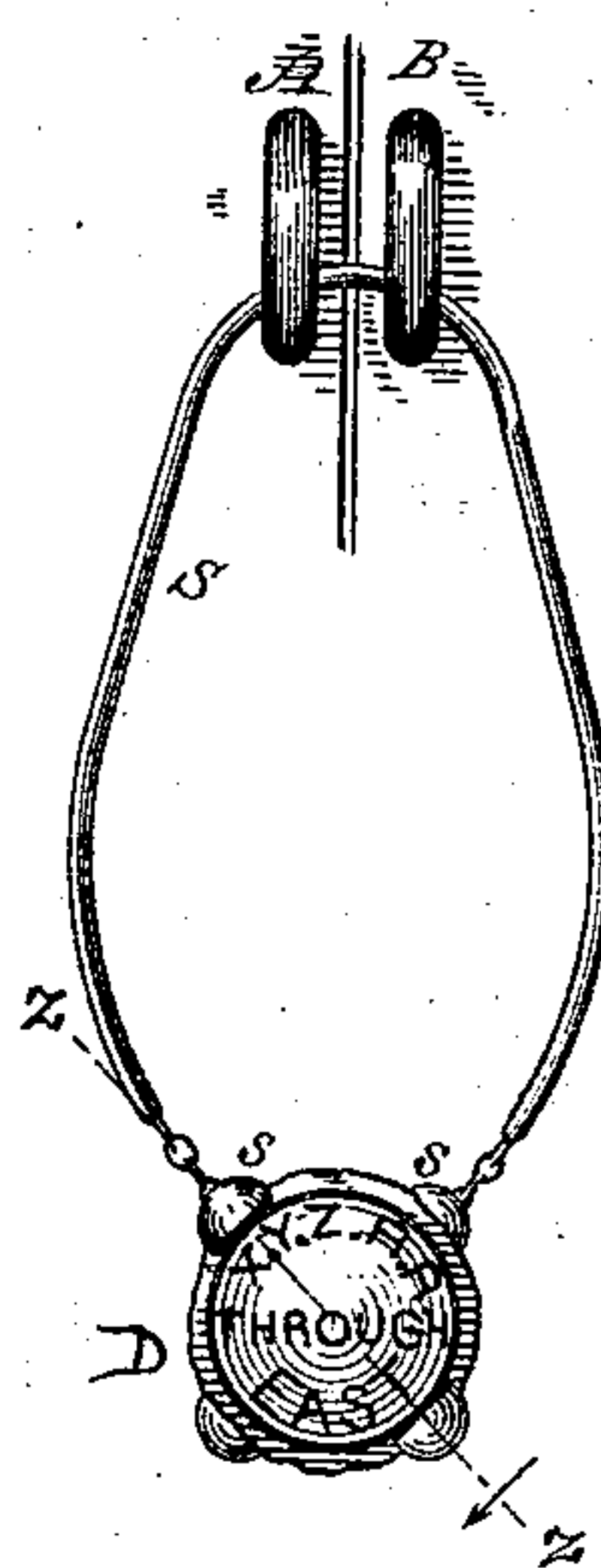


Fig. 9^z.

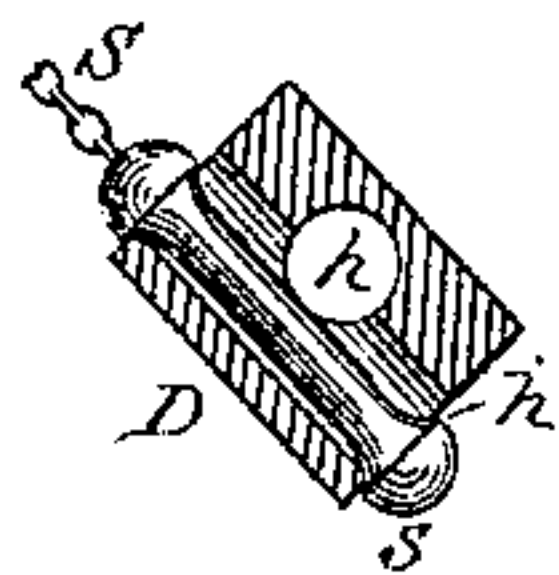


Fig. 10^z.

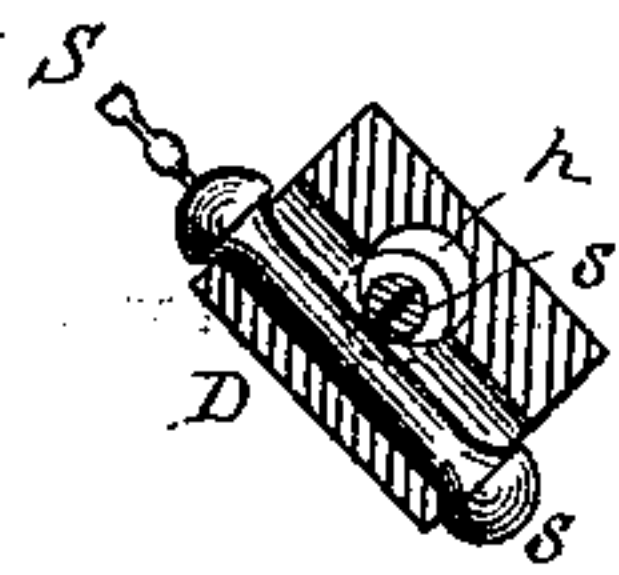


Fig. 11^z.

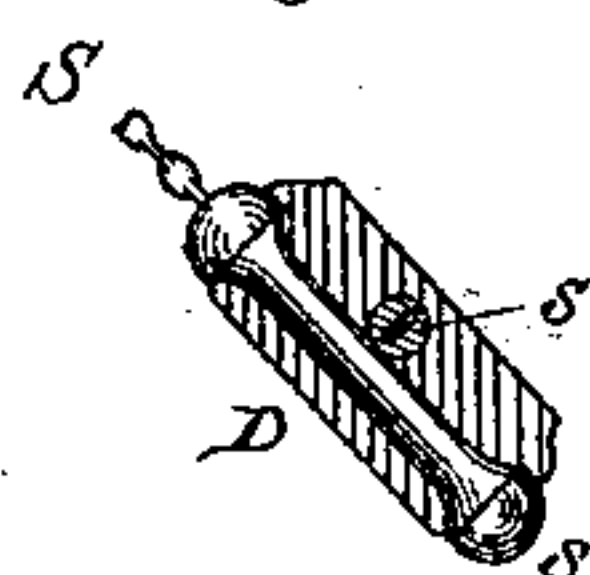
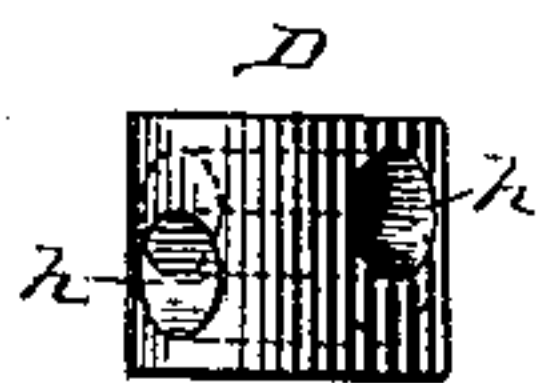


Fig. 12.



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SEAL.

SPECIFICATION forming part of Letters Patent No. 326,199, dated September 15, 1885.

Application filed July 15, 1885. (No model.)

To all whom it may concern:

Be it known that I, EDWARD J. BROOKS, a citizen of the United States, residing at East Orange in the State of New Jersey, have invented a new and useful Improvement in Seals, (B³), of which the following is a specification.

This invention is additional to those of my improvements in press-fastened seals for securing the doors of railway freight-cars and for analogous uses, set forth in the following United States patents, viz: No. 161,475, dated March 30, 1875, No. 179,260, dated June 27, 1876, and No. 320,904, dated June 23, 1885, particularly the latter. Said Patent No. 320,904 sets forth and claims a variety of such seals having as their distinguishing characteristic compressible securers of soft metal cast fast on the threading ends of flexible shackles, to coact with seal-disks which may be either of glass and like hard and brittle substances or of lead or sheet metal, and compressed together with the securers.

The present invention consists in another variety of such seals, hereinafter set forth and claimed, having securers cast fast on the threading ends of flexible shackles, but of type-metal. Babbitt metal, or the like, so as to be non-compressible, and thus adapted to coact with soft-metal seal-disks exclusively in a different way, so as to be securely fastened by the seal-presses more commonly used for fastening "lead seals," and requiring no protectors to prevent liberating the shackle ends.

Two sheets of drawings accompany this specification as part thereof. Figure 1 of these drawings is an elevation of a shackle and securers, illustrating this invention, one of the securers being shown in section. Fig. 2 is a perspective view of a seal embodying the same, ready for the press. Fig. 3 is a face view of this seal pressed, showing the seal-disk and securers in section. Fig. 3^x represents a section on the line *x x*, Fig. 3. Fig. 4 and 5 are face views of seals ready for the press, formed by the same shackle and securers, in combination with modified seal-disks. Fig. 6 is a sectional face view of a seal ready for the press, having its seal-disk cast fast on one end of the shackle. Fig. 7 is a partly-sectionized elevation of another shackle and securers, illustrating additional modifica-

tions of these. Fig. 8 is an elevation of a shackle and securers for cross-wire seals. Fig. 9 is a face view of the same as combined with a preferred construction of seal-disks, illustrating the threading operation. Fig. 10 is a face view of this seal ready for the press. Fig. 11 is a face view thereof pressed; Figs. 9^x, 10^y, and 11^z, represent, respectively, sections on the lines *x x*, *y y*, and *z z*, Figs. 9, 10, and 11; and Fig. 12 is an edge view of the seal-disk represented in Figs. 9 and 10.

Like letters of reference indicate corresponding parts in the respective series of figures.

In each of these improved seals there is a flexible metallic shackle, S, preferably of single iron wire, provided at one or each end with a non-compressible securer, s, preferably of type-metal, cast fast thereon, and a soft-metal seal-disk, D, preferably of lead, having a threading-hole, *h*, corresponding with such securer, or with each of them, if there be two, and adapted to admit the same, so that the seal-disks may be solidified above effective withdrawal-resisting shoulders on the securers, while one or both ends of each securer may be, and preferably are, exposed outside of the seal-disks, so as to manifest the character of the fastening to inspectors. (See Figs. 2, 3, 4, 5, 6, 9, 9^x, 10^y, 11, 11^z.)

A B, Figs. 2 to 6 and 9 to 11, inclusive, represent pairs of car-door staples, to which the respective seals are applied by way of illustration, the shackles S being threaded there-through, and their separation prevented by pressing the seal-disks D, so as to solidify them around the securers s, and to stamp them with distinguishing marks, lettering, numbers, or the like, as represented, respectively, by Figs. 3, 3^x, and 11, which show fastened or pressed seals, as aforesaid. This pressing may be and is designed to be accomplished by ordinary seal-presses applied to the seal-disks in customary manner after the securers are properly inserted, as shown in Figs. 2, 4, 5, 6, 10, and 10^y.

In the first of said seals, Figs. 1 to 3^x, inclusive, both ends of the shackle-wire are provided with my "detector" anchoring-indentations *a*, originally set forth in said Patent No. 179,260. Upon the indented ends are cast fast type-metal securers s s, corresponding, substantially, in length with the diameter or

depth of the seal-disk to be used therewith, so that when their lower ends project outside of an ordinary seal-disk of a suitable size, having through-holes, as represented in Figs. 2, 3, and 3^x, the upper ends of the securers will be correspondingly sunk below the upper edge of the seal-disk, and the lead will consequently be solidified above them, so as to most effectively resist withdrawal, as represented in Figs. 3, 3^x. The securers *s* are preferably provided additionally with circumferential grooves or creases *c*, or like peripheral provision against stripping, and, being so constructed, may project at both ends, as shown in Fig. 4, or at the upper edge of the seal-disk instead of its lower edge, as shown in Fig. 5, the seal-disk being preferably cast in this case with a solid lower edge, as represented, so as to stop the securers within it in proper position.

In the "one-part" seal, Fig. 6, the shackle-wire is the same as in the seals already described, the seal-disk being cast fast on one of its indented ends, while the other end is provided with a securer of the same pattern as those shown in the preceding figures. Said pattern of securers is variable. This is illustrated by Fig. 7, which also illustrates the substitution of simple bends *b* at the extremities of the shackle-wire for said detector-indentations *a*. Owing to the permanency of the securers, such bends or any preferred anchoring provision on the wire suffices, and if the extremity of the wire be thus located above the seal-disk it cannot be tampered with, owing to the hardness of the type-metal or the like, which prevents opening the securers by cutting and bending to release the shackle ends.

In the concluding modification illustrated by Figs. 8 to 12, inclusive, I provide for the employment of a seal-disk, *D*, of my "cross-wire" type, originally set forth in said Patent No. 161,475.

To avoid making the seal-disk of extraordinary thickness to admit the securers, and to preclude breaking the latter across each other in the pressing operation, the seal-disk is constructed with its crossed threading-holes *h h* notched into each other at mid-length, so that each may occupy considerably more than half the thickness of the disk, as clearly represented in Figs. 9^x, 10^v, and 12, and the securers are constructed with long contracted waists *w*. In adjusting the seal for pressing, one securer is inserted, as represented in Figs. 9, 9^x, and then the other as represented by the arrow in Fig. 9 and by Figs. 10, 10^v, the waist of the first clearing the hole through which the second is to be inserted, so as to admit the latter freely, as shown in Fig. 9^x, and the large ends of each

securer locking the other within the seal-disk preliminarily after both are inserted, as shown in Fig. 10^v.

The diameter of the seal-disk should be such that it will lie within the large ends of the securers, as represented in Fig. 10, so that in the pressing operation the crossed waists of the securers may come to the middle of the seal-disk as regards its thickness, the seal-disk being solidified around them, and reduced to a desirable thickness, as shown in Fig. 11^z, without straining either securer.

Cable-wire of two or more strands may be substituted for indented wire, or square wire for round wire, in any of the seals represented, and flat wire or narrow strips of "tin" may be substituted for round wire in the modification, as to inner anchoring devices, illustrated by Fig. 7.

The indented wire is preferred, because securers of the least possible diameter may be inseparably cast fast thereon.

The shape of the securers is considered immaterial, so long as the general characteristics hereinbefore set forth are preserved.

Having thus described my said improvement in seals, I claim as my invention, and desire to patent under this specification—

1. A flexible metallic shackle provided at each or either of its ends with a non-compressible securer cast fast thereon and constructed with permanent withdrawal-resisting shoulders, in combination with a compressible seal-disk of soft metal, having a threading-hole or threading-holes to admit said securers, substantially as herein specified.

2. The combination, substantially as herein specified, of a flexible metallic shackle having each or either of its ends provided with a non-compressible securer cast fast thereon, and a compressible seal-disk of soft metal, corresponding substantially in diameter or depth with the length of said securers, and having a threading-hole or threading-holes extending through from edge to edge to admit the securers, whereby the upper ends of the securers are effectively sunk below the upper edge of the seal-disk when their lower ends are projected below its lower edge, as set forth.

3. The combination, substantially as herein specified, of a flexible metallic shackle of single wire, having its respective ends indented and provided with non-compressible securers cast fast thereon, and a compressible seal-disk of soft metal, having a pair of threading-holes to admit said securers, for uniting the latter, and therewith the shackle ends, in the manner set forth.

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Witnesses:

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