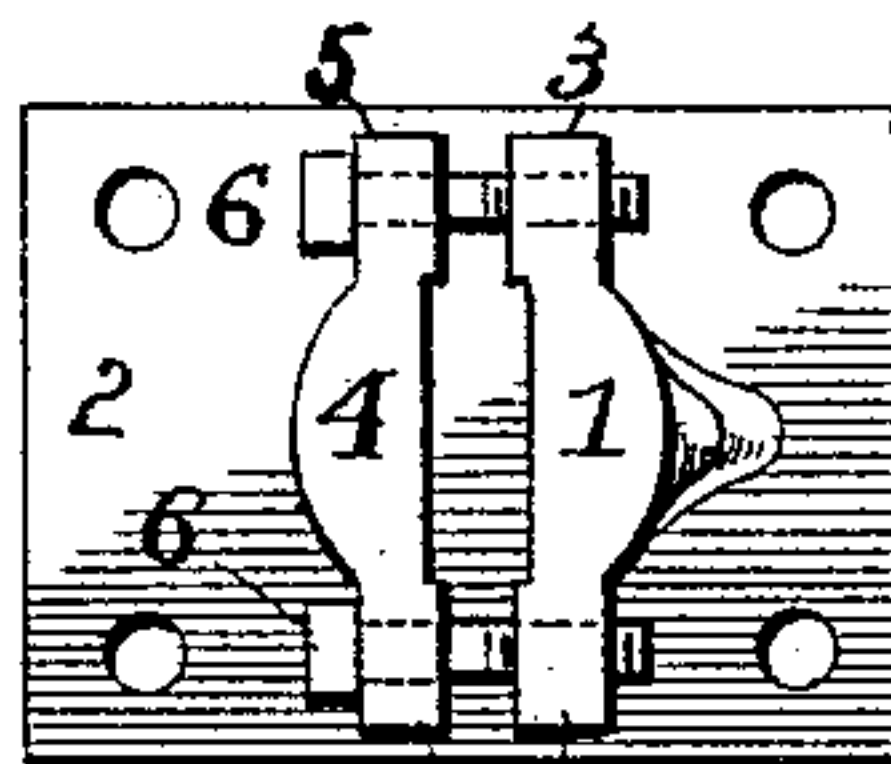
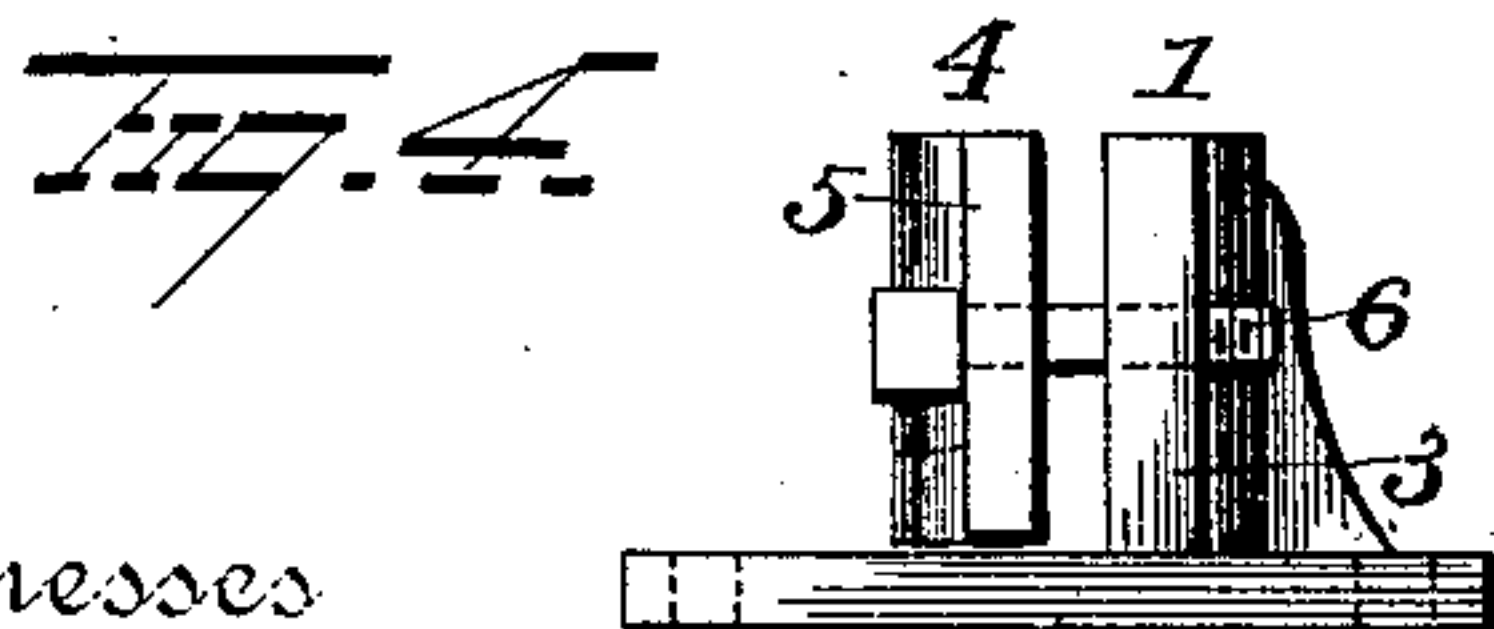
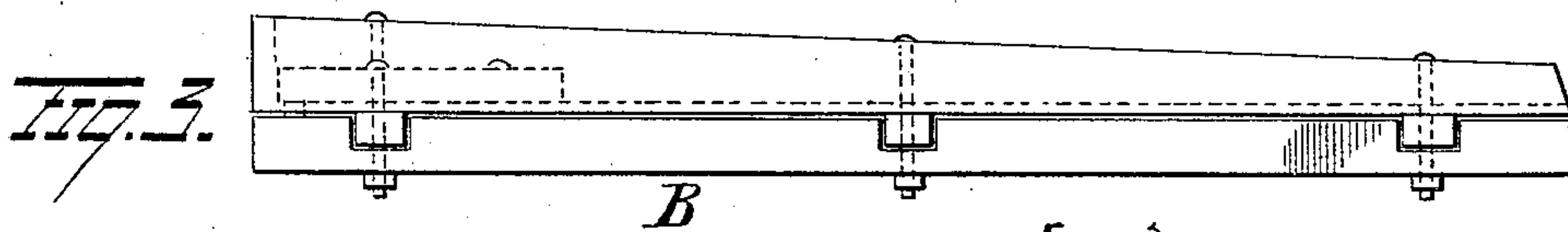
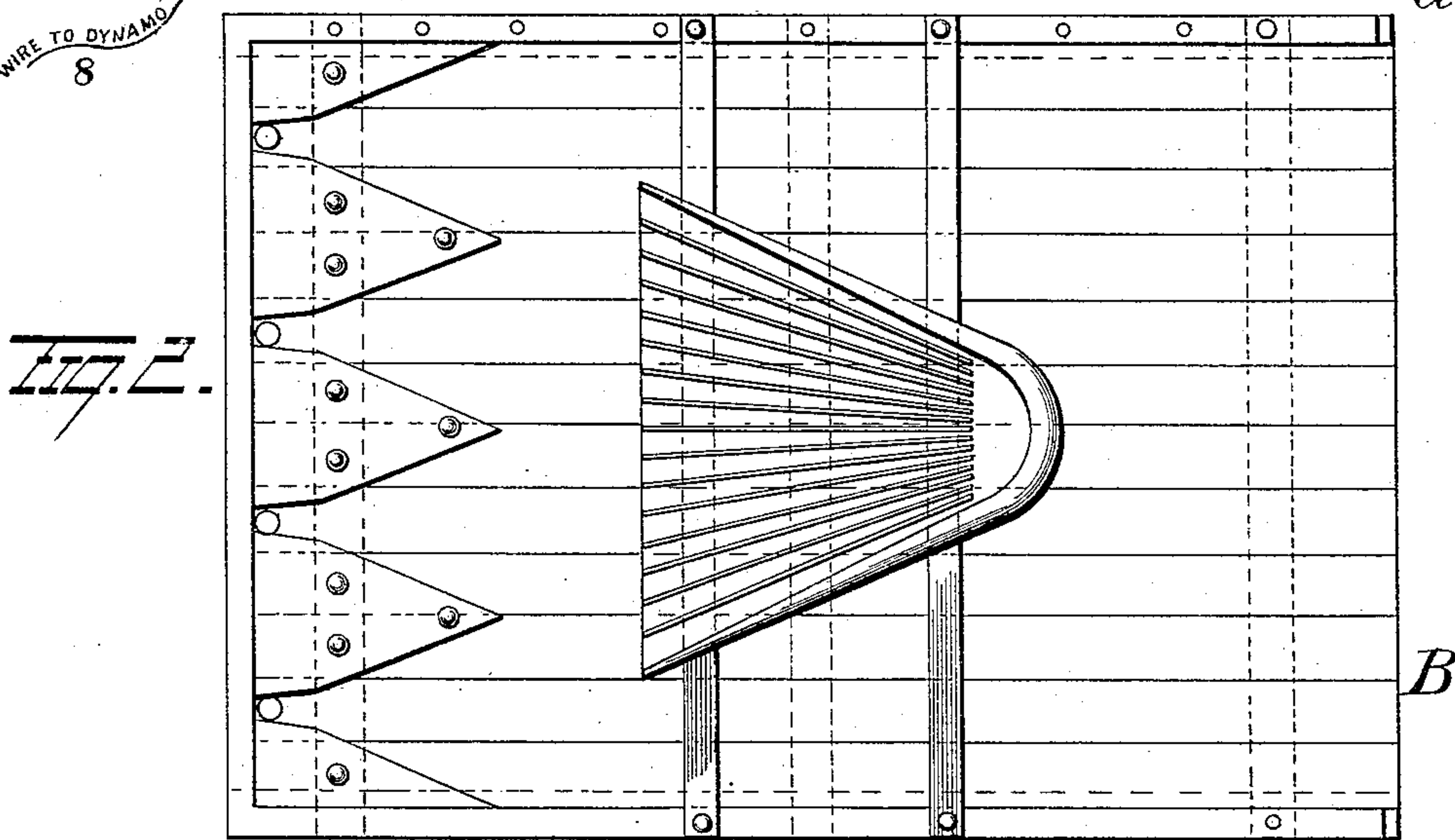
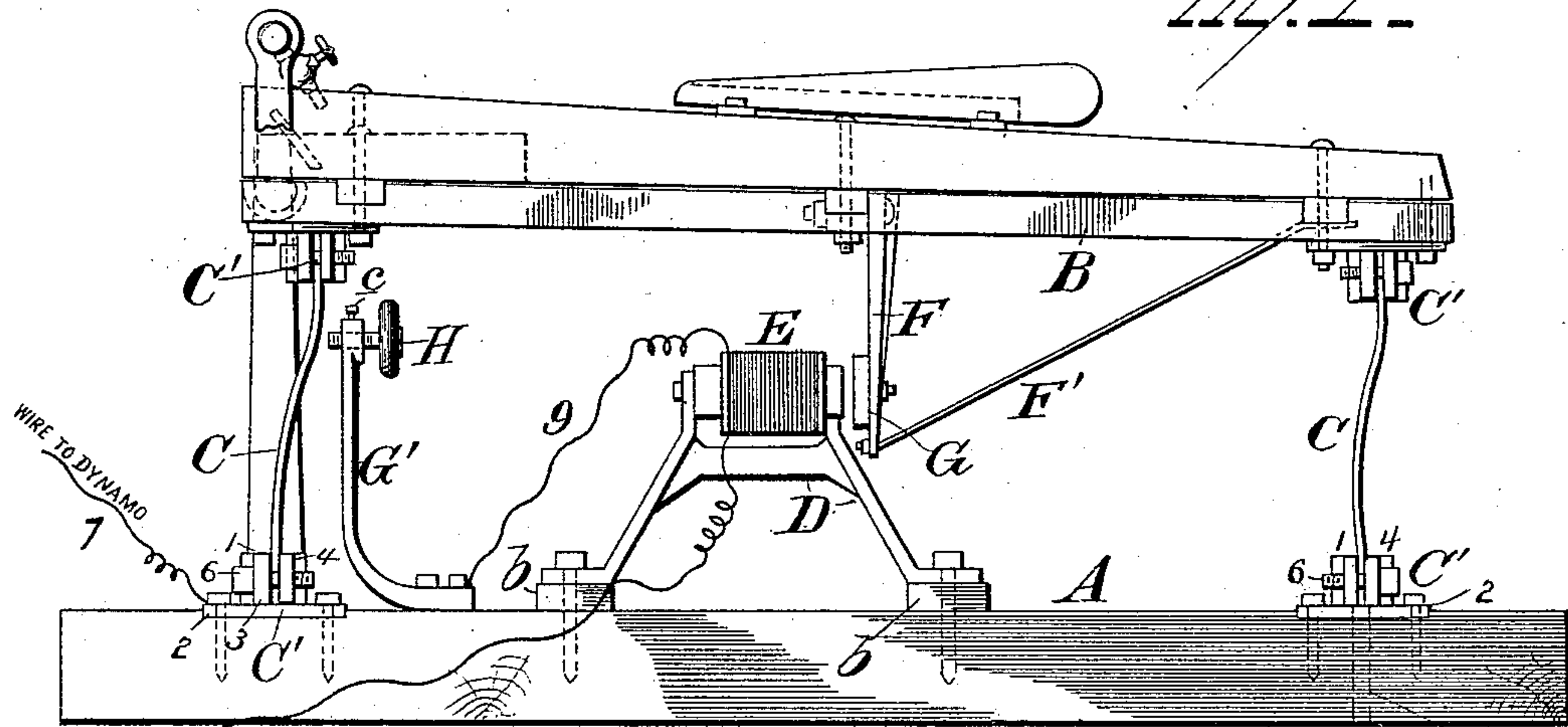


(No Model.)

W. L. IMLAY.
ELECTRIC DEVICE FOR VIBRATING TABLES.

No. 486,715.

Patented Nov. 22, 1892.



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UNITED STATES PATENT OFFICE.

WILLIAM LAMBERT IMLAY, OF CAMDEN, NEW JERSEY.

ELECTRIC DEVICE FOR VIBRATING TABLES.

SPECIFICATION forming part of Letters Patent No. 486,715, dated November 22, 1892.

Application filed April 9, 1892. Serial No. 428,473. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LAMBERT IMLAY, of Camden, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Electric Devices for Vibrating Tables; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in devices for vibrating tables, and more particularly for vibrating the table of an ore-vanning apparatus, the object of the invention being to produce electrical devices for vibrating a table.

A further object is to produce simple and efficient electrical appliances for imparting a differential vibration to a table.

A further object is to construct the appliances in such manner that the table may have a comparatively long slow differential vibration or a short quick differential vibration.

With these objects in view the invention consists in the combination, with a vibratory table, of electrical devices for vibrating said table.

The invention also consists in the combination, with a vibratory table, of devices constructed and arranged to impart a differential vibration to said table.

The invention also consists in the combination, with a vibratory table of an ore-vanning apparatus, of electrical devices for imparting a differential vibration to said table.

The invention also consists in the combination, with a vibratory table, of a rheotome for actuating the same; and the invention also consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is an elevation showing my improvements applied to the table of an ore-vanning apparatus. Fig. 2 is a plan view; and Fig. 3 is a view in elevation, with parts shown in dotted lines, of the table. Figs. 4 and 5 are detail views of the clamp.

A represents a base or sill, and B the table, of an ore-vanning apparatus. The table B is supported at its ends by a series of springs

C, said springs being connected at their respective ends with the sill and table by means of clamps C'. The clamps C' are made as most clearly shown in Figs. 4 and 5. The jaw 1 of each clamp projects from the base-plate 2 and is provided with perforated ears 3. The jaw 4 is made separate from the base-plate 2 and provided with ears 5, which are perforated for the accommodation of screws 6, which screws also pass through the perforated ears 3. At one end the sill is provided with openings *a* immediately beneath the clamps, which hold the springs C at that end of the apparatus, said openings being intended to receive the ends of the springs when it is desired to regulate the inclination of the table B. Mounted on the sill or base A and insulated therefrom by means of blocks *b* is a bracket D, which supports an electro-magnet E at its upper end. An arm F is secured to the table B at or near its center and depends to a point in line with the pole of said magnet E, being provided with an armature G to be attracted by said magnet. The arm F is preferably braced by means of an arm or brace F', secured to said arm at its lower end and to the table B near one end of the latter. An arm or bracket G' is secured to the sill or base A in proximity to one of the springs C and extends upwardly in proximity to the top of said spring, where it is provided with an adjustable contact-screw H, the latter being retained in the position to which it is adjusted by means of a small thumb-screw *c*. A wire 7 from one pole of a dynamo-electric machine or other source of electric energy is attached to the spring C, with which the contact-screw H makes contact, and the wire 8 from the other pole of the dynamo is connected with one end of the helix of the electro-magnet E, a wire 9 connecting the other end of the helix with the bracket or arm G'.

From the construction and arrangement of parts as above described it will be seen that when the circuit through the electro-magnet is closed the magnet will attract the armature G and cause a comparatively-quick vibration of the table B and that when the circuit is again broken by the spring C, leaving the contact-screw H, the armature, and consequently the table B, will be released and the table permitted to have a comparatively-slow

backward vibration, being impelled by the springs C. This differential vibration of the table will be maintained continuously as long as the current is passed through the apparatus.

- 5 The length of vibration of the table can be easily and quickly regulated by means of the contact-screw H.

As shown in the drawings, the table is disposed at an angle or inclination, so that dirt
10 may be washed therefrom, while the mineral or other material travels upwardly, being so impelled by the differential vibration of the table, and discharged at the upper end.

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

1. The combination, with a vibratory table and an armature carried thereby, of an electro-magnet adapted to attract said armature
20 to cause the table to vibrate and devices for automatically making and breaking an electric circuit, including said electro-magnet.

2. The combination, with a vibratory table of an ore-vanning apparatus, of electrical devices constructed and arranged to impart a
25 differential vibration to said table, substantially as set forth.

3. The combination, with a vibratory table, of a rheotome for actuating the same, substantially as set forth. 30

4. The combination, with a table, of springs for supporting the same, an electro-magnet, an arm secured to the table and carrying an armature for said electro-magnet, a contact, and an electrical circuit through said electro-
35 magnet, one of the supporting-springs, and the contact, substantially as set forth.

5. The combination, with a base and a table, of springs for supporting said table on the base, clamps for securing said springs to the
40 table and base, said base being provided with sockets under the clamps at one end thereof, whereby to permit the springs at one end of the table to be adjusted vertically to regulate the inclination of the table, substantially
45 as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM LAMBERT IMLAY.

Witnesses:

CHARLES GORDON IMLAY,
JOHN C. ROBERTS, Jr.