

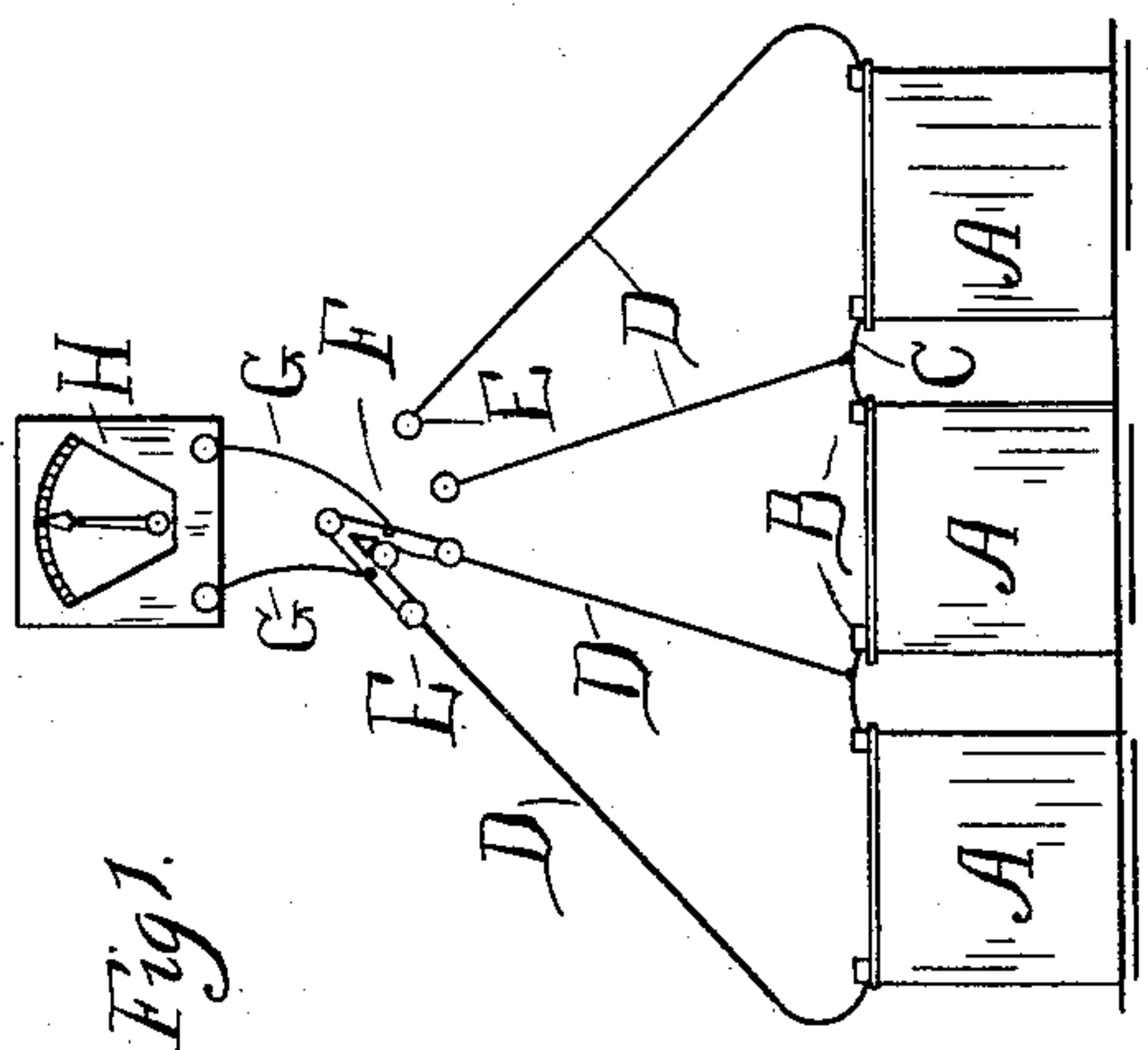
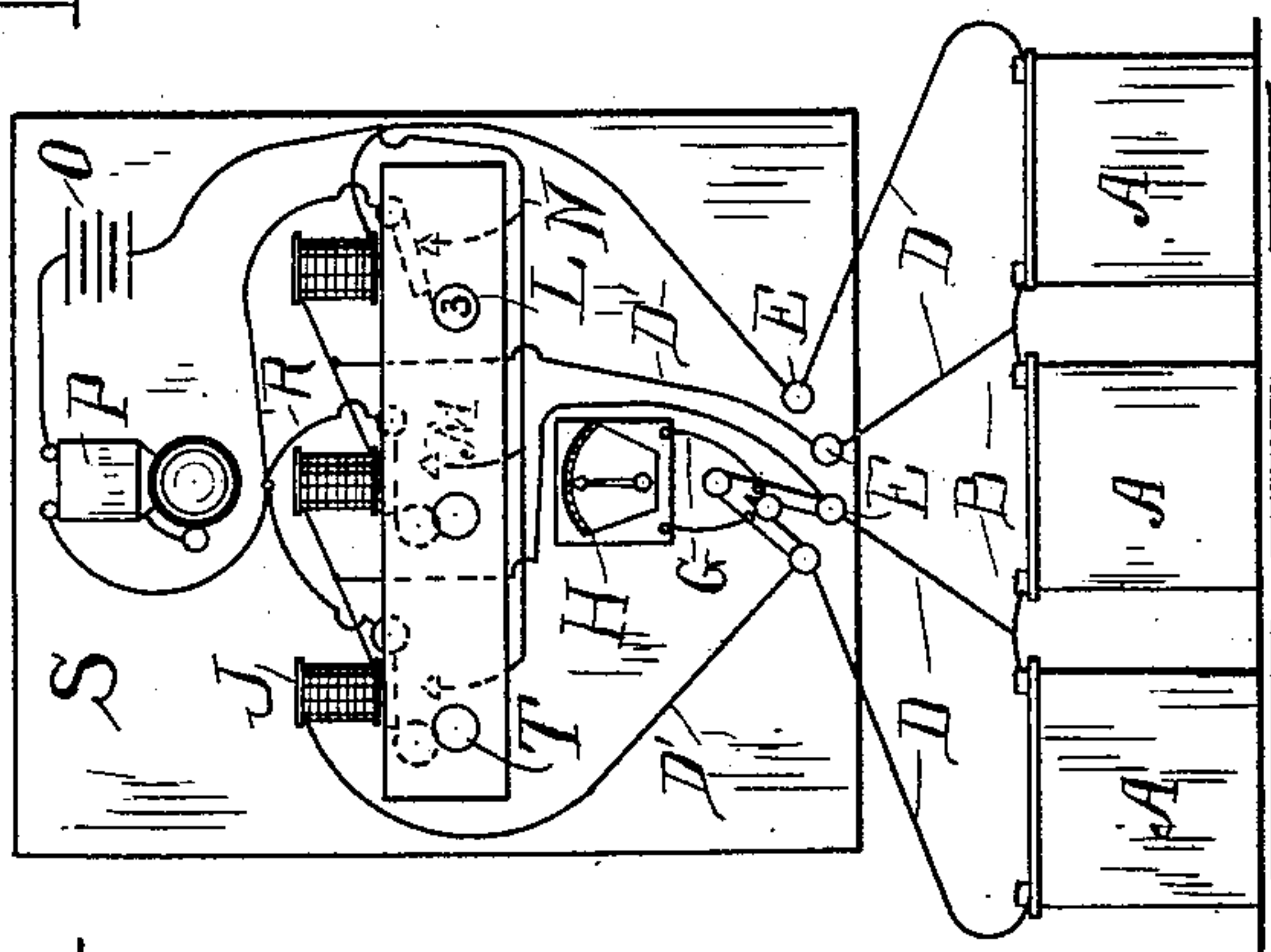
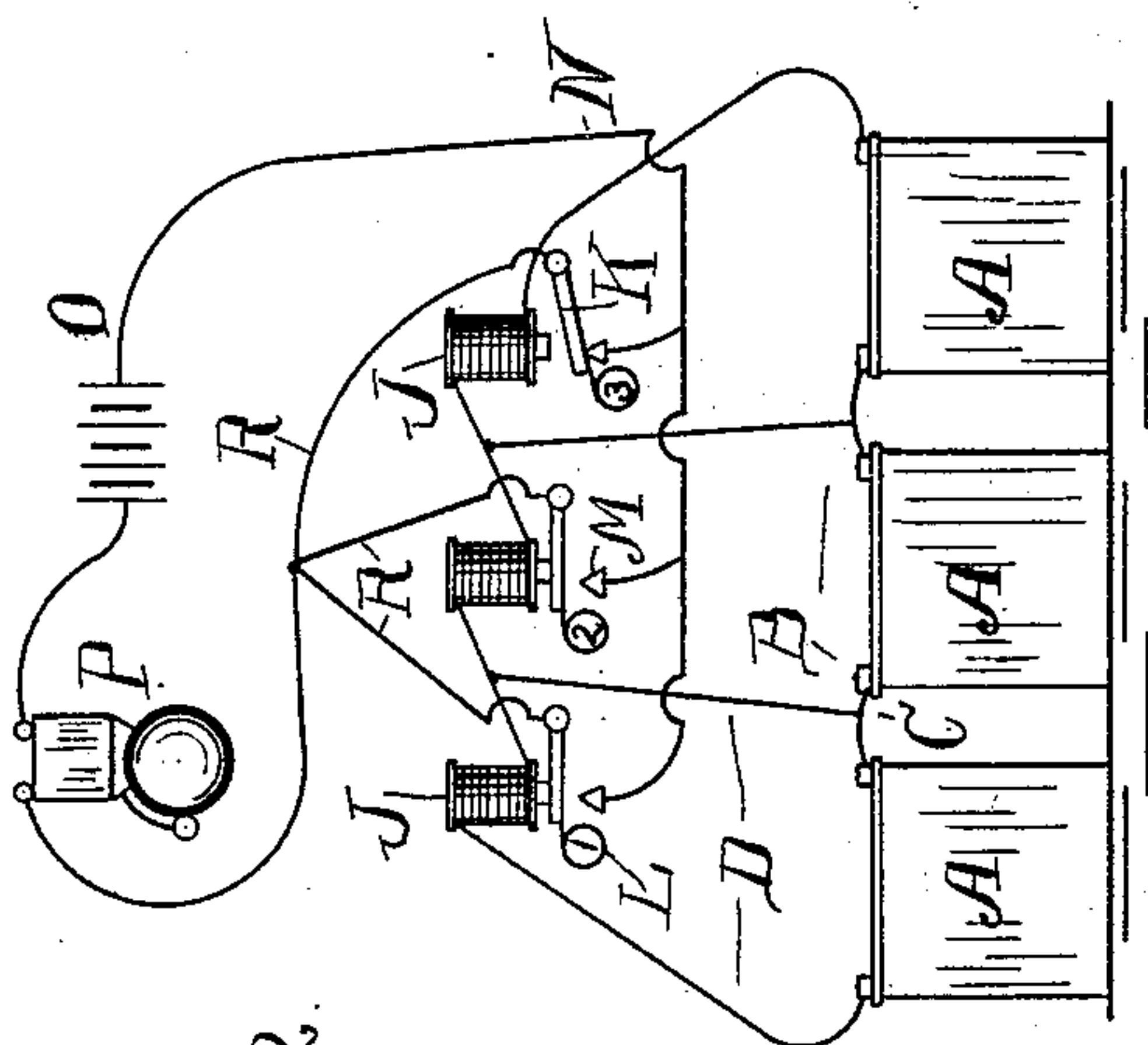
(No Model.)

F. B. BADT.

TELLTALE FOR ELECTROLYTIC REFINERIES.

No. 482,148.

Patented Sept. 6, 1892.



WITNESSES

Walter J. Gunthorpe
Alice H. Geddes.

INVENTOR

Francis B. Badt

BY *Francis W. Parker,*
ATTORNEY

UNITED STATES PATENT OFFICE.

FRANCIS B. BADT, OF CHICAGO, ILLINOIS, ASSIGNOR OF TWO-THIRDS TO
LESTER S. HILLS AND A. M. SEARLES, OF SAME PLACE.

TELLTALE FOR ELECTROLYTIC REFINERIES.

SPECIFICATION forming part of Letters Patent No. 482,148, dated September 6, 1892.

Application filed May 16, 1892. Serial No. 433,150. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS B. BADT, a subject of the King of Prussia, residing at Chicago, county of Cook, and State of Illinois, have invented a new and useful Improvement in Telltales for Electrolytic Refineries, of which the following is a specification.

My invention relates to telltales for electrolytic refineries and the like, and has for its object to provide means whereby the condition of current may be conveniently tested from time to time separately as to each of a series of electrolytic vats, and whereby a signal or alarm may be automatically given to indicate an unsafe or unsatisfactory condition of current in any of such vats. It is illustrated in the accompanying drawings, wherein—

Figure 1 is a diagrammatic view of a volt-meter and vats connected as indicated. Fig. 2 is a similar view of a series of vats with signaling or alarm devices connected with and responsive to the condition of each vat. Fig. 3 is a view of an apparatus in which the testing, signaling, and alarm mechanism are all combined.

Like parts are indicated by the same letters in all the figures.

A A A are a series of electrolytic vats adapted each to contain a suitable number of objects which are to be subjected to treatment. Each is provided with two terminals B B, from which lead the conductors C C, whereby the several vats and their contents are connected in series. From the terminals of each vat leads two wires D D, each to a contact E E, which said contacts are preferably arranged in an arc and about a center upon which swings the circuit-closer F, the two limbs of which are insulated from each other and adapted to engage each one of the contacts, so that any two of the contacts may be engaged at the same time, each by one arm of the circuit-closer. From the two arms of the circuit-closer lead two conductors G G to the volt-meter H, whereby the condition of any vat may be easily ascertained by moving the circuit-closer, so that its two extremities rest upon the two contact-plates, to which lead wires from the terminals of the vat in question. From each conductor D, or from each contact-plate E, leads the conductor D', and

these conductors are connected with the coils of the series of magnets J J, as indicated, so that each magnet J is directly in circuit with each vat, and is thus energized by the current derived from the vat. Each magnet is provided with the armature K, preferably carrying the signal-disk L, numbered so as to indicate the vat with which it is associated. Opposed to each armature is a contact M, and from all these contacts leads the conductor N, and through battery O, bell P, and thus by the branches R R, connection is made with the armatures. S is the front of a case containing these several parts, and T T are a series of apertures through which the signal-disks may be seen when the armature of any given magnet is released. It is quite evident that these several parts may be greatly altered without departing from the spirit of my invention, and the arrangement of circuits can in like manner be varied. I have sought simply to show in general the methods of connection.

The use and operation of my invention are as follows: It is a common difficulty with electrolytic vats that the contents thereof become short-circuited or otherwise in a defective electrical condition, and such an occurrence is a source of great injury and damage to the contents, which sometimes is of great value. It is desirable, therefore, to have means whereby each vat may be tested at will and whereby a visual or audible signal, or both, may be given to suggest the dangerous condition of any given vat without interfering with the operation of the others. If now any given vat is in a condition where less current is shunted through its local circuit, which contains its magnet J, the said magnet J will be demagnetized or weakened and its armature will fall, thus exposing through the aperture the visual signal which indicates that vat "A" or "No. 1," as the case may be, is out of condition. At the same time if the audible alarm is attached the circuit will be closed through the local battery and bell by the engagement of the armature with its contact and the alarm will be rung and the visual signal will point out the vat which is in disorder. If the signaling apparatus gives no indication of a change of condition of the vats, by swinging the circuit-closer of the volt-meter it may be

ascertained whether each vat is approaching the point of danger or not.

I claim—

1. In a telltale for electrolytic vats, the combination of a series of vats connected in series with a meter, conductors leading from the terminal of each vat, and a movable circuit-closer connected with the terminals of the meter and adapted to successively engage such conductors from the vats, so that the meter is successively placed in a local circuit with each vat without disturbing the circuit of the rest of the vats.

2. In a telltale for electrolytic vats, the combination of a series of vats coupled in series with a series of visual signaling devices, each in a normally-closed local circuit, including itself and one vat.

3. In a telltale for electrolytic vats, the combination of a series of vats coupled in series with a series of visual signaling devices, each in a normally-closed local circuit, including itself and one vat, and a meter and a circuit-

closer adapted to switch said meter successively into each of such local circuits, as desired.

4. In a telltale for electrolytic vats, the combination of a series of vats coupled in series with a series of visual signaling devices, each in a normally-closed local circuit, including itself and one vat, an audible signaling device adapted to be closed upon the operation of any visual device.

5. In a telltale for electrolytic vats, the combination of a series of vats coupled in series with a series of visual signaling devices, each in a normally-closed local circuit, including itself and one vat, an audible signaling device adapted to be closed upon the operation of any visual device, and a meter and a circuit-closer therefor adapted to successively cut said meter into each of such local circuits.

FRANCIS B. BADT.

Witnesses:

FRANCIS W. PARKER,
WALTER J. GUNTHERP.