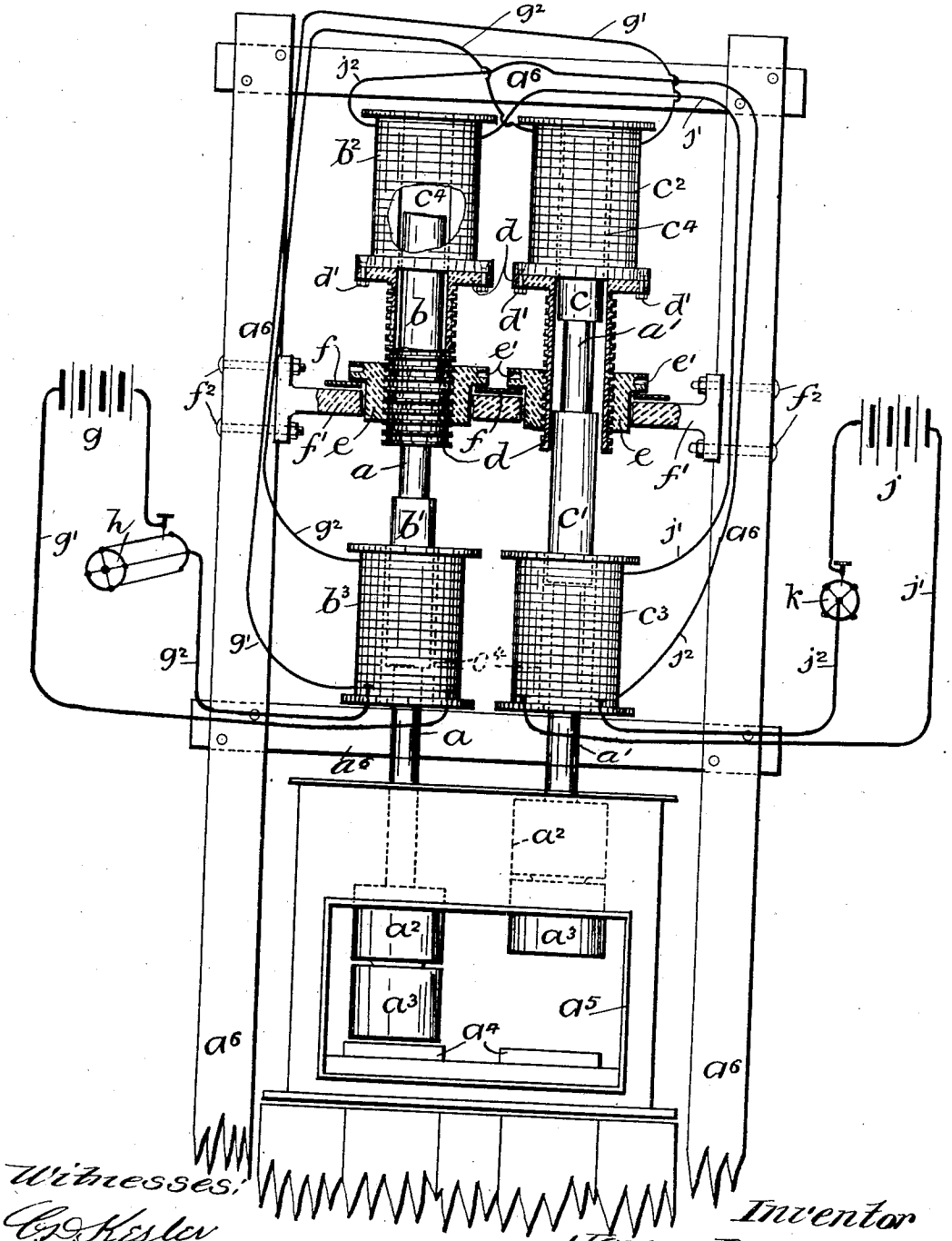
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ELECTROMAGNETIC STAMP BATTERY.

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910,834.

Patented Jan. 26, 1909.



Witnesses:

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ELECTROMAGNETIC STAMP-BATTERY.

No. 910,834. Specification of Letters Patent. Patented Jan. 26, 1909.

Application filed June 10, 1907. Serial No. 378,235.

To all whom it may concern:

Be it known that I, JAMES PHILLIPS LYNN, a subject of the King of Great Britain, residing at Trafalgar, Kalgoorlie, State of Western Australia, Commonwealth of Australia, have invented certain new and useful Improvements in Electromagnetic Stamp-Batteries, of which the following is a specification.

This invention relates to battery stamps which are operated by electro magnets and includes means whereby an increased or maximum effective lift and down fall respectively are given to the stamper; said means consist in enlarging that portion of the stem which passes through the electro magnets.

The second feature of the invention consists of the improved means whereby the vertical position of the magnets is adjusted so as to keep such enlarged portions within the area of effective influence of the magnets so as to counteract any variation in the position of such enlarged portions which would result from the wear of the crushing heads and dies.

In order that the construction and operation of my invention may be clearly understood reference will be made to the attached drawing which shows the invention as applied to a two head stamp battery, said battery being denoted by its parts as stems a and a^1, the heads a^2, the crushing or false heads a^3, the dies a^4, the box a^5 and framing a^6.

Reverting to said drawing the first essential feature of my invention consists in forming portions of the stamper stems a and a^1 of enlarged diameters as b and b^1 and c and c^1; said enlarged diameters may either be formed one and integral with their stems or may be rigidly attached thereto in the form of sleeves. These enlarged portions are formed on those parts of the stems a and a^1 which pass through or work within the cores as c^4 of the upper electro magnets b^2 and c^2 and the lower electro magnets b^3 and c^3 the purpose being to thereby obtain an increased body or area for the lines of force when the magnets become energized. The lower magnets as b^3 and c^3 are fixed in position to the frame a^6 of the battery as shown.

The second essential feature of the invention consists in the means for adjusting the position of the upper magnets b^2 and c^2 in relation to the upper enlarged portions b and c of the stems a and a^1 in order to maintain said enlarged portions within the effective area of influence of their magnets b^3 and c^3 and irrespective of the wear of the false heads a^3 and shoes a^4 and as before stated. These adjustment means consist of screw threaded flanged sleeves as d one of which is shown in section in the drawing. The upper magnets are superimposed upon said sleeves being secured thereto by the bolts d^1. These sleeves with their attached magnets are vertically adjustable and adapted to be raised and lowered by the operative screw threaded block or nuts e shown in section and rotated by any suitable bar whose end is placed in the peripheral recesses e^1.

A washer plate f made common to all the blocks e is interposed between same and the transverse guide stay f^1 which latter is secured to the battery frame a^6 by the bolts f^2.

In the organization of the stamp or battery an electric make and break appliance is employed so as to effect the desired sequence of lift and drop for a plurality of stampers as a and a^1.

In the accompanying drawing, g is a battery, which by the wires g^1 and g^2 is in electric circuit with the electro-magnets b^3 and c^3, the said battery g being provided with a commutator h which is rotated by any suitable means from the engine power shaft. The rotation of the said commutator results in an intermittent make and break of circuit being given to said magnets b^3 and c^3 so that the latter are mutually energized and deënergized at the same time. The companion magnets b^2 and c^2 are also in circuit with a battery j through the medium of the wires j^1 and j^2, said battery j being also provided with a commutator k which is operated in the same manner as the commutator h and with the result that an intermittent make and break of circuit is given to the companion magnets b^2, c^2 and the latter are mutually and simultaneously energized or deënergized. As shown in the drawing, the magnets b^3 and c^3 are mutually energized while the companion magnets b^2 and c^2 are mutually deenergized, thereby causing the stamper a to be lifted by the energized magnet b^2 and concurrently allowing the companion stamper a^1 to fall and be pulled down by the energized magnet c^3.

The operation of the invention is as follows:

Assume that it is desired to lift the stem a

with its parts. The upper magnet b^2 is then energized while the lower magnet b^3 remains non-magnetic whereupon by reason of the lines of electric force being exerted on the upper enlarged diameter b, the stem a with its parts a^2—a^3 is raised to the position which stem a^1 and its parts occupy in the drawing. The current to the magnet b^3 upon being cut off allows the stem a to fall by gravity and being urged and downwardly pulled by the force exerted by the now energized magnet b^3 upon the lower enlarged part b^1 of the stem a with the result that a maximum heavy blow in excess of that by gravity is given to the material to be crushed in the box a^5. It is obvious that the current of the magnet b^3 is in a different direction to that of the magnet b^2 so as to obtain the down pull, also that when stem a is being raised or lowered the opposite operation is proceeding in respect of the neighbor stem a^1.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In an electromagnetic stamp battery, stamp stems having enlarged portions, sleeves each carrying a magnet in which said enlarged portions reciprocate, and means for adjusting said sleeves to maintain the enlarged portions within the operative influence of said magnets.

2. In an electro magnetic stamp battery, stamp stems having enlarged portions, sleeves each carrying a magnet in which said enlarged portions reciprocate, and threaded rotatable devices engaging the sleeves for vertically adjusting the latter to maintain the enlarged portions of the stems within the operative influence of the magnets.

3. An electro-magnetic battery comprising dies, stamp heads having stems with enlarged portions, sleeves having nuts for vertically adjusting the sleeves, said sleeves carrying upper magnets, the enlarged portions of the stems coöperating with the said upper magnets, and other lower magnets also having portions of the stems in coöperative relation thereto.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES PHILLIPS LYNN.

Witnesses:
RICHARD SPARROW,
ROSS EAST.