2 Sheets—Sheet 1.

L. L. LEWINSOHN.

MACHINES FOR MOUNTING FLOWERS &c. UPON WIRE STEMS.

No. 189,759. Patented April 17, 1877.

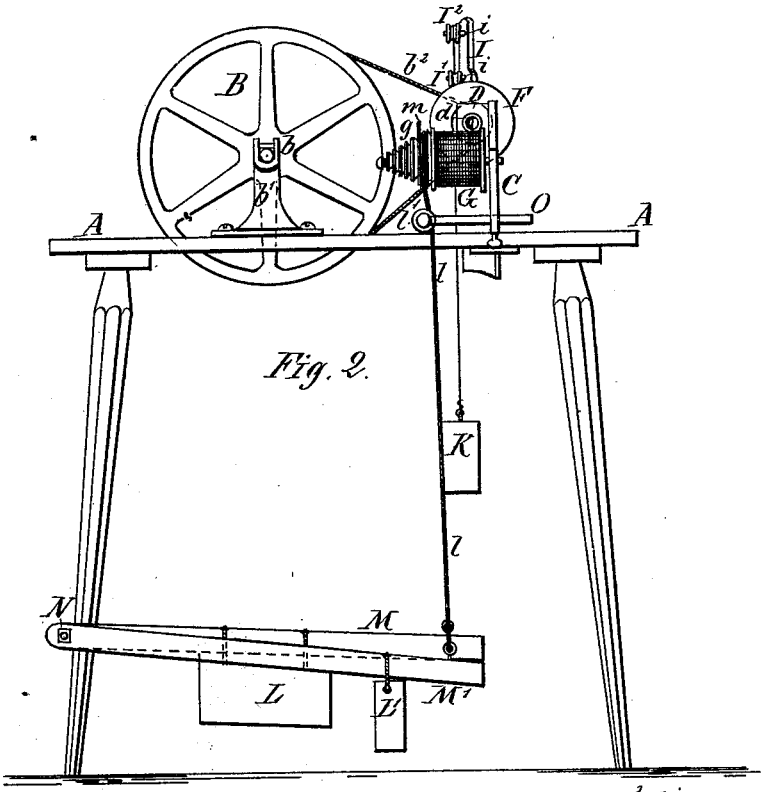

Fig. 2.

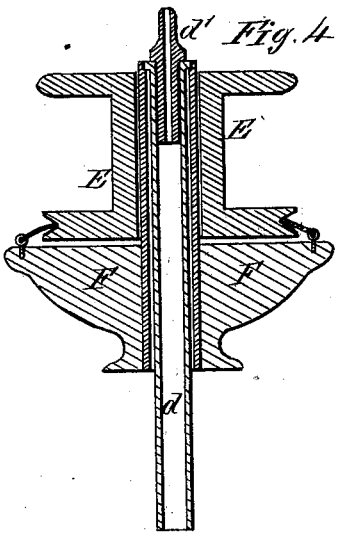

Fig. 4.

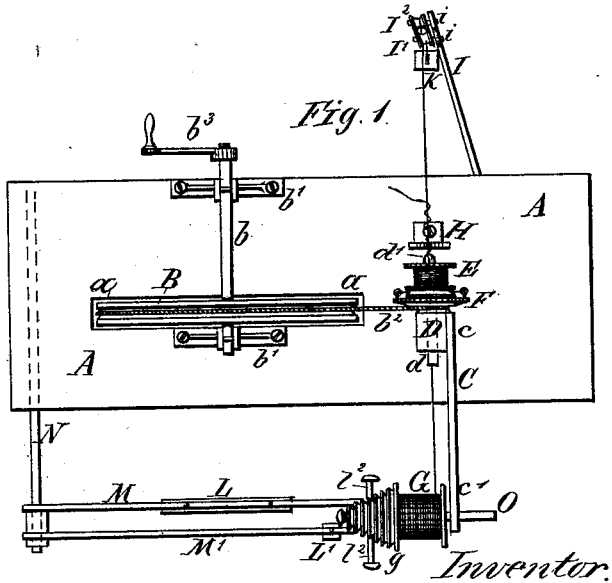

Fig. 1.

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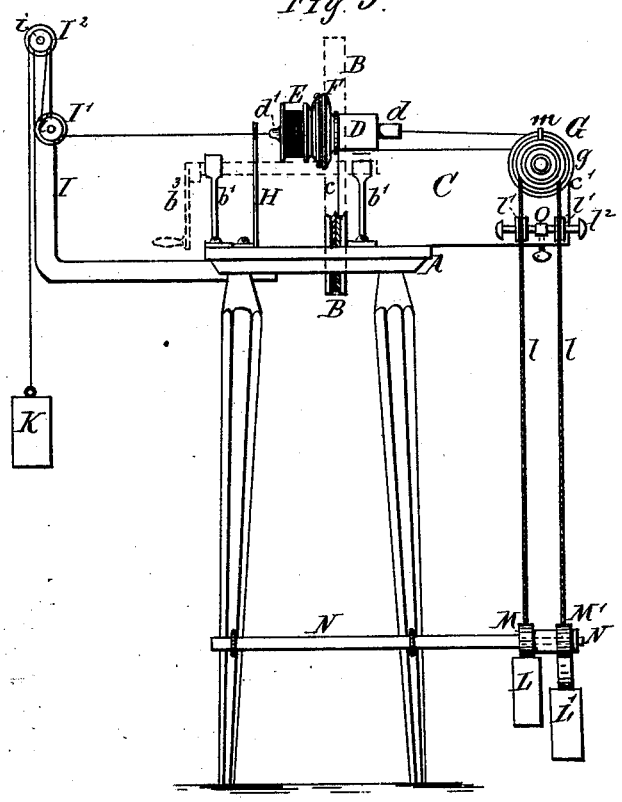
Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

LOUIS LIEBMANN LEWINSOHN, OF BERLIN, PRUSSIA.

IMPROVEMENT IN MACHINES FOR MOUNTING FLOWERS, &c., UPON WIRE STEMS.

Specification forming part of Letters Patent No. **189,759**, dated April 17, 1877; application filed October 28, 1876.

To all whom it may concern:

Be it known that I, LOUIS LIEBMANN LEWINSOHN, of Berlin, in the Kingdom of Prussia, have invented certain new and useful improvements in a new or improved machine for mounting or placing flowers, feathers, and other analogous materials upon their stems or stalks, of which the following is a specification:

My invention has for its object the construction and arrangement of a machine or apparatus to mount flowers, feathers, and similar objects upon wire stems—a work heretofore almost exclusively done by hand.

In the accompanying drawings, Figure 1 represents a plan, Fig. 2 a side elevation, and Fig. 3 a front elevation, of the apparatus constructed according to my invention, and Fig. 4 is a section of the winding-bobbin enlarged.

A is a bench or table, upon which the apparatus is mounted, and B a drive-wheel mounted upon a horizontal shaft, *b*, which has its bearings in the uprights b^1 bolted or otherwise secured to the table A, which latter has a slot, *a*, for the passage of and through which a portion of the wheel projects, as shown. C is an upright plate bolted transversely or across the table in rear of the wheel B, said plate projecting some distance outward from the table-top at the right-hand side, and does not extend entirely across said table-top, but up to about midway thereof to the line of the slot *a*. This plate C carries at its inner end *c* a block, D, provided with a perforation through which passes the hollow axis *d*, upon which the bobbin E, carrying the winding or binding thread, and the disk F, are mounted. The bobbin E is so mounted as to be in frictional contact with the grooved disk F in a manner similar to the bobbins in gimp-mills, and is actuated by the disk or pulley F, which receives motion from the drive-wheel B, with which it is connected by means of a cord or band, b^2.

The hollow axis *d* carries at its inner end a short tube, *d'*, having a small opening, as shown by Fig. 4. The plate C carries at its outer end *c'* a bobbin, G, the front face of which is conical and forms a series of gradually-diminishing grooved disks, *g*, for a purpose hereinafter explained. The wire upon which the feathers are mounted is wound upon bobbin G, and from thence passes through the hollow axis *d* and short tube *d'* over the vertical grooved or chamfered standard H, and from thence under loose pulley I^1 and over loose pulley I^2, mounted upon studs *i* on the arm I, which latter is affixed to and projects from the table A on the left hand thereof.

To the end of the wire a weight, K, is attached in order to keep such wire perfectly taut at all times, but as this weight K alone could not maintain the wire stretched without at the same time unwinding it from its bobbin G, I employ a compensating weight or weights, L L', the former of which is the heaviest of the two, the latter serving only to hold the cord *l*, to which the levers M M' are attached, in frictional contact with the grooved disk or cone of the bobbin G, and hold the weight L suspended while the wire is drawn forward by the operator. The weights L L' are hung from two pivoted levers, M M', having their fulcra on a common axis, N, mounted on the legs of the table at a point near their lower extremity sufficiently elevated to allow the weights to rise and fall freely. The cord *l* passes over two loose pulleys, l^1, mounted on a short shaft, l^2, rigidly affixed to the bar O, which is held by means of a set-screw in a slot formed in the outer end of the plate C, as shown. By this arrangement the tension of the cord *l* may be regulated within certain limits and held in position under the grooved disks on the bobbin G. The larger one of these disks, or the one nearest the bobbin, is of a diameter equal to that of the bobbin when full of wire, the other disks gradually diminishing in size, for a purpose which will be presently explained. The specific gravity of the weight K is equal to the difference of the weight between L L', and by this means a perfect equilibrium between the three weights K L L' is maintained and the wire kept under a constant and unchanging tension; but as the wire is unwound from the bobbin G, and its diameter consequently reduced, this equilibrium would necessarily be disturbed should but one disk to support the weights L L' be employed; and in order to keep this equilibrium I employ the graduated cone-pulley or differential disks so as to remove the cord *l* from one to the other as the wire is withdrawn from the

bobbin G and its diameter reduced, thereby maintaining the equilibrium between the three weights at all times. The cord *l* is held upon the disks by means of the pin *m*.

In the operation of threading or binding the wire (which latter is ordinarily of very small diameter) the rotation of the thread-bobbin E would cause said wire to move violently to and fro, although it may be powerfully stretched, and this would render a perfect winding very difficult. To obviate this I employ the grooved or chamfered rest or standard H, upon which the wire may be held under perfect control, together with the object to be mounted thereon.

The operation of the apparatus is as follows: The spinning mechanism being set in operation by means of the crank or handle b^3 on the shaft B, a short length of thread from the bobbin E is wound or twisted around the wire by drawing the latter forward in the direction of the arrow, Figs. 1, 2, and 3. This is then retwisted with thread by drawing the wire backward in a reverse direction of that of the arrow. The feather or other object is then placed on this threaded portion, and the spinning is effected by moving the wire forward again until the desired length of wire is obtained, when the backward spinning is again resorted to for a short distance to form the thread-covered space for the next feather, until the wire has been covered, and has attained a length equal to the descent of the weight K, when the wire is cut, the weight again suspended thereon, and the operation resumed. The cut portion of the wire to which the feathers or other objects have been attached may now be cut at the point where such objects are tied, and thus leave these objects perfectly mounted for their subsequent employment. That which in hand-work forms the first layer of thread is here produced by the backward spinning, and the result is a double layer of thread as a basis, which produces a more substantial mounting. By the use of this apparatus an operative may mount above ten times as many objects as by hand.

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

1. In an apparatus for mounting feathers and other objects, the wire upon which such objects are mounted, held immovably stretched by means of counterbalancing-weights acting directly upon the wire on one end, and upon the bobbin containing such wire upon the other end, substantially as described.

2. In combination with the wire upon which the objects are mounted, the weight K, and bobbin G upon which said wire is wound, and the differential grooved disks *g*, of the cord *l*, levers M M′, and weights L L′, substantially as described, for the purpose specified.

3. The combination of the grooved differential disks *g* and bobbin G, the cord *l*, levers M M′, and the weights L L′, with the pulleys l^1 and shaft l^2 mounted upon an adjustable bar, O, and the plate C, substantially as described, for the purpose specified.

4. The combination of the cord *l*, from which the levers M M′ and weights L L′ are suspended, the differential disks and bobbin G, with the pin *m*, to hold said cord *l* in position upon its disk, substantially as described.

5. The combination of the thread-bobbin E, held in frictional contact with the disk F, from which it receives motion through the medium of the driving-wheel B, and a band or cord, said wheel and disk being mounted upon a hollow shaft, *d*, with said hollow shaft *d* and short tube *d′*, the block D, plate C, and the wire upon which the object is to be mounted, substantially as described.

6. The standard H, in combination with the wire, and the binding devices, substantially as above claimed and described.

7. The combination, with the wire, of the arm I, and pulleys I^1 I^2, and the weight K, substantially as described.

8. In an apparatus for mounting feathers or similar objects, the devices, substantially as above described, by means of which the wire upon which such objects are mounted is kept at an unvarying tension by regulating said tension according to the decrease of the diameter of the wire-containing bobbin, substantially as described.

In witness that I claim the foregoing I have hereunto set my hand and seal this 10th day of February, 1876.

LOUIS LIEBMANN LEWINSOHN. [L. S.]

Witnesses:
HERMANN KREISMANN,
BERTHOLD ROI.