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A. LORANT.

DESIGN DRAFTING MACHINE.

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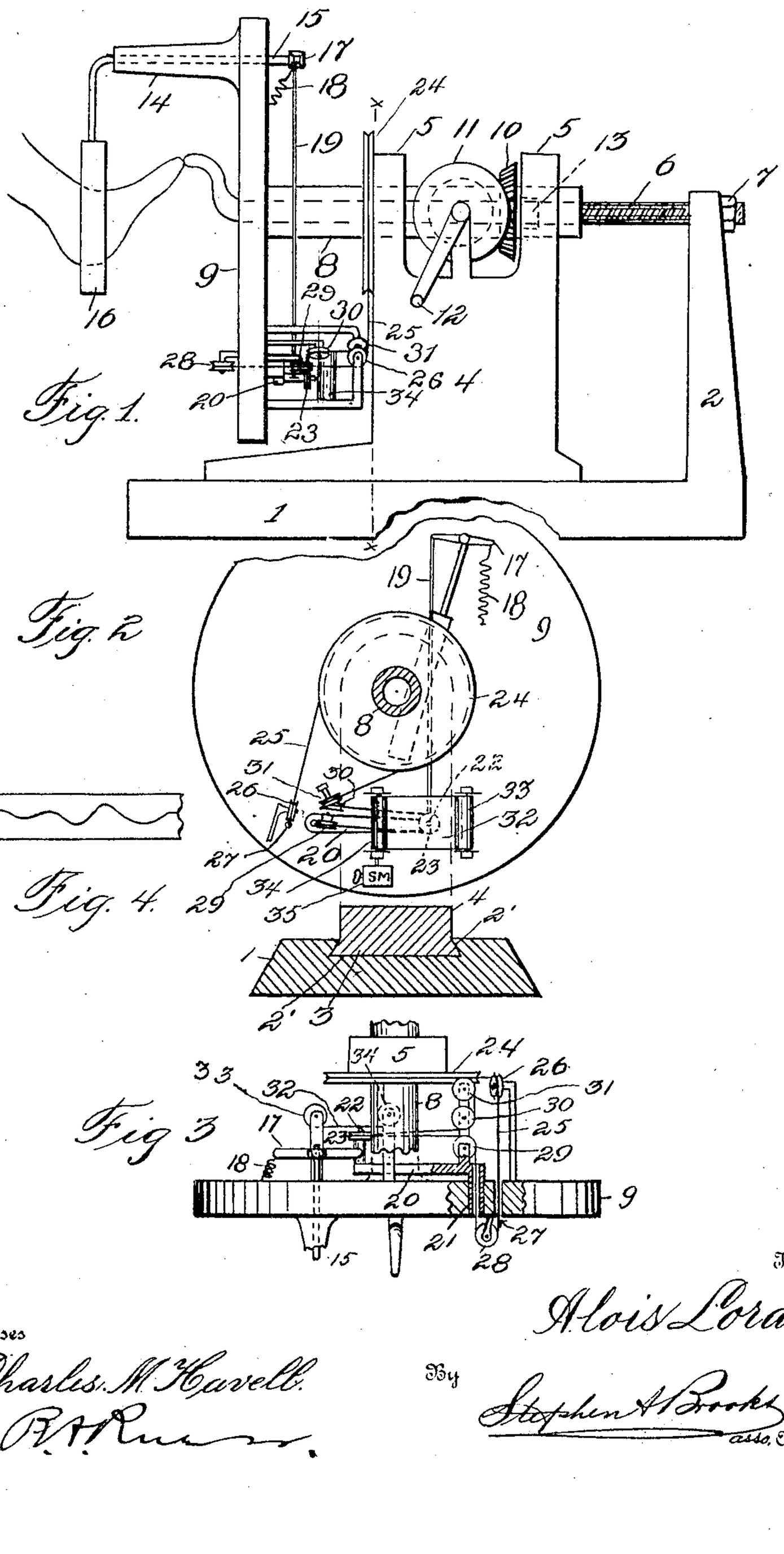

Fig. 1.

Fig. 2

Fig. 4.

Fig 3

Witnesses

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DESIGN-DRAFTING MACHINE.

No. 871,808. Specification of Letters Patent. Patented Nov. 26, 1907.

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To all whom it may concern:

Be it known that I, ALOIS LORANT, a subject of the King of Hungary, and residing at Budapest, Hungary, have invented certain new and useful Improvements in Design-Drafting Machines; 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 certain new and useful improvements in drafting or marking machines, applicable for use in copying plaster figures, statuettes, models, and various other objects.

As shown in the accompanying drawings, forming a part of this application, and wherein like numerals of reference designate similar parts throughout the several views, Figure 1, is a side elevation of my improved machine. Fig. 2, a sectional view on line X—X of Fig. 1, the disk being partly broken away, Fig. 3, an end elevation of the disk and its appurtenant parts, the disk being detached from the machine and shown in a horizontal position, partly broken away and in section to more clearly illustrate the relationship of parts, and Fig. 4, is an elevation of the record sheet showing the record produced thereon by my improved machine.

In the embodiment of my invention, I employ a base designated at —1—, which at its rear end is formed with a vertical standard —2—. The upper face of base —1— is formed with a guide-way —2′—, within which is received the guide —3— of a carriage —4—, whereby a sliding movement is permitted to said carriage. The carriage —4— is formed with a pair of spaced uprights —5— through which a threaded rod —6— passes, said rod at its rear end being rigidly affixed to standard —2— by means of a nut —7—. For the purpose of reciprocating carriage —4— the rod —6— bears a revoluble sleeve —8—, which is rigidly secured to a disk —9—. A bevel gear —10— is rigidly affixed to sleeve —8— and meshes with a similar gear —11— suitably supported from the carriage, a crank handle —12— being carried by gear —10—, by virtue of which and gears 10—11—, revoluble movement may be communicated to sleeve —8—, the latter having a nut —13— (dotted lines Fig. 1) secured on its interior and which is received on said threaded rod —6—. Disk —9— on its front face carries a hollow projecting arm —14— through which is passed a rod —15— the latter at its forward end being bent downwardly and carrying a pattern style —16—, and at its rear end projecting beyond the disk and having a lever —17— rigidly affixed thereto. A coil spring —18— is secured at its one end to one arm of the lever and at its other end to the disk —9—, the opposite arm of the lever having a downwardly extending rod —19— connected thereto which at its lower end is pivotally connected to a pivoted cutter carrier arm —20—. This arm —20— is formed with a hollow bearing —21— received in an aperture provided therefor in disk —9—, and at its free end carries a needle shaped rotary cutter —22— mounted on a pulley —23— whereby through means now to be described rotary motion may be imparted to the cutter.

Journaled upon sleeve —8— is a pulley —24— of considerably greater diameter than pulley —23—, a cord or belt —25— being passed over pulley —24—, over a smaller pulley —26— suitably supported from disk —9—, through an aperture —27— formed in said disk, and thence in engagement with a small pulley —28— carried on the opposite face of said disk, from which point the cord or belt is passed through the hollow bearing —21— over a small pulley —29— carried on the cutter carrier arm —20— around the said pulley —23— of the cutter —22— and thence in engagement successively with small pulleys —30— —31— arranged one above the other and suitably supported from the disk, to finally return to pulley —24—.

The record sheet designated at —32— may be formed of a strip of cardboard or thin sheet metal, the same being wound on a roller —33— supported from disk —9— and received on a roller —34—, which is rotated by a spring motor —35—, it being observed from Fig. 2, of the drawings that the sheet is disposed to lie within the bounds of the path of travel of the cutter. As shown in Fig. 1, by extending the rod —6— on its forward end to enable the same to project beyond the front face of the disk, a support is thereby provided for the object.

The operation is as follows:—Motion being communicated to disk 9, by means of the mechanism previously set forth, such disk will have a circular path of travel, as well as one in a longitudinal direction with respect to the object being copied, which in this in-

stance as shown in the drawings, Fig. 1, is a foot. The pattern style is continuously pressed against the foot by virtue of the coil spring 18, and will have a movement corresponding to the conformation of the foot, such movement being accurately transmitted to the cutter carrier arm 20. By virtue of the means set forth previously rotation of the disk will likewise cause rotary movement of the needle shaped cutter 22, which will cut into the record sheet or band, and produce a line similar to the illustration of Fig. 4, of the drawings, which is undulating and bears a geometrical relation to the oscillations of the scribing style. The obtained copy, which is the band or record sheet, constitutes a templet which is fixed in a rotary cutter copying machine.

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

1. In a device of the type set forth, a carriage, a disk supported revolubly from said carriage, means for simultaneously rotating and reciprocating said disk, a style pivotally supported from said disk, a record sheet carried by the disk, with means for actuating the sheet, a rotary cutter bearing upon said record sheet a connection between said style and cutter whereby movements of the former with relation to its pivotal support will be communicated to the latter, and means for rotating said cutter.

2. In a device of the type set forth, a simultaneously rotatable and reciprocatory disk, a style movably supported from the disk, a rotary cutter movably supported on the disk, means whereby movements of the style independent of said disk will be communicated to said cutter, a record sheet, with means for causing same to travel past said cutter in contact therewith, and means whereby rotation of the disk will revolve said cutter.

3. In a device of the type set forth, a carriage, an element supported revolubly from said carriage, means for imparting simultaneous rotary and longitudinal movement to said element, a pattern style yieldably supported from said element, a record sheet carried by said element, means for imparting continuous movement in one direction to said record sheet during the movement of said element, a rotary cutter carried by said element and disposed in contacting relation to said record sheet, a connection between said pattern style and said cutter whereby movements of the former as controlled by the object to be copied will be transmitted to the latter, and means for rotating said cutter.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

ALOIS LORANT.

Witnesses:
ARTHUR B. SINGEY,
LOUIS VANDORN.