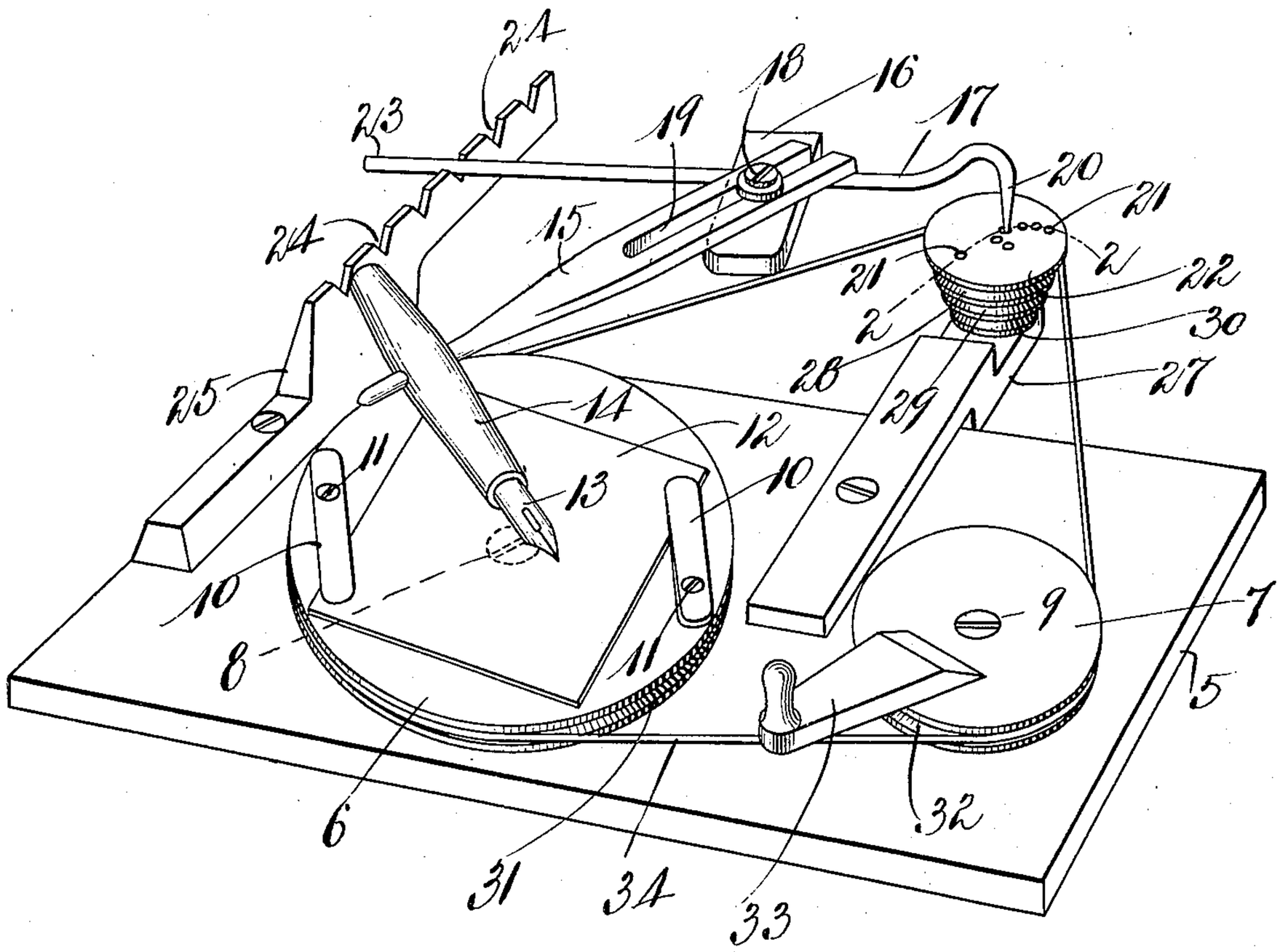
No. 859,366. PATENTED JULY 9, 1907.

F. M. CLARK.

DEVICE FOR MAKING DESIGNS.

APPLICATION FILED DEC. 26, 1906.

Fig. 1.



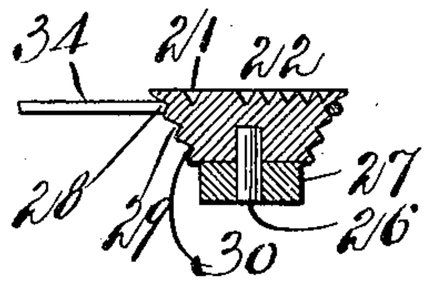


Fig. 2.

Witnesses:

William C. Glass.

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Inventor:

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by his attorney, Charles J. Ludwig.

UNITED STATES PATENT OFFICE.

FRANK M. CLARK, OF TILTON, NEW HAMPSHIRE, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF ONE-FOURTH TO BYRON S. COTES, OF TILTON, NEW HAMPSHIRE, ONE-FOUTRH TO FRANK G. BALCOM, OF MEDFORD, MASSACHUSETTS, AND ONE-FOURTH TO CHARLES H. SOUTHARD, OF BALDWIN, NEW YORK.

DEVICE FOR MAKING DESIGNS.

No. 859,366. Specification of Letters Patent. Patented July 9, 1907.

Application filed December 26, 1906. Serial No. 349,542.

To all whom it may concern:

Be it known that I, FRANK M. CLARK, a citizen of the United States, residing at Tilton, in the county of Belknap and State of New Hampshire, have invented new and useful Improvements in Devices for Making Designs, of which the following is a specification.

The object of this invention is to provide a device for making a large variety of designs, each design formed by a continuous line extending in a variety of curves.

The invention consists in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the claims thereof.

Referring to the drawings: Figure 1 is a perspective view of my improved device for making designs. Fig. 2 is a sectional elevation taken on line 2—2 of Fig. 1.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings 5 is a base upon which is rotatably mounted a table 6 and a pulley 7. The table 6 rotates upon a screw 8 and the pulley 7 rotates upon a screw 9, both of said screws being fast to the base 5. The table 6 has clamp fingers 10, 10 rotatably mounted upon screws 11, 11 fast to said table. A sheet of paper 12 upon which the design is to be inscribed is firmly affixed to the table 6 by means of the clamp fingers 10, 10, the paper being laid upon the top of the table and the clamp-fingers rotated upon their respective pivotal screws 11 until the free ends of said clamp-fingers extend over the paper.

The tool which inscribes the design upon the paper 12 may be either a pencil, pen or stylus. In the present instance I have illustrated a pen 13 for the marker attached to an arm 14 which, in turn, is detachably fastened to an arm 15, said arm 15 being adjustably fastened to an arm 16 fast to a carrier 17. The arm 15 is adjustable longitudinally thereof upon the arm 16, being attached thereto by means of a screw 18 having screw-threaded engagement with the arm 16 and projecting through a slot 19 formed in the arm 15.

The carrier 17 is formed of a rod, one end 20 of which is bent at an angle to the main portion of the rod and forms a hook adapted to project into any one of a plurality of holes 21 provided in the upper face of a driver 22. The opposite end 23 of said rod 17 is adapted to slide in grooves or notches 24, 24 formed in the upper edge of a guide 25. The guide 25 is fastened rigidly to the base 5. The driver 22 is rotatably mounted upon a pin 26 fast to a bracket 27 fastened rigidly to the base 5. Said driver 22 is provided in its periphery with a plurality of annular grooves 28, 29 and 30 of different diameters, the diameter of the groove 28 being the largest of the three.

An annular groove 31 is provided in the periphery of the cylindrical table 6 and an annular groove 32 is provided in the periphery of the pulley 7, said pulley also being provided with a handle 33 by means of which it may be rotated. A belt 34 extends partly around the pulley 7 in the groove 32, partly around the table 6 in the groove 31 and partly around the driver 22 in the groove 28, although it will be understood that said belt may be placed in either of the grooves 29 or 30, as may be desired.

The operation of the device hereinbefore specifically described is as follows: Upon rotating the pulley 7 by means of the handle 33 the belt 34 will rotate the table 6 and the driver 22. As the driver 22 is rotated the end 20 will describe a circle while the end 23 of the rod 17 will slide longitudinally of the rod 17 in one of the grooves 24 in which it is located. This combined rotary and sliding motion of the rod 17 will impart an elliptical movement to the end of the pen 13. At the same time that the end of the pen 13 is traveling over the paper 12 in an elliptical path, said paper is being rotated by the rotation of the table 6, and the curves which are described by the marker or pen 13 upon the paper 12 may be varied in any one of the following ways: First, by placing the end 20 of the rod 17 in different holes 21, 21 upon the upper face of the driver 22; second, by placing the end 23 of the rod 17 in different notches or grooves 24; third, by moving the arm 15 to different angles relatively to the table 6 and the arm 16 by swinging said arm 15 upon the screw 18 and then clamping the same firmly to the arm 16 by means of said screw; fourth, by moving the arm 15 longitudinally thereof, sliding the same upon the screw 18 in the slot 19; fifth, changing the belt 34 into the different annular grooves 28, 29 or 30.

The arm 14 may be detached from the arm 15 by slipping the same off of the rounded outer end of said arm 15, and another arm with another color of ink in the pen can be placed upon said arm 15, or the pen 13 itself may be removed and another with a different color of ink supplied in its place.

It will be understood that the rod 17 is pivotally attached to the driver 22 and is adapted to slide upon the guide 25, so that the weight of the arms 14, 15 and 16, together with the pen 13, tend to tip said rod and thus the weight of said arm keeps the pen pressed against the paper 12 or against the surface of the table 6 when the paper 12 is removed. When it is desired to

place a new piece of paper upon the table 6, the pen 13, its holder consisting of the arms 14 and 15, and the rod 17 may be lifted bodily away from the table and the new piece of paper inserted between the clamps 10, 10 by rotating said clamps upon their screws 11, 11 in the proper direction to first release the old sheet of paper and second to clamp the new sheet of paper to the table 6

I have described my invention and illustrated the same as employing a piece of paper 12 and a pen 13 in order to produce the designs on said paper, but it is evident that a pencil may be used instead of a pen, or a stylus may be used and the paper dispensed with, the stylus making lines or grooves upon a wood or metal surface placed upon said table.

It will be understood that the holder for the pen or pencil consists of the arms 14 and 15 and that the carrier consists of the rod 17 and the arm 16 which is rigidly fastened thereto.

It will also be understood that the marker 13, arm 14, arm 15, arm 16, and carrier 17 constitute as a whole a gyratory device resting by its weight upon three points, one of said points being on the paper 12 on the table 6, another of said points being on the rotary driver 22, and the third point being on the guide 25. It will be seen that this gyratory device may be lifted as a whole from its place instantly in order that the pen 13 may be dipped in ink, also in order that the end 20 may be quickly moved from one to another of the holes 21 and also in order that the end 23 may be quickly moved from one to another of the notches 24.

Having thus described my invention, what I claim and desire by Letters Patents to secure is:

1. A device for making designs comprising in its construction a rotary table, a marker, a holder adapted to hold said marker in contact with said table, a carrier for said holder, a rotary driver, and a guide, one end of said carrier pivoted to said driver, the other end of said carrier adapted to slide on said guide, and means to rotate said table and driver, said marker, holder and carrier constituting a gyratory device resting by its weight upon three points, one of said points being on said table, another of said points being on said driver, and the remaining point being on said guide.

2. A device for making designs comprising in its construction a rotary table, a marker, a holder adapted to hold said marker in contact with said table, a carrier for said holder, said holder adjustable toward and away from the center of said table, a rotary driver, and a guide, one end of said carrier pivoted to said driver, the other end of said carrier adapted to slide on said guide, and means to rotate said table and driver, said marker, holder and carrier constituting a gyratory device resting by its weight upon three points, one of said points being on said table, another of said points being on said driver, and the remaining point being on said guide.

3. A device for making designs comprising in its construction a rotary table, a marker, a holder adapted to hold said marker in contact with said table, a carrier for said holder, said holder adjustable at different angles relatively to said carrier and table, a rotary driver and a guide, one end of said carrier pivoted to said driver, the other end of said carrier adapted to slide on said guide, and means to rotate said table and driver, said marker, holder and carrier constituting a gyratory device resting by its weight upon three points, one of said points being on said table, another of said points being on said driver, and the remaining point being on said guide.

4. A device for making designs comprising in its construction a rotary table, a marker, a holder adapted to hold said marker in contact with said table, a carrier for said holder, a rotary driver and a guide, one end of said carrier pivoted to said driver and adapted to be connected thereto at different distances from its axis, the other end of said carrier adapted to slide on said guide, and means to rotate said table and driver, said marker, holder and carrier constituting a gyratory device resting by its weight upon three points, one of said points being on said table, another of said points being on said driver, and the remaining point being on said guide.

5. A device for making designs comprising in its construction a rotary table, a marker, a holder adapted to hold said marker in contact with said table, a carrier for said holder, a rotary driver, one end of said carrier pivoted to said driver, and a guide provided with a plurality of grooves in which the other end of said carrier is adapted to slide, and means to rotate said table and driver, said marker, holder and carrier constituting a gyratory device resting by its weight upon three points, one of said points being on said table, another of said points being on said driver, and the remaining point being on said guide.

6. A device for making designs comprising in its construction a rotary table, means to clamp a sheet of paper thereto, a marker, a holder adapted to hold said marker in contact with said sheet of paper, a carrier for said holder, a rotary driver, and a guide, one end of said carrier pivoted to said driver, the other end of said carrier adapted to slide on said guide, and means to rotate said table and driver, said marker, holder and carrier constituting a gyratory device resting by its weight upon three points, one of said points being on said table, another of said points being on said driver, and the remaining point being on said guide.

7. A device for making designs comprising in its construction a rotary table, a marker, a holder adapted to hold said marker in contact with said table, a carrier for said holder, a rotary driver and a guide, one end of said carrier pivoted to said driver, the other end of said carrier adapted to slide on said guide, and mechanism adapted to rotate said table and driver at varying relative speeds, said marker, holder and carrier constituting a gyratory device resting by its weight upon three points, one of said points being on said table, another of said points being on said driver, and the remaining point being on said guide.

8. A device for making designs comprising in its construction a rotary table, a marker, a holder adapted to hold said marker in contact with said table, a carrier for said holder, a rotary driver and a guide, said carrier consisting of a rod, one end of which is bent at an angle and adapted to project into a hole provided in said driver, the other end of said rod adapted to slide in a groove provided in said guide, and means to rotate said table and driver, said marker, holder and carrier constituting a gyratory device resting by its weight upon three points, one of said points being on said table, another of said points being on said driver, and the remaining point being on said guide.

9. A device for making designs comprising in its construction a rotary table, a marker, a holder adapted to hold said marker in contact with said table, a carrier for said holder, a rotary driver and a guide, one end of said carrier pivoted to said driver, the other end of said carrier adapted to slide on said guide, a pulley and a belt rotatably connecting said pulley, table and driver, said marker, holder and carrier constituting a gyratory device resting by its weight upon three points, one of said points being on said table, another of said points being on said driver, and the remaining point being on said guide.

10. A device for making designs comprising in its construction a rotary table, a marker, a holder adapted to hold said marker in contact with said table, a carrier for said holder, a rotary driver and a guide, one end of said carrier pivotally connected to said driver, the other end of said carrier adapted to slide on said guide, a pulley, and a belt rotatably connecting said pulley, table and driver, said driver provided with a plurality of annular grooves of different diameters adapted to receive said belt, whereby said table and driver may be rotated at different relative speeds, said marker, holder and carrier constituting a gyratory device resting by its weight upon three

points, one of said points being on said table, another of said points being on said driver, and the remaining point being on said guide.

11. A device for making designs comprising in its construction a rotary table, a rotary driver, a guide, a gyratory device resting by its weight upon three points, one of said points being on said table, another of said points being on said driver, and the remaining point being on said guide, and means to rotate said table and said driver.

12. A device for making designs comprising in its construction a rotary table, a rotary driver, a guide, a gyratory device resting by its weight upon three points, one of said points being on said table, another of said points being on said driver, and the remaining point being on said guide, a pulley, and a belt passing around said pulley, driver and table.

13. A device for making designs comprising in its construction a rotary table, a rotary driver provided with a plurality of annular grooves of different diameters, a guide, a gyratory device resting by its weight upon three points, one of said points being on said table, another of said points being on said driver, and the remaining point being on said guide, a pulley, and a belt passing around said pulley, driver and table.

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

FRANK M. CLARK.

Witnesses:
FRANK G. BALCOM,
BYRON S. COTES.