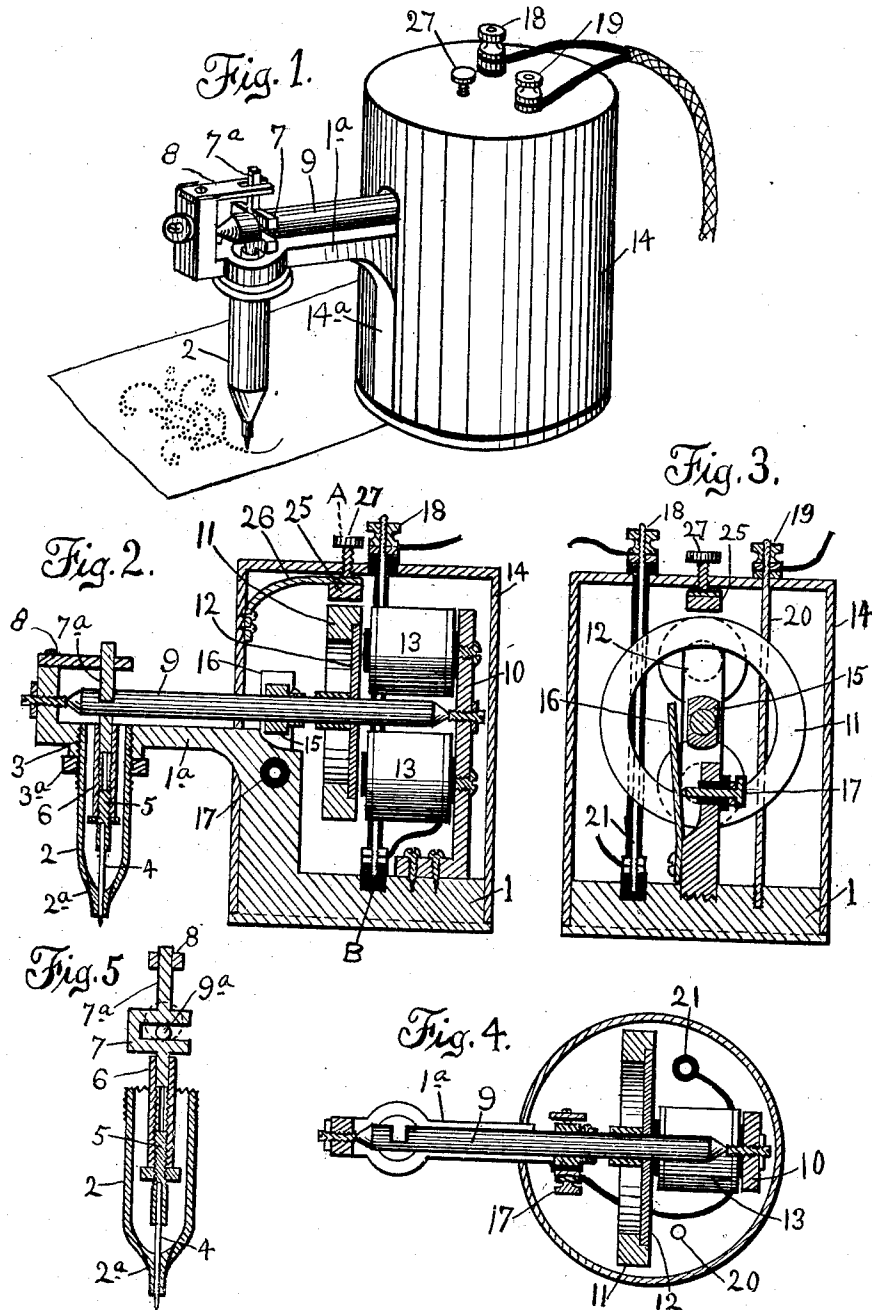


No. 839,888.

PATENTED JAN. 1, 1907.

S. PRYOR.
STENCIL PERFORATING DEVICE.
APPLICATION FILED FEB. 15, 1905.



WITNESSES:

Edward Gabel
S. C. Devine

INVENTOR

Samuel Pryor.
BY *Robinson, Martin Jones*

ATTORNEYS

UNITED STATES PATENT OFFICE.

SAMUEL PRYOR, OF UTICA, NEW YORK.

STENCIL-PERFORATING DEVICE.

No. 839,888.

Specification of Letters Patent.

Patented Jan. 1, 1907.

Application filed February 15, 1905. Serial No. 245,675.

To all whom it may concern:

Be it known that I, SAMUEL PRYOR, of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Stencil-Perforating Devices; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form part of this specification.

The object of my invention is to provide a machine or device for easily, conveniently, and expeditiously making perforated paper patterns or stencils of superior quality.

In the drawings, Figure 1 shows a perspective view of my machine. Fig. 2 shows a vertical section of the same. Fig. 3 shows another section taken at right angles to that of Fig. 2 and on the line A B of Fig. 2. Fig. 4 shows a partial section taken on a horizontal plane with the parts below the plane. Fig. 5 shows details in section on an enlarged scale.

Referring to the reference-figures in a more particular description, 1 indicates a base or stand having, preferably, a plain flat lower face, whereby it may be readily moved or slid about on a plain surface, and having a projecting arm 1^a. On the outer end of the arm there is supported what I term the "tracing-point" 2, consisting of a tube, screw-threaded at 3 into the arm 1^a, and reduced at its lower end to a relatively small size, as shown at 2^a, and having a vertical hole extending through the end, through which passes the needle 4. The lower end 2^a of the tracing-point 2 is preferably made of steel, whereby a better wearing bearing for the needle is provided, and the lower end may provide a small shoulder for stripping the needle on its upward movement. The distance that the tracing-point will project from the arm 1^a may be adjusted by rotating it in one direction or the other, whereby the operation of the screw-threaded connection 3 will extend or withdraw the point as desired. When adjusted to the proper position, the same may be securely locked by the lock-nut 3^a. The lower end of the tracing-point should be adjusted, according to my experience, so as to be only slightly above the plane of the bottom

of the base. On certain classes of work it may be exactly in the same plane. The needle 4 is secured in a head 5, screw-threaded into a sleeve or socket 6. The upper end of the socket 6 is screw-threaded onto the lower end of the crank-yoke 7. The crank-yoke 7 has an upwardly-extending part 7^a, which finds a bearing at 8 in a fixture of the arm 1^a. The crank-yoke 7 receives in its slotted opening the crank-pin 9^a of the shaft 9.

It will be noted that the operating parts so far described have the bearing 8 at the upper end and the needle 4 has the bearing in the lower end of the tracing-point, whereby the parts are free to move vertically in a reciprocating manner, and the parts being made very light operate with ease.

The shaft 9 is supported on centers at either end, the one end being supported in the outer end of the arm 1^a, while the inner end is supported in a standard 10, forming a fixture on the base 1. For driving the shaft 9 there is provided a very simple motor, consisting of a balance-wheel 11, of non-magnetic metal, secured on the shaft 9 and having an armature-piece 12 spanning the same, the said armature-piece being of magnetic metal—as, for instance, iron or steel. In connection with this there is provided a pair of electromagnets 13 13, supported on the standard 10 and having cores arranged in close relation to the circle described by the armature 12. The motor and other working parts are inclosed by a casing 14, which sets over the base 1 and is secured thereto.

In order to make and break the electric circuit through the magnets 13, 13 there is provided on the shaft 9 a cam 15, which is arranged to engage the upper end of the spring 16. The spring 16 is in the electric circuit and is adapted to make contact with the screw 17, as shown in Fig. 3, when not thrown off by the cam 15. The screw 17 is mounted in a fixture of the base by means of insulation, as shown, and is connected in circuit with the coils 13.

For receiving the electric current there is provided on the top of the casing 14 two binding-posts 18 and 19. The post 19 is preferably connected with the base by a conducting-rod 20, while the binding-post 18 is connected with a wire connection by a rod 21, preferably carried down inside of an insulated cover, as shown. The rod 21 will be

placed in electric connection with the magnets 13 on one side, while from the other side the connection will be carried to the screw 17. From the screw 17 the current is allowed to pass into the base or body of the device, from which it reaches the binding-post 19. The current-wires will preferably be brought to the device in a flexible cable, as shown in Fig. 1, and a sufficient quantity of cable provided for allowing the device to be moved around to the extent desired.

In order to control to some extent the speed of the motor, there is provided a brake-shoe 25, mounted on a spring-arm 26, secured to the inside of the casing, and provided with an adjusting-screw 27, extending through the top of the casing. For this screw 27 may be substituted simply a push-button, if desired.

By unfastening the casing 14 from the base and removing the binding-posts 18 and 19 the casing can be readily slipped off, exposing the mechanism. In order to facilitate this operation, there will be provided a slot 14^a in one side of the casing to make provision for the arm 1^a.

The device as shown in Figs. 1 to 4, inclusive, is substantially full size, and it is adapted to use as follows: Several sheets of comparatively thin paper of suitable quality are secured on a plane surface, the upper sheet preferably having a light tracing in pencil-mark of the design which it is desired to perforate. The device being rested on the uppermost sheet can be freely moved around, following the design with the tracing-point. A current of electricity being supplied to the motor part of the mechanism the shaft 9 is rapidly rotated, which, through the medium of the eccentric pin 9^a and the yoke and connecting mechanism, the needle 4 will be forced out of the end of the tracing-point and withdrawn. While so operating, the operator will follow the design with the point, sliding the device around on the surface, as may be desired, to accomplish this end. While so doing, the perforating-needle will make a line of perforations, following the design, and perforate the several sheets, whereby duplicates are secured. These sheets may be used as stencils or otherwise.

By providing the device with a base mounted and sliding on the surface of the paper, the tracing-point may be held and guided without excessive or variable pressure on the work, and on the upward movement of the needle the paper is stripped off from the nee-

dle by the lower end of the tracing-point in a uniform manner, whereby work of a superior quality is secured.

The speed of the motor may be regulated by a brake 25, or the motor can be instantly stopped by applying pressure on the brake when provided with a push-button, instead of the screw, as before mentioned. The speed can also be regulated with the push-button arrangement when so desired. The speed can also be regulated by the amount of current supplied to the motor and the adjustment of the needle. Ordinarily each operator will need to adjust the speed of the motor to his skill and dexterity in following the design with the tracing-point.

Numerous modifications and changes in and from the construction herein described may be made without departing from the spirit of my invention.

What I claim as new, and desire to secure by Letters Patent, is—

1. A perforating device consisting of an electric motor mounted on a manually-movable base, an arm projecting from the base, a dependent tracing-point supported by the arm with its point substantially in the plane of the bottom of the base, a perforating needle adapted to be projected from and withdrawn within the point, a shaft extending along the arm and connecting with the motor at the base end and provided with a crank connected with the needle at the other end, substantially as set forth.

2. A perforating device consisting of a manually-movable base and casing mounted thereon, a motor on the base within the casing, an arm projecting from the base and casing, a depending tracing-point supported by the arm with its point substantially in the plane of the bottom of the base, a perforating needle arranged in the tracing-point and adapted to be projected from and withdrawn within the point, a shaft extending along the arm and connected with the motor and provided with a crank connected with the needle, a brake for the motor and means for operating the brake extending to the exterior of the casing, substantially as set forth.

In witness whereof I have affixed my signature, in presence of two witnesses, this 13th day of February, 1905.

SAMUEL PRYOR.

Witnesses:

EMMA S. HESSE,
SARAH E. CLARK.