T. A. EDISON.

Pneumatic Stencil-Pen.

No. 205,370. Patented June 25, 1878.

Fig. 1.

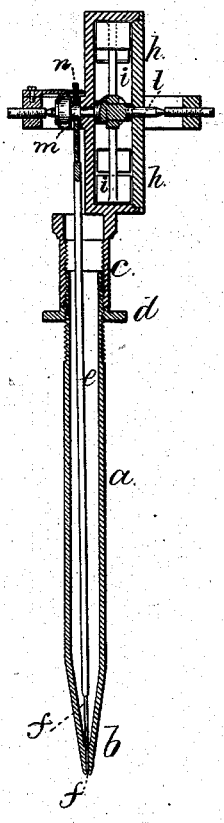

Fig. 2.

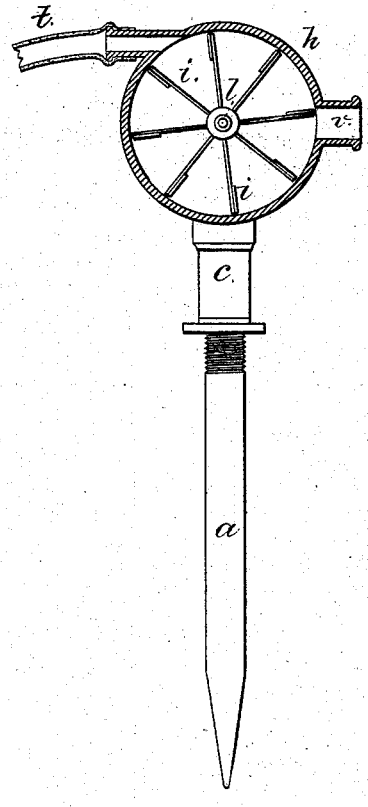

Fig. 3.

Witnesses,

Chas. H. Smith

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per Lemuel W. Serrell

atty.

UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF MENLO PARK, NEW JERSEY.

IMPROVEMENT IN PNEUMATIC STENCIL-PENS.

Specification forming part of Letters Patent No. **205,370**, dated June 25, 1878; application filed March 26, 1877.

To all whom it may concern:

Be it known that I, THOMAS A. EDISON, of Menlo Park, in the county of Middlesex and State of New Jersey, have invented an Improvement in Autographic Printing, of which the following is a specification:

In Letters Patent granted to me August 8, 1876, No. 180,857, an instrument is described for puncturing paper for use in autographic printing, consisting of a needle-pointed rod moving within a tube or holder, and reciprocated by a cam and shaft actuated by an electro-motor; and a reference is hereby made to said patent for a description of the application of said instrument and the manner of printing from the punctured sheet of paper.

The object of my present invention is to make use of air, gas, water, or other fluid as the motor for actuating the reciprocating needle-rod, whereby I am enabled to reduce the weight of the instrument, and consequently render it more convenient for use.

In the drawings, Figure 1 is a vertical section of the instrument provided with a fan-wheel for the air or other fluid to act on. Fig. 2 is an elevation of the pen-holder and section of the fan-wheel case. Fig. 3 shows the cam for reciprocating the needle-rod.

a is the pen tube or holder, tapering to a point, *b*, at its lower end, and its upper end is screwed into the socket *c* and clamped by the nut *d*. *e* is the needle-pointed rod within the tube or holder *a*, and the needle-point *f* should project slightly below the end of the point *b* when the rod *e* is at its extreme downward movement, so as to puncture the paper and be entirely within the tube at the reverse movement, in order that the pen can be moved in forming the letter or line, all substantially as set forth in the aforesaid patent.

In Figs. 1 and 2, I have shown a case, *h*, upon the socket *c*, and within this case is a fan-wheel, *i*, upon a shaft, *l*, in screw-bearings attached to the sides of said case, and secured to this shaft is a cam, *m*, that acts upon the stock *n* at the upper end of the needle-rod *e*, and reciprocates said rod with more or less rapidity, according to the speed of rotation of the fan-wheel *i*. This fan-wheel may be driven by water admitted to the case *h* through the flexible tube *t* from any suitable supply, such as a connection from a street-main, or from a reservoir properly located, the fluid escaping by the pipe *v* after acting upon the wheel; or air under pressure from a compressing apparatus may be used for driving the fan-wheel; or the flexible tube *t* may be provided with a mouth-piece, so that the person using the instrument may blow into the tube and case, and thus rotate the fan-wheel.

I claim as my invention—

1. In an instrument for puncturing paper for autographic printing, a needle-pointed rod reciprocated by a device constructed substantially as described, and operated by the action of air or other fluid, as set forth.

2. In combination with the holder *a* and needle-rod *e*, the fan-wheel *i*, case *h*, shaft *l*, cam *m*, and flexible tube *t*, substantially as and for the purposes specified.

Signed by me this 3d day of February, A. D. 1877.

THOS. A. EDISON.

Witnesses:
GEO. T. PINCKNEY,
CHAS. H. SMITH.