

J. B. BENNETT.
Stenciling-Pen.

No. 217,922.

Patented July 29, 1879.

Fig. 1.

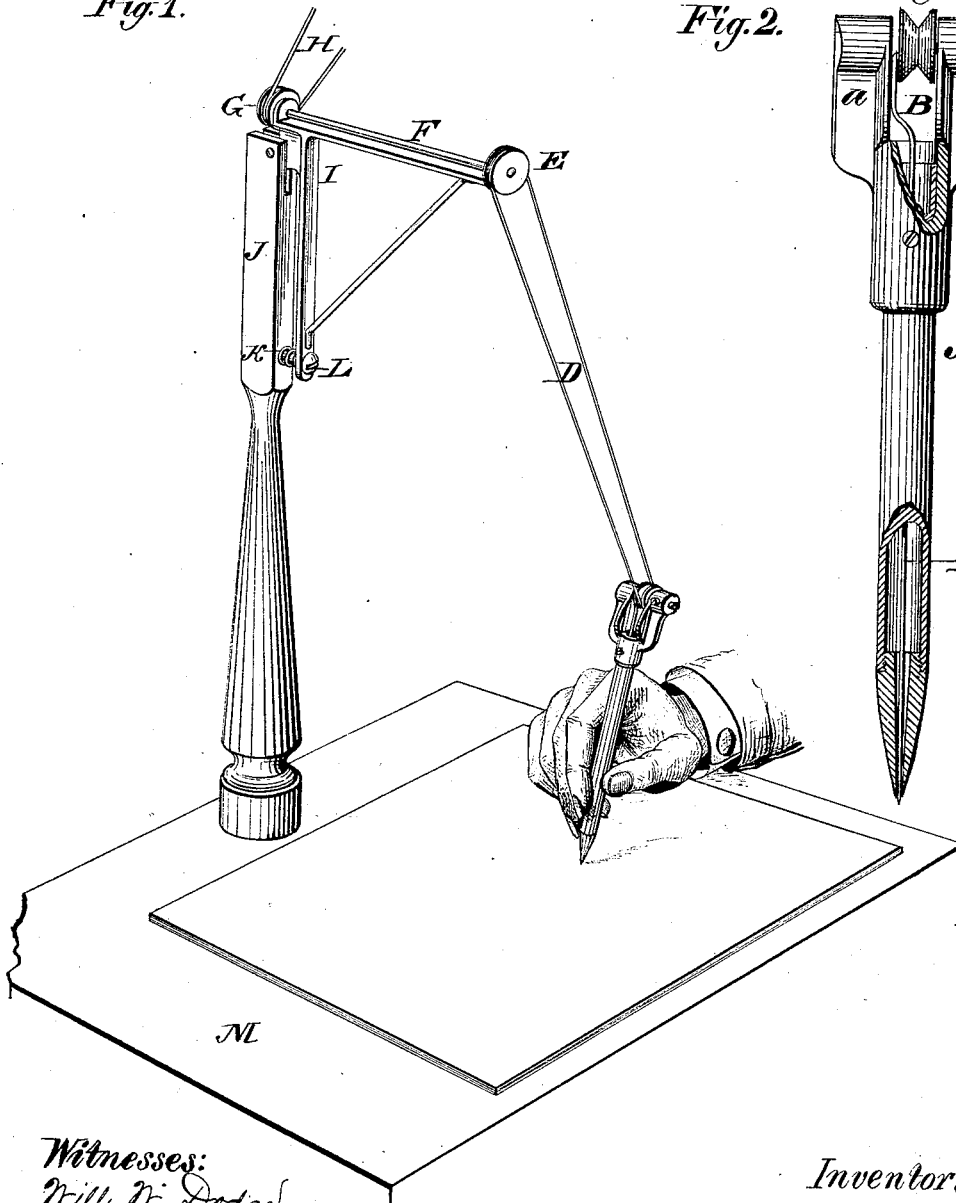
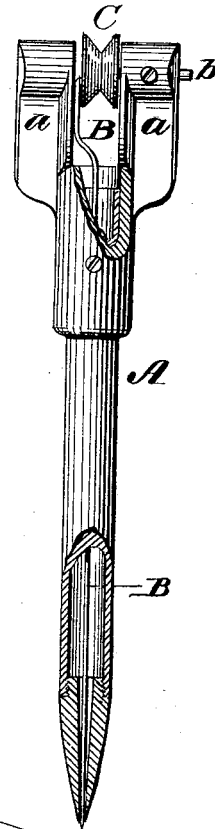


Fig. 2.



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JACOB B. BENNETT, OF LANSING, MICHIGAN.

IMPROVEMENT IN STENCILING-PENS.

Specification forming part of Letters Patent No. **217,922**, dated July 29, 1879; application filed January 22, 1878.

To all whom it may concern:

Be it known that I, JACOB B. BENNETT, of Lansing, in the county of Ingham and State of Michigan, have invented certain Improvements in Stencil-Pens, of which the following is a specification.

My invention relates to that class of instruments known as "autographic" or "stenciling" pens, which are employed to form the letters or characters by making numerous fine perforations through a sheet of paper or other material, which is then used after the manner of a stencil-plate, by forcing ink through its perforations.

The object of the invention is to lighten, cheapen, and simplify the mechanism, and admit of the pen being handled with greater ease and freedom; and to this end it consists in providing the pen with a driving-pulley in its upper end, and suspending it wholly by a driving-belt, which is either made elastic or hung upon a yielding support, or both; in the peculiar manner of mounting the pulley by which the driving-belt is actuated, and in other details.

Figure 1 represents a perspective view, representing my pen in use; Fig. 2, a side view of the pen proper, with portions broken away to show the internal construction.

A represents the body or handle of the pen, made of a tubular form, with a pointed lower end, and containing a needle, B, the lower end of which is pointed and arranged to play outward through a fine hole in the end of the body. On the upper end of the body there are two arms or studs, *a*, through one of which there extends a stem or shaft, *b*, the inner end of which sustains a loose grooved pulley, C, located between and held in place by the arms.

The upper end of the needle B is carried up by the side of the pulley, and bent at a right angle into a hole in its side, so that as the pulley is rotated it causes the needle to play endwise in the body, so that its point is alternately protruded beyond and drawn within the end of the same.

The pulley C is driven by an endless band or belt, D, which passes upward around and receives motion from a pulley, E, mounted on one end of a horizontal shaft, F, which latter receives motion through a pulley, G, and belt

H from any suitable source—as, for example, from a wheel and treadle driven by the manipulator of the pen.

The shaft F is supported in bearings on top of a bracket, I, which latter is pivoted at its upper end to a standard, J, and urged outward from said standard at its lower end by a spring, K. The effect of the spring is to tip the bracket in such manner as to raise the pulley E and lift the pen clear of the table M, on which the paper is placed. The movement of the bracket is limited by a screw, L, through its lower end, the screw being made adjustable to vary the position of the parts.

The belt or band D, by which the pen is operated, is made elastic, and serves the additional purpose of suspending the pen in an upright position and holding it clear of the paper.

In operating the pen, the parts are set in motion and the needle caused to play with great rapidity in and out through the end of the body. The operator, grasping the body in the same manner as an ordinary pen, or in any other convenient manner, by a slight effort presses its point upon the paper, and then moves it over the same in precisely the same manner as in writing with the ordinary pen. At each advance the needle punctures the paper, and thus forms the characters and words in a series of fine perforations very close to each other.

The elasticity of the belt D admits of the pen being carried readily over sheets of ordinary size, and insures the action of the needle during all the various movements.

A rigid inelastic suspending and driving belt may be used, provided the bracket and pulley E are permitted to move sufficiently to give the required play to the pen; but the elastic belt is preferred.

When the elastic belt is used the shaft of pulley E may be mounted in rigid bearings; but the most satisfactory results are secured by the use of the combination shown.

By suspending my pen by the driving-belt I render the apparatus exceedingly simple and cheap, insure the action of the driving-belt and needle at all times, and give the pen a greater range, ease, and freedom of movement than could otherwise be secured.

I do not claim, broadly, a puncturing-pen, or driving such pen by a belt, or, broadly, supporting such pen above a table or bed.

Having thus described my invention, what I claim is—

1. The combination, substantially as shown and described, of a stenciling or perforating pen having its upper end provided with a vertical driving-pulley, and a pendent belt passing at its lower end around said pulley, and arranged to serve the double purpose of actuating the pen and of suspending the same in an upright position above the surface on which the writing is to be performed.

2. In a stenciling apparatus, the combination of a bed or table, a driving wheel located at an elevated point directly above the table, and a stenciling or puncturing pen driven and suspended freely from the elevated wheel by means of a pendent belt, substantially as shown and described, whereby the pen is sustained in an operative position above the table and permitted to move freely over the same.

3. A stenciling or perforating pen, substantially such as shown, having a central vertical driving-pulley at its upper end, as shown, whereby it is adapted to be suspended by a driving-belt without having any tendency to tip or turn sidewise.

4. The combination, substantially as shown, of a stenciling or puncturing pen and a pendent elastic belt, arranged to both suspend and actuate the pen.

5. In a stencil apparatus, the combination of a bed or table, a driving-pulley, E, located directly over the table, a puncturing-pen provided with a driving-pulley in its upper end, and an endless belt passing at its extremities around the pulley E and the pulley of the pen, respectively, as shown, whereby motion is transmitted from the pulley E to the pen, and the latter also suspended in an upright position above the table.

6. The bracket I, pivoted to the standard and sustained by the spring, in combination with the driving-pulley supported thereon, and the stenciling-pen suspended by the driving-belt from said pulley.

7. The improved stencil-pen consisting of the body A, the central pulley, c, supported on one side only, and the needle B, having its end bent upward past the free side of the wheel and inserted therein, as shown.

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Witnesses:

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