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Writing Machines.

The engravings (figures 1 and 2) represent two varieties of a writing machine or "Polygraph," by which two or more copies can be written at once.

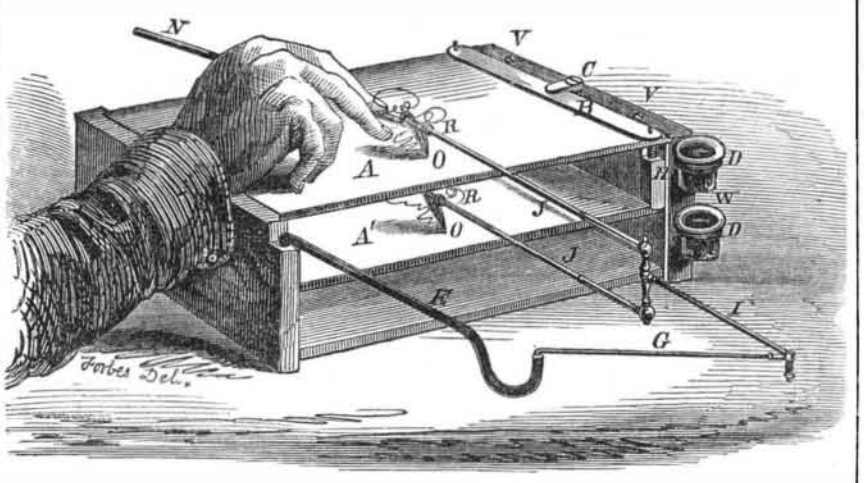
In figure 1, A and A′ are two parallel plates each about the size of a sheet of foolscap paper, and about one inch and a-half apart. Between A′ and the bottom of the machine is also a space of about an inch and a-half. These plates may be of wood, metal, or glass, In the machines now in operation, plate glass is used, as it is perfectly smooth, uniform, and not liable to warp. They are kept in position by end and bottom pieces (as represented in the engraving,) which may be of wood or any other material.

Into the right hand side of one of the end pieces, a rod, E, about nine inches long, and a quarter of an inch thick, and bent as represented in the engraving, is inserted, so that it swings horizontally and freely upon its point of insertion. To the end of this is also hinged another smaller and lighter rod or wire, G, as represented in the engraving, which also swing harizontally upon its point of connection with the rod, E. To the end of rod, G, is also hinged another rod, I, which at a few inches from its point of connection with rod, G, divides itself into two parallel prongs, J J, about an inch and a-half apart. At the ends of these prongs, and at right angles with them, two pens, O O, are inserted. These are so adjusted as that their points are precisely the same distance apart as the upper surfaces of the two parallel plates; and in such a manner as that when the prongs, R R, are swung, the one above and the other below, the plate, A, the points of the pens respectively shall be about half an inch above the respective plates. From the diagram, it is evident that each pen will have precisely the same motion. If then, a sheet of paper be placed on each plate, the writing which is done upon the upper surface will be exactly reproduced upon the lower one. The elasticity of the wires is such that the slightest pressure will bring the pens down upon the paper. By an arrangement of the inkstands, D D, upon one of the end pieces, both pens can be inked at the same time. To hold the paper firmly, a metal ferule or strap, B, is laid at one end and held by slight springs at the ends, a little above the plate. The paper being placed beneath, the bar is pressed down upon it, and held fast by the button, C. The lower sheet is held in like manner by a wooden bar, H, which by means of rods and spiral springs, is pushed down simultaneously with the upper strap, B. The whole arrangement and operation will be comprehended at a glance.

The pens are inserted through a split in the ends of the prongs, R R, and held fast by little rings or collars on the prongs. They can be changed or adjusted in a moment. Any pens will answer, but fountain pens are preferable, on account of the greater quantity of ink they hold. The pen handle is secured to the upper prong, by two loops of wire forming

AMES' POLYGRAPH.

Fig. 1

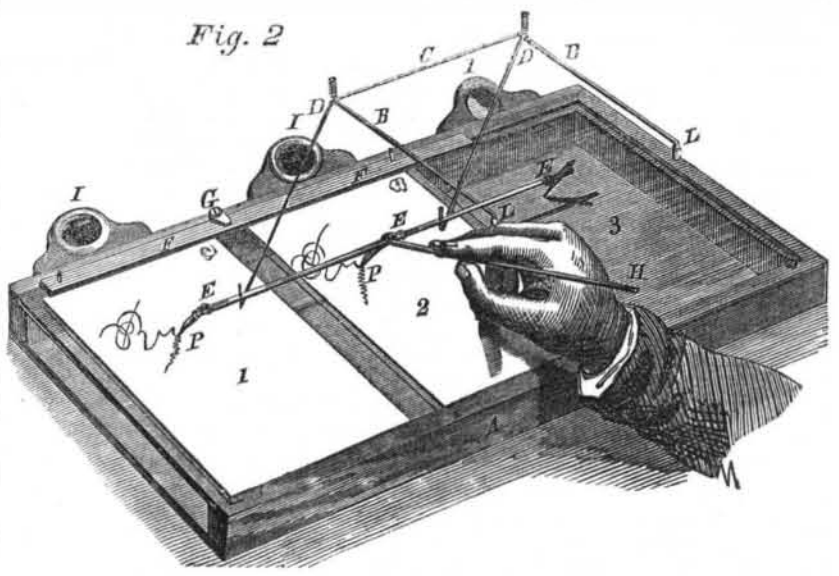


a universal joint, (in mechanical effect exactly like the ball and socket joint.)

It is obvious that by increasing the number of prongs, and the number of writing surfaces, the number of copies can be increased at will. The machine may also be made of any size required.

In figure 2 is represented an apparatus in which the writing is all done upon the same surface, instead of being done upon parallel surfaces. Small wires, B B, bent at right angles at the ends, L L, and inserted there into the writing surface or bed plate, so as to swing freely in their sockets, are also bent in the opposite direction, and at right angles at the other ends. These other extremities are connected together by a wire, C, the same length as the distance between the points, L L. To these extremeties also are hinged two other wires, D D, which, at their further ends,

Fig. 2



are also bent upwards at right angles, as represented in the engraving. These upward bends of the wires, D D, are passed through small holes in a light hollow steel rod, E E E. To this rod are attached the pens, P P, in the same manner as described in figure 1. All these wires swing horizontally with the greatest ease, and with no perceptible friction. The wires, B B, and D D, may be about 6 or 9 inches in length, according to the size of the machine; the rod, E E E, of any length required. The pens must be as far apart as the width of the sheets to be written on. The pen handle is attached to the bar in the same manner as in figure 1.

When not being written with, the spring and position of the wires, D D, will lift the points of the pens a little above the surface upon which the paper is placed. The slightest pressure brings them down upon the paper. By reference to the metal strap, F F, and the button, G, it will be seen that the same arrangement for holding the paper is used as in fig. 1. The inkstands, I I, are the same distance apart as the pens, which will thus be inked simultaneously. These pens should be so adjusted as that when pressed down, their points will strike at the same time. From the engraving, it will be seen that a third pen might be inserted at the right hand of the bar, E E E, so as to make three copies at once. This is entirely practicable; but usually, two copies are sufficient; and instead of a third pen, a small screw rod there, is found to be useful in regulating the pens, so as to insure their always touching the paper together. In this machine, as in the other, a writing surface of plate glass is found to be the best. With both, one of the copies can be taken in a book, by inserting the right hand side of the open volume into the space beneath the glass, and turning the next sheet down upon it.

In either apparatus, the *whole actual mechanism* consists of the wires and the sockets upon which they swing. The rest is made up of the pens, the inkstands, the writing surfaces, and the arrangement for copying in a book. It would be difficult to conceive any contrivance to accomplish the desired end, wherein their would be less friction, or greater ease of movement.

The advantages claimed for the invention are, that by it fair copies are made in ink, on good paper, and perfectly alike; that the work can be done quicker and easier than by the letter-press, or the manifold letter writer; and that the apparatus is adapted to the copying of maps, drawings, and engravings; that in structure it is exceedingly simple, and can be made in any compact and portable form desired, so as to answer the purpose of a traveling secretary; or can be attached to, and form a part of, the ordinary office desk. Beside this, almost any number of copies can be made at the same time, by constructing the machine with reference to that. As to cost, they can be sold at a price which, including the gold pens, will be considerably below that of a good letter press. They may, however, be made as expensive and ornamental as the taste and wishes of the purchaser may require.

The patentee is Nathan Ames, Esq., of Saugus, Massachusetts. The invention is secured by two separate issues of Letters Patent, dated December 12th, 1854.

More information in regard to it, as to the price and manufacture of machines, and the price and sale of rights, can be obtained from D. Shepherd, Counsellor at Law, No. 7 Wall street, New York.

Princeton College.

We learn from a catalogue recently issued, that the whole number of graduates thus far is 3090, and that there are still living 2023. The first class, that of 1748, contained *six* members, of whom *five* became clergymen; the *sixth* was a signer of the Declaration of Independence. Among the graduates there have been 1 President of the United States; 2 Vice Presidents of the United States; 13 Members of the Cabinet; 12 Foreign Ministers; 32 Chief Justices of particular States; 29 Governors of States; 32 Presidents of Colleges.

Charleston Artesian Well.

Joseph Togno, a citizen of Abbeville, S. C., writes to the *Banner*, that it is utterly impossible to obtain an artesian well, not only in the city of Charleston, but in the whole basin of Charleston, embraced within the radius of two hundred miles, and even more. His reasons are that the geological formations necessary to yield an artesian well are entirely wanting in this region, or nearly so, for all practical purposes.

McGaffey's Seed Planter.

The patent granted this week to Ives W. McGaffey, of Syracuse, N. Y., relates to the horse power planters. The improvement consists in the use of a tilt apron arranged in connection with a distributing roller, whereby the seed and manure are deposited in the furrow or hill at the same time.

Provide for the Birds.

There are few who object to cultivating an intimate acquaintance with the birds; to having them this spring chatter, rear their young, prey upon the worms and bugs, in orchard, garden, and shrubberies. Invite them by putting up small bird-houses, and furnishing them facilities for nesting. A half-gallon empty oyster keg turned down will attract the wrens, and in all the feathered family there is no more sociable singing and chattering summer companion.

That remarkable phenomena in natural science, the coal mountain in Pennsylvania, which has been on fire since 1837, will soon be extinguished, as the fire is approaching a point which can be submerged in water. A mass of coal has been consumed three-eighths of a mile long, 60 feet wide, 300 deep, and equal to 1,420,000 tuns of coal.—[Philadelphia Ledger.

A few days ago quite a curiosity was brought up from the bottom of the artesian well in Livingston, Ala. At a distance of 335 feet below the surface, and over 300 feet in the rock, an egg was found completely petrified, and perfect in shape save where the auger had defaced it a little.—[Ex.