No. 735,358. PATENTED AUG. 4, 1903.

A. E. FRANCIS.

MONOGRAM TYPE FOR ENGRAVING MACHINES.

APPLICATION FILED FEB. 4, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

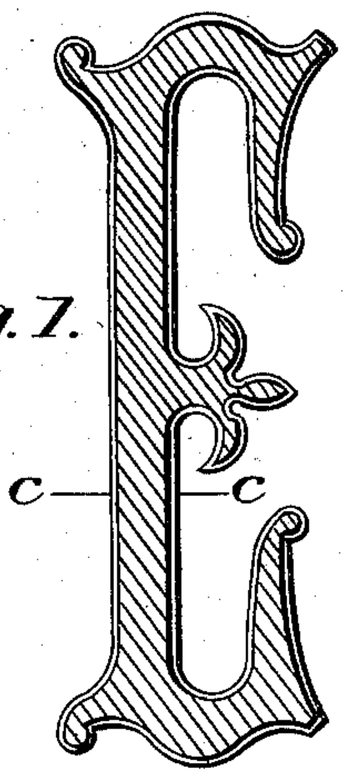


Fig. 2.

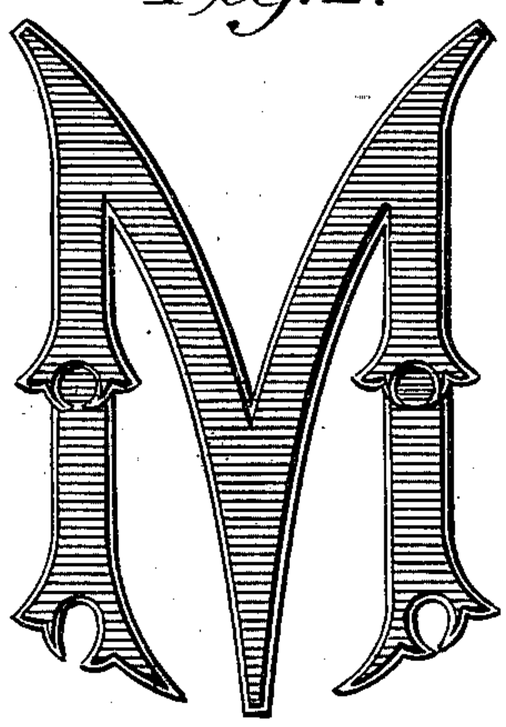


Fig. 3.

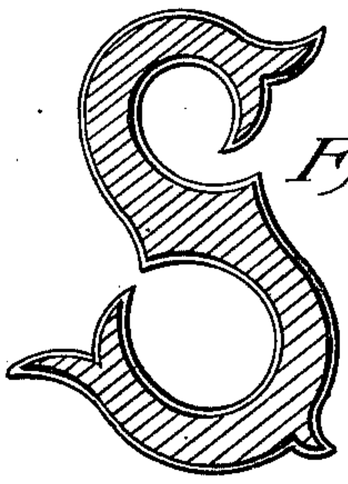
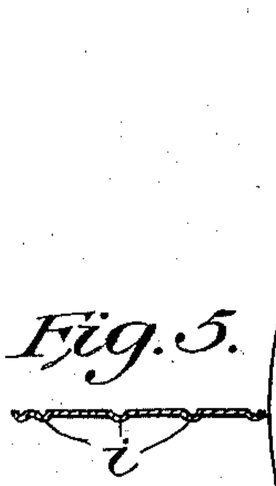


Fig. 5.



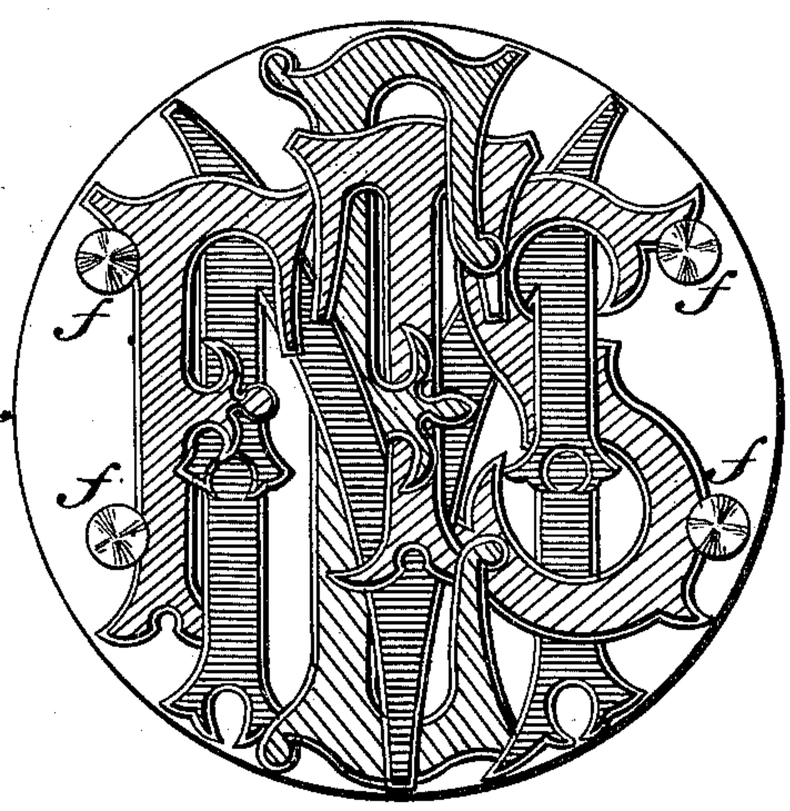


Fig. 4.

WITNESSES:
W. M. Francis
Jenny L. Francis.

INVENTOR.
A. E. Francis

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Fig 6.

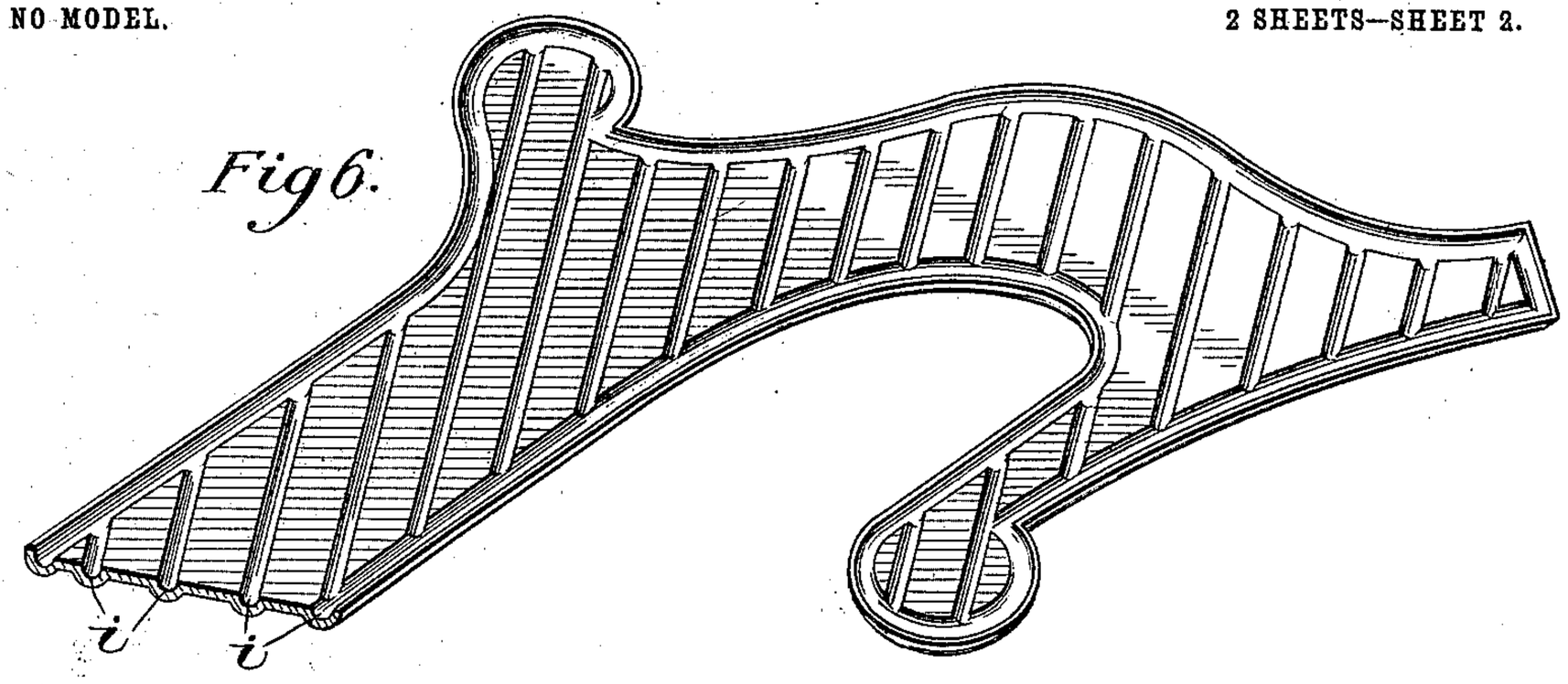
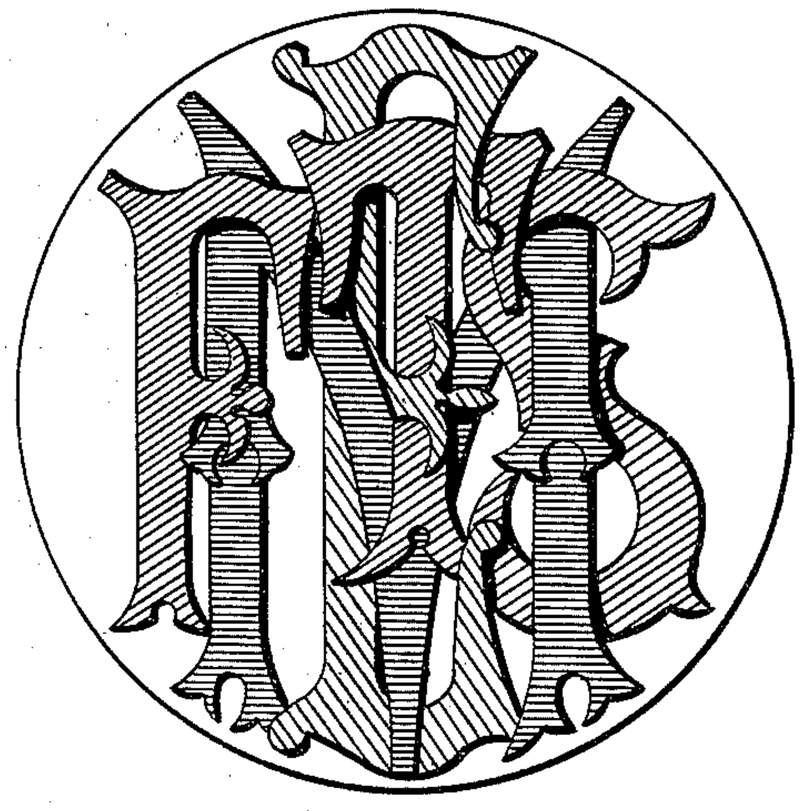


Fig. 7.



WITNESSES:
M. M. Francis
Jenny L. Francis.

INVENTOR
A. E. Francis.

No. 735,358. Patented August 4, 1903.

UNITED STATES PATENT OFFICE.

ALLAN E. FRANCIS, OF CLEVELAND, OHIO.

MONOGRAM-TYPE FOR ENGRAVING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 735,358, dated August 4, 1903.

Application filed February 4, 1902. Serial No. 92,595. (No model.)

To all whom it may concern:

Be it known that I, ALLAN E. FRANCIS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Monogram-Type for Engraving-Machines, of which the following is a specification.

My invention relates to improvements in the manner of forming monograms by that class of engraving-machines in which a graver is operated through the medium of a pantograph or a system of levers carrying a graver in unison with the movements of a tracer usually directed by grooves in plates called "type;" and the object of my invention is to improve the old method by which the cross-lines or filling of the letters are cut by means of a linograph, the outlines being made by free-hand tracing over printed lines seen through a transparent and grooved linograph-plate. As the character of engraved letters depends entirely on the neatness of its outlines, the difficulties and uncertainties of the old way makes it extremely hazardous to attempt cutting outlines with machine on anything of value, and it is to render monogram-work more practical with machines that I have devised the following-described method.

I attain the object by the type illustrated in the accompanying drawings, in which—

Figures 1, 2, and 3 show a type each from three distinct fonts, each style being of different proportions, and the lines *i i* represent grooves in which the point of the tracer works. Fig. 4 is a combination of the type shown in Figs. 1, 2, and 3, with an "F" and "T" added from the same font as Fig. 3. Fig. 5 is an enlarged sectional view of Fig. 1 on line shown at *c c*, and *i i* represent grooves for directing the point of the tracer. Fig. 6 is an enlarged view of the upper part of Fig. 1, more fully showing the grooves for directing the point of the tracer than can be easily done in the smaller figures. Fig. 7 is an enlarged five-letter monogram as cut from the five type entwined as in Fig. 4.

Engraving-machine type as formerly made consist of plates of metal having a letter engraved on each or plates cast from a matrix or pattern containing the letter in relief from which grooved type are formed, the body of each type being a solid plate larger than the letter it bears and in no way suitable for entwining letters by entwining type. For monogram-work it is necessary that the type should be on plates of a pliable character with plate cut away so that no more of it is left than the letter covers or than is necessary to give the required stability to the type. Thin stuff—such as sheet metal, celluloid, or composition in sheets—can be cut, stamped, or pressed into the shape required for different styles and forms of letters and the letters can then be cut out as near the outlining-groove as possible. In block letters of heavy proportions this would be to the very edge of the outlining-groove; but in script letters, where a single groove forms the body of the letter, enough of the plate must be left on each side to give the necessary strength to the type, but not enough to seriously interfere with suitably entwining the letters.

Fig. 4 shows five type entwined for a monogram signifying the Francis type-entwining system. The type are fastened to a soft-wood board with thumb-tacks. These tacks may be freely used and are moved from place to place as the tracing progresses, so that each line in a type can be traced uninterruptedly. The board is secured to the type-table of the machine either by a flange such as holds the machine-type or it may be put down with special screws. The type here shown are reduced in size, while the monogram as shown in Fig. 7 is enlarged. It will be seen that this arrangement will help the operator who lacks ability to design monograms, for however the type are laid correct tracing of the disappearing parts of letters must ensue from a disappearance of the type at that point. Besides, such type provide an outline-groove practically for the entire monogram, reducing the risk in cutting monograms with a machine to that of cutting other letters.

What I claim, and desire to secure by Letters Patent of the United States, is—

As a new article of manufacture pattern for engraving-machines consisting of thin, flexi-

ble plates made in alphabets of different designs and sizes, as shown, having letters made of grooves on said plates for directing the point of a tracer; the body of the type being cut away to allow it to be entwined in monogrammatical form substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALLAN E. FRANCIS.

Witnesses:
M. C. FRANCIS,
JENNY L. FRANCIS.