

(Model.)

F. A. NICKERSON.

METAL DIE FOR PLASTIC MATERIALS.

No. 285,057.

Patented Sept. 18, 1883.

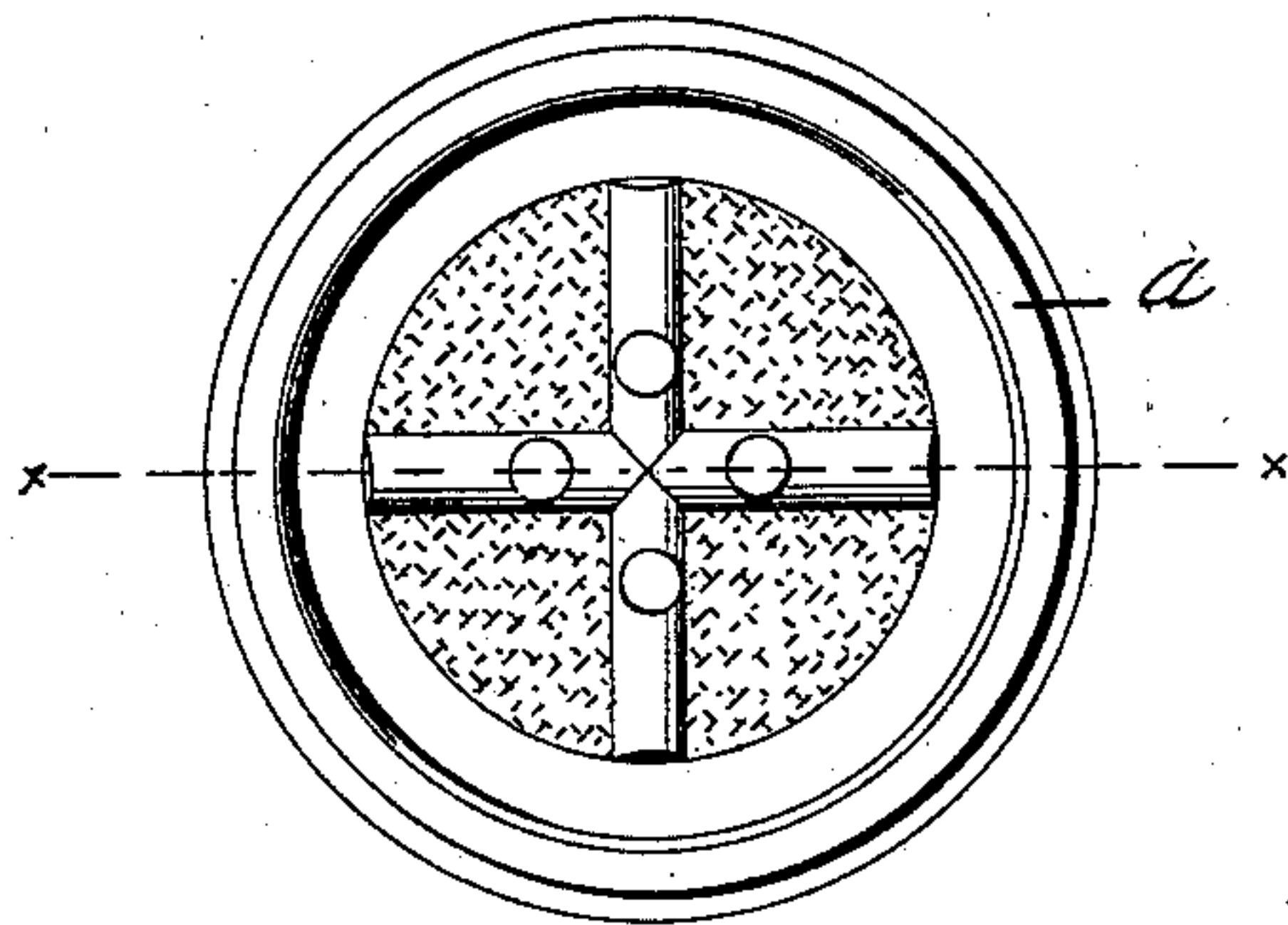


Fig I,

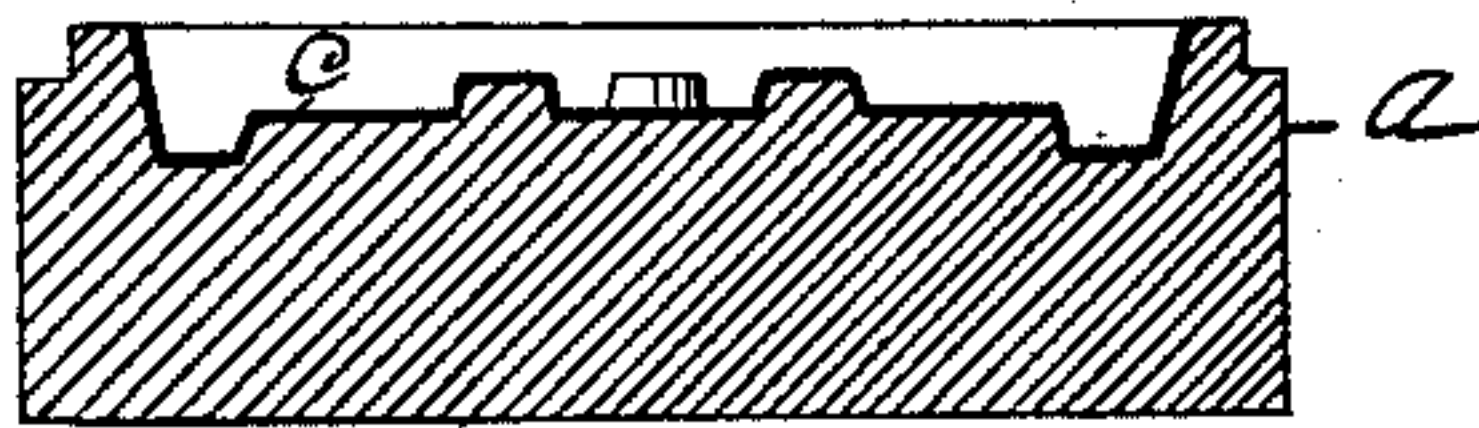


Fig II,



Fig III,

WITNESSES,
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UNITED STATES PATENT OFFICE.

FRED. A. NICKERSON, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO THE
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METAL DIE FOR PLASTIC MATERIALS.

SPECIFICATION forming part of Letters Patent No. 285,057, dated September 18, 1883.

Application filed May 4, 1883. (Model.)

To all whom it may concern:

Be it known that I, FRED. A. NICKERSON, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful
5 Improvements in Metal Dies for Plastic Materials, of which the following is a specification.

This invention relates to improvements in the manner of making dies for the manufacture of articles from plastic material under
10 pressure; and it consists in a die made from soft metal, in contradistinction from steel, and in covering the face of said soft-metal die with an overlying coating of hard metal, to give its
15 face substantially the qualities of a steel-faced die for said purposes, the object being to provide inexpensive means for producing and reproducing dies for the above-named purpose, and to avoid the hitherto great expense attendant upon making such dies from steel.
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In the drawings forming part of this specification, Figure I is a plan view, Fig. II a transverse section on line *x x*, Fig. I, and Fig. III a side elevation, of a die constructed according
25 to my invention.

In the drawings, *a* is the die, made in such form as is usually adopted for buttons and similar objects—that is to say, cylindrical—and having its face provided with such ornamental
30 figures as it is desired to reproduce upon said objects.

In carrying out this invention said die *a* is made from ordinary soft iron, or other metal having similar strength and ductility, whereby,

first, it is capable of resisting the pressure of several tons, which is applied to articles of plastic material which are to be formed therein; and, second, whereby it is capable of having ornamental figures easily formed on and in its face by impact or the forcing of a steel die against it. Said die *a*, made as above mentioned, is left soft for use, and its finished face is covered with a thin coat of nickel, *c*, and it is then ready for use. I have discovered that the application of said nickel coating *c* to the surface of a die of iron or of soft steel, or similar metal, gives to said face all of the pressure-resisting qualities of a steel die of great hardness, and the nickel is capable of being finished to as great a degree of smoothness as steel, and its pressure-resisting qualities are equal thereto; and my improved die entirely supersedes the use of hard steel for said purpose. The nickel is applied by electroplating or other suitable means.
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I am aware of patent to Hyatt, of October 28, 1879, for polishing sheets of metal by means of “a flat polished surface, preferably of nickel-plated metal.” I make no claim to the processes therein described.
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What I claim as my invention is—

A die of soft iron or steel, having its working-surface covered with a thin coating of nickel, substantially as set forth.

FRED. A. NICKERSON.

Witnesses:

H. A. CHAPIN,
G. N. BOWERS.