

W. L. ORMSBY.  
BANK NOTE ENGRAVING.

No. 47,744.

PATENTED MAY 16, 1865.  
2 SHEETS—SHEET 1.

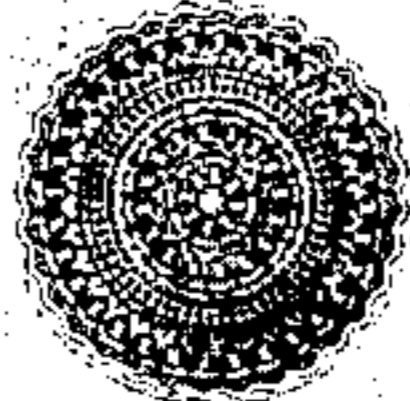
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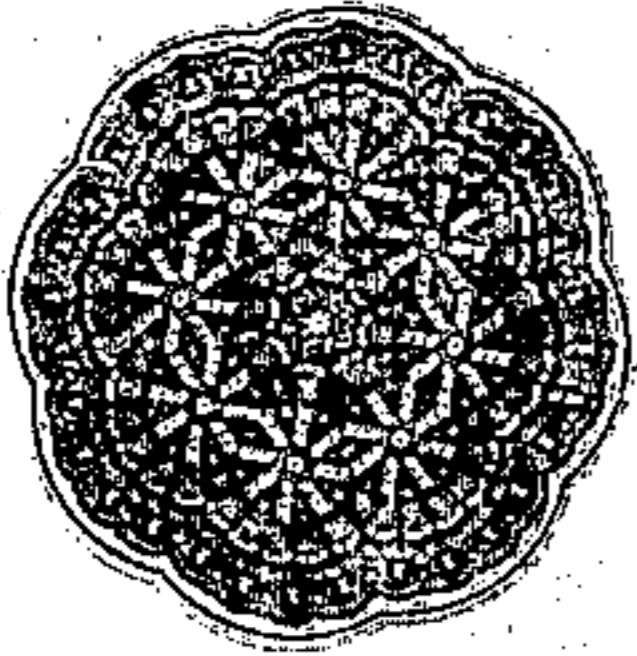
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No. 9.



No. 2.



No. 6.



No. 10.



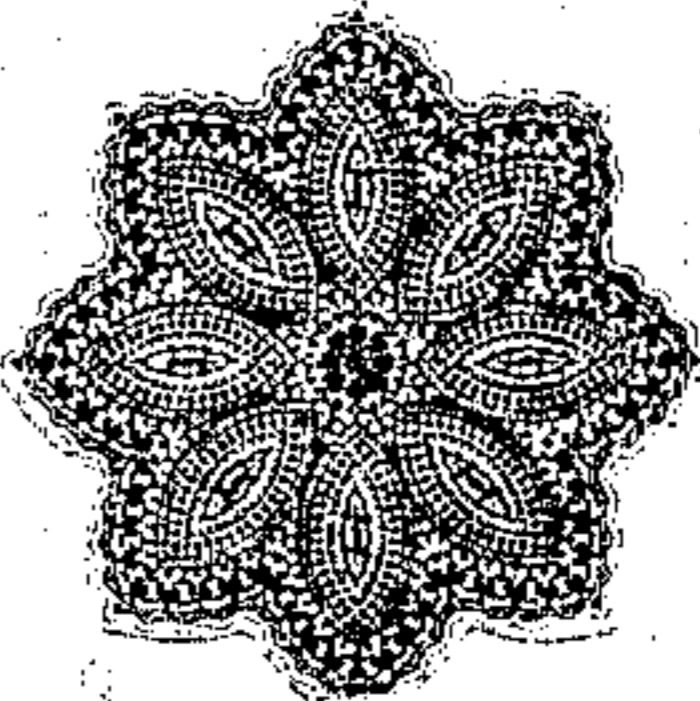
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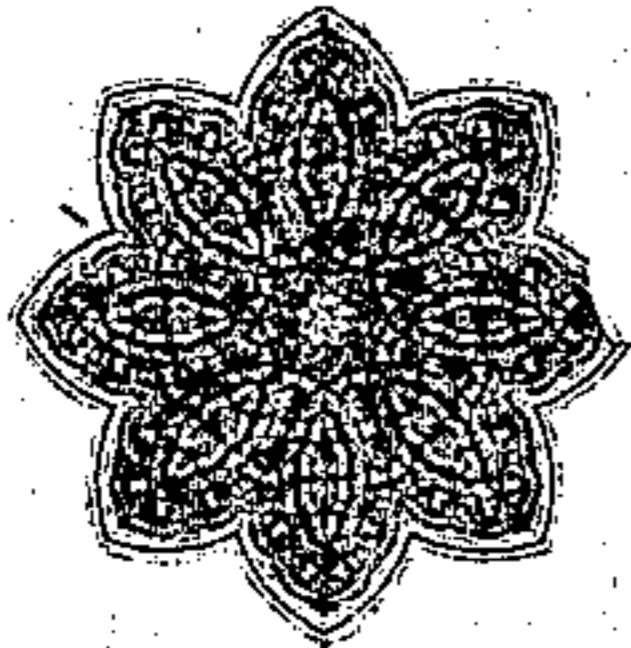
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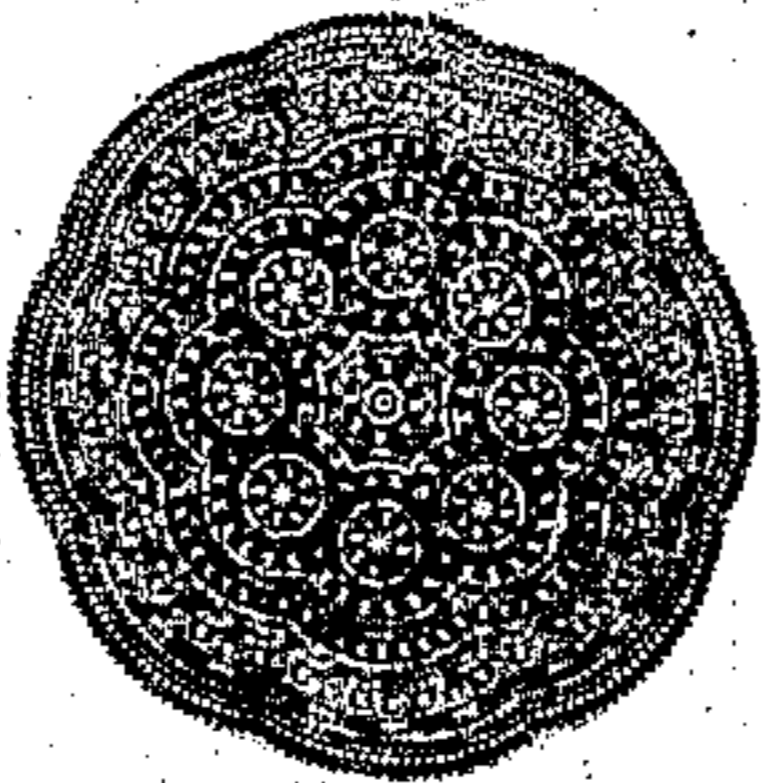
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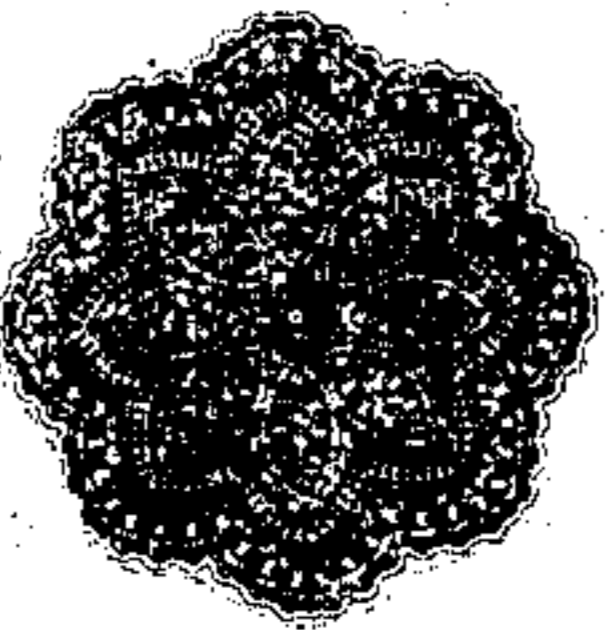
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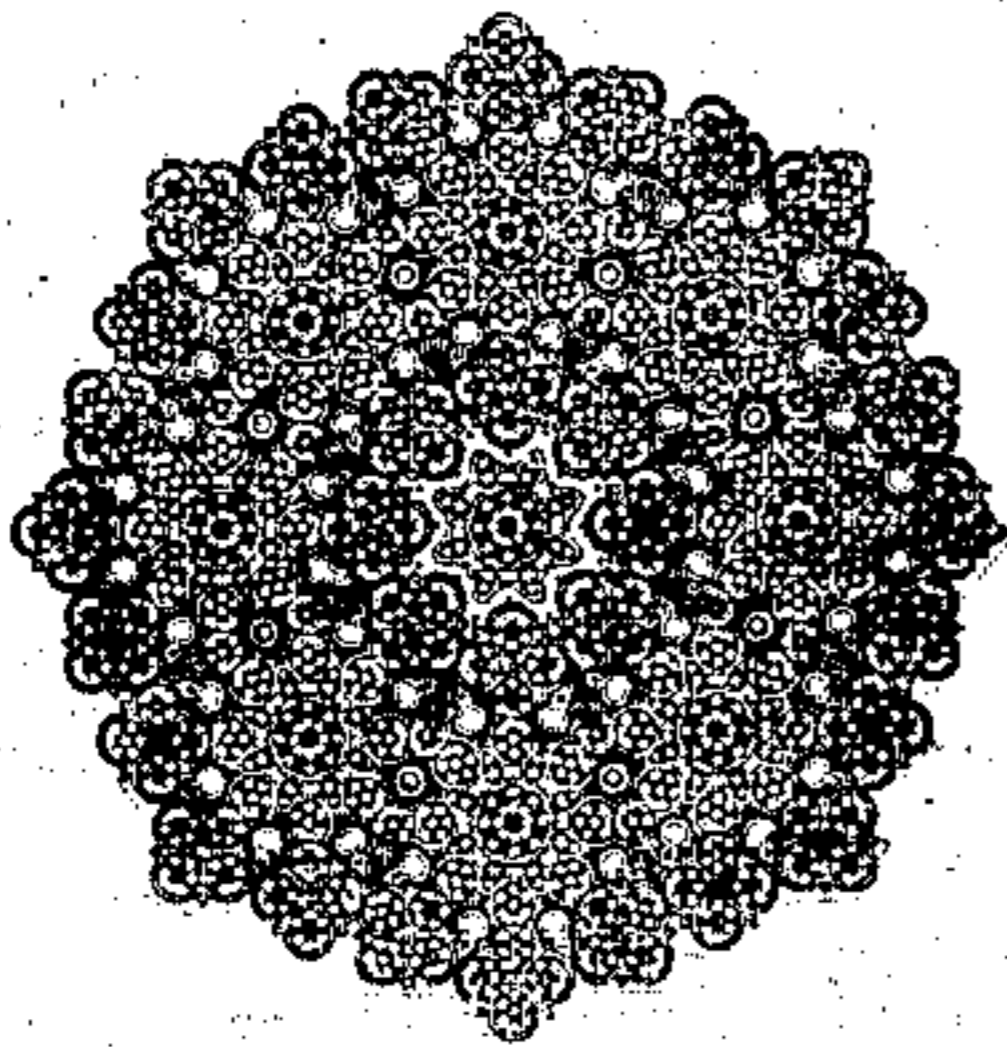
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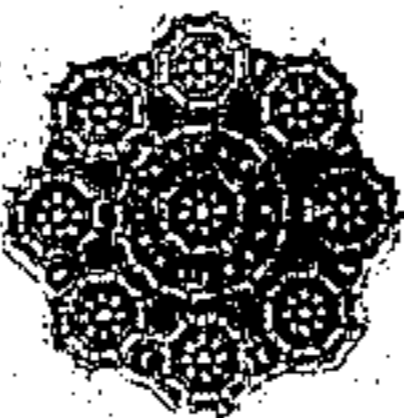
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No. 17.



No. 13.



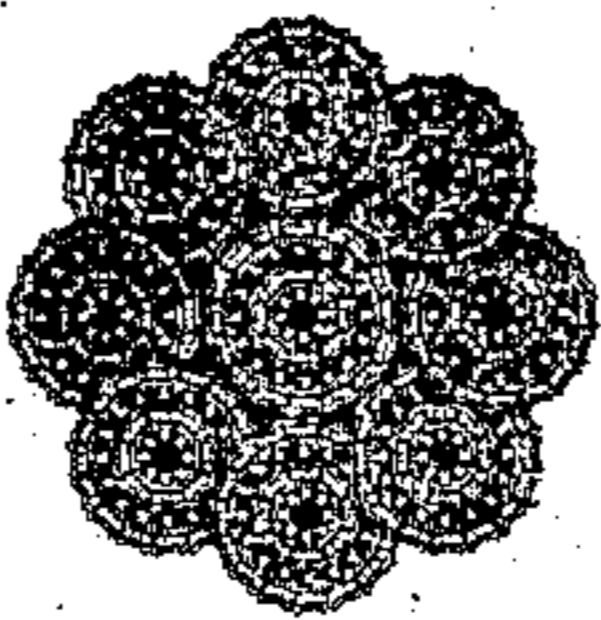
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No. 18.



No. 16.



Witnesses.

New York Nov 1864.

W. L. Ormsby

per L. H. Lowell

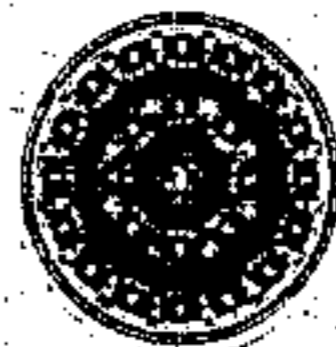
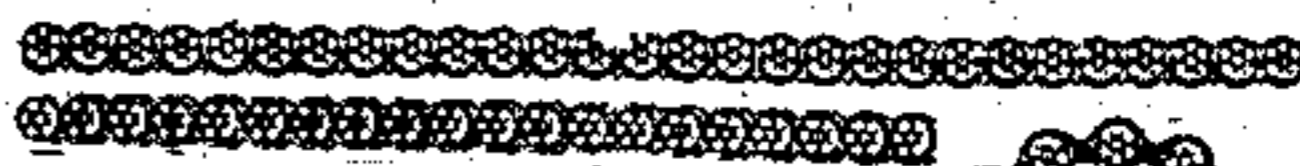
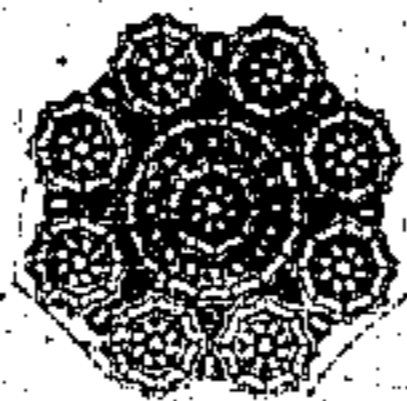
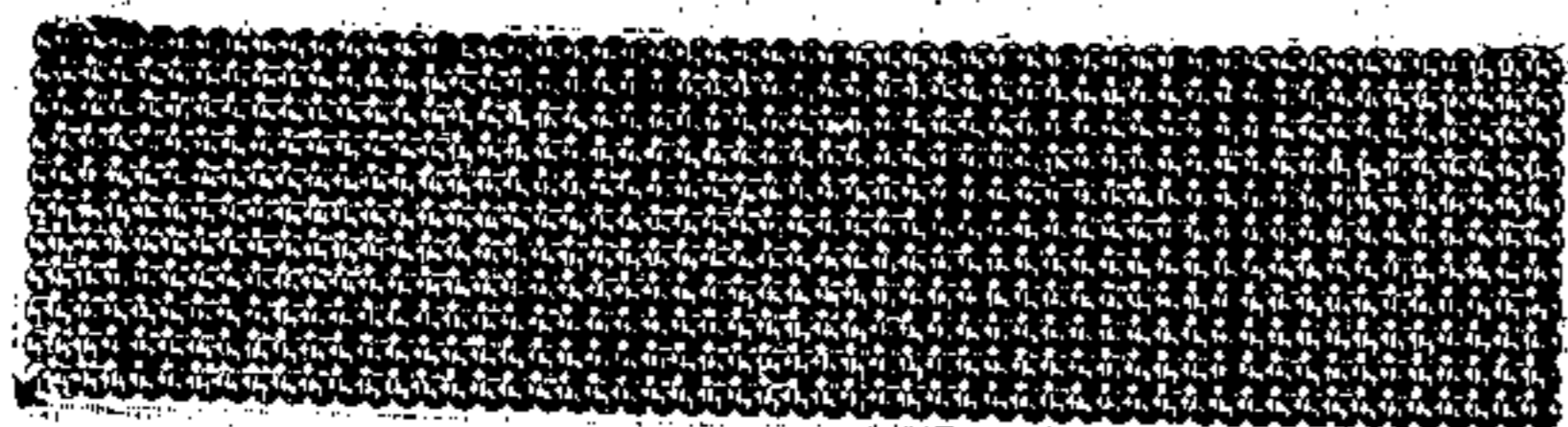
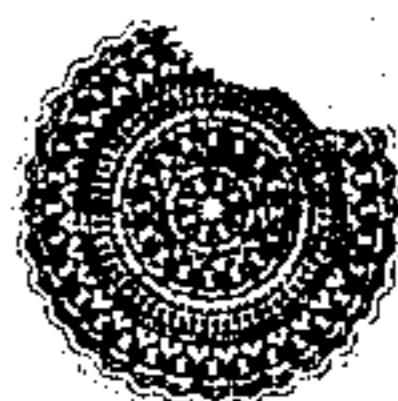
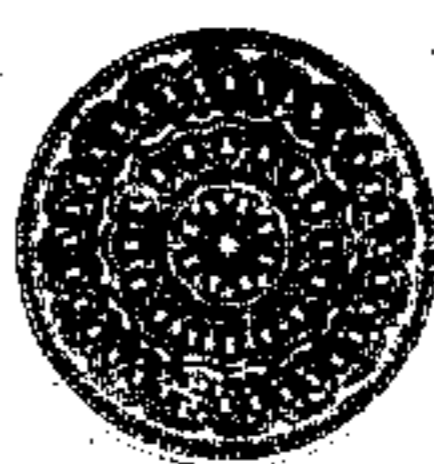
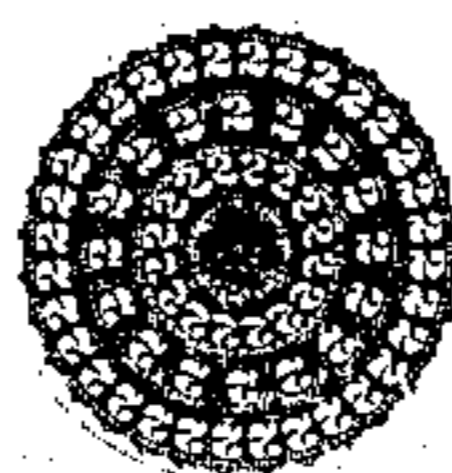
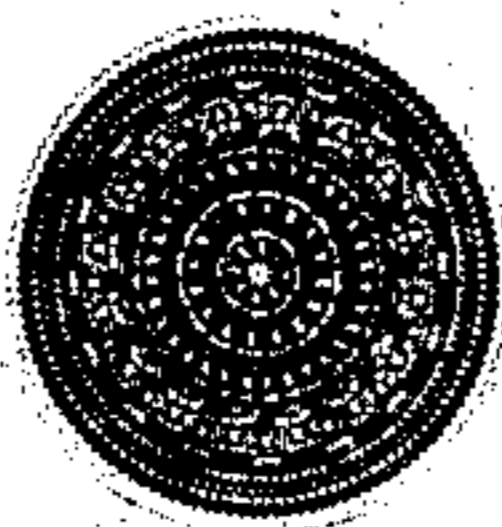
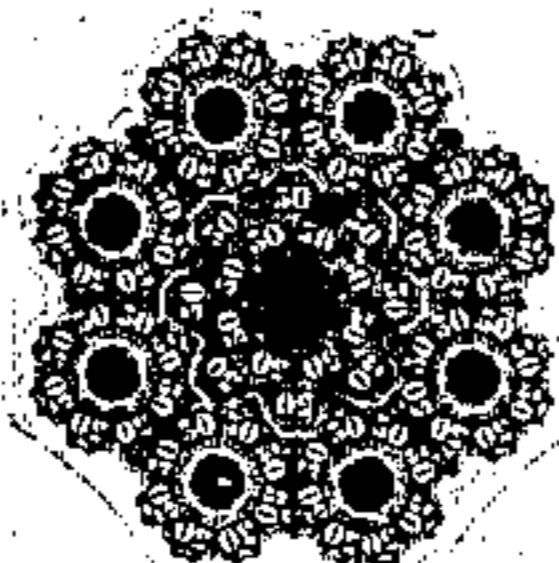
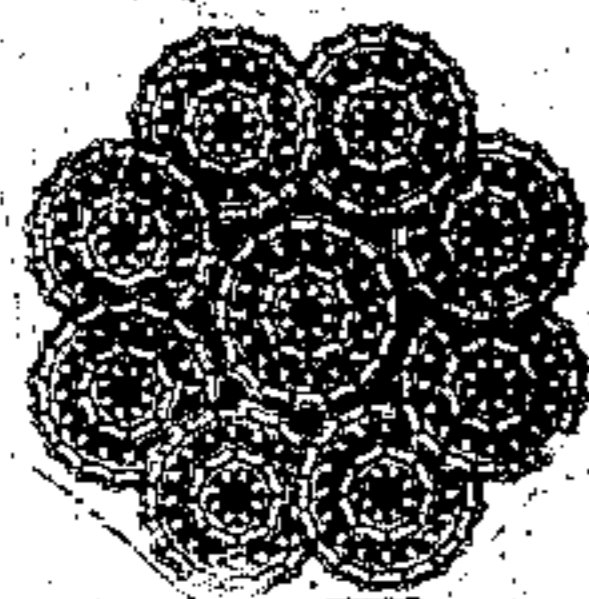
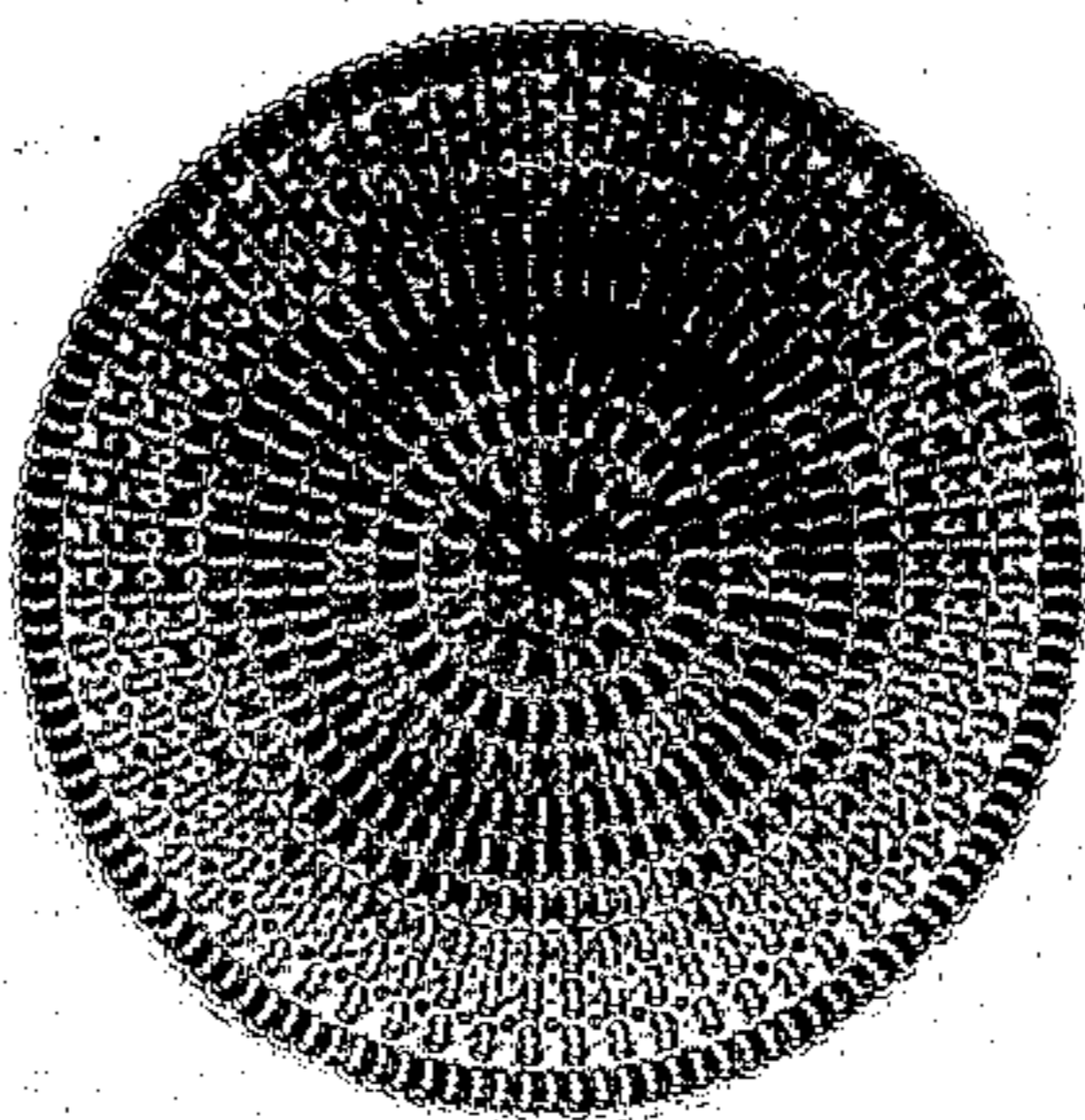
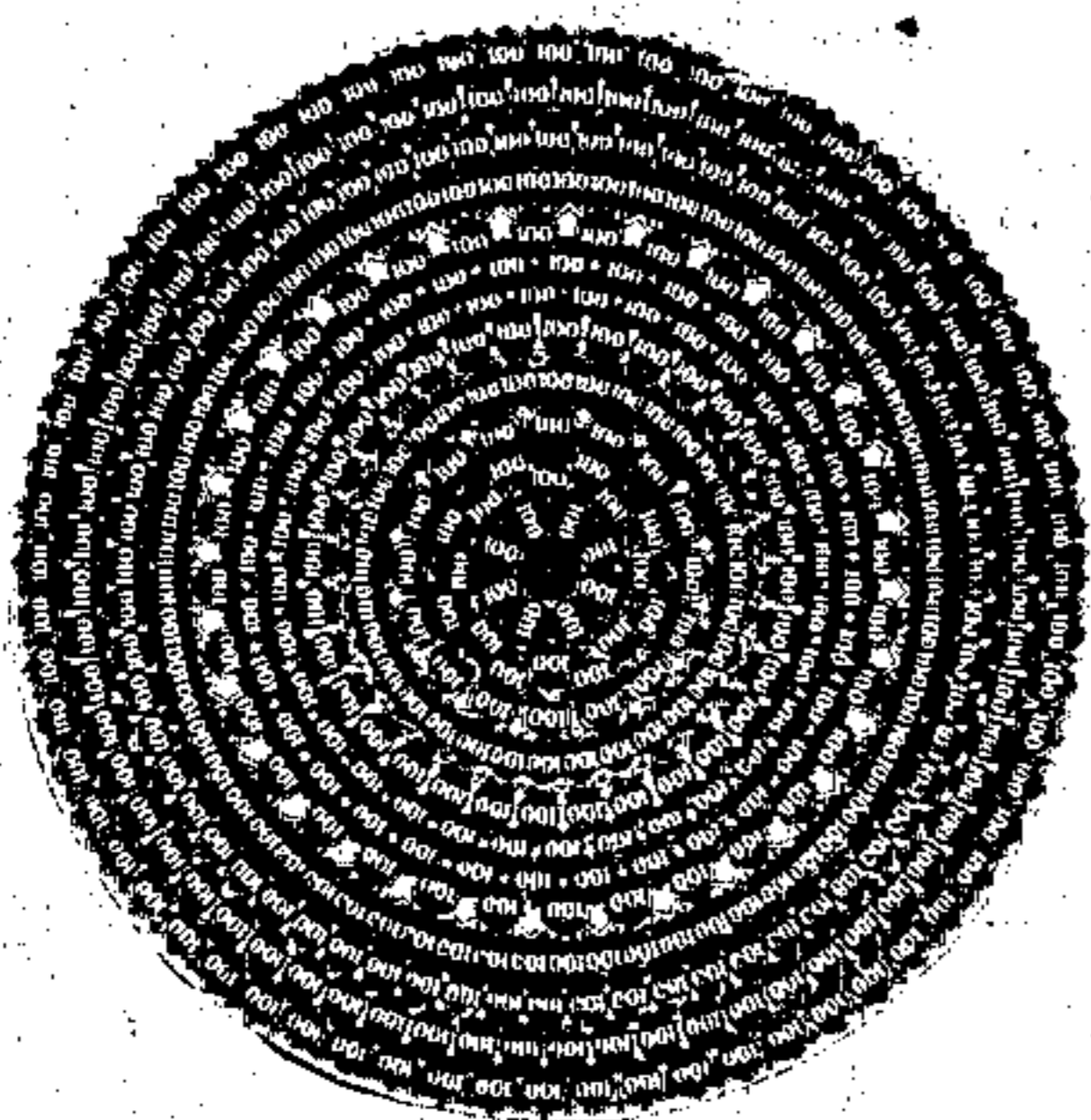
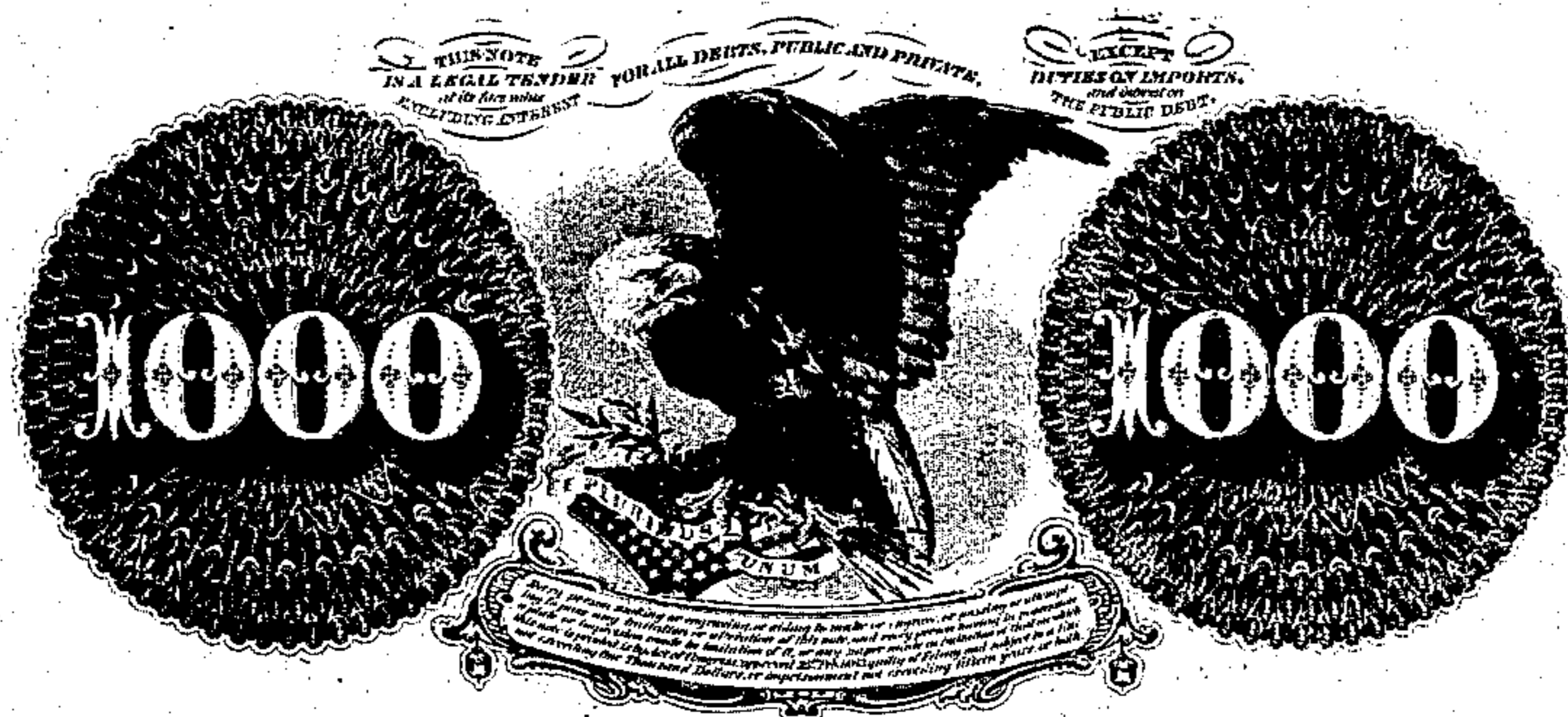
Samuel W. Lowell

J. R. Patterson

W. L. ORMSBY.  
BANK NOTE ENGRAVING.

No. 47,744.

PATENTED MAY 16, 1865.  
2 SHEETS—SHEET 2.



# UNITED STATES PATENT OFFICE.

WATERMAN L. ORMSBY, OF JERSEY CITY, NEW JERSEY.

## IMPROVEMENT IN BANK-NOTE ENGRAVING.

Specification forming part of Letters Patent No. 47,744, dated May 16, 1865.

*To all whom it may concern :*

Be it known that I, WATERMAN L. ORMSBY, of Jersey City, in the county of Hudson and State of New Jersey, have invented, made, and applied to use a certain new and useful Improvement in Bank-Note Engraving; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed specimens illustrating my said invention.

Heretofore designs have been repeated by the well-known transfer process, so that a large number of similar figures have been spread over a given surface or grouped together to form designs or figures.

My invention relates to a process of engraving in which I employ a machine for which I have made application for Letters Patent of the United States, dated August 22, 1864, and to which reference is hereby made for a description of the mechanism employed in my process of engraving to which this application relates.

My process of engraving has three features that distinguish it from all other modes of engraving heretofore employed. The first of these features is the process by which either straight, curved, or compound lines are formed by the repetition of one dot of the desired shape and greater or less size, which is struck into the engraved plate so that the impressions lap upon each other and produce a line. For this operation I employ the design-hammer set forth in the aforesaid application, upon which design-hammer the dot or dots in question are formed in relief, and the hammer is struck upon the plate at given intervals. The printed impression from a plate engraved in this manner has the appearance to the eye of a continuous line, but upon microscopic examination the series of dots are plainly visible. The lines of this character can be plainly seen with a magnifying-glass in and around the specimens Nos. 1, 2, 3, and 4, and because this character of work cannot be imitated by hand, a great security is obtained against counterfeiting. This process of engraving differs from the ordinary mode of engraving by a roulette, in which a series of different points are impressed. These points cannot always be made exactly alike, and sometimes one or more become blunt, but where only one point or dot is employed and is repeated to form a line all the dots of ink to

form a line in the print will correspond exactly in size and shape.

The second feature of my invention consists in the process by which a circular figure or medallion is formed of a series of concentric circles, each of which circles is produced by the repetition of a number, figure, or word. A medallion thus produced differs from the ordinary engine-work, and also from those geometrical figures that have a series of designs arranged around in a circle, oval, or square. The aforesaid machine enables me to engrave circular designs such as Nos. 1, 5, and 9, in which a series of concentric circles are formed by the repetition in each circle of one engraved design, number, or letter. These circular medallions are the special work of the before-mentioned machine. After the plate with the said medallion is engraved and hardened I take an impression on a steel roller or hammer, and, in order to elaborate said design and produce from it various medallions and figures, I remove portions of the design so as to leave only a segment of a circle such as No. 7, and when the wedge shape is an angle of forty-five degrees it has to be impressed eight times to form the geometrical figure or rosette No. 8. The specimen No. 2 is produced in a similar manner from No. 1, and the specimens Nos. 3 and 10 are produced from segments of Nos. 1 and 9, and in turn, when further prepared by removing the parts of the design outside the wedge shape and impressing the same, the designs Nos. 4 and 11 are produced, or where segments of No. 9 are cut off with parallel sides designs like No. 13 can be produced. Designs Nos. 12 and 14 illustrate that this mode of engraving can be extended to produce great variety in the design from a comparatively simple original.

The third feature of my invention consists in the process by which a geometrical or mosaic figure is formed of a series of letters, figures, or designs around several separate centers. Specimens Nos. 15, 16, 17, and 18 illustrate this portion of my process. I impress, for instance, the word "two" several times to form a complete circular design, as in No. 15. I then change the plate so as to introduce at the right point a series of impressions forming a second circle, and so on until by the whole group of these circles I produce one general geometrical or mosaic design, as in No. 16. The

specimens 17 and 18 are produced in the same manner, but the circles in No. 18 are shown as lapping, which is produced by leaving off a portion of the outer circle of designs in the repeating of the impressions, each separate circle being composed of two different designs impressed on the plate.

It will be understood that the specimens Nos. 16, 17, and 18 are produced by the mechanism before named without any portion requiring to be transferred, and it will be evident that a very great variety of geometrical figures can be formed by my aforesaid process through the agency of a machine similar to that referred to, and this process of engraving gives a security heretofore unattained for notes, bills, stamps, or other evidences of money transactions.

What I claim, and desire to secure by Letters Patent, is—

1. The process by which lines for note-engraving are formed, consisting in the repetition of a dot, substantially as and for the purposes specified.

2. The process by which a circular figure for note-engraving is produced by the repetition of a number, figure, or word to form each circle of a series of concentric circles substantially as specified.

3. The process herein specified by which a geometrical or mosaic figure for note-engraving is formed by the repetition of letters, words, designs, or figures around a series of separate centers, substantially as specified.

In witness whereof I have hereunto set my signature this 1st day of November, 1864.

W. L. CRMSBY.

Witnesses:

LEMUEL W. SERRELL,  
CHAS. H. SMITH.