

No. 609,915.

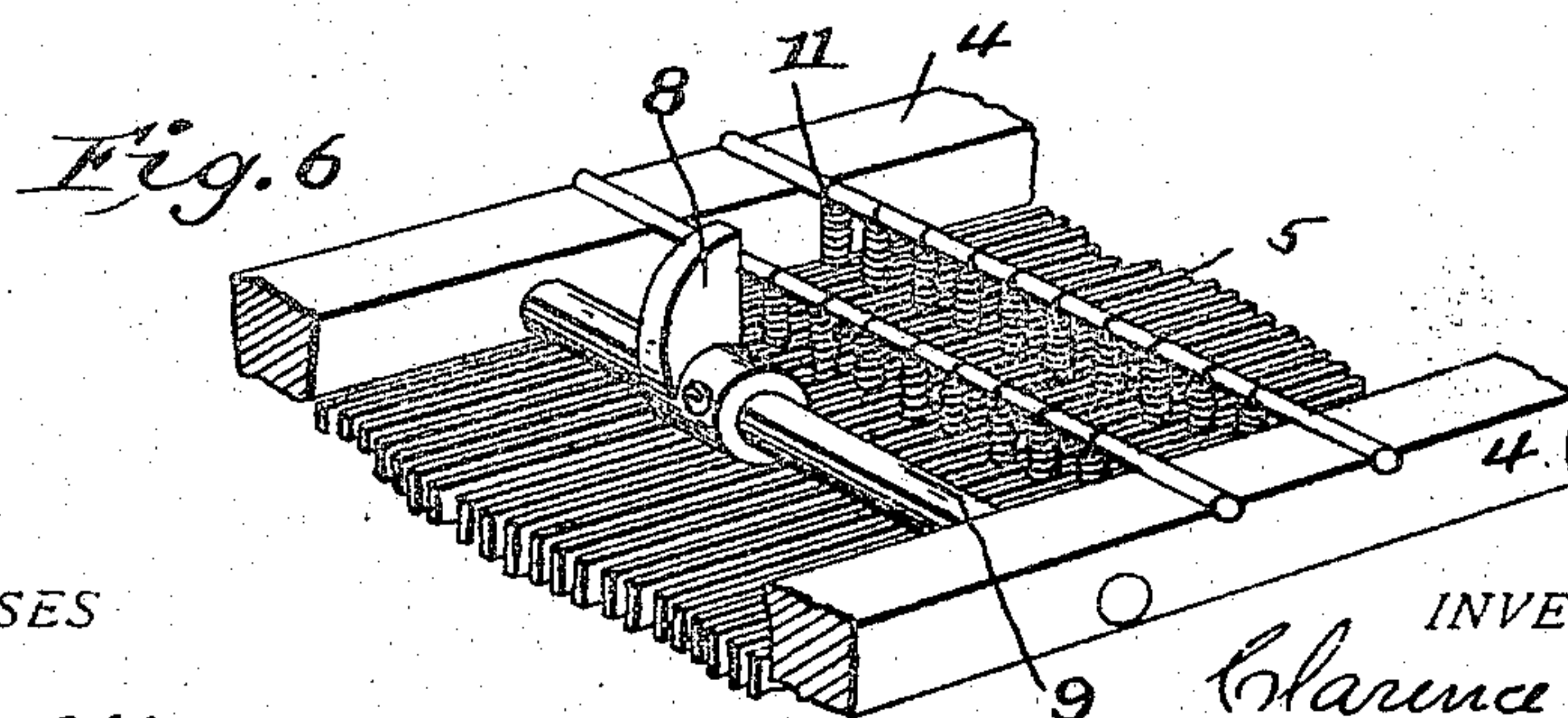
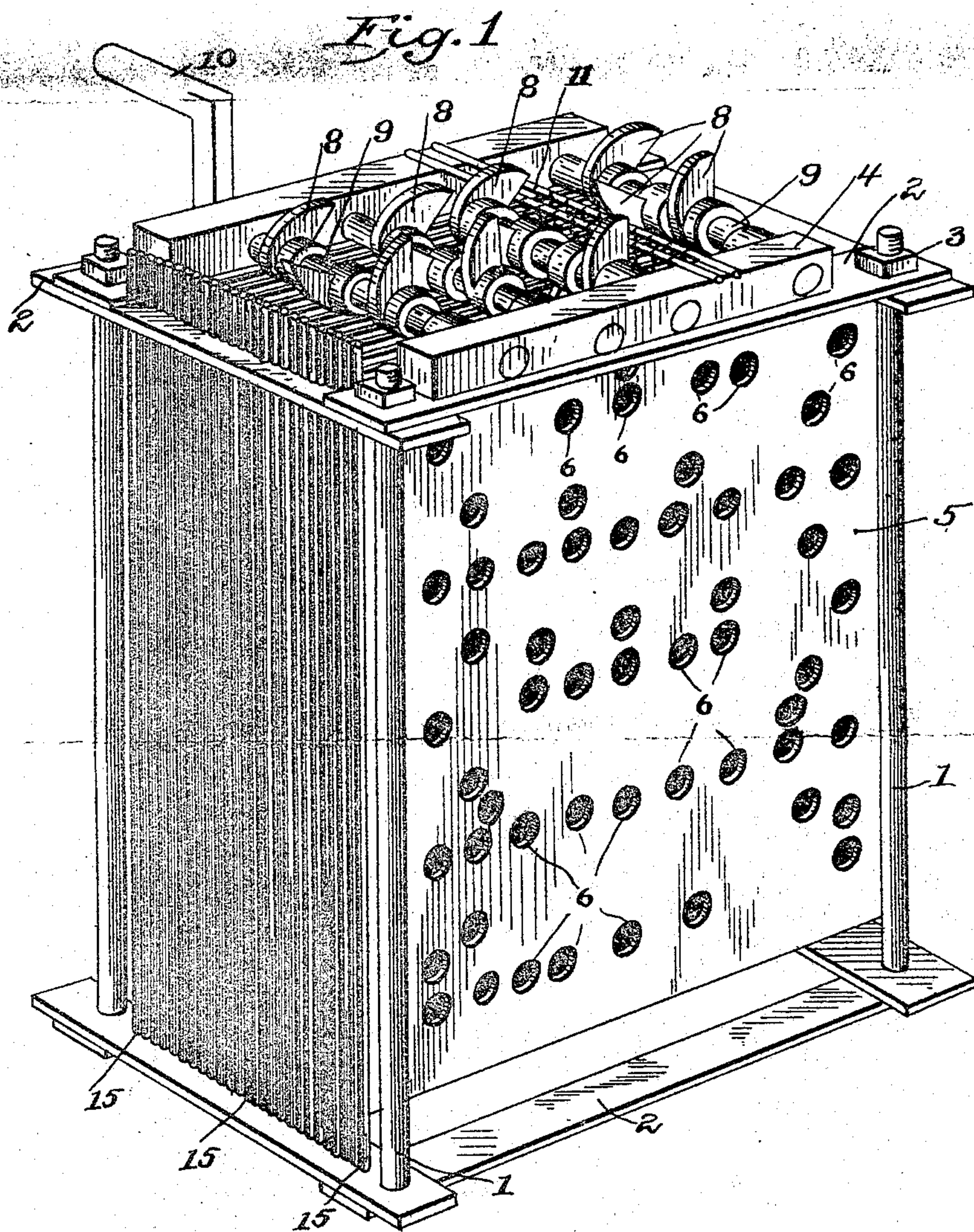
Patented Aug. 30, 1898.

C. C. SIBLEY.
ILLUMINATED SIGN.

(Application filed June 18, 1897.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES

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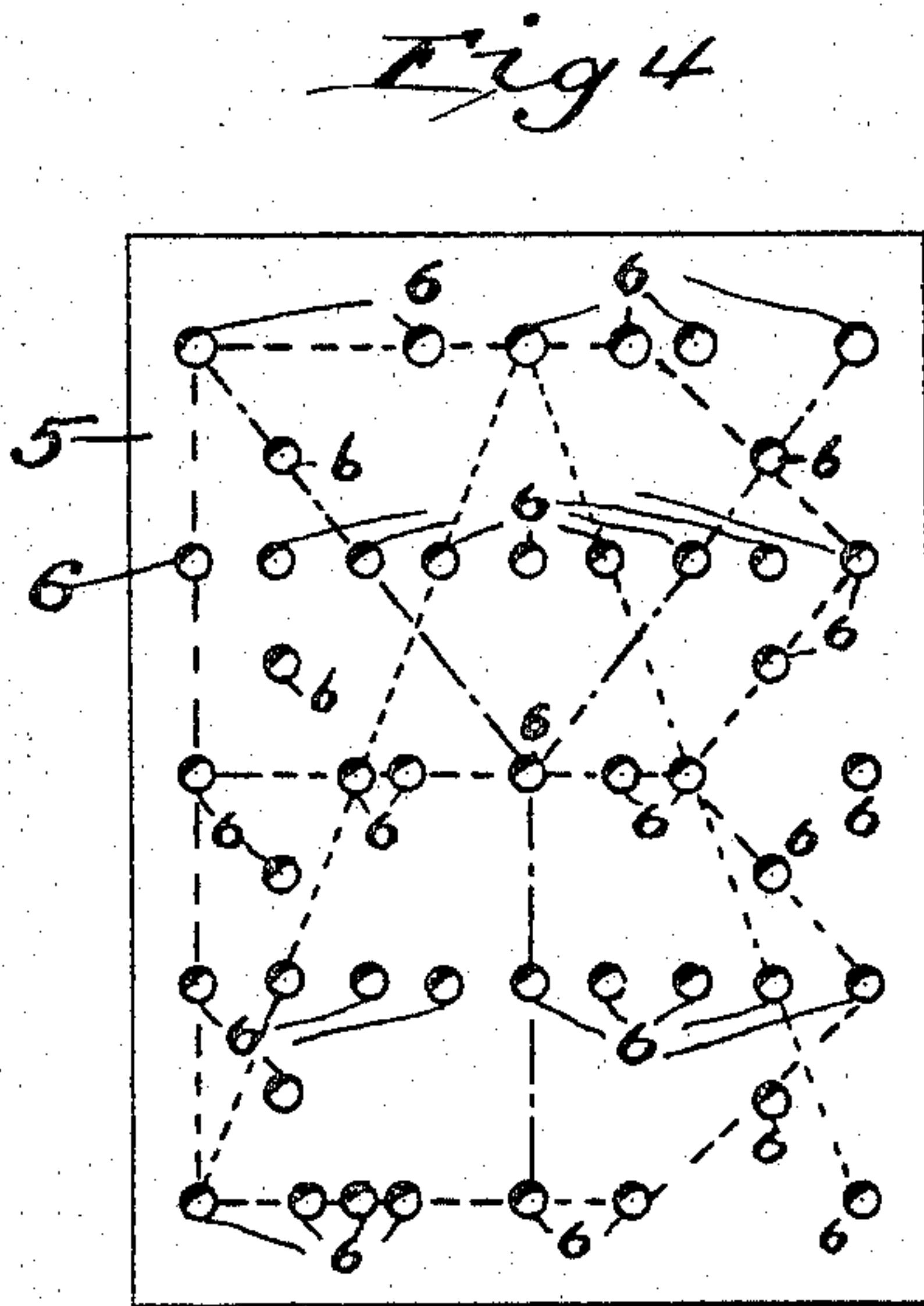
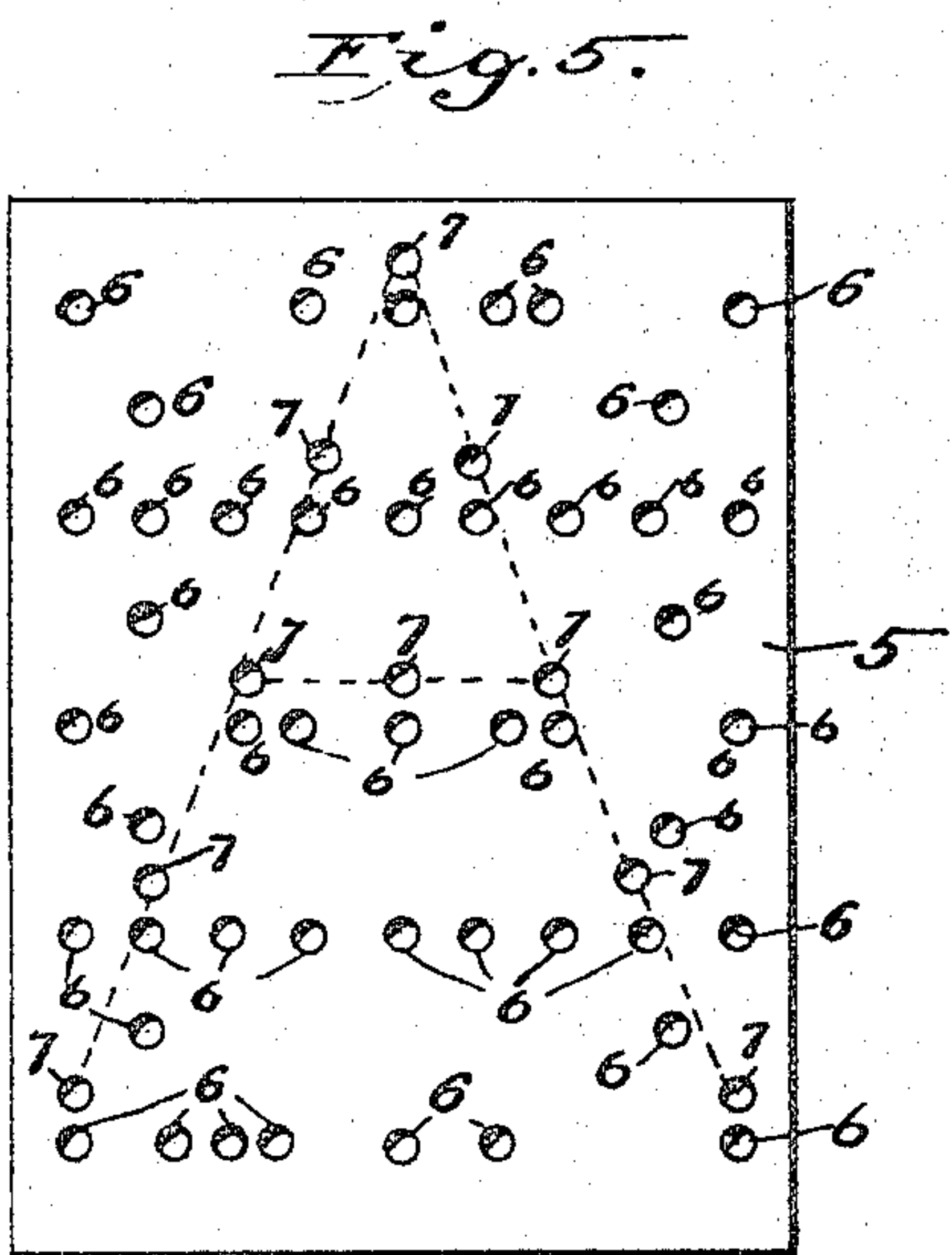
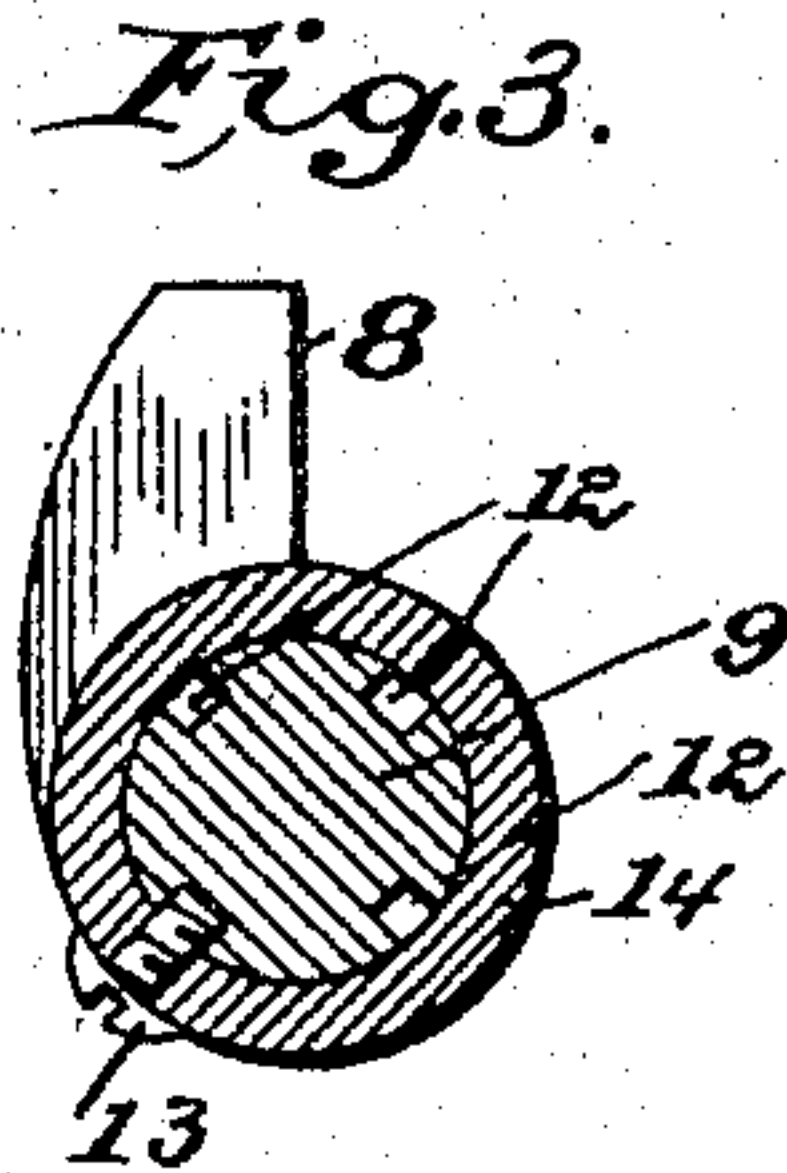
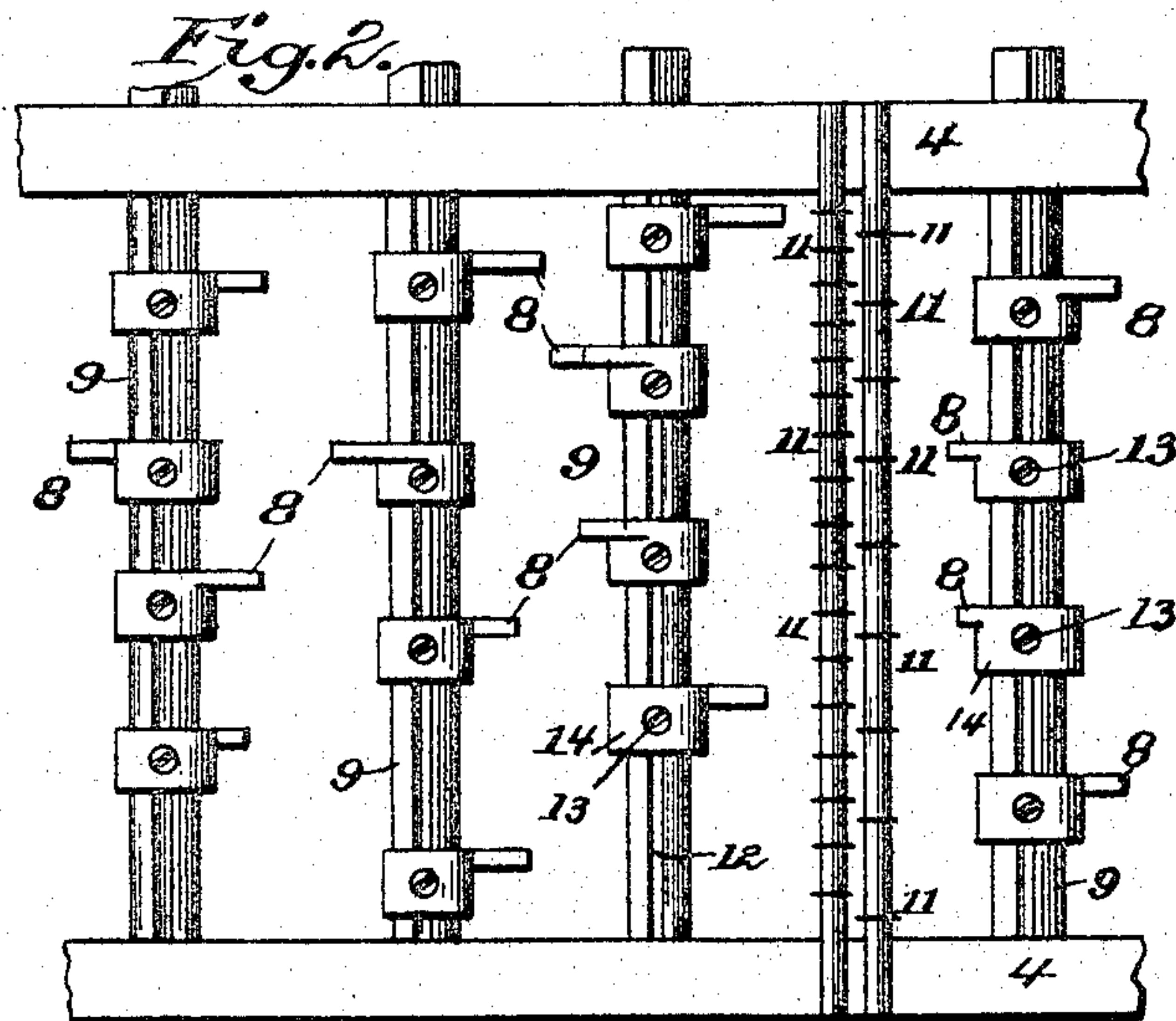
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3 Sheets—Sheet 2.



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3 Sheets—Sheet 3.

Fig. 7.

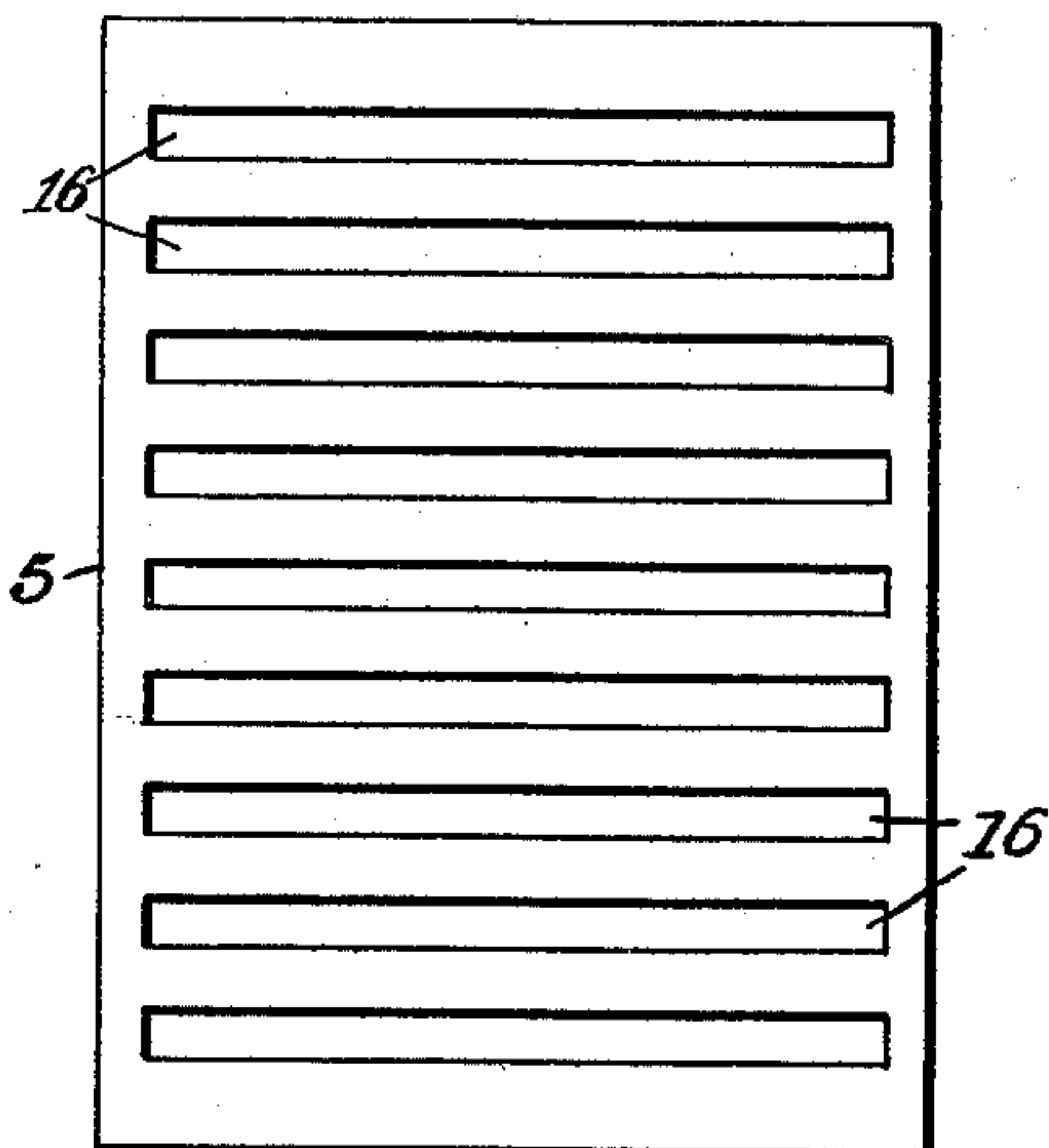


Fig. 9.

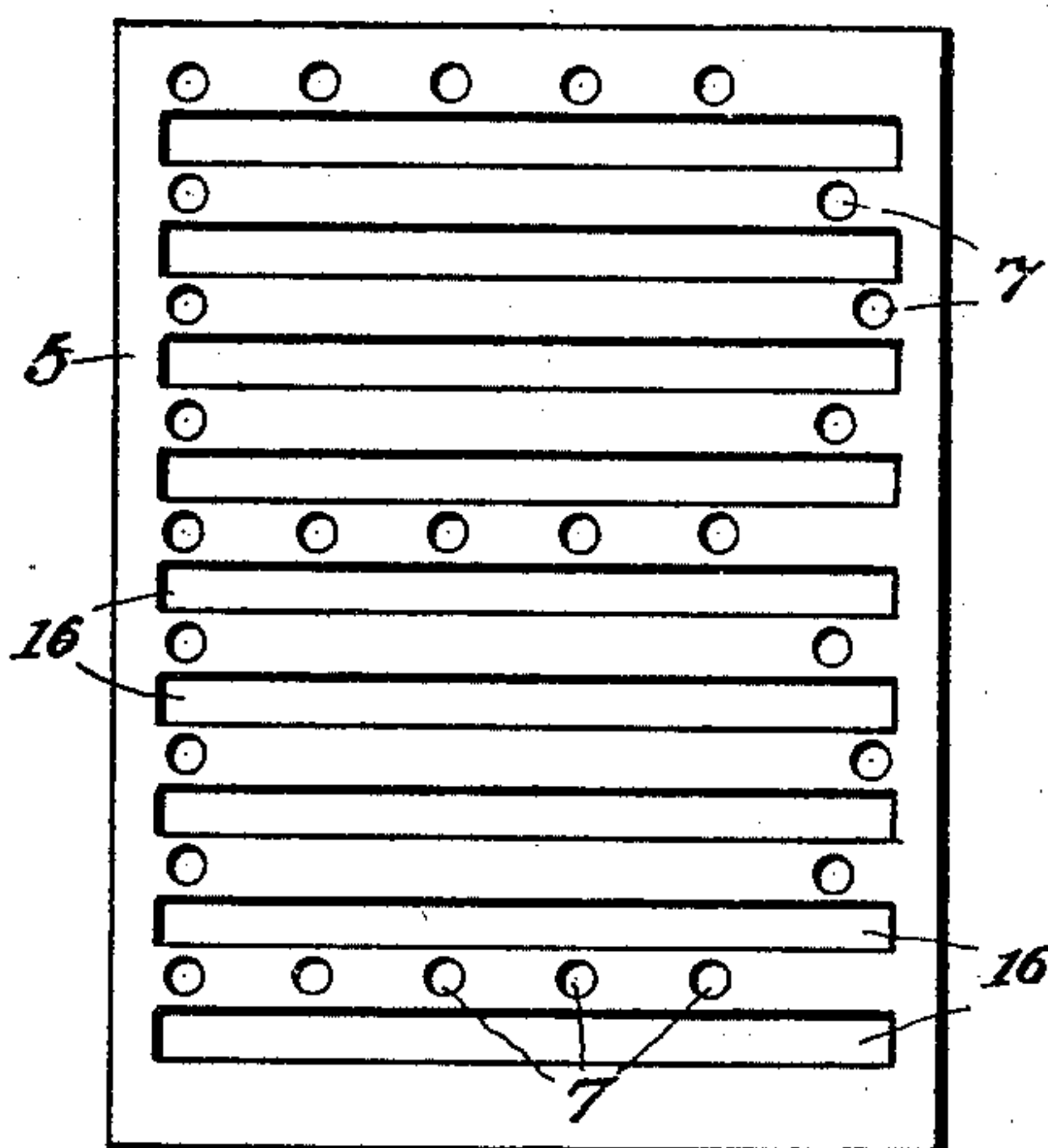


Fig. 8.

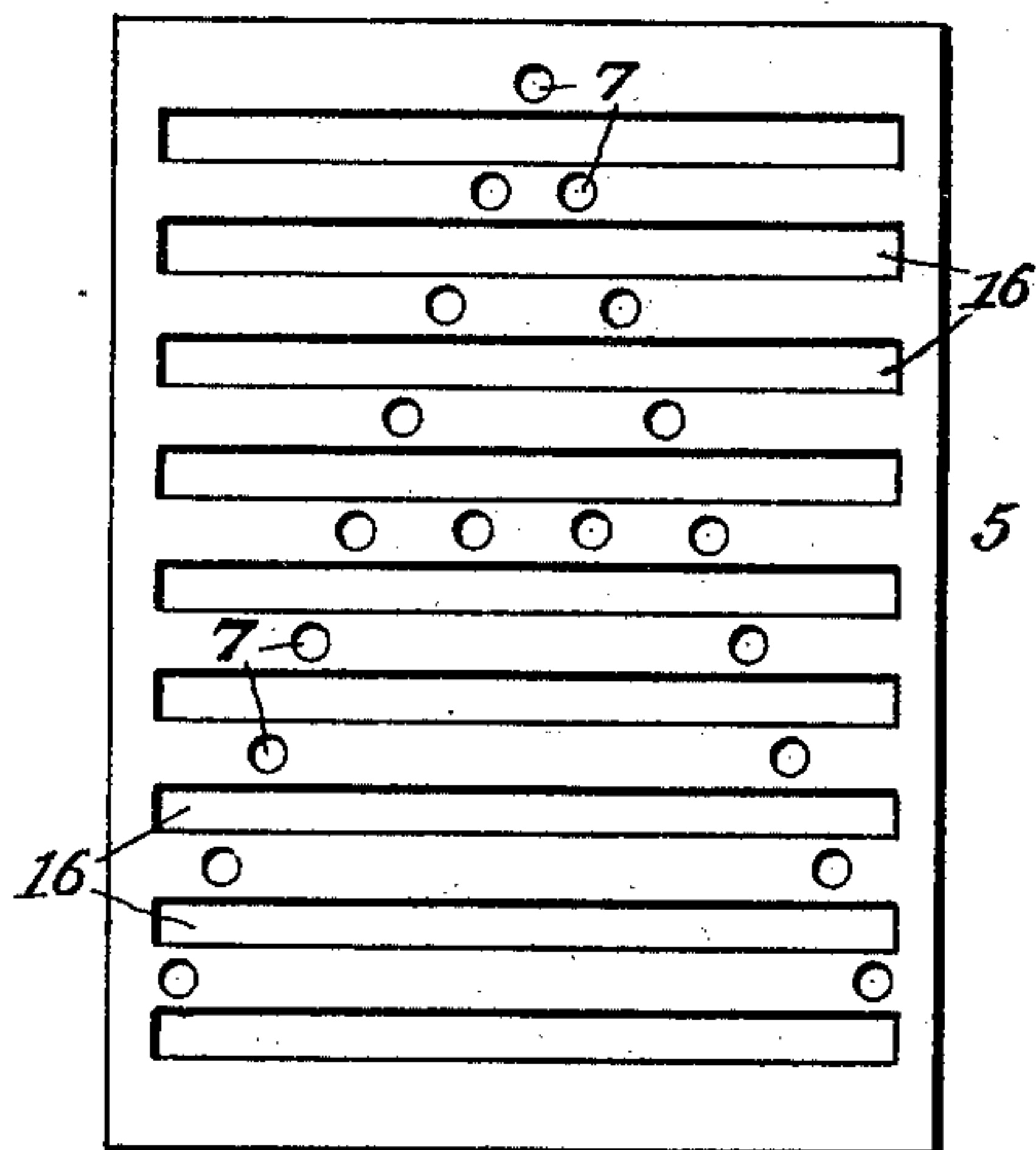
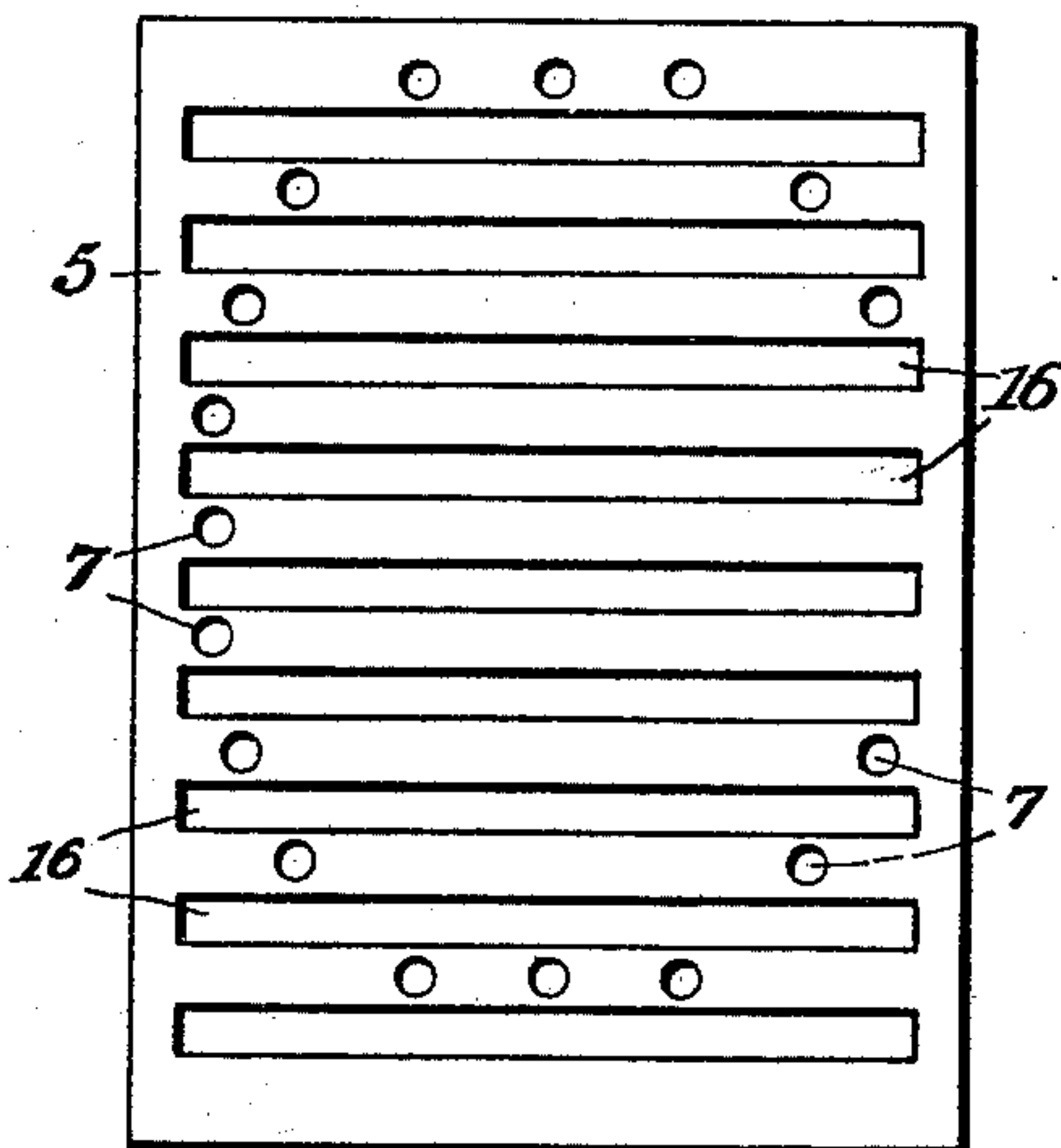


Fig. 10.



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UNITED STATES PATENT OFFICE.

CLARENCE C. SIBLEY, OF NEW YORK, N. Y.

ILLUMINATED SIGN.

SPECIFICATION forming part of Letters Patent No. 609,915, dated August 30, 1898.

Application filed June 18, 1897. Serial No. 641,347. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE C. SIBLEY, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Illuminated Signs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form part of this specification.

My invention has reference to that class of illuminated signs having interchangeable letters; and it consists, primarily, in a bank of movable plates each of which is formed with a main series of openings arranged in such relation as to register with each other throughout the bank and each of said plates having a series of additional perforations arranged to form the particular letters or characters which said plate indicates, whereby any letter or character embodied in the bank may be formed by moving the proper plate into the position in which the said additional perforations therein register with the openings first above mentioned in the other plates; and the invention also consists in the construction and combination of elements hereinafter described, and more particularly pointed out in the claims.

In one form of the invention the openings first referred to and which are common to all the plates consist of a series of perforations in each plate, preferably arranged in such relation as to form a monogram of the entire alphabet or of the letters or characters which the bank of plates is capable of producing, and in another form of the invention said openings consist of a series of elongated slots.

Referring to the drawings, Figure 1 is a perspective view of my improvement, showing a bank containing a series of plates and cams for moving and holding the plates in position. Fig. 2 is a plan view of the device, showing the cams and means for operating them. Fig. 3 is a detail sectional view of one of the cam-shafts. Fig. 4 is a detail view of the plate embodying the monogram and before it has been perforated to form any particular letter or character. Fig. 5 is a detail

view of the monogram-plate, showing the additional perforations to form the letter "A." Fig. 6 is a perspective view, partly in section, of the upper part of the device, showing a modified construction thereof, wherein a single adjustable cam is used to move all the plates. Fig. 7 is a plan view of a modified form of plate without the perforations forming a letter; and Figs. 8, 9, and 10 are similar views of the modified form, showing the additional perforations therein arranged to form the letters "A," "B," and "C," respectively.

Similar numerals of reference indicate corresponding parts in each figure of the drawings.

The frame of each bank of plates consists of four vertical corner posts or rods 1, extending through two series of horizontal arms 2, located at the top and bottom of said posts and secured therein by nuts 3. On two of the upper parallel arms 2 blocks or beams 4 are arranged for the purpose of supporting shafts for carrying cams and springs, hereinafter more particularly described. Within this frame is mounted a series of movable plates 5. Each of these plates is formed with a main series of perforations 6, arranged in such relation to each other as to form a monogram of all the letters or characters which the series of plates are capable of forming. I have elected to show the invention in the form in which it is capable of producing any letter of the entire alphabet. Hence the arrangement of the perforations shown in Fig. 4, in which no perforations except those of the main series are shown, is such as to form a monogram of all the letters of the alphabet. The dotted lines in said figure show several of the letters traced out. If it is desirable to construct the bank of plates so that only a part of the alphabet will be embodied in it, the arrangement of perforations 6 shown in Fig. 4 may be employed, or the perforations may be so arranged as to produce a monogram of only a part of the letters.

A separate plate may be used for each letter, or two or more letters may be formed in each plate of which the bank is composed. An additional series of perforations 7 is arranged to form the particular letters which the plate produces in conjunction with the

other plates of the series. As an example of this, Fig. 5 is a view of the first plate of the bank or series of plates, and it will be seen that it is formed with additional perforations 5 7, arranged above the perforations 6 in the monogram-plate in such relation with each other as to produce the letter "A," said letter being indicated by the dotted lines. The next plate may represent the letter "B," and in such case it will have the additional series of perforations relatively arranged above the perforations in the monogram-plate to form said letter, and so on.

When the plates are arranged in a bank in 15 a frame in the relation shown in Fig. 1, the main series of perforations 6 in all the plates register with each other and the additional series of perforations 7 of each plate are opposite solid parts of the adjacent plate or 20 plates. When thus arranged, no particular letter is disclosed; but when it is desired to disclose any letter the plate representing that letter is pressed down until its additional series of perforations 7 are brought into register with the perforations of the main series 6 25 of all the other plates in the bank.

The means herein shown and which I prefer to employ for moving the respective plates into position to disclose a letter consists of 30 cams 8, mounted on shafts 9, which are journaled at their ends in the supporting-blocks 4. One end of each shaft is squared to receive a crank 10, by means of which the shaft is turned to cause the cam to bear upon and 35 press down the plate or to release said cam from the plate.

Each plate is provided with a spring 11, secured to a supporting-bar above, which tends to force said plate in opposition to the action of said cam, and thereby returns the plate to its original position when the cam is disengaged therefrom. The springs operate to hold the plates in their raised position. The main series of perforations register with each 45 other when the plates are in said position, and the cams operate to depress the plates in order to disclose the letters.

It is within the scope of my invention to use a separate cam for each plate or to use a 50 single adjustable cam for all the plates or to use a series of adjustable cams less in number than that of the plates. In Fig. 1 is shown a series of sixteen cams for operating the twenty-six plates. These cams are mounted on four shafts 9, and each is arranged to operate upon certain plates of the series, so that when it is desired to depress a plate the shaft carrying the cam arranged to operate on said plate is turned the distance required 60 to accomplish the purpose stated. In this construction it is necessary that the cams be adjustably mounted upon their shafts, as at no time are they capable of depressing each of the entire series of plates. To this end 65 each of the shafts 9 is formed with four longitudinal guiding-grooves 12, one for each of the cams, as seen in Fig. 3, into which pro-

ject fastening and guiding screws 13, which extend through the collars 14, formed integral with said cams. By loosening the screw 70 thereof the proper cam may be moved upon its shaft into position over the plate not located under any of the cams which it is desired to depress.

When one cam is employed to operate all 75 of the plates, as shown in Fig. 6, said cam will be adjustably mounted in a manner similar to that above described and will be adjusted upon said shaft into the required position to depress said plate; but in said construction only one groove in the shaft is required. 80

The vertical edge of each plate is provided with a rod 15, which extends through perforations in the adjacent upper and lower arms 85 2 and serves to guide said plate in its movements. The means described for operating the plates, while particularly adapted to plates constructed as above described, may be employed to move sign-letters of any construction and forms a distinct part of my improvement. 90

In constructing the plates the monogram perforations are first formed in the plates and the plates arranged in such relation that the 95 corresponding perforations of all will register with each other. One of the plates is then moved into the position relatively to the other plates of the series which it will occupy when the bank or series of plates discloses the letter represented by said plate, after which, with a pencil or other suitable device passed through the proper perforations of the main series of one or more of the other plates, the additional series of perforations are marked 105 on said plate. Said plate is then returned to its former position, and another plate is moved into the position above mentioned, and so on throughout the entire series. When the plates are marked, they are separated and the 110 additional perforations are made. These plates then form patterns for the proper perforating of other series.

Instead of constructing each plate with a main series of openings in the form of perforations 6 arranged to form a monogram of 115 the several letters or characters which the bank of plates is capable of producing, the plates 5 may each be formed with elongated slots 16, each of which registers with similar 120 slots of all the other plates when they are in their normal position. The additional series of perforations 7 are employed in this construction and are arranged in precisely the same relation as in the previously-described 125 construction, so that when a plate is depressed its perforations 7 are brought in line with the slots 16, thus disclosing the letter represented by said plate, as above explained.

In operation my invention will be used in 130 connection with any suitable illuminating device for bringing the letters prominently into view, and as various means for this purpose are well known and may be employed and

form no part of my invention I have not shown the same herein. A series of the banks of plates described will be employed, one for each letter of the word or sentence to be disclosed, although means may be devised and used for moving the plates automatically in proper succession to produce the desired word or sentence, in which event one bank of plates will be all that is required.

10 Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a sign, a bank of independently-movable plates each having a similar series of 15 main openings and a supplemental series of openings differing on each plate to represent a letter or character, the main openings on the plates registering one with the other, and means to move each plate independently to 20 register its supplemental openings with the main openings of the remaining plate, as and for the purpose set forth.

2. In a sign, a bank of spring-supported independently-movable plates, each having a 25 similar series of main openings, and a supplemental series of openings differing on each plate to represent a character, the main openings in the plates normally registering, and

a series of cams adapted respectively to move a plate to register its supplemental openings 30 with the main openings of the remaining plates, as and for the purpose set forth.

3. In a sign, a bank of independently-movable plates arranged in parallel relation to each other, each plate having a similar series 35 of slots arranged parallel to each other, and a series of perforations differing on each plate to form a character, the slots in the several plates registering one with the other, combined with means to move each plate separately to register its perforations with the 40 slots in the remaining plates, as and for the purpose set forth.

4. In a sign, the combination with a bank of independently-movable plates, each hav- 45 ing a series of main and supplemental openings as described, of a cam adjustably supported to move a plurality of said plates separately, as and for the purpose set forth.

In testimony whereof I affix my signature 50 in presence of two witnesses.

CLARENCE C. SIBLEY.

Witnesses:

W. WILLARD BABCOCK,
WM. O. LUTTMANN.