

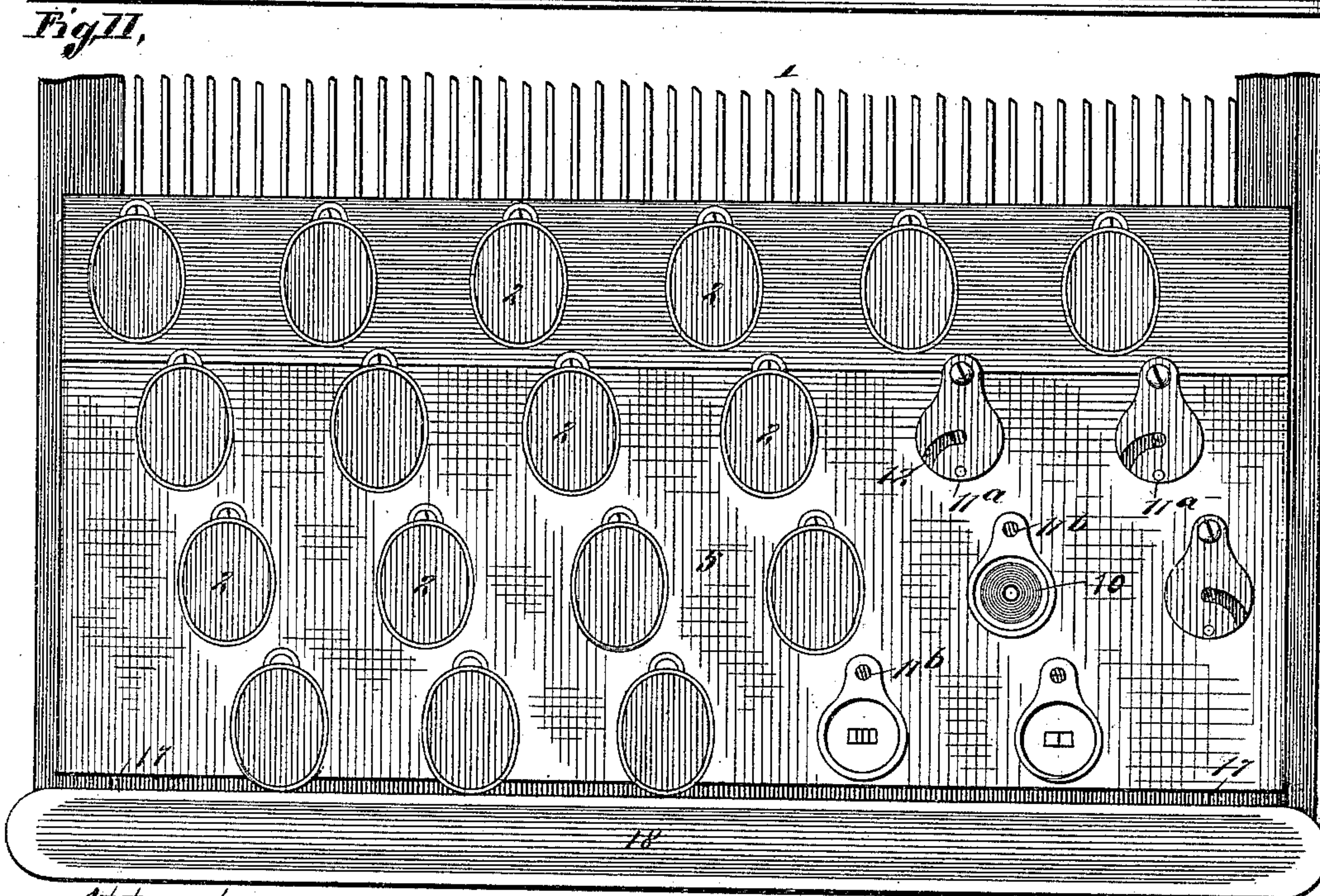
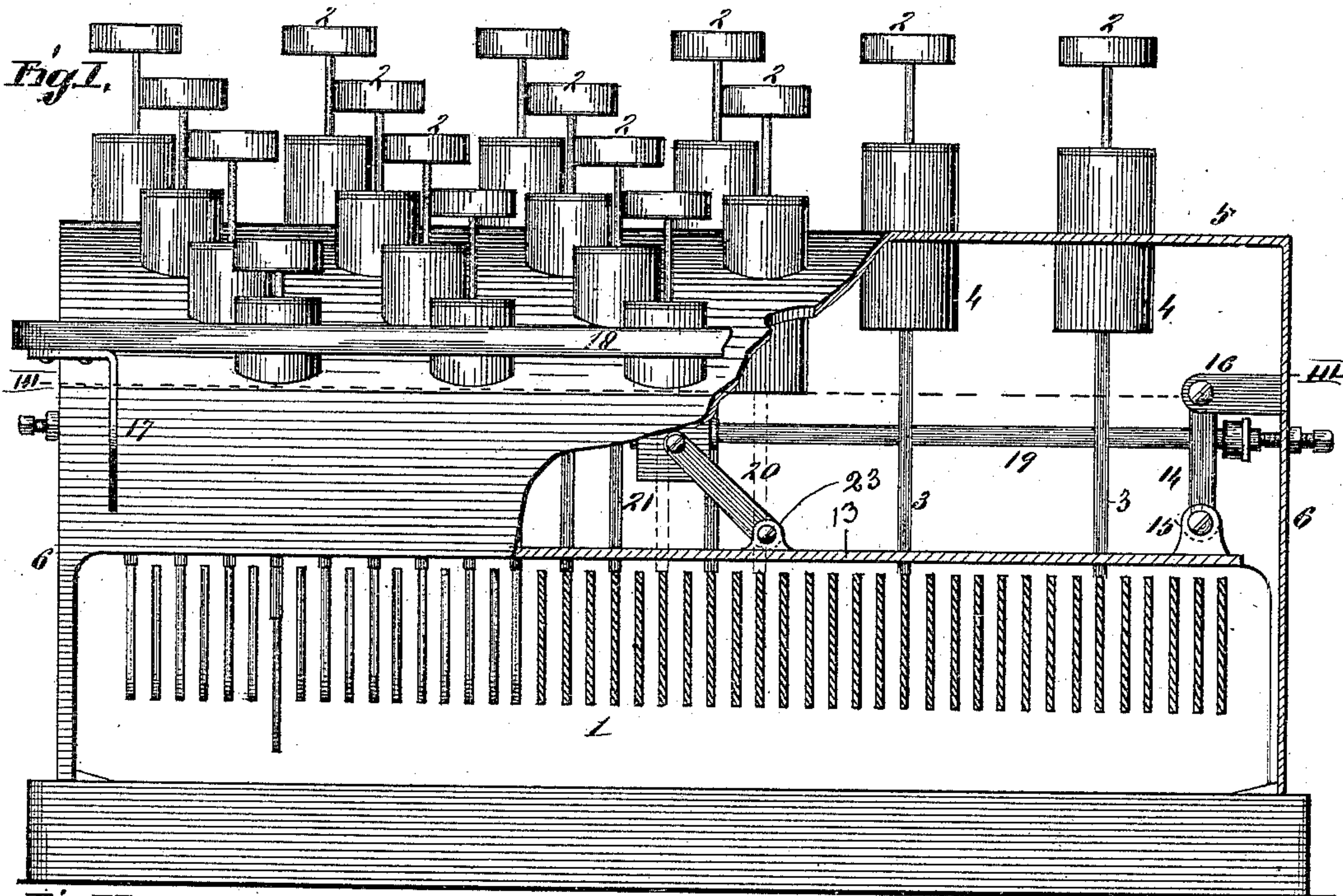
(No Model.)

2 Sheets—Sheet 1.

G. H. LASAR.  
TYPE WRITING MACHINE.

No. 415,539.

Patented Nov. 19, 1889.



Attest:  
C. Arthur  
Edward D. Knight

Inventor:  
Godfrey H. Lazar  
By *Knight & Co.*  
Attys



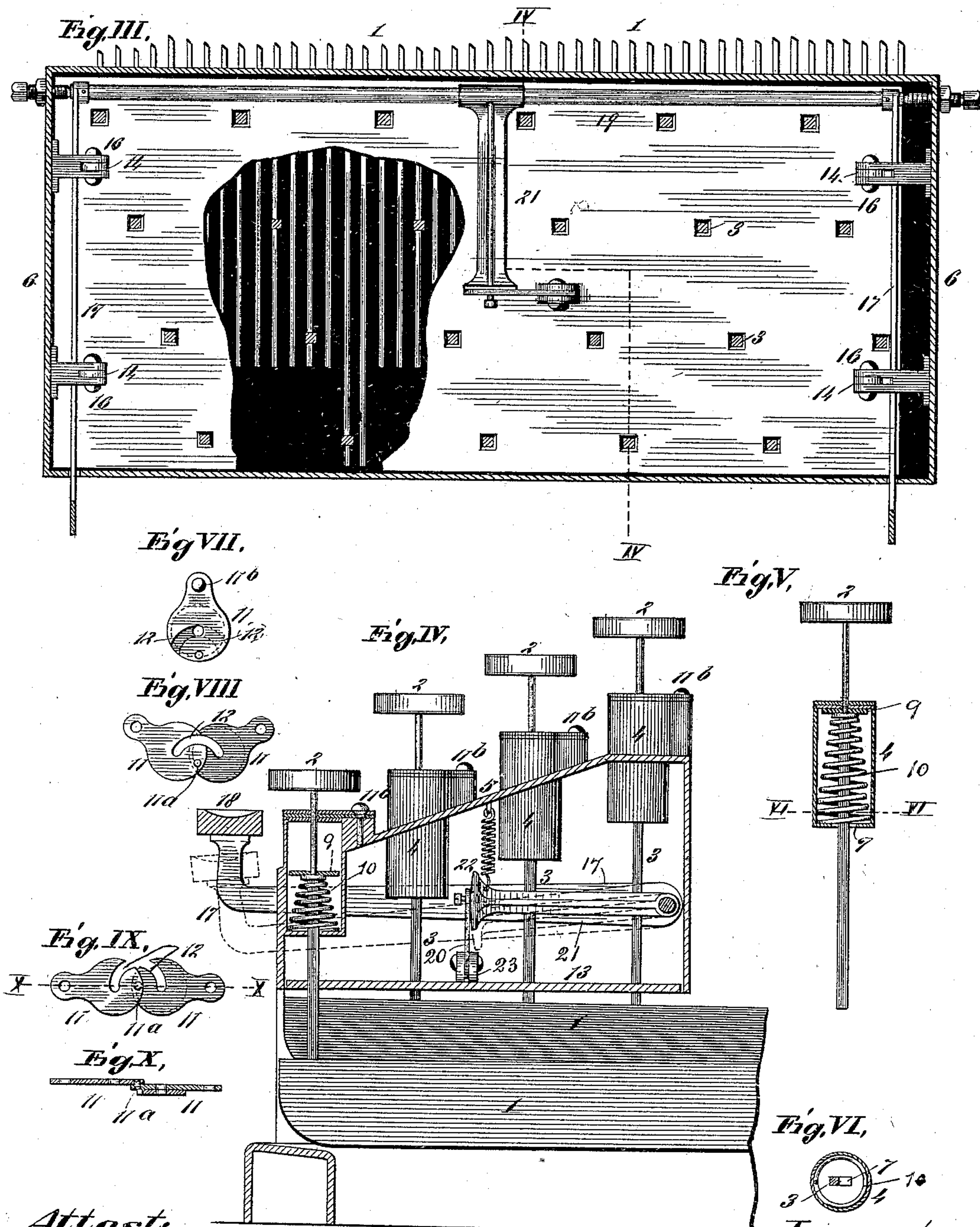
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# UNITED STATES PATENT OFFICE.

GODFREY H. LASAR, OF ST. LOUIS, MISSOURI.

## TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 415,539, dated November 19, 1889.

Application filed June 14, 1889. Serial No. 314,206. (No model.)

*To all whom it may concern:*

Be it known that I, GODFREY H. LASAR, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Type-Writing Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure I is an elevation, part in section, illustrating my improvement. Fig. II is a top view in section. Fig. III is a horizontal section taken on line III III, Fig. I. Fig. IV is a vertical section taken on line IV IV, Fig. III. Fig. V is an enlarged elevation and section of a key. Fig. VI is a section taken on line VI VI, Fig. V. Fig. VII is a view of one of the buttons closed. Fig. VIII is a view of one of the buttons partly open. Fig. IX is a view of one of the buttons entirely open. Fig. X is a section taken on line X X, Fig. IX.

This invention relates to that class of typewriters where the keys may be shifted so as to operate the key-levers of either the upper or lower case letters, as fully described in my application filed October 11, 1886, Serial No. 315,143; and this invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Referring to the drawings, 1 represents the key-levers, and 2 the keys, of a typewriter, the latter having stems 3, which pass through and are held in sleeves or tubes 4, supported in a plate 5 on the upper end of side pieces 6. The bottoms of the sleeves or tubes are formed with slots 7, to receive the non-circular stems of the keys. The non-circular stems, fitting in the slots, prevent the keys from turning, but they do not fill the slots entirely, so as to permit the stems to be moved out of a vertical position, so that they may be made to operate either the upper or lower case key-levers, as desired. There are springs 10 located between collars or disks 9 and the bottoms of the sleeves for the purpose of holding the keys in their elevated position, except when depressed to operate the key-levers. The tops of the sleeves consist of hinged buttons 11, (see Fig. II,) having slots 12 to receive the stems. Each

button is made double—that is, each consists of two pieces slotted in opposite directions to receive the stems, by opening them out, as shown in Figs. VIII, IX, and X. The two pieces are pivoted together at 11<sup>a</sup>, and when the two parts are closed around the stem they are connected to the plate 5 by a screw 11<sup>b</sup>.

13 represents a movable plate having perforations to receive the lower ends of the stems 3. This plate is supported by links 14, hinged to lugs 15 and to the side pieces 6 of the plate 5 by arms 16. The plate is thus allowed to be swung freely sidewise of the machine instead of endwise thereof, as in my previous invention, to bring the stems of the keys over either the upper or lower case key-levers, and the plate is thus moved in one direction by depressing side levers 17, having a finger-piece 18.

The side levers 17 are secured at their inner ends to a rock-shaft 19, which is connected by a pivoted link 20 and an arm 21 to lugs 23 on the plate 13. It will thus be seen that as the side levers 17 are depressed and the rock-shaft turned the plate will be moved sidewise and the key-stems 3 shifted. The plate and stems are moved in the other direction when the pressure is removed from the side levers 17 by a spring 22, connecting the arm 21 to the top plate 5. (See Fig. IV.) This spring holds the plate and keys in their normal position, where they operate one set of key-levers—say the lower-case—and by depressing the side levers 17 the keys are brought into position to operate the upper-case key-levers, as stated.

The keys 2 are preferably arranged in diagonal rows or series for ease in operating them.

I claim as my invention—

1. The combination of the shifting key-plate having non-circular perforations, and the keys having swinging non-circular stems occupying the perforations in the shifting key-plate, substantially as described.

2. The combination of the shifting key-plate, the rock-shaft located at the back of the casing of the key-board and having an arm and side levers extending toward the front, the finger-piece on the side levers, the side pieces, link connecting the key-plate with

the arm, and links connecting the key-plate with the side pieces, substantially as described.

3. The combination of the shifting key-plate, the rock-shaft located at the back of the casing of the key-board and having an arm and side levers extending toward the front, the finger-piece on the side levers, the side pieces, link connecting the key-plate with the arm, links connecting the key-plate with

the side pieces, and spring for returning the parts to normal position, substantially as described.

4. The combination, with the key-plate having key-sleeves, of the double-slotted pivoted buttons, substantially as described.

GODFREY H. LASAR.

In presence of—

THOMAS KNIGHT,

EDW. S. KNIGHT.