

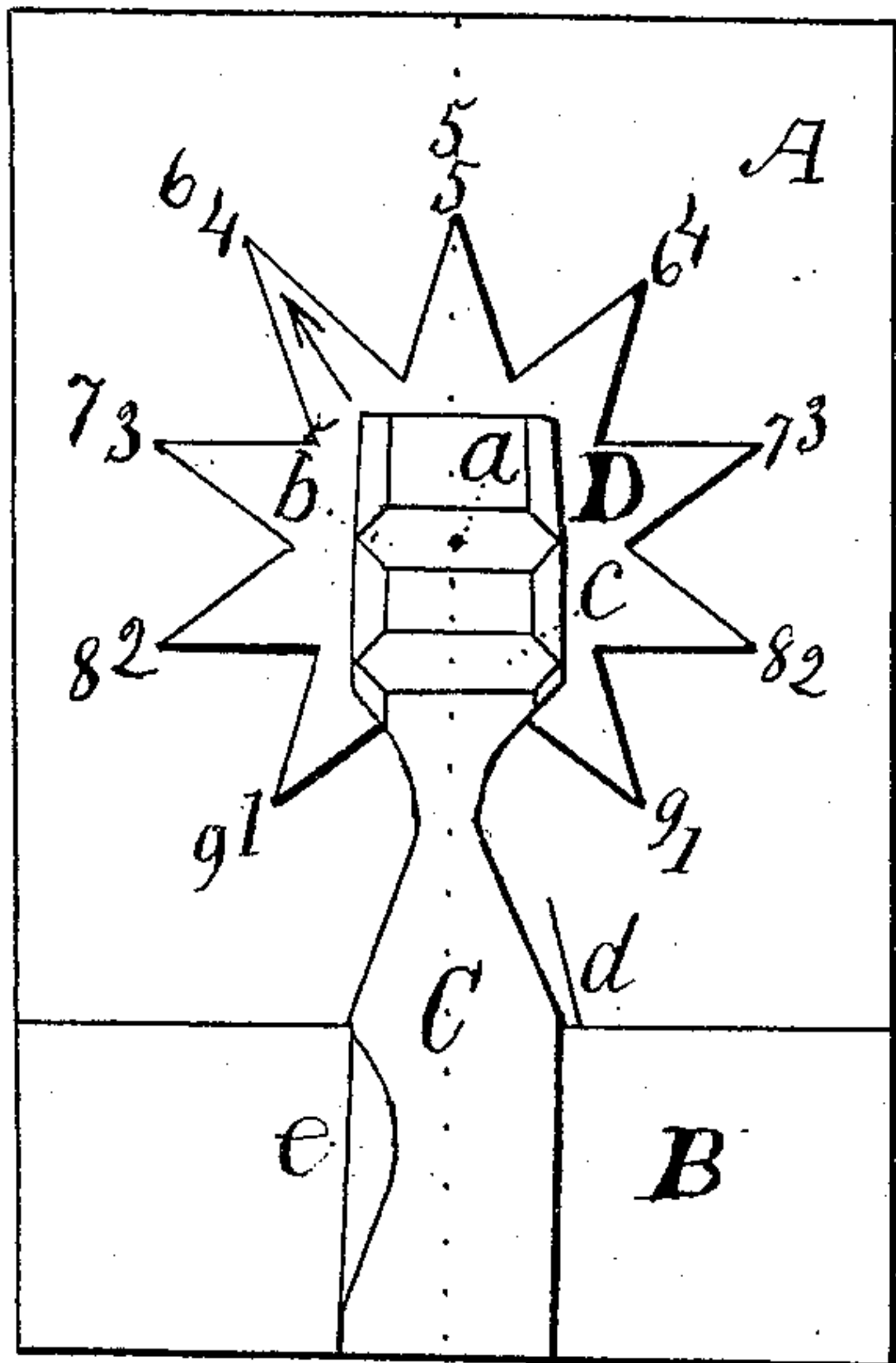
(No Model.)

W. PERRY.  
ADDING MACHINE.

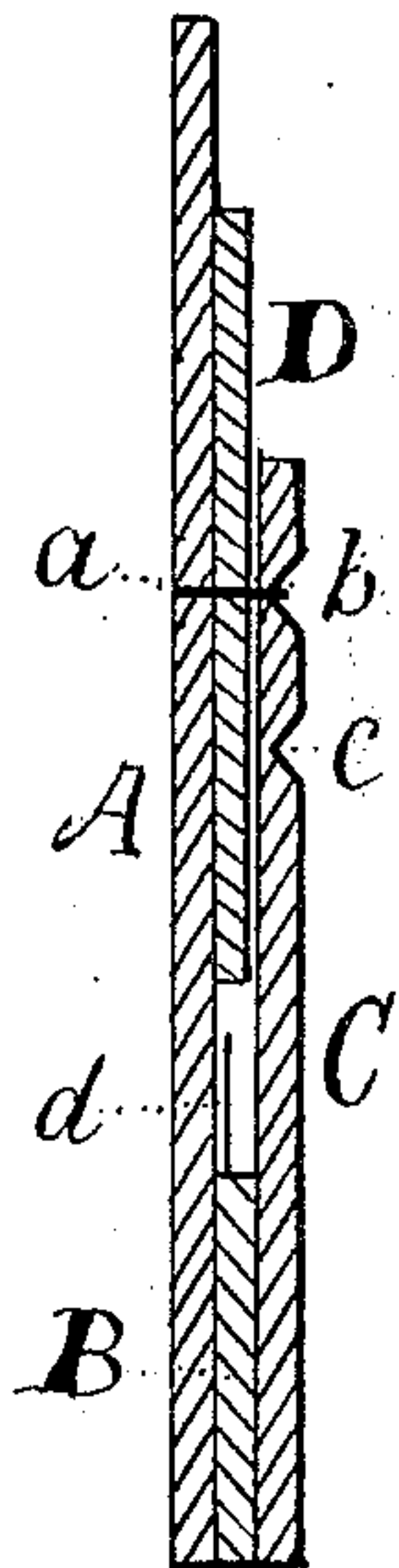
No. 248,605.

Patented Oct. 25, 1881.

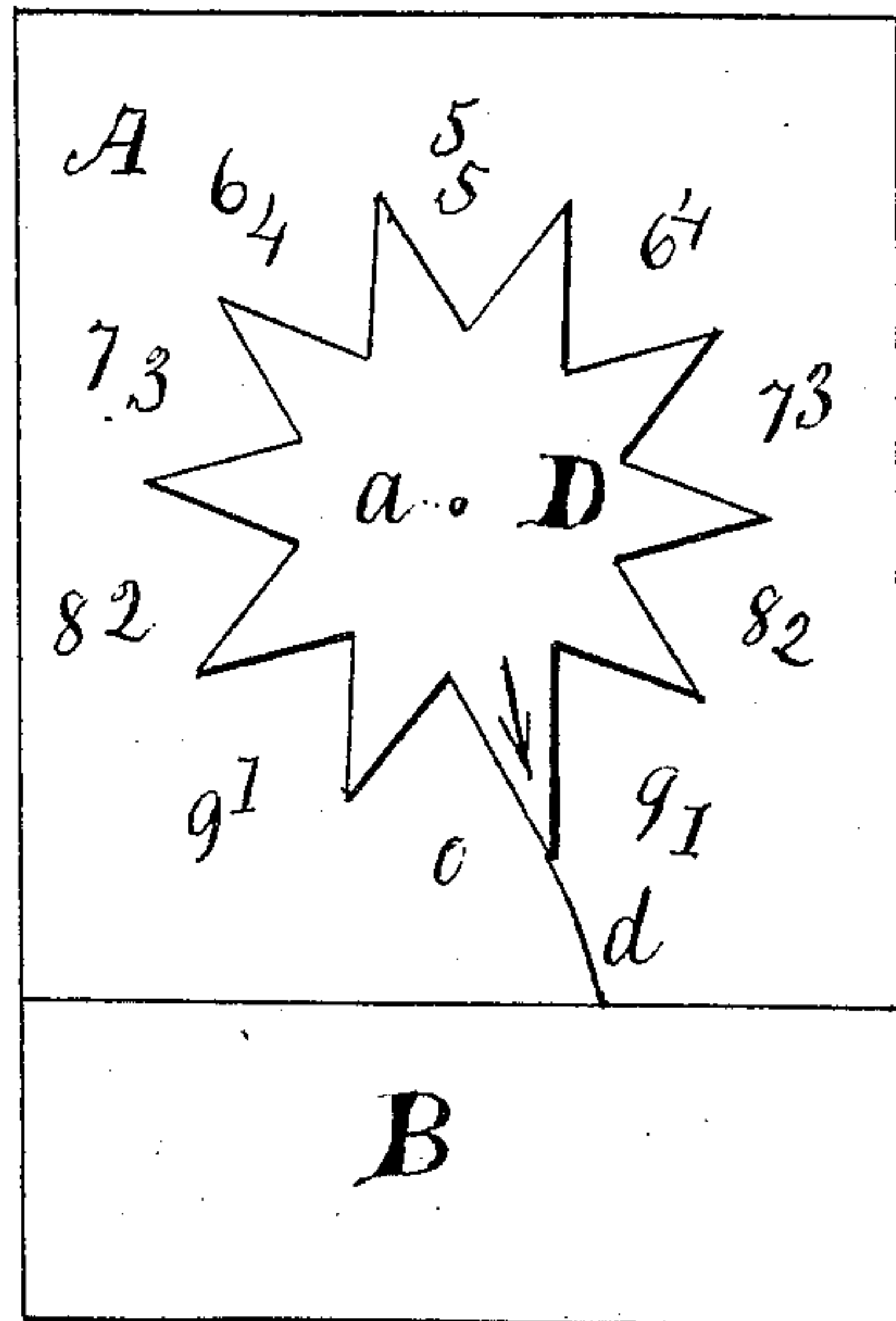
**E**  
**Fig. 1.**



**Fig. 2.**



**Fig. 3.**



**F**

**Fig. 4.**

Th-ds.	H-ds.	Tens.	units
A	A	A	A
•a	•a	•a	•a

Witnesses.  
Robert F. Stevens.  
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# UNITED STATES PATENT OFFICE.

WILLIAM PERRY, OF SANTA BARBARA, CALIFORNIA.

## ADDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 248,605, dated October 25, 1881.

Application filed May 28, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM PERRY, a citizen of the United States, residing at Santa Barbara, in the county of Santa Barbara, in the State of California, have invented a new and useful Calculating-Machine, of which the following is a specification.

My invention relates to improvements in calculating-machines in which a rotating wheel operates in conjunction with stationary figures or numbers placed around the wheel; and the objects of my improvements are, first, to rapidly and accurately calculate numbers with little mental effort; and, second, to operate the machine by the finger, guided by the senses of feeling and hearing, while the eye is engaged in reading the numbers to be calculated. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the machine, of the full size. Fig. 2 is a vertical section of the same, taken on the dotted line E F. Fig. 3 is a plan view of the machine with the standard C taken off. Fig. 4 is a view, on a reduced scale, of four of the machines taken together and on the reverse side.

Similar letters refer to similar parts throughout the several views.

The plate A, the flat piece B, and the standard C constitute the frame-work of the machine.

D is a star-shaped wheel, having ten points or arms. It is hung on the pin *a*, which passes through the standard C, the wheel D, and the plate A, so that the wheel D can be easily rotated on it. One of the points on the wheel D is longer than the others, and is marked with an index or arrow.

*d* is a slender spring, one end of which is firmly secured in the flat piece B.

*e* is a hollow made in the standard C. The standard C has a broad head with two notches, *b* and *c*, cut across it, and the head is so shaped that its edges, with the notches *b* and *c*, guide the finger in operating the machine by the sense of feeling.

Around the wheel, on the plate A, are two series of figures or numbers, from 0 to 9, placed as shown in the drawings, the outer series being in a reverse order to the inner series, and it is of a different color to the inner series, so

that a figure of one series cannot be mistaken for one of the other series.

The manner of operating the machine is as follows: Place the thumb of the right hand in the hollow *e*; then, with the forefinger, turn the wheel D until the long or index point is at the 0; then, to add 1, place the forefinger in the notch *c*; then move it to the right along the notch till it is between the points of the wheel that are at the 1 and 2 of the outer series; then turn the wheel with the finger, so that the top moves to the right, until the finger comes against the standard C. After adding each number, place the finger on the pin *a*, which comes through the standard C far enough to be easily felt by the finger. To add 2, move the finger to the right, directed by the notch *b*, till it is between the points that are at 2 and 3 of the outer series; then turn the wheel so that the top moves to the right until the finger comes against the standard C. To add 3, move the finger to the top of the standard; then move it to the right, guided by the edge of the top of the standard, until it comes between the points that are at 3 and 4 of the outer series; then proceed as before. To add 4, move the finger to the right side of the standard; then move upward, guided by the edge of the standard, until it comes between the points of the wheel that are at 4 and 5 of the outer series; then proceed as before. To add 5, move the finger to the edge on the left side of the standard; then move it upward, guided by the edge, till it comes between the points of the wheel that are at 5 and 6 of the outer series; then proceed as before. To add 6, move the finger to the left, guided by the edge of the upper end of the standard, till the finger comes between the points of the wheel that are at 6 and 7 of the outer series; then proceed as before. To add 7, move the finger to the left, guided by the notch *b*, until it comes between the points of the wheel that are at 7 and 8 of the outer series; then proceed as before. To add 8, move the finger to the left, guided by the notch *c*, until it comes between the points of the wheel that are at 8 and 9, and proceed as before. To add 9, move the finger downward, guided by the edge of the left side of the standard, until it comes between the points of the wheel; then proceed as before. When the



sum of the additions on the wheel exceeds 9, the long or index point will come against the spring *d*, (see Fig. 3,) which will make a resistance that will be felt by the finger; and  
 5 when the spring is released by the point passing out of its reach it will spring to its place with a slight sound, both the resistance and the sound indicating that 1 is to be added on the next wheel on the left. (See Fig. 4.)  
 10 It is evident that if the long or index point of the wheel is at the 0, and then any figure be added on the wheel, then the index-point will be at the same figure of the inside series. If 2 be added, the index-point will then be at the  
 15 2 of the inner series; then if 5 be added the index will be at the 7; then if 6 be added the index-point of the units-wheel will be at the 3, and the index-point of the wheel of the tens will be at the 1 of the inside series; and so if  
 20 any amount be added the index of the units-wheel will show how many units, the index of the tens-wheel will show how many tens, and the index of the hundreds-wheel will show how many hundreds there are in the sum, and  
 25 so on for as many figures as there may be in the sum.

Subtraction is done by turning the wheel the reverse to addition, and with reference to the inner series of figures.

I am aware that prior to my invention calculating-machines have been made with rotating wheels operating in conjunction with a series of figures around them. I therefore do not claim such a combination, broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. In a calculating-machine, finger-guides by means of which a rotating wheel can be operated by the finger, guided by the sense of feeling, substantially as described, and for the purposes set forth.

2. The combination, in a calculating-machine, of a standard, C, with a pin, *a*, and the notches *b* and *c*, all substantially as described, and for the uses and purposes set forth.

3. In a calculating-machine, the combination of a standard, C, having notches *b* and *c*, with a wheel, D, all substantially as described.

WILLIAM PERRY.

Witnesses:

ROBERT F. STEVENS,  
 EMMA STEVENS.