

No. 856,041.

PATENTED JUNE 4, 1907.

A. D. DUNN.
COUNTING BOARD.
APPLICATION FILED JAN. 31, 1907.

Fig. 1.

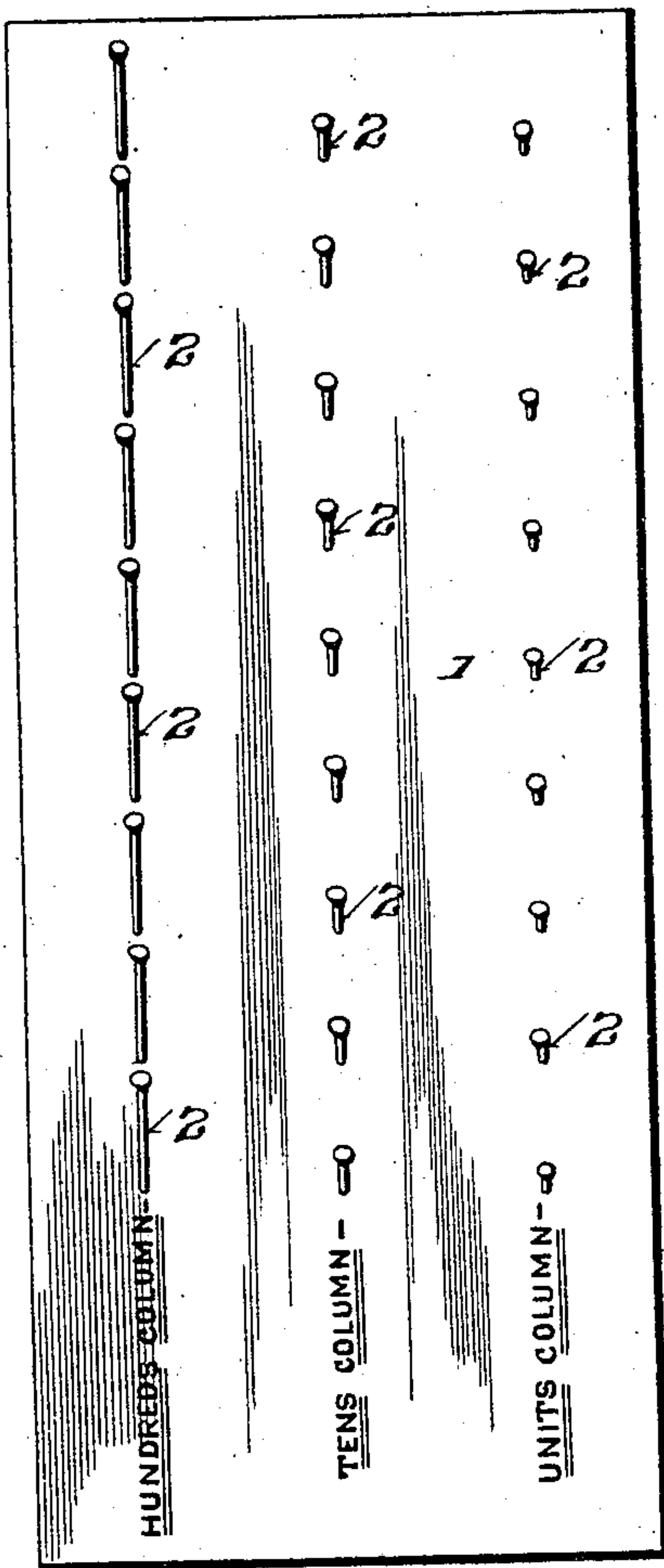


Fig. 2.

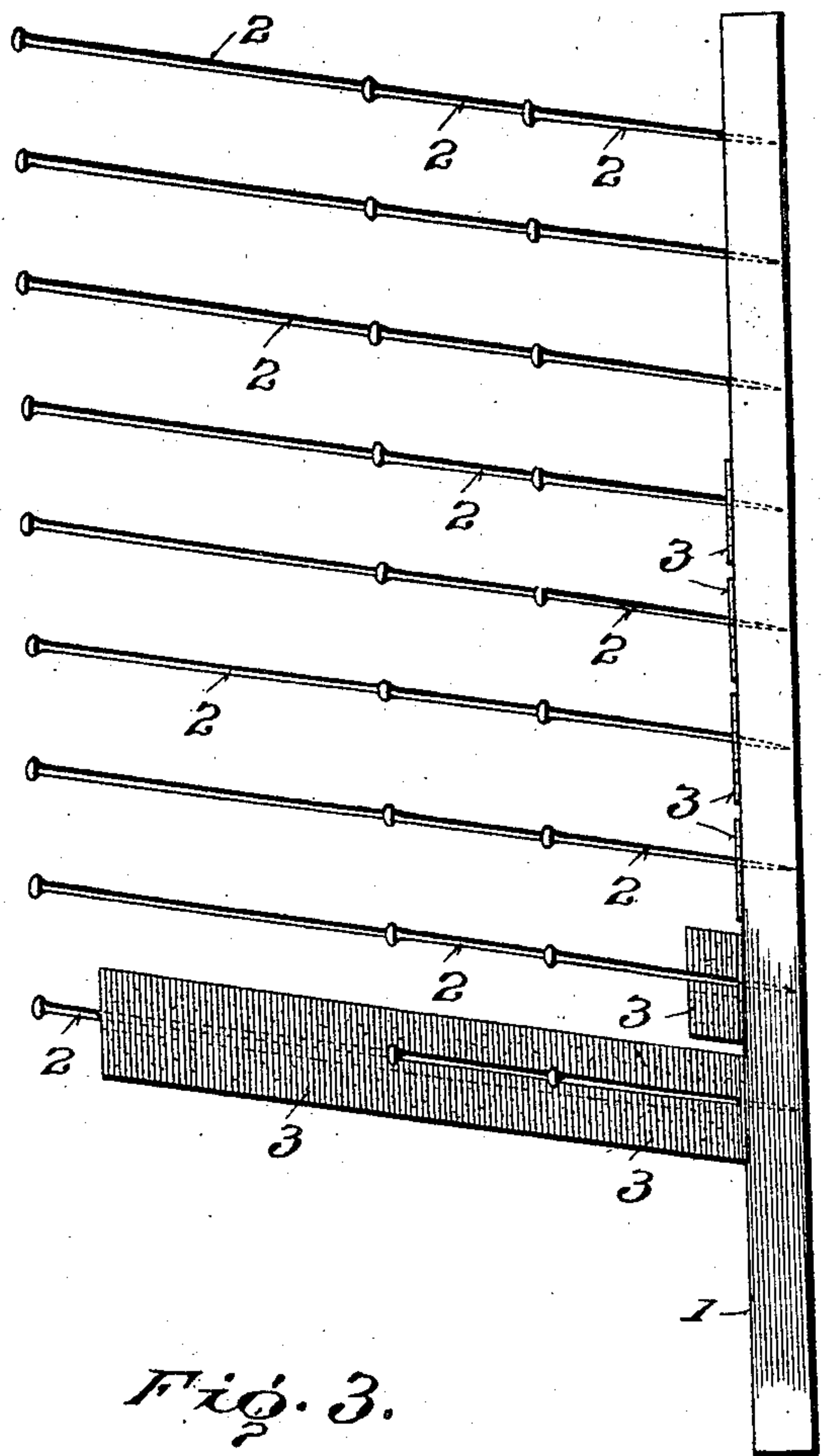
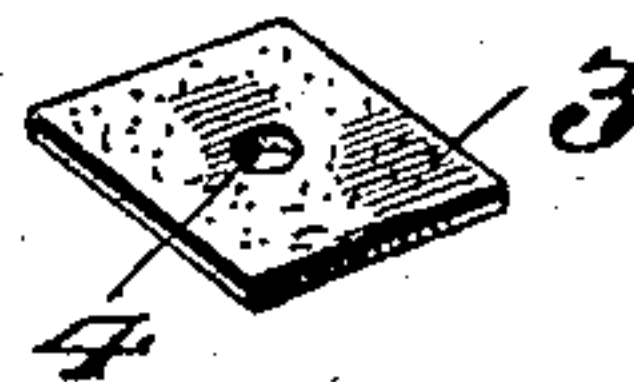


Fig. 3.



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AUGUSTA D. DUNN, OF SANFORD, FLORIDA.

COUNTING-BOARD.

No. 856,041.

Specification of Letters Patent.

Patented June 4, 1907.

Application filed January 31, 1907. Serial No. 355,030.

To all whom it may concern:

Be it known that I, AUGUSTA D. DUNN, of Sanford, in the county of Orange and State of Florida, have invented certain new and useful Improvements in Counting-Boards; 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.

Instructors in the primary school grades frequently find it necessary, in teaching the first principles of arithmetic, to give demonstrations of the "carrying" and "borrowing" in addition and subtraction, respectively, and for this purpose sometimes employ slivers of wood, marbles, buttons, and other small objects arranged in hundreds, tens and units, and tied in bundles or packages, which must be tied and untied for each lesson. Such articles become cumbersome when the problems are of large denominations, and are generally unsatisfactory.

The object of my invention is to provide a simple and inexpensive counting device for impressing beginners, by means of tangible evidence, with the value of the number of units "carried" in addition, and "borrowed" in subtraction.

The invention will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation. Fig. 2 is a side view. Fig. 3 is a detail, showing one of the counting disks removed.

Referring to the drawings, 1 designates a base which is preferably of rectangular shape, whereon are three perpendicular rows of pegs 2, nine pegs constituting a row. The pegs may be secured to the board in any desired manner, and, preferably, project therefrom at an acute angle. The counters or disks 3 consist each of a square of pasteboard or other stiff material having a central aperture 4. These disks are designed to be slipped over the pegs, the angle thereof insuring their retention thereon, as against accidental displacement. When the board is not in use each peg of the "hundreds" row holds 100 disks, the pegs of the "tens" row, ten disks each, and those of the "units" row, one each, making in all nine hundred and ninety-nine disks. The pegs of each row are varied in length accordingly.

The use of the device will be understood from the following examples.

The addition of 126 and 87: The disks being removed from all pegs, the teacher places 100 disks on one peg in the "hundreds" row, 10 disks on each of two pegs in the "tens" row, and 1 disk on each of six pegs in the "units" row. To the 6 units add the 7 units of the 87. Thus there are thirteen units, 10 of which, (representing the "carrying" figure) are placed on one peg in the "tens" row, leaving 3 disks in the "units" row. Three of the pegs of the "tens" row each contain 10 disks, to which are to be added 8 "tens," making in all 11 "tens," of which 10 "tens," or 1 "hundred," are carried, and leaving 1 "ten," (10 disks) in the "tens" row. The board will now show 2 "hundreds," 1 "ten," and 3 "units," in all 213 disks.

The subtraction of 87 from 126: The disks are placed as before to represent 126. There being but 6 "units" 7 cannot be taken therefrom. It is necessary, therefore, to "borrow" 1 "ten" (10 disks), making 16 units in the "units" row. Taking away the 7 units of the subtrahend, 9 units are left in the "units" row. But 1 "ten" appears on the board in the "tens" row, from which 8 are to be taken. 1 "hundred" (100 disks) is borrowed from the "hundreds" row, making 11 "tens" (110 disks). After taking off 8 "tens" (80 disks) 3 "tens" remain (30 disks), which with the 9 disks in the "units" row give the remainder 39.

In adding more than two numbers, for instance, 27 plus 45 plus 16 plus 9, the numbers are written on the blackboard, the beginners take the disks and count off the various units, 7, 5, 6, 9, making in all 27 units. From these 27 disks they take the 2 tens (20 disks), leaving 7 disks in the "units" row, one disk on each of seven pegs. The 2 "tens" are placed on pegs in the "tens" row and to these are added the 2 "tens" of the 27, 4 "tens" of the 45, and 1 "ten" of the 16, in all 9 "tens." The result is 9 "tens" and 7 "units"—97.

It will be seen that a counting device constructed and operated in accordance with my invention is easily handled, and is productive of highly efficient results.

I claim as my invention:

1. An arithmetical device comprising an approximately vertically disposed base, a plurality of rows of pegs projecting forwardly

therefrom on a slightly inclined plane, each row representing a different value, and removable members designed to be held by said pegs, the number of such members for each
5 peg of each row corresponding to the value of the respective row of pegs.

2. An arithmetical device comprising a base having a plurality of rows of holding devices, each row being composed of nine
10 such devices, and each row of a different value from the others, and removable members designed to be held by said holding devices, the number of such members for each holding device of each row correspond-
15 ing to the value of the respective row of holding devices.

3. An arithmetical device comprising a base having a series of rows of pegs, each row being of a different value, said pegs being set at an angle to the base, and disks having
20 openings to accommodate said pegs, the number of disks for each peg of each row corresponding to the value of the respective row of pegs.

In testimony whereof, I have signed this
25 specification in the presence of two subscribing witnesses.

AUGUSTA D. DUNN.

Witnesses:

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