

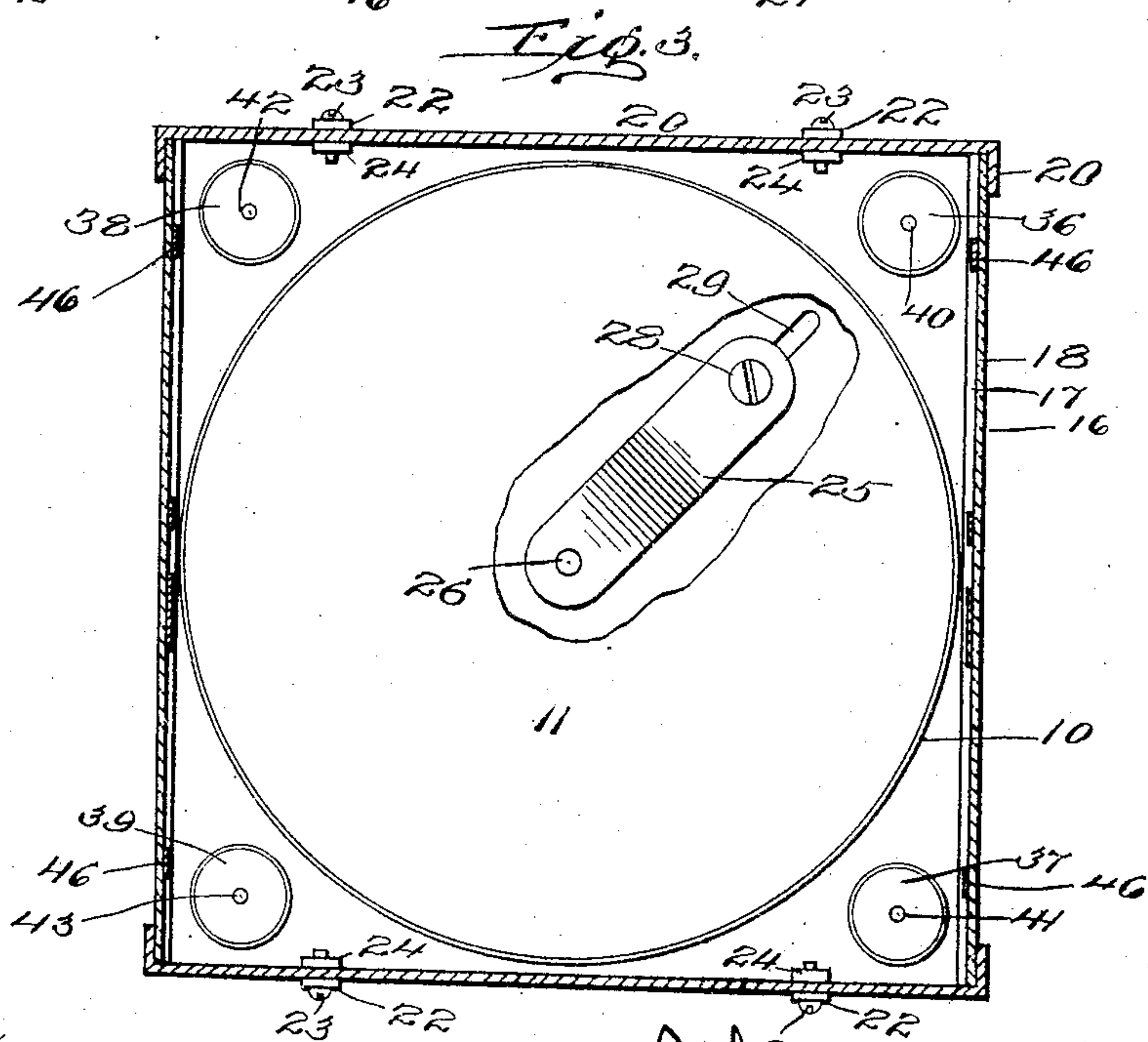
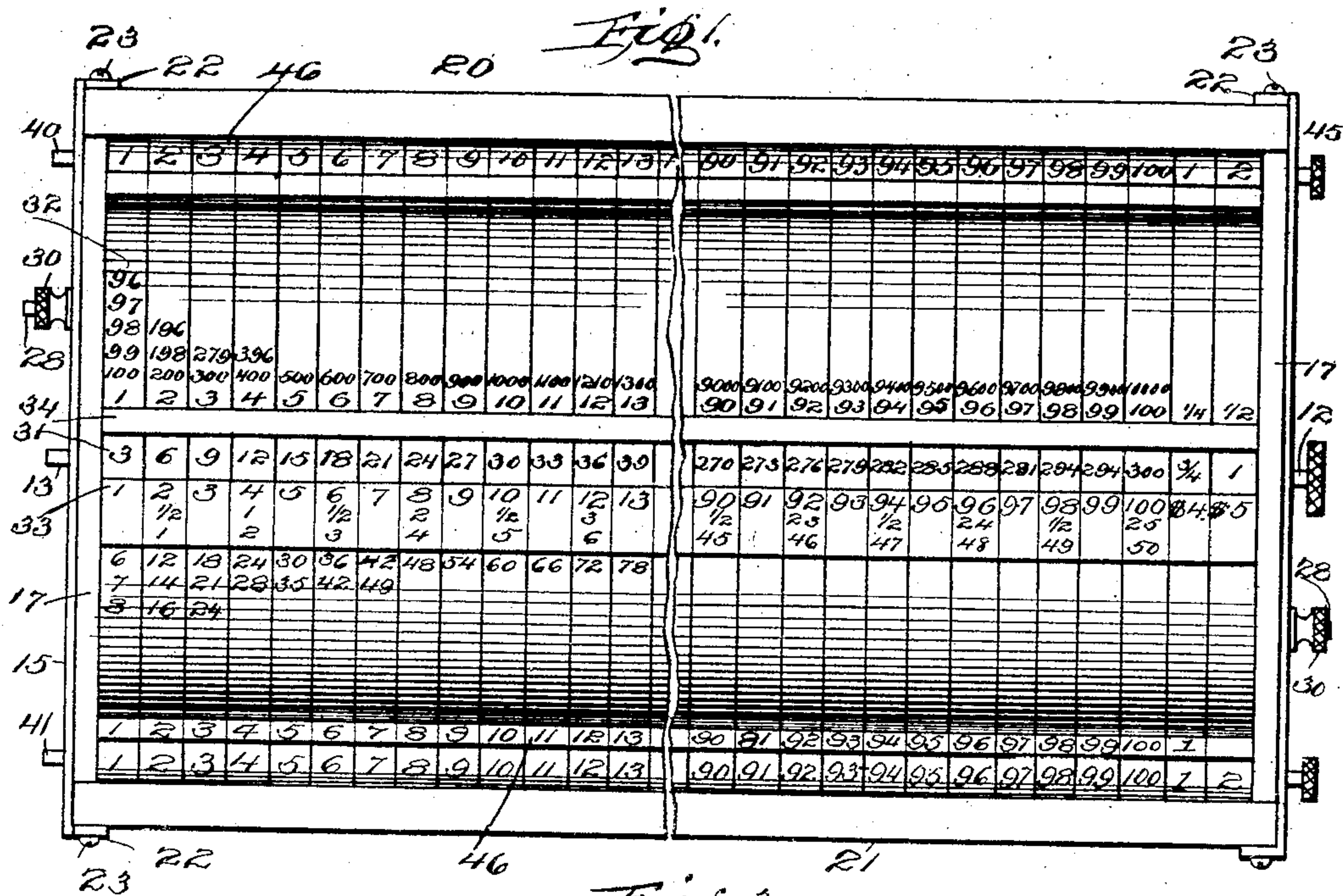
No. 855,218.

PATENTED MAY 28, 1907.

J. A. ANSELL.
COMPUTING DEVICE.

APPLICATION FILED JUNE 2, 1906.

2 SHEETS—SHEET 1.



Inventor

Witnesses

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L. B. Merrill



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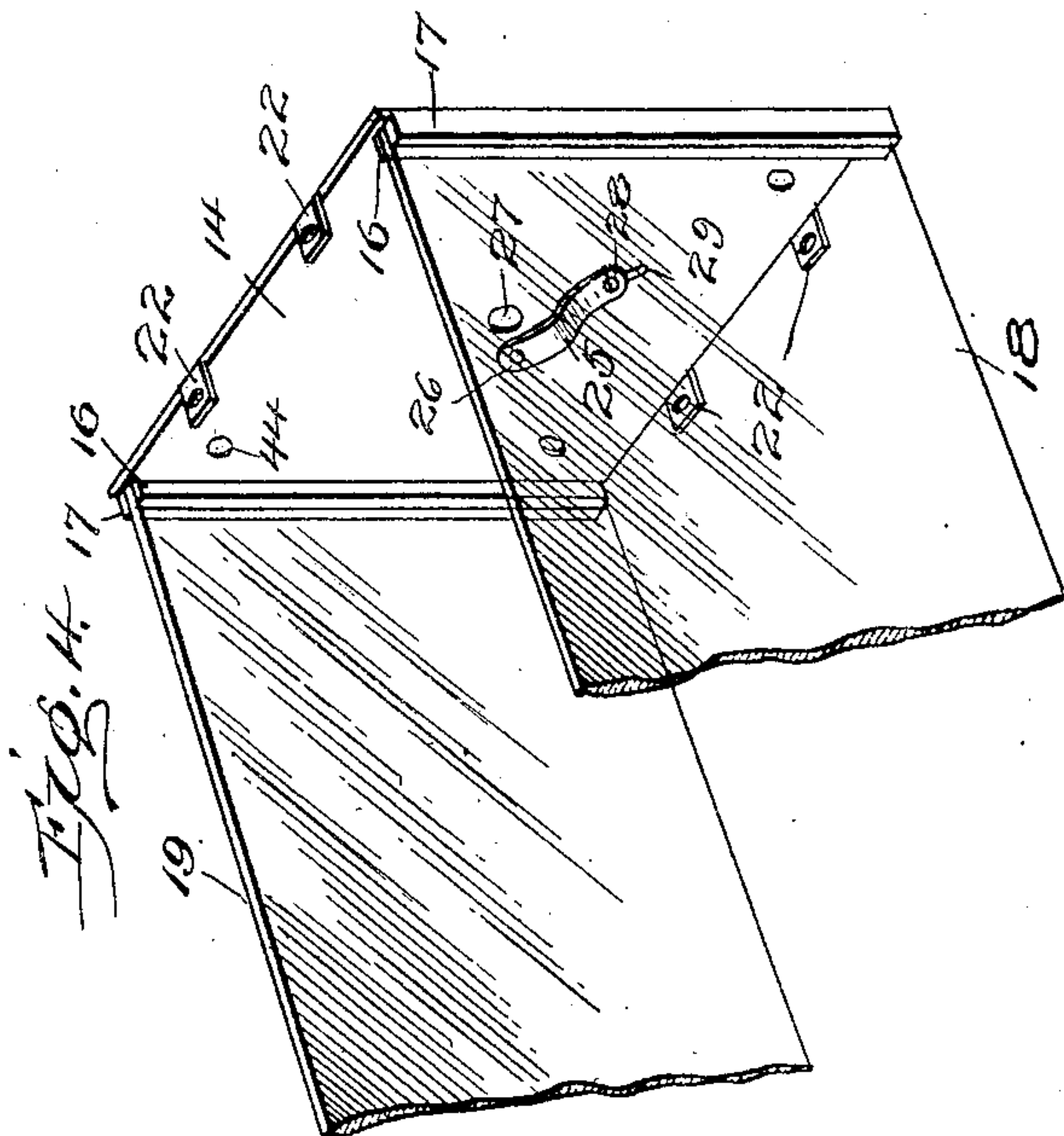
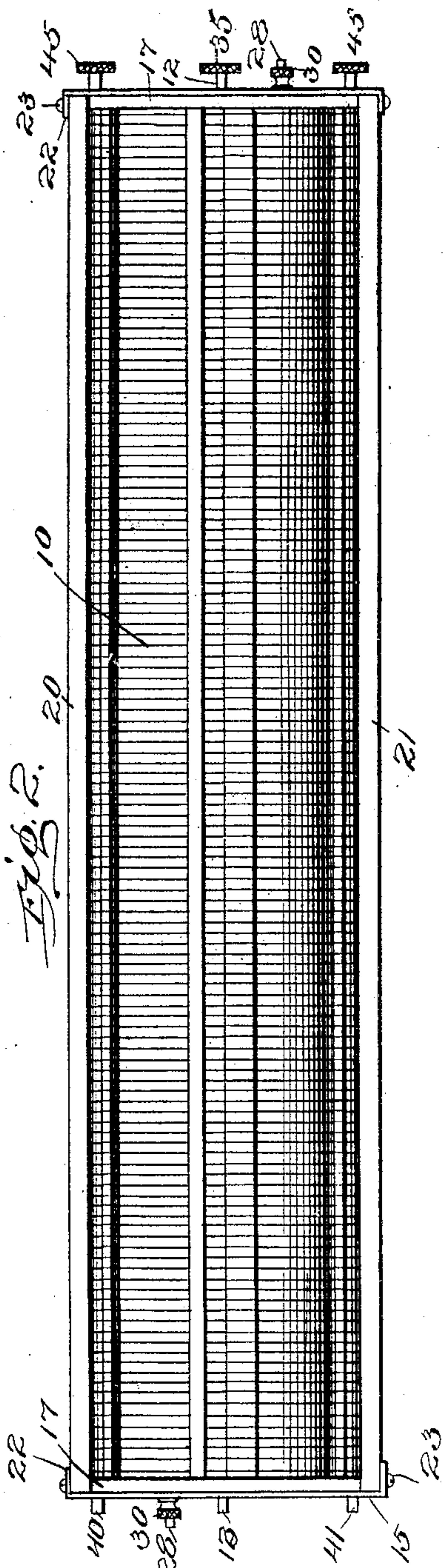
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UNITED STATES PATENT OFFICE.

JOHN A. ANSELL, OF SEATTLE, WASHINGTON, ASSIGNOR TO THE ANSELL COMPANY, OF SEATTLE, WASHINGTON, A CORPORATION OF WASHINGTON.

COMPUTING DEVICE.

No. 855,218.

Specification of Letters Patent.

Patented May 28, 1907.

Application filed June 2, 1906. Serial No. 319,902.

To all whom it may concern:

Be it known that I, JOHN A. ANSELL, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Computing Devices; 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.

This invention relates to computing devices, and especially to those devices for rapid computation of ordinary commercial transaction as the multiplication of large numbers and the computing of prices, weights, distances and the like.

A further object of the invention is to provide a computing device of the class mentioned embodied in convenient form for use and operation in the hand or upon the desk of the user.

A further object of the invention is to provide a device arranged for computing a plurality of different standards and values, and with a mechanism for the several computations inclosed within a single casing.

Figure 1 is a view of the improved computing device shown in side elevation and broken centrally to permit the opposite ends being shown on an enlarged scale. Fig. 2 is a view in side elevation of the entire computing device with the numerals omitted. Fig. 3 is a transverse, vertical, sectional view of the device. Fig. 4 is a view in perspective of one end of the casing, together with the opposite transparent sides and with the top and bottom removed.

Specifically, the object of the invention is to provide a cylinder carrying upon its periphery a chart indicating the totals of various multiplications, together with various numbers from 1 to 100, and with other cylinders carrying upon their periphery charts provided with characters for fractional computations, computation in weights, computations in distances, and such other computations as may be applied.

With these and other objects in view, the invention comprises certain novel constructions, combinations and arrangements of parts, as will be hereinafter fully described and claimed.

In its preferred embodiment, the com-

puting device forming the subject-matter of this application, comprises a cylinder 10, constructed in any approved manner as by heads 11 disposed at opposite ends and connected by means of the cylindrical shell and provided with an axis extending at the ends to form trunnions 12 and 13. The trunnions 12 and 13 are journaled in end plates 14 and 15 of any approved form and material, as from plate metal, provided along opposite parallel edges with spaced flanges 16 and 17, between which said flanges are secured panes of glass, as 18 and 19, disposed in opposite and parallel planes.

The panes of glass are held in position in any approved manner as by means of sides 20 and 21, which may be of sheet material of any kind as metal, wood and the like. The sides 20 and 21 are maintained in position in any approved manner as by means of ears 22, through which are inserted screws 23, provided upon the inner surface with nuts 24.

As shown the end plates 14 and 15 are substantially square and of a size to but little more than accommodate the cylinder 10, so that the periphery of the cylinder 10 is approximately in contact with the glass panes 18 and 19.

To maintain the cylinder 10 in proper position relative to the glass panes and to compensate for wear, the trunnions 12 and 13 are mounted in arms 25 having openings 26 positioned to accommodate the said trunnions and permitting the trunnions to extend through the said openings 26 and through the central openings 27 of the end plates. At their ends opposite the openings 26, the arms 25 are provided with screws 28 which extend outwardly through slots 29 formed in the end plates and provided upon the exterior surface with nuts 30, whereby the said arms are clamped at any desired adjusting position relative to the slots 29.

The cylinder 10 is provided about its peripheral surface with any approved chart, as for instance, a chart provided with numerals ranging longitudinally and circumferentially in rows from 1 to 100, as particularly shown in Fig. 1, it being understood that all of the numerals are not shown in the said figure and that in the line 31 are shown the numerals ranging longitudinally of the cylinder from 1 to 100, while in the row shown at 32 are the numbers ranging circumferentially from 1 to

100. Upon the glass panes 18 and 19 are applied in any approved manner, a longitudinal row of numerals 33 ranging from 1 to 100, and with fractions and other designations properly disposed beneath said row of numerals for convenience in computations. Above the row of numerals 33 and spaced therefrom is an opaque strip 34 which interrupts the vision, permitting but a single longitudinal row of characters upon the cylinders to be seen between the strip 34 and the row of numerals 33. The strip 34 may be of paper or the like, and the row of numerals 33 may be applied in similar manner as by printing the numerals upon a strip of paper and pasting upon the inner surface of glass, or by forming the numerals directly upon the glass and covering with an opaque coating in the rear of the numerals.

With the cylinder and strips arranged as shown in Fig. 2, it will be seen that for a simple multiplication, the cylinder is rotated by means of a knurled head 35 upon the trunnion 12 to bring one of the members of the computation between the opaque strip in the circumferential row at the left hand end of the device. The numerals exhibited above the other member of computation appearing upon the strip 33 will then indicate the result of such multiplication. As an example of such use, let it be desired to multiply 96 by 3. The cylinder 10 is rotated by means of the knurled head 35 to bring the numeral 3 in the left hand circumferential row between the opaque strips 33 and 34, as shown in Fig. 2. Immediately above the numeral 96 upon the opaque strip 3 will be read the numeral 288 which is 96 multiplied by 3. It will be understood that with the chart arranged as shown, multiplication with either or both numbers of 100 or less may be almost instantly computed by a simple rotation of the cylinder until one member of the multiplication is shown at the left hand end between the opaque strips.

Within the casing and adjacent the panes 18 and 19 are also mounted a plurality of small cylinders 36, 37, 38, and 39 constructed in any approved manner as the cylinder 10 and provided with trunnions 40, 41, 42 and

43, journaled in openings as 44 in the end plates and provided at one end with knurled heads, as 45, by which the said cylinders may be conveniently rotated. The cylinders 36, 37, 38 and 39 are provided about their peripheral surfaces with any approved charts and with opaque strips, as 46, upon the glass panes provided with registering numerals by the use of which computations may be read from the combination of characters upon the cylinders and strips.

It will be understood that the device shown and described may be conveniently held in the hand of the operator or set upon any convenient support as a desk, and in convenient position for ready operation and reference by any person who wishes to compute any ordinary sums or the like, and that for the several computations of which the device is capable, it is only necessary to rotate one or more of the several cylinders and to read the exact and proved result from the combination.

What I claim is:—

1. In a computing device, a casing embodying end sections provided with slots, arms movably mounted in the slots and provided with bearing openings, and a cylinder journaled within the casing and in the bearing openings.

2. In a computing device, a casing provided with a transparent side, and embodying an end plate provided with a slot, an arm slidably mounted in the slot and provided with a bearing opening, and a cylinder journaled in the bearing opening.

3. In a computing device, a casing embodying transparent sides, and an end plate joining the transparent sides and provided with a slot, an arm slidably mounted in the slot and provided with a bearing opening, and a cylinder disposed longitudinally within the casing and journaled in the bearing opening.

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

JOHN A. ANSELL.

Witnesses:

G. WARD KEMP,
A. H. SCHULT.