

(No Model.)

2 Sheets—Sheet 1.

S. N. DODD.
CALCULATING DEVICE.

No. 573,506.

Patented Dec. 22, 1896.

FIG. 1.

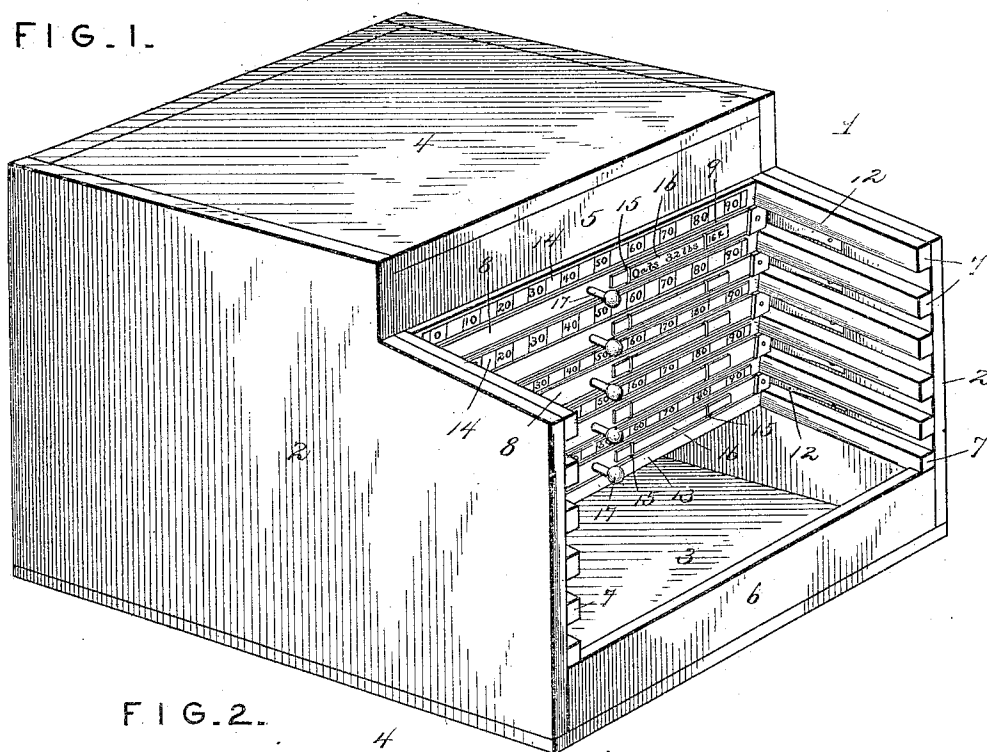
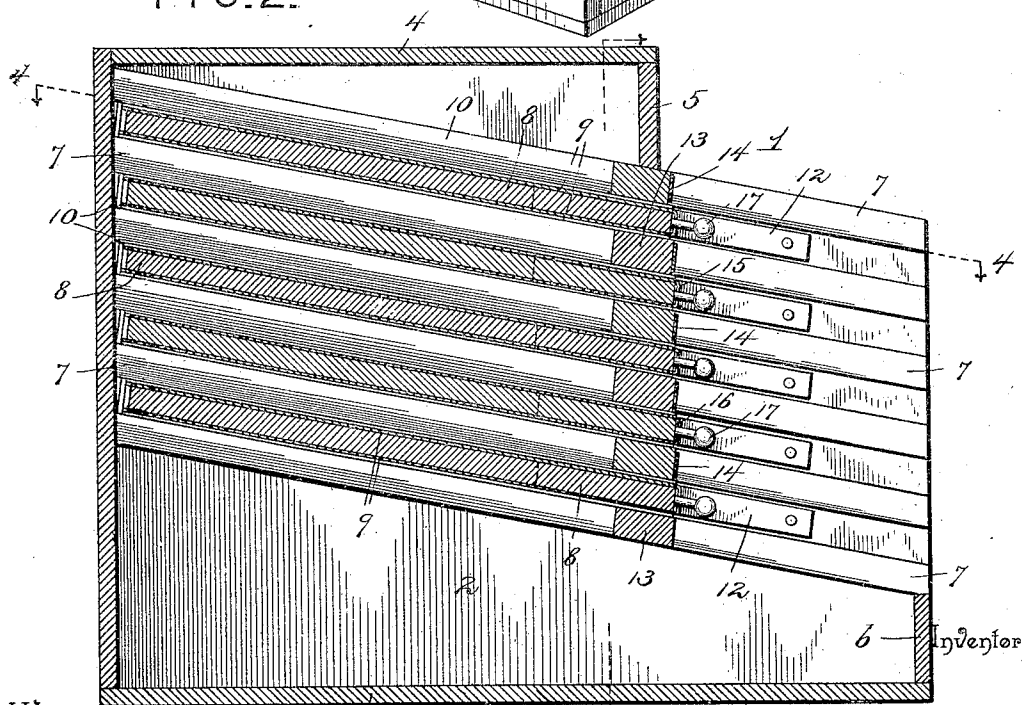


FIG. 2.



Witnesses

Harry L. Ames,
J. F. Riley

3

By his Attorneys,

Silas N. Dodd.

C. Snow & Co.

(No Model.)

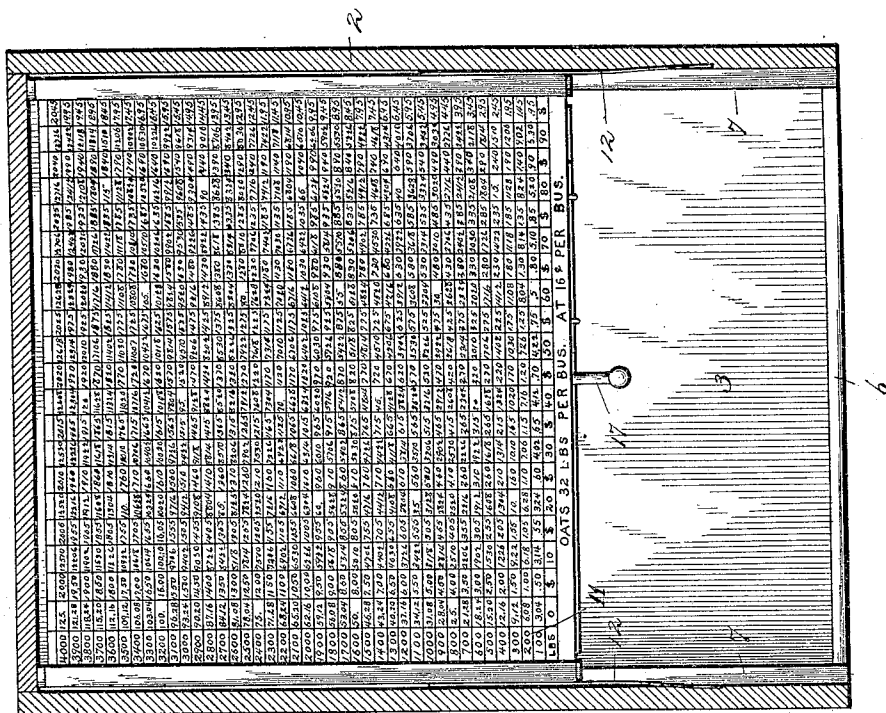
2 Sheets—Sheet 2.

S. N. DODD.
CALCULATING DEVICE.

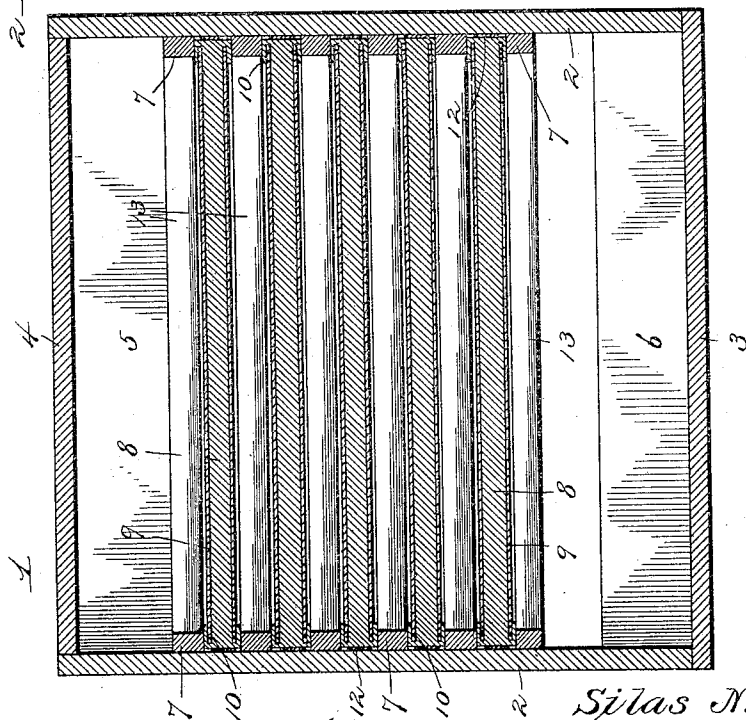
No. 573,506.

Patented Dec. 22, 1896.

44



103



Inventor

Witnesses

Harry L. Amer.
H. J. Riley

By his Attorneys,

Silas N. Dodd.

Cashnow & Co.

UNITED STATES PATENT OFFICE.

SILAS N. DODD, OF TOLEDO, IOWA.

CALCULATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 573,506, dated December 22, 1896.

Application filed June 6, 1896. Serial No. 594,605. (No model.)

To all whom it may concern:

Be it known that I, SILAS N. DODD, a citizen of the United States, residing at Toledo, in the county of Tama and State of Iowa, have
5 invented a new and useful Calculating Device, of which the following is a specification.

The invention relates to improvements in calculating devices.

The object of the present invention is to
10 improve the construction of that class of devices known as "tabular calculators" and to provide a simple, inexpensive, and efficient one capable of supporting in convenient position for instant examination a number of
15 cards bearing tables of calculations to enable a person to ascertain at a glance the number of bushels, tons, or other desired denomination and the cost of the same when the gross weight is ascertained.

20 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

25 In the drawings, Figure 1 is a perspective view of a calculator constructed in accordance with this invention. Fig. 2 is a vertical longitudinal sectional view. Fig. 3 is a transverse sectional view. Fig. 4 is a sectional
30 view on line 4 4 of Fig. 2, showing one of the cards with its tables.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

35 1 designates a case or cabinet substantially rectangular in section and open at its front, the sides 2 and the bottom 3 being extended in advance of the top 4. The sides 2 are recessed, adjacent to the top, to form the extensions, and they are connected at the top and
40 bottom by cross-pieces 5 and 6.

On the inner faces of the sides are arranged a series of cleats 7, disposed at a slight inclination and forming longitudinal ways for
45 the reception of rectangular slides 8, which may be of any desired number. The slides, which are adapted to hold cards 9, are provided at their upper and lower faces with grooves or ways 10 for the reception of the
50 side edges of the cards, which are sprung into the grooves or ways, as shown.

The cards which bear the tables of calcula-

tions and which may be of any desired number are divided into suitable columns, the lowest calculations being at the bottom of the
55 card or at the outer edge of the slide in order that the calculation may increase as the slide is drawn outward. The first column 11 is designed to contain the gross weight of the bulk of material to be measured and increases
60 arithmetically by one hundred, the first number being "100," the second "200," and the third "300," to any desired extent. The first card, which is clearly illustrated in Fig. 4 of the accompanying drawings, is calculated on
65 the basis of thirty-two pounds of oats to the bushel, at the cost of sixteen cents per bushel, and the two columns adjacent to the column 11 indicate the number of bushels and the cost of the same.

70 The calculations of each set of columns, reading from left to right, increases arithmetically by ten pounds, the first two columns being calculated on a basis of even hundreds, the next two on hundreds plus ten pounds,
75 the next two plus twenty pounds, and so on up to ninety pounds, so that when the weight of the bulk is ascertained the operator draws out the slide until he arrives at a number indicating the hundreds of pounds and reads to
80 the right until he arrives at the tens of pounds, where will be indicated the number of bushels contained in the block and the price of the amount.

Any number and variety of cards may be
85 employed to meet variations in price and variations in the kinds of material handled, and as the price varies the cards may be readily sprung out of the grooves of the slides and new ones may be quickly placed therein.

90 The grooves 10 are arranged at the top and bottom of the slides to increase the capacity of the calculator, but the number of slides may be varied, as desired.

The slides are held at any desired adjust-
95 ment and are prevented from slipping accidentally downward in the slightly-inclined ways by flat springs 12, arranged in the ways formed by the cleats 7, secured at one end to the inner faces of the sides of the cabinet and
100 having their free ends engaging the side edges of the slides.

The case or cabinet is provided below the cross-piece 5 with a vertical series of trans-

verse bars 13, secured at their ends to the cleats 7 and bearing indicating-strips 14, containing numbers from "0" to "90," corresponding with the columns of the cards, to enable the operator to instantly locate the desired column of tens.

The ways for the slides are extended beyond the transverse bars in order to form supports for the slides when the latter are drawn out in use.

The stationary indicators may consist of separate strips of sheet metal or other suitable material, or the indicating-marks may be made directly on the faces of the transverse bars, if desired.

The slides are provided at their outer edges with keepers 15, adapted to receive removable slips 16 for indicating the character of the card, and a handle 17 is arranged at the center of the front edge of each slide to enable the latter to be readily drawn out or moved inward.

The bottom portion of the case or cabinet below the cleats forms a receptacle for cards, and although the calculations for one card only are illustrated it will be readily apparent that other cards may be similarly calculated to meet the variations or fluctuations in the prices of grain and other material and to accommodate the devices to all kinds of material sold in bulk, such as grain, hay, and the like.

It will be seen that the calculating device is exceedingly simple and inexpensive in construction, that the slides are advantageously arranged and will enable a person to ascertain quickly the desired information, and that the cards may be quickly changed, as found necessary or desired. It will also be apparent that the slides are adapted to contain cards at their upper and lower faces and may be quickly reversed to bring either card uppermost.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

What I claim is—

1. In a device of the class described, the combination of a cabinet open at its front and provided at its opposite sides with longitudinal ways, slides mounted in the ways and provided with means for detachably se-

curing cards to them, and the transverse bars extending horizontally across the front of the cabinet, located above the slides in position to support stationary indicators and interposed between the said ways, the latter being extended outward beyond the stationary transverse bars to form supports for the slides, when the latter are drawn outward in use, substantially as described.

2. In a device of the class described, the combination of a case or cabinet having its sides and bottom extended horizontally beyond the top and providing a lower receptacle, a series of longitudinal ways arranged on the inner faces of the sides and extended substantially horizontally beyond the top of the casing, a series of transverse bars located above the grooves or ways, and the card-bearing slides arranged in the grooves or ways, substantially as and for the purpose described.

3. In a device of the class described, the combination of a case or cabinet having forwardly-extending sides, and provided at the inner faces thereof with slightly-inclined ways, card-bearing slides removably arranged in the ways, and springs arranged in the ways, secured at the inner faces of the sides of the case or cabinet and having their ends engaging the side edges of the slides, substantially as described.

4. In a device of the class described, the combination of a case or cabinet having its sides and bottom extended forward, forming an open front and providing a bottom receptacle, longitudinal cleats arranged on the inner faces of the sides and forming ways, transverse bars 13 connecting the cleats and located above the ways and adapted to receive stationary indicators, reversible slides arranged in the ways and provided at opposite sides with grooves for the reception of cards, springs frictionally engaging the slides, and means for detachably securing the indicator-slips to the front edges of the slides, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

SILAS N. DODD.

Witnesses:

A. L. STONE,

P. E. DAVIS.