

(No Model.)

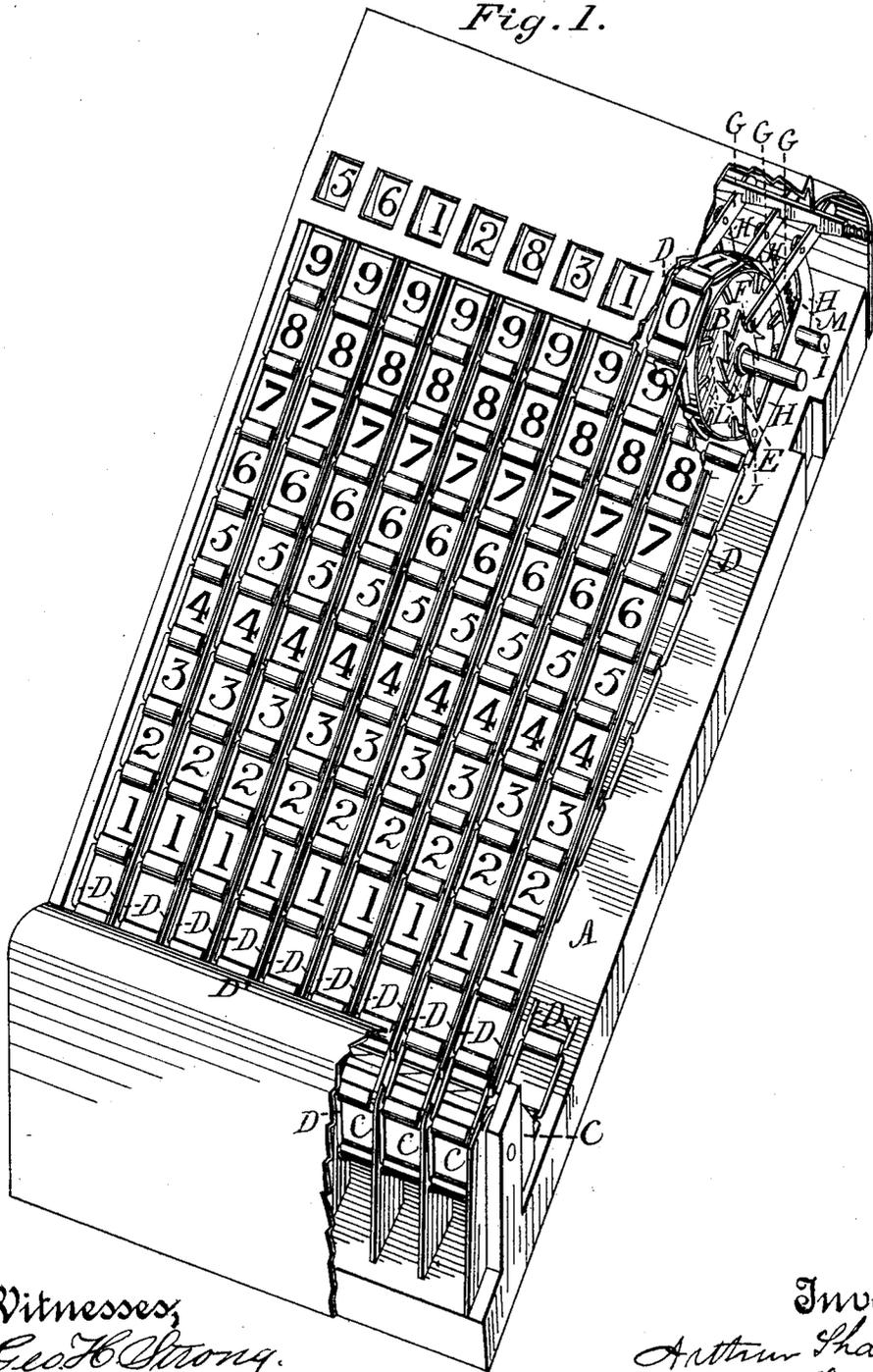
A. SHATTUCK & C. THORN, Jr. ^{2 Sheets—Sheet 1.}

ADDING MACHINE.

No. 268,135.

Patented Nov. 28, 1882.

Fig. 1.



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2 Sheets—Sheet 2.

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ADDING MACHINE.

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Fig. 2.

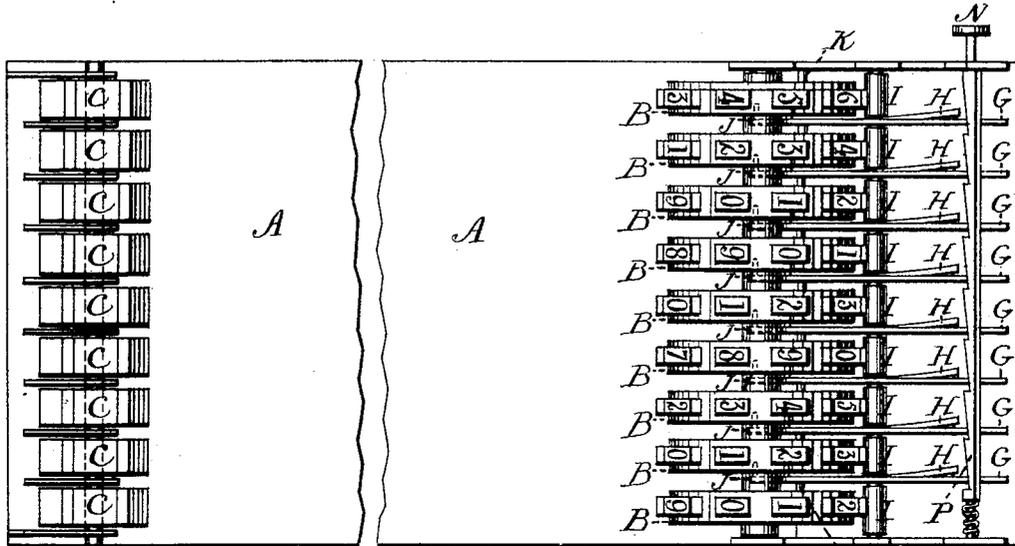


Fig. 3.

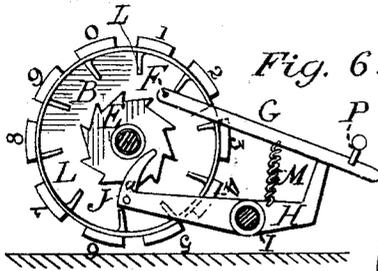
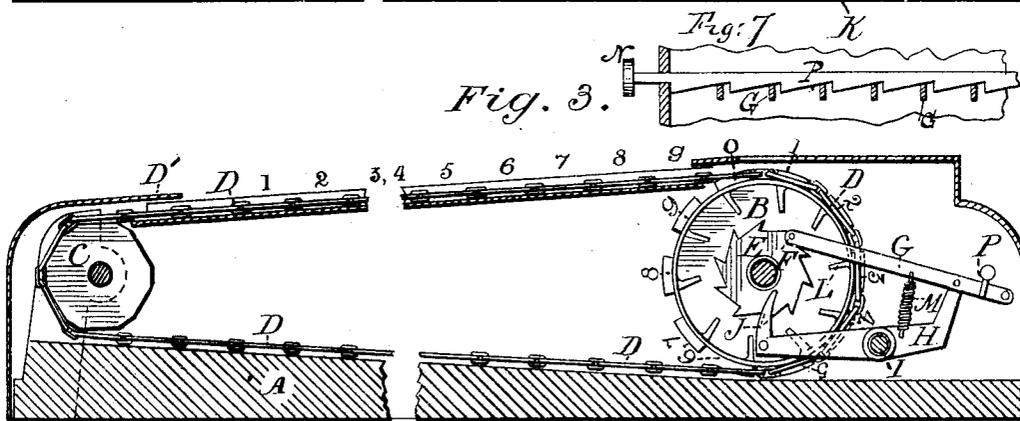


Fig. 6.

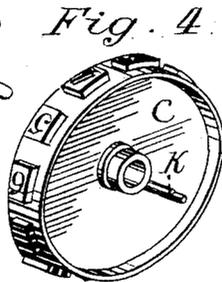


Fig. 4.

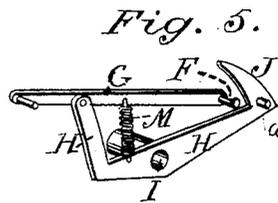


Fig. 5.

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UNITED STATES PATENT OFFICE.

ARTHUR SHATTUCK AND CHARLES THORN, JR., OF SANTA ROSA, CAL.

ADDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 268,135, dated November 28, 1882.

Application filed May 27, 1882. (No model.)

To all whom it may concern:

Be it known that we, ARTHUR SHATTUCK and CHARLES THORN, Jr., of Santa Rosa, county of Sonoma, State of California, have invented an Improved Adding-Machine; and we hereby declare the following to be a full, clear, and exact description thereof.

Our invention relates to an improved device or apparatus for mechanically adding columns of figures; and it consists in certain details of construction, as hereinafter fully described, and specifically pointed out in the claims. The upper ends of these belts or slides each pass over a roller, also having the digits imprinted upon them and arranged on a shaft, so that as a slide or belt is drawn over the table any number of figures the roller will also be revolved a corresponding number. Suitable devices are connected with the rollers to cause each roller to the left to be moved to indicate any addition to the columns of tens, hundreds, thousands, &c., and suitable mechanism is connected with the rollers by which they are properly rotated and prevented from turning too far, and by which any or all of the rollers may be returned to 0 at will, as will be more fully explained by reference to the accompanying drawings, in which—

Figure 1, Sheet 1, is a perspective view of our apparatus. Fig. 2, Sheet 2, is a plan with chains omitted. Fig. 3 is a vertical longitudinal section. Figs. 4 and 5 are detailed views of parts of the apparatus. Fig. 6 is a detail showing lever disengaged. Fig. 7 shows the pawl-levers in section and the disengaging-bar in elevation.

A is the table of our apparatus, having at each end a transverse shaft, with a series of rollers, B and C, upon them, over which a series of independent slides, chains, or open belts, D, pass, as shown. Upon the table, beneath each chain, is a row of figures, from 1 to 9, so spaced that each figure occupies the open space of one link of the chain. The rollers C at the lower end of the table are idlers, around which the chains pass and are kept in the proper place and at the proper tension. The rollers B at the upper end are of such a size as to have digits corresponding with those upon the table, (marked upon spaces from 0 to 9,) so that when the chain is drawn down over the table to the stop D' at the lower end from

any particular figure the roller will be turned a corresponding number of figures. When any roller passes the 0 point the mechanism will move the roller to the left one place, in the manner usual to this class of machines. Each roller has upon its side a ratchet-wheel, E, which is engaged by a pin, F, on the end of a lever, G. This lever has secured to it one arm of a bell-crank lever, H, having its fulcrum at I. The opposite end of this lever H has a curved arm, J, projecting up from it toward the central shaft, so that the pin K upon the next roller to the right will strike it when the 0 has arrived at the top, and will move it down, so that through the levers G and H the ratchet E will be moved forward one tooth, and the roller to which it is attached will be moved a corresponding distance, or one figure, upon its face. Around the periphery of the roller are a series of arms, L, which project inward radially toward the center, and as the end of the lever H and the curved arm J are forced down they will engage a pin, *a*, on the bottom of the arm J, acting as a stop, and thus prevent the roller from moving more than one figure at a time. When relieved from the pressure of the pin K the bell-crank lever H and the lever-arm G are returned to their original position, ready for a new impulse by the spring M. When it is desired to move any one of the rollers back to 0, it is done by pressing a button or knob, N, at one side. This knob is attached to a bar, P, having inclined notches upon one edge, like the teeth of a saw, as shown, and each of these notches operates upon the corresponding lever, G, of its roller, so that when the bar P is moved it throws the lever G up midway between the ratchet-wheel E and the arms L. The arm J will stand in its normal position between the arms L and the center, and thus allow the roller to be turned back to 0, or until the pin of the next roller strikes the inside of the curved arm J.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In an adding-machine, and in combination with the stationary table A, with the rows of figures and the traveling chains, as shown, the rollers B, having the ratchet-wheels E and radial arms L, the levers G and H, connected by spring M, and the curved arms J and the

pins K, substantially as and for the purpose herein described.

2. In an adding-machine, the stationary table A, with the parallel rows of figures, the
5 moving open-link chains D, and the series of rollers B, having figures to correspond with those upon the table, in combination with the toothed or notched bar P, with its knob N, said
10 notched bar acting to throw the levers G up from their ratchets to release the rollers and

allow them to be turned freely, substantially as herein described.

In witness whereof we hereunto set our hands.

ARTHUR SHATTUCK.
CHAS. THORN, JR.

Witnesses:

JNO. T. CAMPBELL,
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