

(No Model.)

W. W. BROWN.
ADDING PENCIL.

No. 592,723.

Patented Oct. 26, 1897.

Fig. 2.

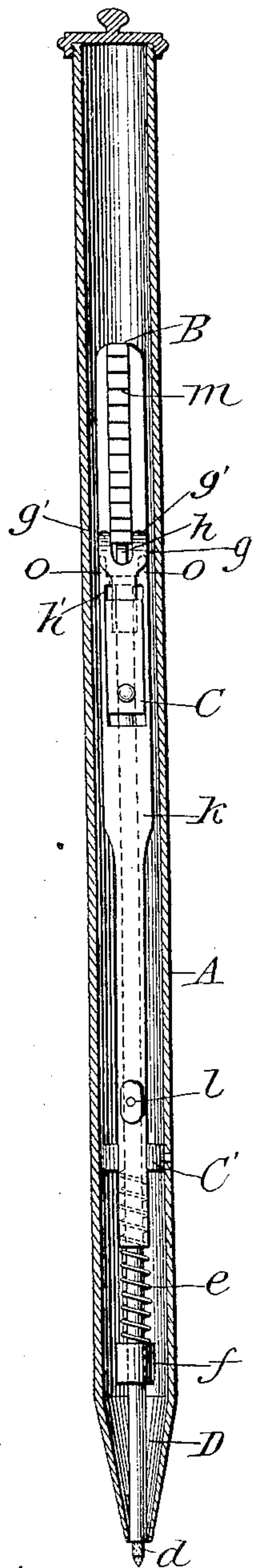


Fig. 1.

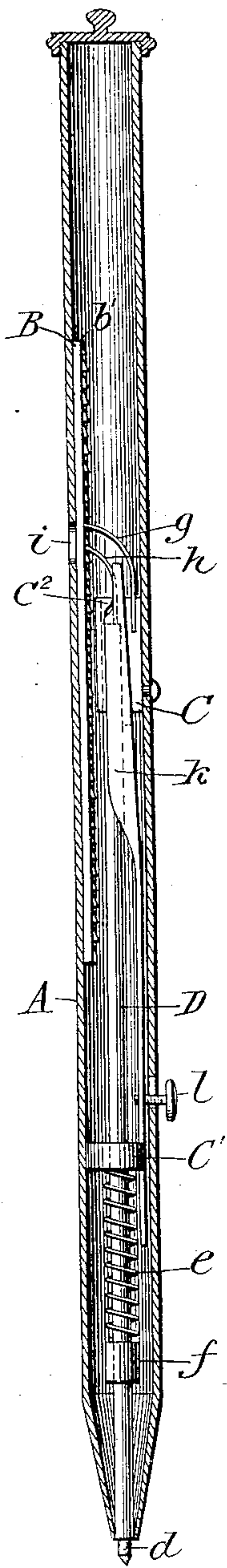


Fig. 3.

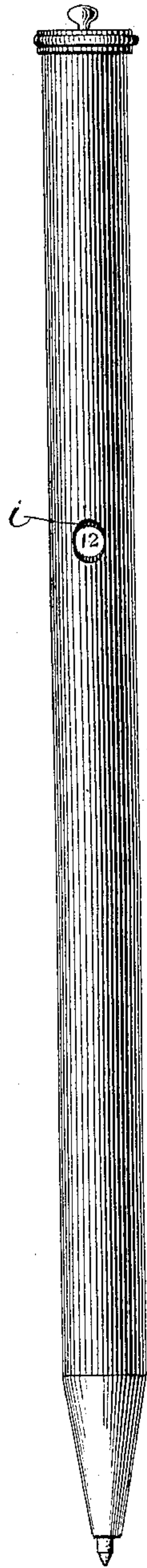


Fig. 4.

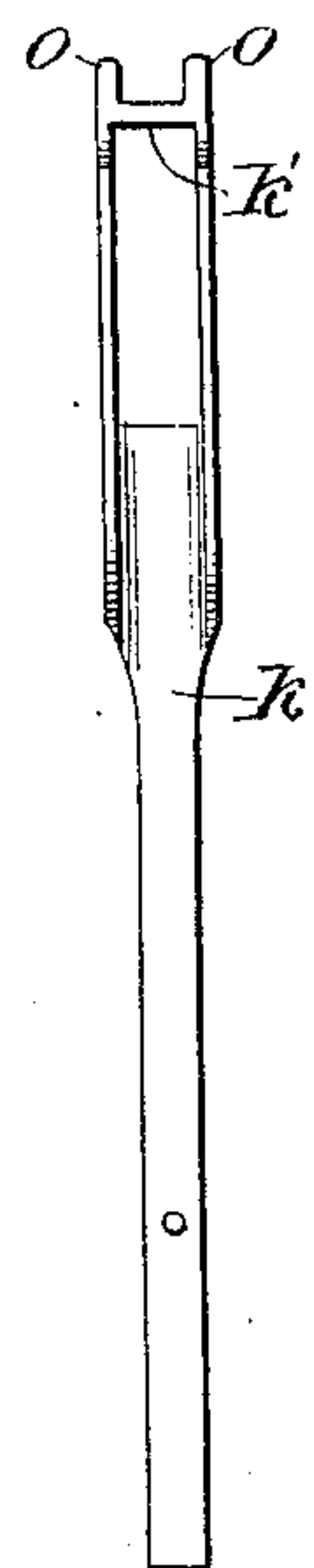
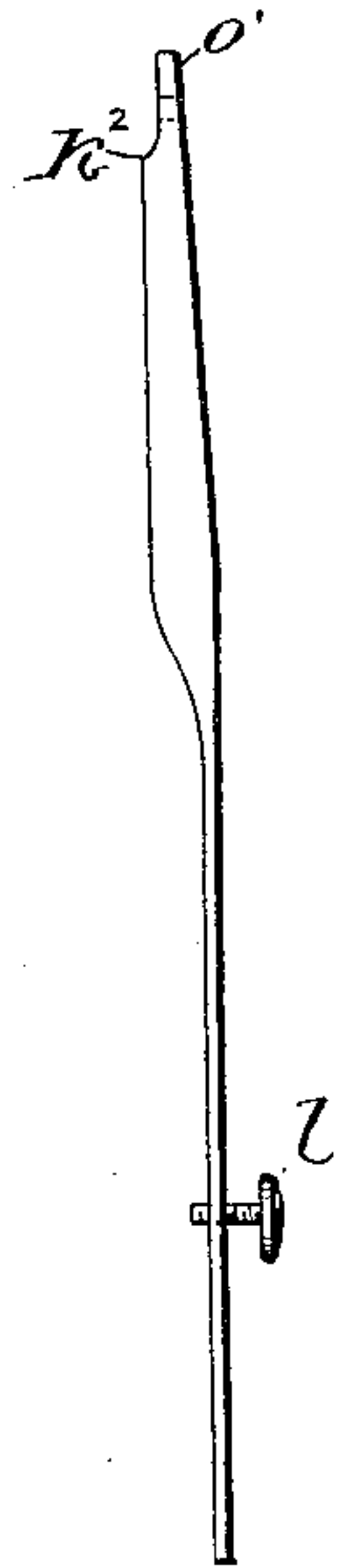


Fig. 5.



Witnesses:
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Inventor:
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UNITED STATES PATENT OFFICE.

WILLIAM W. BROWN, OF MACON, GEORGIA.

ADDING-PENCIL.

SPECIFICATION forming part of Letters Patent No. 592,723, dated October 26, 1897.

Application filed January 16, 1897. Serial No. 619,480. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. BROWN, of the city of Macon, county of Bibb, and State of Georgia, have invented a new and Improved Addition-Pencil, of which the following is a full and exact description.

My invention relates to a pencil for use in adding columns of figures, whereby the work of addition is facilitated by the pencil registering the number of tens added, leaving to be added or carried in the mind only the number of units less than any ten not registered.

In the accompanying drawings, Figure 1 is a longitudinal central section of my pencil device, except that tube carrying leads is shown in elevation. Fig. 2 is a plan taken at right angles to plane of Fig. 1, the half of pencil-case being removed to show internal construction. Fig. 3 is an elevation of pencil. Figs. 4 and 5 are plan and side views of parts shown in Figs. 1 and 2 removed from case.

A is the pencil-case.

B is a register or indicator plate sliding within the case provided on its face, which slides against case with a series of numbers placed one below another, beginning at the end *b'*, and provided with a similar number of ratchet-teeth on its back indented into its central longitudinal portion.

D is a tube sliding within the pencil-case in the guide-blocks C and C', and carrying upon its upper end the ratchet-spring *h*, which engages with the ratchet-teeth in the register-plate above mentioned.

g is a spring-dog attached to the guide-block C, bifurcated at its end, so as to bring its ends *g'* into frictional contact with the smooth marginal edges of the register-plate and hold it in whatever position it may be left by the ratchet-spring. This construction thus makes necessary less adjustment of position between the ratchet and dog springs.

The tube D is provided with marking-leads in the usual manner and with a spiral spring which projects it from the case whenever the pressure which slides it into the case is removed.

e is the spring bearing against the collar *f* and the guide-block C'.

C is a guide-block holding the pencil-tube D central to the case provided with guide-

ways on its two sides to carry the unlocking slide or tongue *k*, such guideways being also so formed as to lift the slide when it is pushed upward or toward the spring-ratchet and spring-dog described, and also to cause it to retract itself when released.

C' is the lower guide-block inserted into the pencil-case to guide lower end of pencil tube and slide.

k is a slide moving in ways made in C and C', provided with a push or lug button *l*, extending through the case in a slot, as shown, and at its upper end having two nibs *o o* and a cross-bar *k'*, the two nibs extending under the curve of the bifurcated end of the dog-spring *g*, and when in its normal position not quite in contact. The cross-bar *k'* extends under the curve part of the ratchet-spring *h* in the same relative position as the nibs to the dog-spring. The part of slide lying in the guideway of the block C is made with an inclined bearing part, so that when it is pushed toward the dog-spring its wedge or inclined portion passing over or against the raised part C² of guideway will be lifted, raising up the cross-bar and nibs under the curved parts of the springs, and thus facilitating the lifting of the springs from contact with the register-plate.

The slide *k*, being thin, is made of such curvature as to touch the case near the push-lug, and its end being supported in way cut in guide-block C' gives its wedge or inclined part pressure which causes it to slide on guide-block C, thereby quickly removing itself from contact with the ratchet and dog springs when the push-button is released.

The inclined bearing edge or wedge-shaped bearing part is so proportioned to the length of the nibs and position of the cross-bar that they will come into contact with the springs before the wedge parts become operative, when they begin their lifting movement as the forward movement is continued, and the springs are at once lifted clear of the register-plate.

i is a sight-hole in the case through which each number on the plate may be seen as it comes opposite.

The operation of the device may be described as follows: The operator taking the pencil and beginning to add his column of

figures will when the sum added reaches ten push down upon the pencil-case, the pencil resting on the paper. This will cause the sliding part (the pencil-tube) to move upward
 5 in the case, compressing the spiral spring *e* and pushing upward the register-plate by reason of the engagement of the ratchet-spring with the ratchet-teeth on the back of the plate. This movement, assuming the plate
 10 to stand at "0," will bring the figure "1" opposite the sight-hole, thus indicating that one ten has been passed in the addition. The operator then releasing his pressure to continue his addition the spiral spring will project the sliding tube and the register-plate
 15 will be held in its advanced position by the pressure of the dog-spring on it. The operator now dismissing from his mind the ten recorded considers only whatever units above
 20 ten he may have had at the time of registering, and adding them to the next figure proceeds to make a new record. When he reaches ten again, he makes the pencil register by pressure. Thus always the pencil records
 25 the number of tens passed, and whatever units he may have after last register is made for column will be the figure to be set below the column, when by a glance at the register-plate through the sight-hole he will see how
 30 many tens are to be carried to the next col-

umn. Then by pushing upward on the lug or button the slide will lift the spring-ratchet and spring-dog clear of the register-plate and the plate will drop to "0," and the addition
 35 of a new column can then be begun.

The indicator-plate may be so proportioned, if desired, as to extend upward through the top of pencil-case and there show the numbers instead of showing them through a sight-hole.
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What I claim as new and of my invention is—

1. The combination of a pencil-case with a sliding part carrying a ratchet-spring, a dog-spring and ratchet register-plate with a longitudinal sliding tongue which releases the register-plate by raising the contact of said springs with said plate when the slide is moved substantially as described.
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2. The combination of the sliding pencil-tube ratchet and dog-spring with a slide provided with an inclined bearing edge whereby it is made to lift the springs when given a longitudinal movement substantially as described.
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Witnesses:

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JAS. A. THOMAS, Jr.