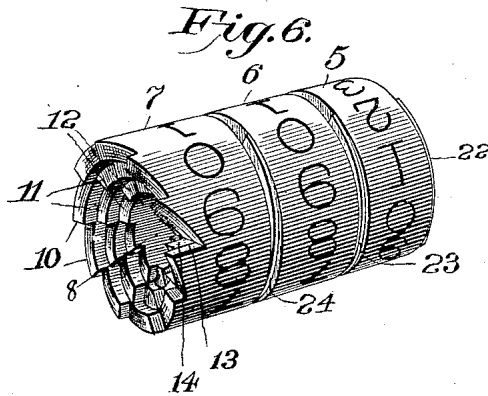
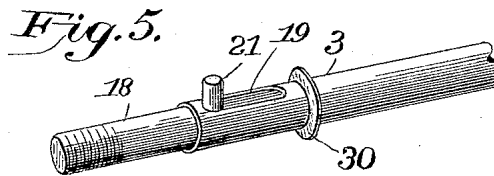
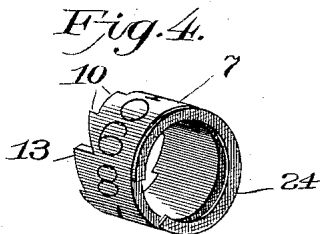
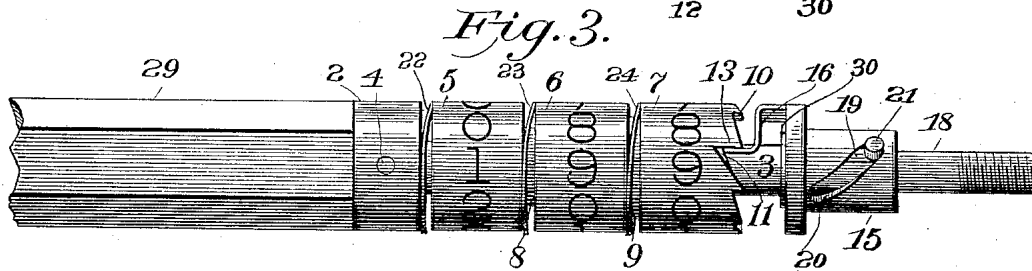
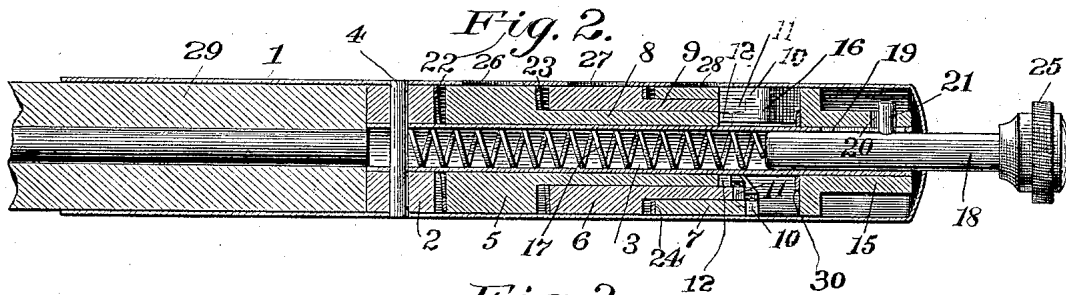
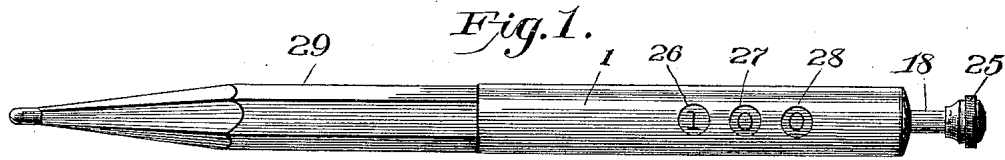


(No Model.)

C. D. JUDD.
ADDING PENCIL.

No. 488,206.

Patented Dec. 20, 1892.



WITNESSES:

J. Finch.
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INVENTOR
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BY
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UNITED STATES PATENT OFFICE.

CHARLES D. JUDD, OF BRIDGEPORT, CONNECTICUT.

ADDING-PENCIL.

SPECIFICATION forming part of Letters Patent No. 488,206, dated December 20, 1892.

Application filed August 18, 1892. Serial No. 443,384. (No model.)

To all whom it may concern:

Be it known that I, CHARLES D. JUDD, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Adding-Pencils; 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.

My invention relates to certain new and useful improvements in registering devices such as are commonly used for adding units consecutively, but my invention particularly relates to adding attachments for lead pencils and the like, and has for its object to provide a device of this description which shall be simple, effective, and not likely to get out of order.

With these ends in view my invention consists in certain details of construction and combination of parts such as will be fully hereinafter set forth, and then specifically be designated by the claims.

In the accompanying drawings,—Figure 1 is an elevation of my improvement attached to a lead pencil. Fig. 2, a broken sectional elevation. Fig. 3, a broken elevation with the casing removed. Fig. 4, a detail perspective of the unit registering collar. Fig. 5, a detail perspective of the socket and depressor-pin in proper relative position. Fig. 6, a detail perspective showing the three registering collars assembled in proper relative position necessary to their simultaneous turning by the pawl.

The same numbers denote the same or like parts in the several figures of the drawings.

I have shown and I will hereinafter describe my invention as embodied in the form of an adding pencil, but I do not wish to be limited in this respect since it is obvious that the broad feature of my invention may be utilized in the construction of various other devices such as register locks, adding machines, and the like.

1 is a casing, and 2 a ring snugly fitting within said casing.

3 is a socket whose lower end fits closely within said ring, and 4 a pin extending through the casing, ring, and socket to secure said parts rigidly together.

5, 6, 7, are the registering collars, the collar 5 being journaled loosely around the socket 3 and having an elongated hub 8 around which is loosely journaled the collar 6, while the latter has a hub 9 around which the collar 7 is loosely journaled. These collars all turn freely and independently. The collar 7 extends slightly beyond the hub 9, while the latter extends slightly beyond the hub 8, while in the ends of said collar 7, hub 9, and hub 8, are ratchet teeth 10, 11, and 12, respectively. The collar 7 has a master tooth 13 which is cut down to the depth of the teeth 12 on the hub 8, while the hub 9 also has a master tooth 14 cut down to a similar depth, so that it will be readily understood that when said master teeth coincide, as seen at Fig. 6, a pawl engaging therewith will effect the turning of all three collars simultaneously. It will also be clear that when the teeth, other than the master tooth, on the collar 7, are engaged by a pawl, said collar will be turned separately, but when said master tooth is engaged by the pawl at any time other than that at which such tooth is in coincidence with the master tooth 14 in the hub 9, the collars 6, 7, will be turned simultaneously, while the collar 5 will remain stationary.

Each of these collars 5, 6, 7, has on its face the numerals 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, each set of numerals denoting respectively, hundreds, tens, and units.

15 is a thimble loosely placed around the upper end of the socket 3, and 16 is a spring pawl secured to said thimble and adapted to engage with the teeth on the collars, as shown at Fig. 3. Rigid on socket 3 is a collet which supports the thimble.

17 is a coil-spring within the socket and the depressor-pin which enters the upper end of the socket and bears against said spring, the function of the latter being merely to return the pin to normal position. Within the upper end of the socket and extending longitudinally thereof is a straight slot 19, and within the side of the thimble 15 is a spirally disposed slot 20. Projecting laterally from the pin 18 through these slots 19, 20, is a lug 21, the object of the slot 19 being to prevent any axial rotation of the pin, so that when the latter is operated the thimble will be turned, thereby causing the pawl to perform

its functions in connection with the teeth on the collars.

22, 23, 24, are each short coil spring sections secured respectively to the collars 5, 6, 7, and bearing against the casing 1 with a friction great enough to afford a detent to prevent any rotation of the collars on the recovery of the pawl, and sufficient to overcome any friction between the hubs and collars so that there can be no turning of the latter except by the positive action of the pawl. Any ornamental tip 25 may be secured to the outer end of the depressor-pin.

I provide openings 26, 27, 28, in the casing 1 through which register the hundreds, tens, and units, respectively. A lead-pencil 29 or other analogous article is inserted within the lower end of the casing.

The teeth on the hubs 8, 9, and collar 7, are of course in each instance ten in number, and consecutive numbering by the continued operation of the pawl is too obvious to require further explanation.

I do not lay any claim to the broad feature of an adding attachment to a lead pencil, for I am aware that such devices have been known heretofore, but

What I do claim as new and desire to secure by Letters Patent is:—

1. In an adding attachment for pencils and the like, the combination of the socket 3, having straight slot 19, the collar 5 having elongated hub 8 loose on said socket, the collar 6 having hub 9 loose on the hub 8, the collar 7 loose on the hub 9, said collar 7, hub 9, and hub 8 extending in advance of each other respectively and provided with ratchet teeth, and the collar 7 and hub 9 having each a master tooth which is cut down to the depth of the teeth on the hub 8, the casing 1, springs 22, 23, 24, thimble 15 having spiral slot 20 and carrying the pawl 16 and free to turn on said socket, pin 18, having lug 21 extending through said slots, and spring 17, substantially as set forth.

2. The combination of the socket having therein a straight slot, the spring and de-

pressor-pin in said socket, the thimble loose around the socket and having a spiral slot, the pawl carried by the thimble, the lug extending from the pin through said slots, the collars assembled and having numbers and teeth as described, the casing to which the socket is secured, and the friction springs which extend separately from the collars against the casing, substantially as shown and described.

3. The combination of the socket having therein a straight slot, the spring and depressor pin in said socket, the thimble loose around the socket and having a spiral slot, the pawl carried by the thimble, the lug extending from the pin through said slot, a telescoping series of collars loosely mounted on said socket and capable each of independent rotation, the ends of said collars being graduated and provided with ratchet teeth adapted to be engaged by said pawl, while all the collars except the one most remote from the pawl are each provided with a master-tooth which is cut to the depth of the teeth on such remote collar, the casing surrounding aforesaid parts, and the springs which extend from said collars against the casing, substantially as set forth.

4. The combination of the collar 5 having hub 8, the collar 6 having hub 9 journaled around the hub 8, the collar 7 journaled around the hub 9, the collar 7, hub 9, and hub 8 extending respectively beyond each other and provided with teeth in their ends, while the collar 7 and hub 9 have each a master tooth which is cut to the depth of the teeth on the hub 8, a pawl engaging said teeth—for revolving said collars, and frictional devices for preventing the turning of the collars except by the positive action of the pawl, substantially as shown and set forth.

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

CHARLES D. JUDD.

Witnesses:

WILLIAM S. BIGBY,
CHARLES B. MASON.