

No. 703,229.

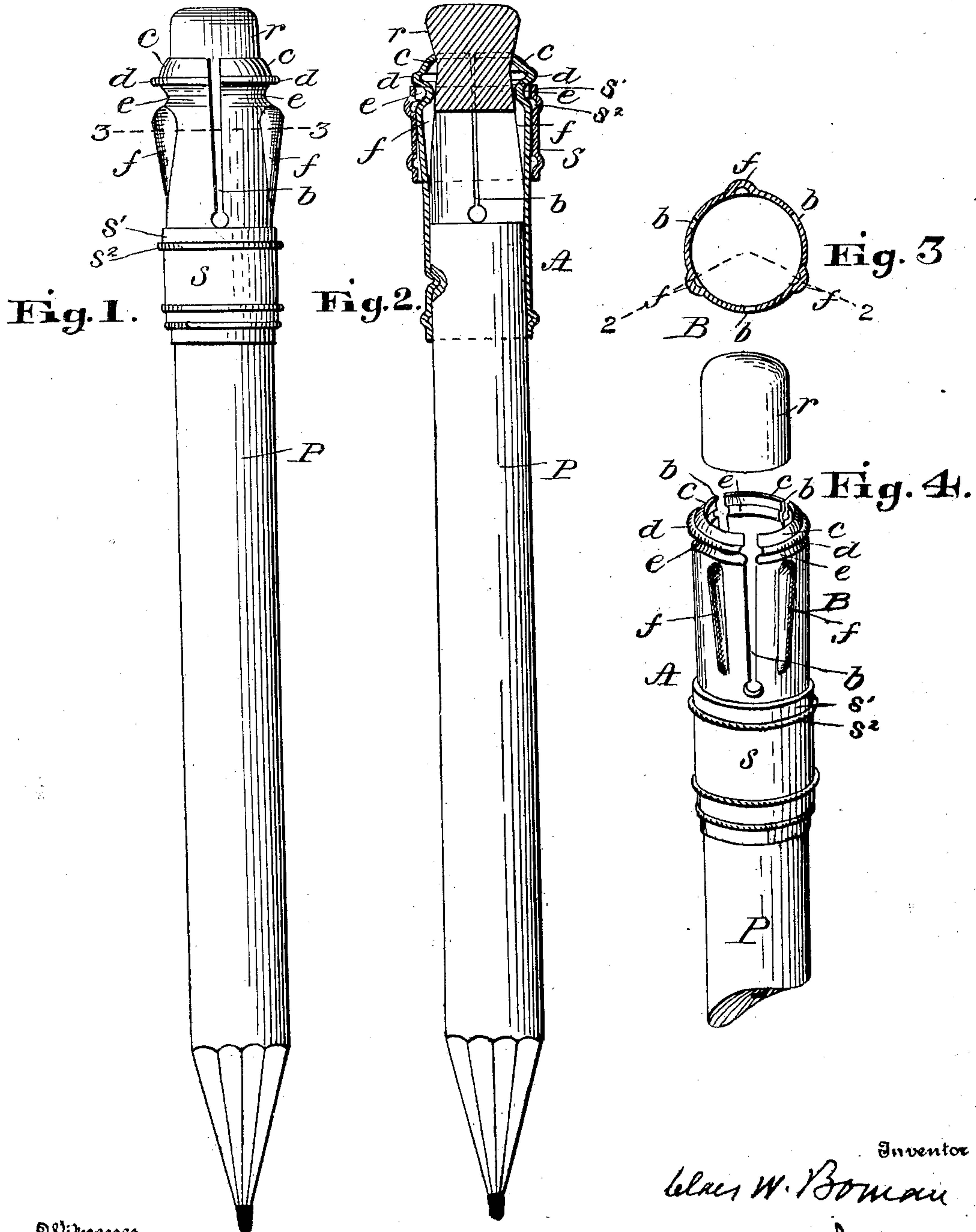
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C. W. BOMAN.

RUBBER TIP ATTACHMENT FOR LEAD PENCILS.

(Application filed Feb. 28, 1902.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## RUBBER-TIP ATTACHMENT FOR LEAD-PENCILS.

SPECIFICATION forming part of Letters Patent No. 703,229, dated June 24, 1902.

Application filed February 28, 1902. Serial No. 96,149. (No model.)

*To all whom it may concern:*

Be it known that I, CLAES WILIAM BOMAN, a citizen of the United States, and a resident of New York city, in the State of New York, have invented a new and useful Rubber-Tip Attachment for Lead-Pencils, of which the following is a specification.

I will first describe my invention in connection with the accompanying drawings, forming part of this specification and representing a lead-pencil provided with a rubber-tip attachment embodying the invention in its preferred form, and will then point out more particularly in the claim the features which I believe to be new with me.

In the drawings, Figure 1 is a view of the pencil and tip with the sleeve drawn back from the rubber-gripping jaws. Fig. 2 is a longitudinal axial section of the same on line 2 2, Fig. 3, with the sleeve pushed forward to close the gripping-jaws upon the stick or rubber or erasive material. Fig. 3 is a cross-section of the tip on line 3 3, Fig. 1. Fig. 4 is a perspective view of the tip with the rubber stick or block removed from between the gripping-jaws.

The body of the tip is made of a sheet-metal tube, one end portion A of which is adapted to fit upon and be secured to the end of a lead-pencil P. The other end portion has its outer end bent slightly inward, as at c, so as to bite upon whatever is pushed into it. Back of the portion c it has an annular raised knurl d and back of the knurl an annular groove e. This portion of the tube is by longitudinal slits or slots b, which extend from its outer end part way the length of the tube, divided, preferably, into three sections B, each of which under the construction above described constitutes a gripping-jaw having a section of the knurl d, from which projects inwardly a biting end c, and back of the knurl-section is a groove-section, the metal of the groove projecting into the interior of the tip and forming a means ancillary to the biting ends c to grip and hold the cylindrical rubber block r, which is inserted between the jaws. Upon each jaw is a longitudinal raised rib f, which

gradually increases in height or projection as it approaches the outer end of the jaw. A sliding sleeve or ring s is mounted on the tip, and this sleeve when pushed forward upon the jaws rides upon the ribs f, and thus closes the jaws tightly upon the rubber stick. The rubber is thus held most firmly, pressure upon its end serving only to embed more thoroughly in it the parts c and e, while if the sleeve be drawn back the jaws at once release their grip on the rubber, and the latter can be adjusted as desired.

The knurl d prevents the slide-ring s from coming off. The annular groove or depression e in the exterior of the tip forms a corresponding protuberance in its interior, which aids in holding the rubber, and I use it on this account; but although a desirable addition, it is not indispensable, and the tip can be made without it, if preferred.

It is the front end portion s' of the sleeve which as the sleeve moves forward and rides over the inclined ribs f does most of the work of compressing or closing the gripping-jaws. Back of this front end portion s' the sleeve has an annular internal recess s<sup>2</sup> so located that by the time the front end s' of the sleeve brings up against the knurl d it will have cleared and passed beyond the extreme front ends of the inclined ribs f, and the recess s<sup>2</sup> will be over these ends of the ribs f, providing a clearance which will permit the jaws to expand slightly, but sufficiently to cause them to enter the recess s<sup>2</sup> far enough to form a detent to hold the sleeve in its advanced position and to resist the tendency when the rubber is in use to force back the sleeve, and thus loosen the hold of the gripping-jaws upon the rubber.

The device is cheap, easily and quickly manufactured, requires but little, if any, fitting of parts, and is very efficient for the purpose for which it is designed.

What I claim herein as new, and desire to secure by Letters Patent, is—

A rubber-tip attachment for lead-pencils consisting of a sheet-metal tube adapted at one end to fit upon the pencil and at the other



end split longitudinally for a portion of its length into gripping-jaws having biting ends *c*, and back of said ends knurl or raised portions *d*, and back of said raised portions longitudinal raised and inclined ribs *f*, and a sliding ring or sleeve on said tube provided back of its front end portion with an internal annular recess or clearance *s*<sup>2</sup> adapted to coact with the jaws and the inclines *f* thereon, as and for the purposes hereinbefore set forth. 10

In testimony whereof I have hereunto set my hand this 26th day of February, 1902.

CLAES WILIAM BOMAN.

Witnesses:

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