No. 614,191. Patented Nov. 15, 1898.

I. M. WEILLS.

DEVICE FOR CLEANING TUBULAR ARTICLES.

(Application filed Mar. 2, 1898.)

(No Model.)

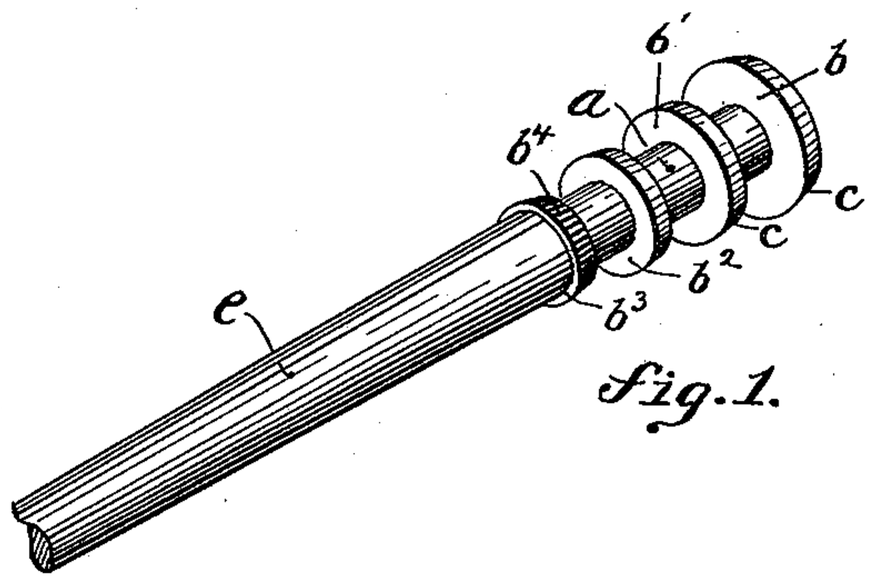


Fig. 1.

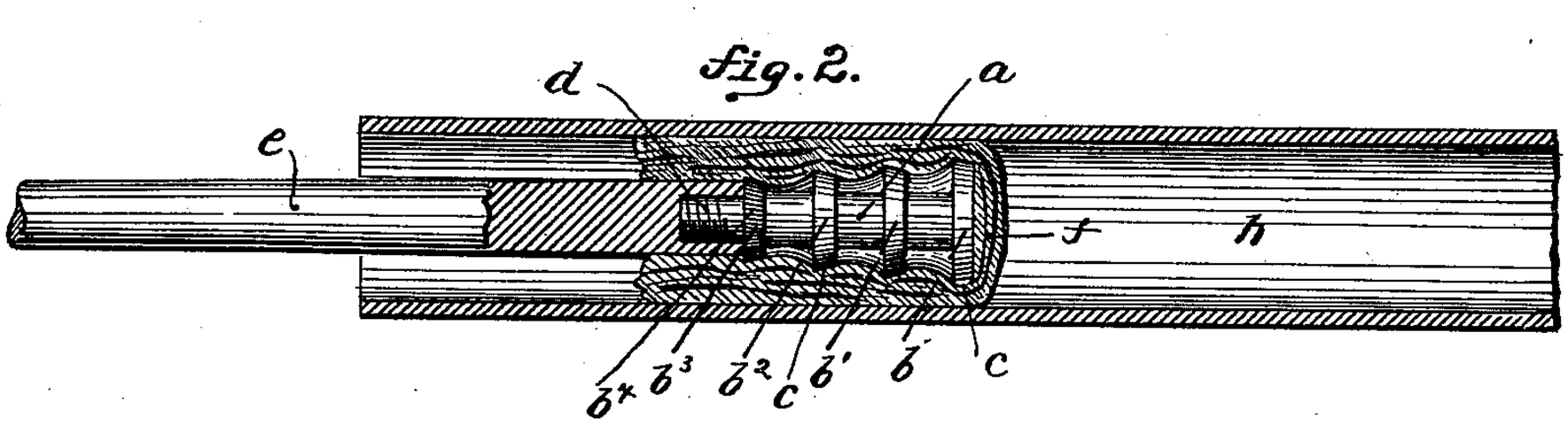
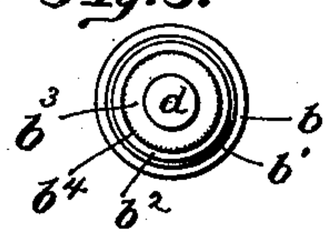


Fig. 2.

Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

ISAAC M. WEILLS, OF WASHINGTON, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO ALVIN C. SPINDLER, OF EDGEWOOD, PENNSYLVANIA.

DEVICE FOR CLEANING TUBULAR ARTICLES.

SPECIFICATION forming part of Letters Patent No. 614,191, dated November 15, 1898.

Application filed March 2, 1898. Serial No. 672,292. (No model.)

To all whom it may concern:

Be it known that I, ISAAC M. WEILLS, a resident of Washington, in the county of Washington and State of Pennsylvania, have invented a new and useful Improvement in Devices for Cleaning Tubular Articles; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to a tool for cleansing or polishing the interior of tubular articles.

The object of my invention is to provide a tool of such form that the cloth or cleaning material employed therewith will so gather and wrap itself around said tool when forced into the tube to be cleaned as to form a close compact cylindrical wad which will fit tightly within the bore of the tube, so that when moved up and down therein the said wad will rub all points on the interior and remove all foreign matter therefrom.

To these ends my invention comprises, generally stated, a tool for cleaning or polishing the interior of tubular articles having a spindle with a series of concentric rings formed thereon with beveled peripheries, each of said rings being of smaller diameter than the preceding one, and with spaces formed between the rings, the largest circumference of said rings being at their upper or inner edges, so that when the cleaning-cloth is forced into the tube by said tool said cloth will adjust itself in and around said rings in such a way as to form a compact cylindrical cleaning-wad.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved tool. Fig. 2 is a view of same in a tube in the act of cleaning, the tube being in longitudinal central section for purposes of illustration. Fig. 3 is an end view of the tool.

Like letters indicate like parts in each of the figures.

As my invention can be used to great advantage in the cleaning of gun-barrels I will describe it with special reference to that particular class of tubular articles, although it is to be understood that I do not limit myself to this particular use.

In the drawings the letter *a* designates a spindle formed of brass or other suitable material, with a series of rings b b' b^2 b^3 formed thereon concentric with each other. The ring b at the upper or outer end of the spindle is larger than the succeeding one b', and b' than the one b^2, and so on throughout the series. Any number of said rings may be employed, according to circumstances. The peripheries of the rings b b' b^2 b^3 are beveled, as at *c*, for the purpose more fully hereinafter set forth, the largest circumference of each ring being at its upper or inner edge. Where the tool is to be employed for cleaning gun-barrels, it may be threaded at its inner end, as at *d*, so as to be screwed into a threaded seat in the end of the rod *e*, or, if desired, it may be formed integral therewith. For convenience in screwing up the tool the inner ring b^3 may be milled on its periphery, as at b^4, so that the operator can obtain a tight hold and screw it up tight.

When in use, the tool is screwed into the rod *e*, and the cleaning-cloth *f*, of one thickness, if sufficient, or of several ply, if need be, is forced down into the gun-barrel *h*. As the outer ring *b* carries the cloth down into the barrel the surplus cloth, which collects in folds as it passes into the barrel, will wrap and entwine itself around the succeeding smaller rings b' b^2 b^3 of the series. The spaces between the rings, as well as the gradually-diminishing diameters of said rings, permit this excess of cloth to wrap itself around the spindle in such a way as to form a dense compact cylindrical wad. Enough cloth is employed to cause the tool to enter the barrel with some resistance, so that the cloth will rub and scrape the walls of the barrel with sufficient force to remove all foreign matter. To aid in this is the purpose of the beveled peripheries on the rings. Oil or other lubricant may be employed to saturate the cloth. By working the rod up and down the interior of the barrel is thoroughly cleaned and polished, as the cloth adjusts itself to form a cylindrical wad which will rub the entire inner circumference of the barrel and no portion

escapes. The cloth so entwines itself about the spindle that it will not become disengaged therefrom during the rubbing operation, so that there is no danger of leaving the cloth down in the barrel.

What I claim as my invention, and desire to secure by Letters Patent, is--

In a tool for cleaning tubular articles, a spindle having a series of concentric metal rings thereon having beveled peripheries, the greatest circumference of each ring being at its upper or inner edge, and each of said rings being of smaller diameter than the preceding one and with spaces between the rings.

In testimony whereof I, the said ISAAC M. WEILLS, have hereunto set my hand.

ISAAC M. WEILLS.

Witnesses:

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MINNIE A. LEONARD.