

No. 702,359.

Patented June 10, 1902.

A. H. DURSTON.
GUN CLEANING TOOL.

(Application filed Jan. 2, 1901.)

(No Model.)

Fig. 1.

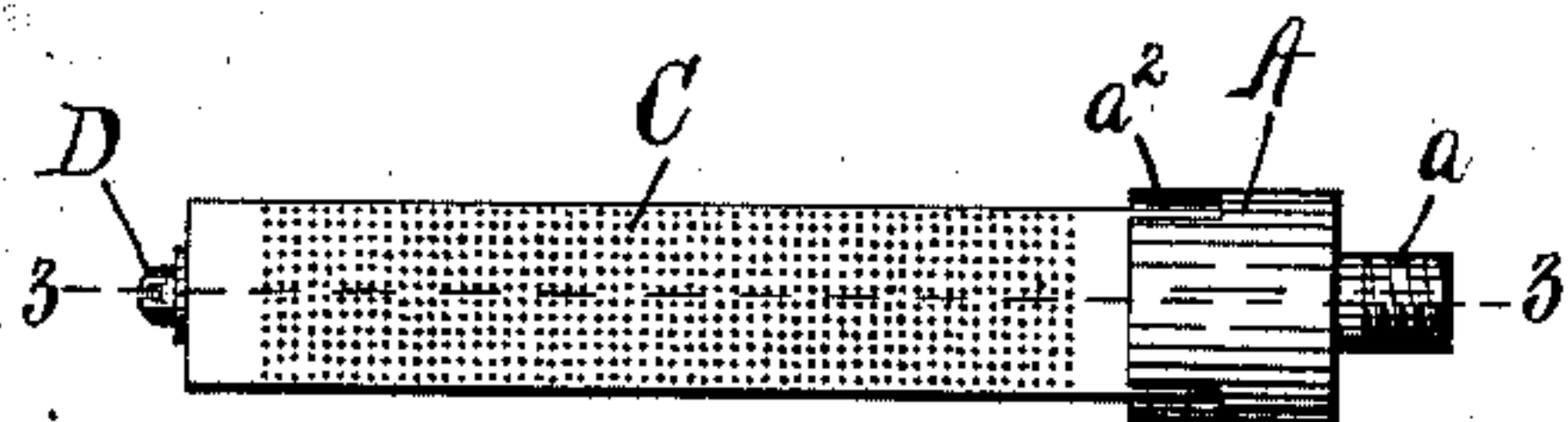


Fig. 2.

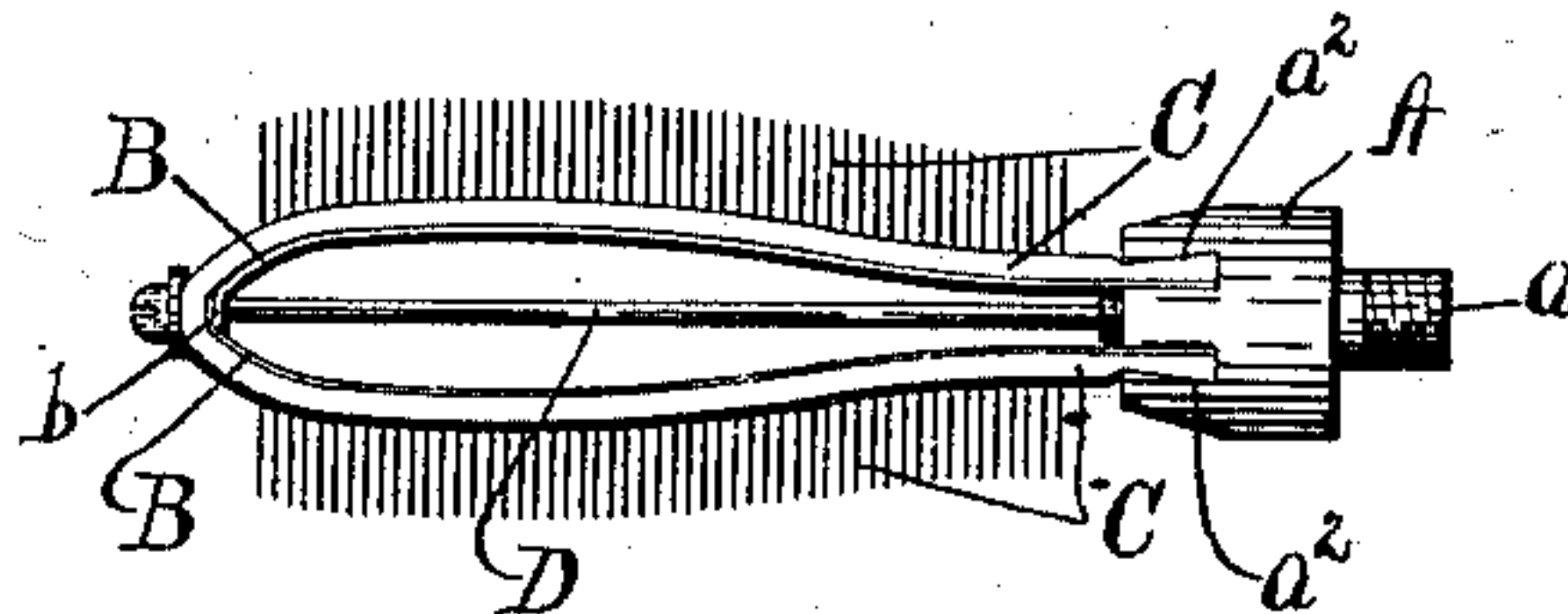


Fig. 3.

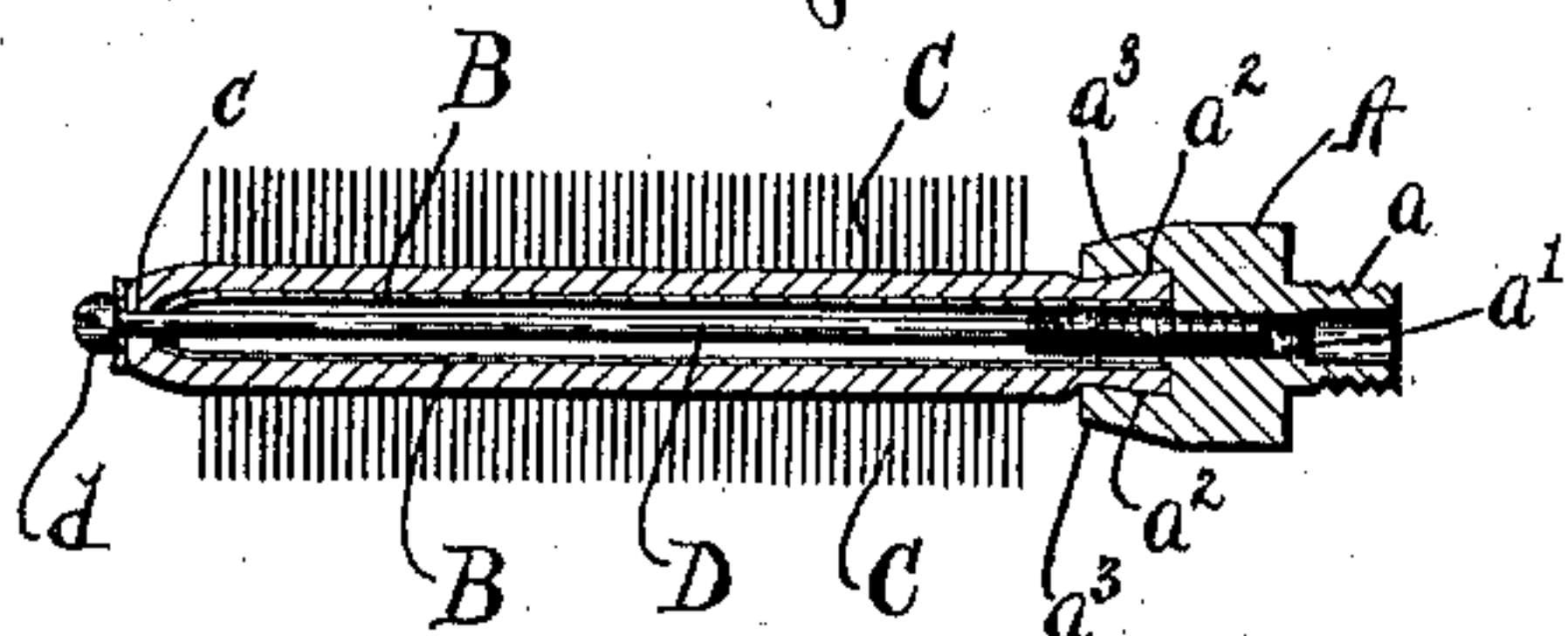


Fig. 4.

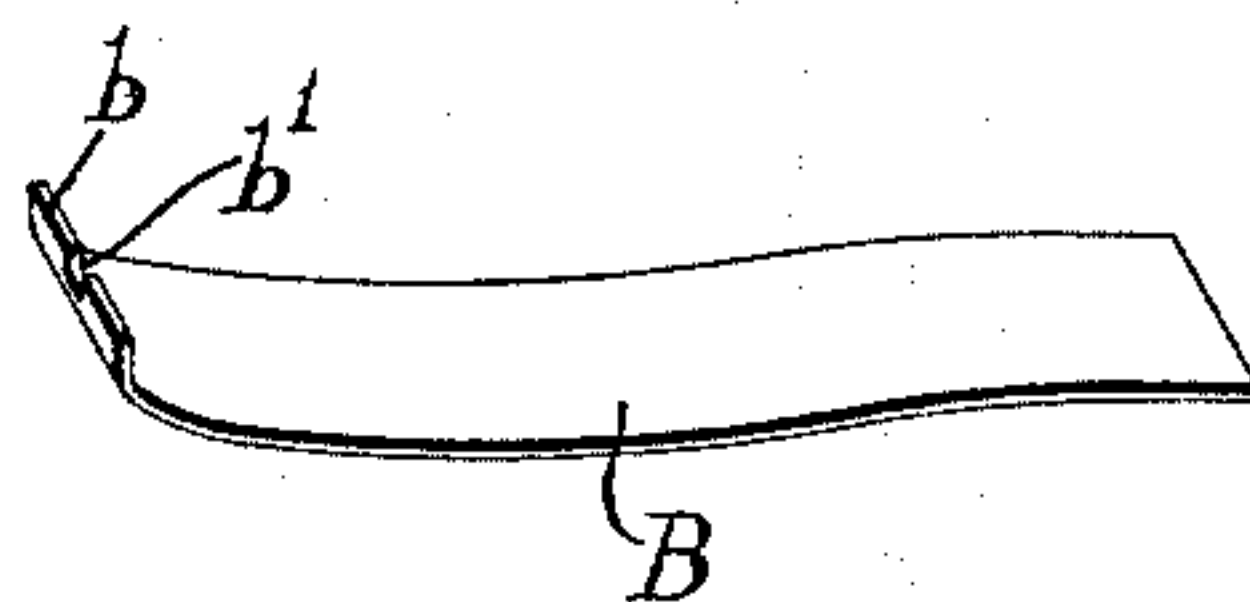


Fig. 5.

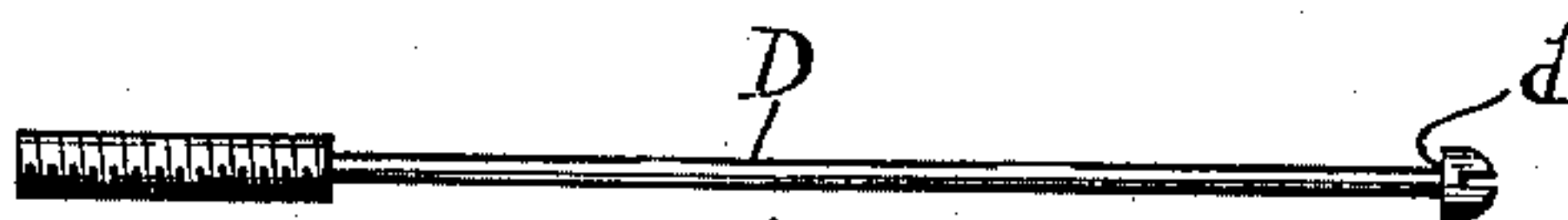


Fig. 6.

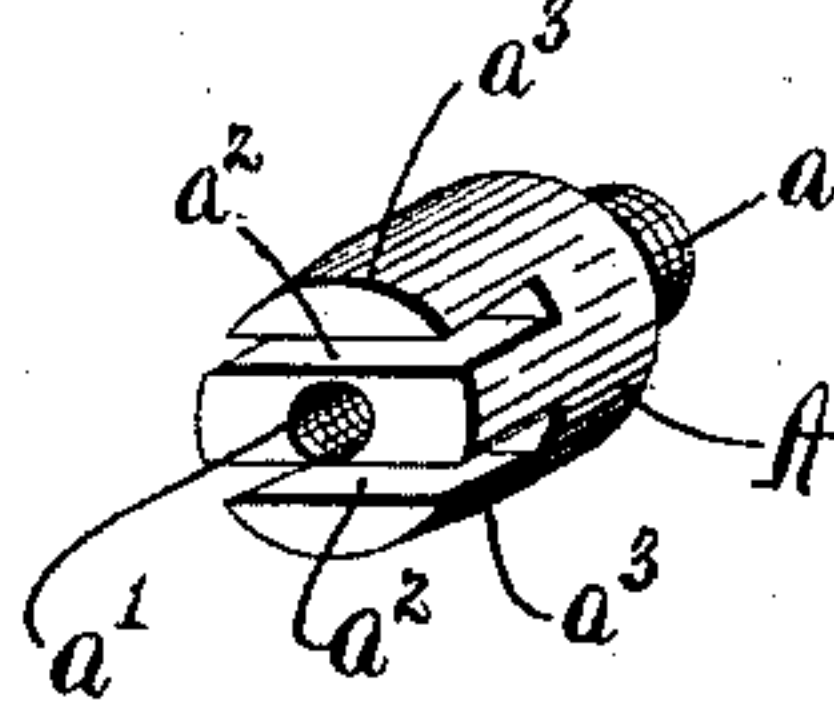
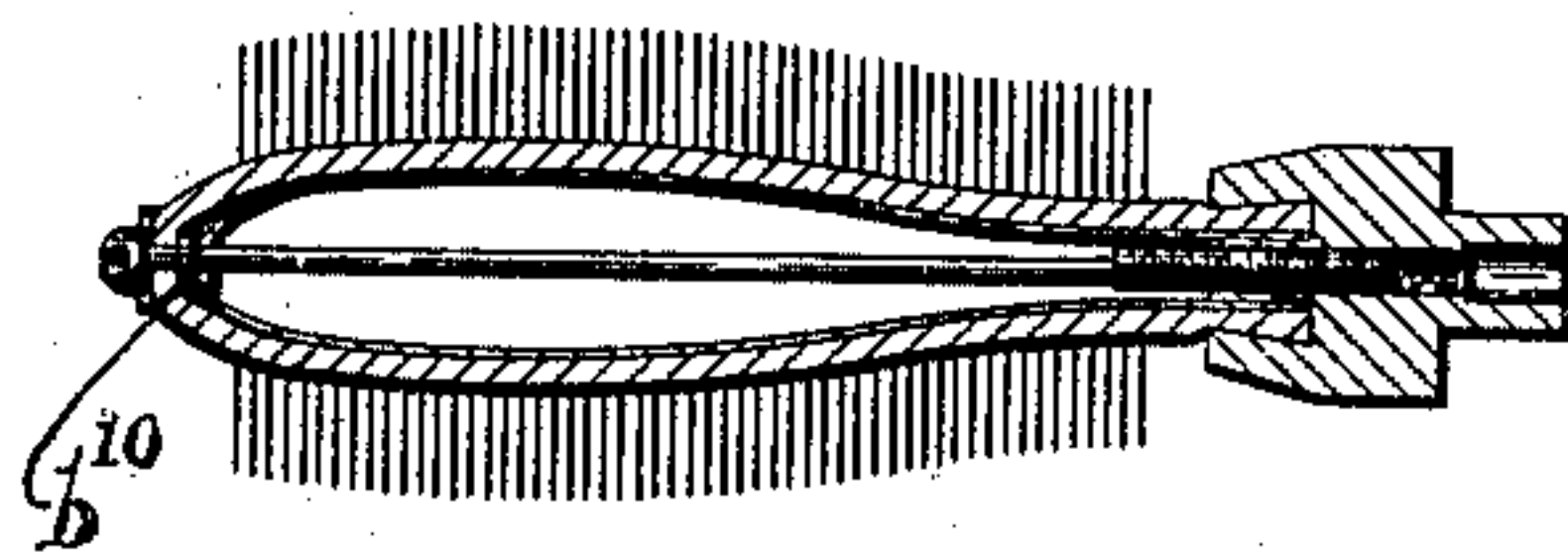


Fig. 7.



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UNITED STATES PATENT OFFICE.

ALFRED HOWLETT DURSTON, OF SYRACUSE, NEW YORK.

GUN-CLEANING TOOL.

SPECIFICATION forming part of Letters Patent No. 702,359, dated June 10, 1902.

Application filed January 2, 1901. Serial No. 41,794. (No model.)

To all whom it may concern:

Be it known that I, ALFRED HOWLETT DURSTON, of Syracuse, in the county of Onondaga and State of New York, have invented
5 a certain new and useful Gun-Cleaning Tool, of which the following is a specification.

My invention relates to gun-cleaning tools, and has for its object the production of a device for the desired purpose, which is particularly simple in construction and highly durable and effective in use; and it consists in certain novel devices and combinations herein-
10 after set forth and claimed.

Figures 1 and 2 are respectively top plan and side elevation of my gun-cleaning tool. Fig. 3 is a vertical sectional view taken on line 3-3, Fig. 1, the supporting members being shown as bent substantially flat. Figs. 4, 5, and 6 are isometric views, respectively,
20 of one of the supporting members, the adjusting part, and the main body of said gun-cleaning tool. Fig. 7 is a vertical sectional view of a modified construction of my invention.

25 My gun-cleaning tool consists, essentially, of a main body A, supporting members B, abrasive members C, and an adjusting part D.

The main body A is here illustrated as formed substantially cylindrical and as having one end provided with an engaging portion or shank a and its opposite end formed with a threaded longitudinal socket a' and slots a^2 , arranged on opposite sides of the socket a' and provided with yielding walls a^3 ,
30 which are normally bent toward each other, as seen in Figs. 2, 3, and 6, for clamping the rear ends of the members B and C in position.

The supporting members B are arranged opposite to each other and are generally formed substantially bow-shaped and composed of spring metal, as steel, of sufficient thickness, so that said members are more or less flexible. The rear ends of the members B are inserted into the slots a^2 of the main body A, and their front ends are provided with laterally-extending portions b , lapped upon each other and formed with notches b' , alined with each other. Said front ends are separable from each other, are movable lengthwise of the corresponding end of the part D, and being disconnected from the body A are free to move independently thereof.
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The abrasive members C are here illustrated as flexible, as mounted on the outer surfaces of the supporting members B, and as united at their advance or free ends in front of the corresponding ends of the supporting members. Said abrasive members may, however, be formed separable from each other or integral with the supporting members B. The rear ends of the members C are fixed in the slots a^2 between contiguous surfaces of the main body A and the members B. Said abrasive members when formed separable from the supporting members B are preferably composed of a flexible backing formed of cloth or other suitable material and a plurality of bristles formed of wire or other desirable material.
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The adjusting part D is here illustrated as consisting of a rod having its rear end threaded and movable lengthwise and normally fixed in the socket a' of the main body A, its intermediate portion interposed between the supporting members B, and its front end passed through the notches b' and an aperture c in the point of union of the abrasive members C and provided with a shoulder d , which is movable into and out of engagement with a washer on the outer surface of said point of union of the abrasive members for forcing rearwardly the front ends of the supporting members, and thus forcing outwardly the intermediate portions of said supporting members and increasing the amount of curvature thereof or for permitting said members B to assume their normal curvature. In fact, if the normal curvature of the supporting members B is sufficient to effect the desired operation of the gun-cleaning tool the shoulder d may be separated from the outer surface of the point of union of the abrasive members C to such an extent that said shoulder is engaged by the washer on said outer surface only when the members B are bent substantially flat, as seen in Fig. 3, by suitable means. (Not illustrated.) The adjusting part D may also be provided with a shoulder, as b^{10} , Fig. 7, engaged with the inner surface of the point of union of the abrasive members C in order to stretch said abrasive members longitudinally, which construction of cleaner forms the subject-matter of my divisional application, Serial No. 86,966.
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In the use of my invention the supporting members B normally force the abrasive members outwardly, but yield freely as the tool passes through the gun-barrel. Moreover, said members being flexible move or bend simultaneously and closely fit a maximum surface of the gun-barrel.

The construction and operation of my gun-cleaning tool will now be readily understood upon reference to the foregoing description and the accompanying drawings, and it will be particularly noted that more or less change may be made in the construction and arrangement of the component parts of said tool without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A gun-cleaning tool comprising a main body, a part having its rear end normally fixed to the main body, supporting members arranged on opposite sides of said part and formed of spring material, said supporting members having their rear ends fixed relatively to the main body and their front ends movable lengthwise of said part, and abrasive members mounted on the supporting members, substantially as and for the purpose described.

2. A gun-cleaning tool comprising a main body, a part having its rear end adjustable lengthwise of the main body and normally fixed thereto, supporting members arranged on opposite sides of said part and formed of spring material, said supporting members having their rear ends fixed relatively to the main body and their front ends movable lengthwise of said part, and abrasive members mounted on the supporting members and connected to said part, substantially as and for the purpose specified.

3. A gun-cleaning tool comprising a main body, opposite supporting members formed of spring material and having their rear ends fixed to the main body, abrasive members mounted on the supporting members, and an adjusting part for forcing outwardly the intermediate portions of the supporting members, said adjusting part having its rear end adjustable lengthwise of the main body and normally fixed thereto and having its front end connected to the corresponding ends of the supporting members, substantially as and for the purpose described.

4. A gun-cleaning tool comprising a main body formed with a threaded longitudinal socket, opposite supporting members formed of spring material and having their rear ends fixed to the main body, abrasive members mounted on the supporting members, and an adjusting part for forcing outwardly the intermediate portions of the supporting members, said adjustable part having its rear end adjustable lengthwise in the threaded socket and normally fixed therein and having its front end provided with a shoulder for forcing

rearwardly the front ends of the supporting members, substantially as and for the purpose specified.

5. A gun-cleaning tool comprising a main body, opposite supporting members formed of spring material and having their rear ends fixed to the main body and their front ends provided with laterally-extending portions lapped upon each other, abrasive members mounted on the supporting members, and an adjusting part for forcing outwardly the intermediate portions of the supporting members, said adjusting part having its rear end adjustable lengthwise of the main body and normally fixed thereto and having its front end connected to the laterally-extending portions of the front ends of the supporting members, substantially as and for the purposes set forth.

6. A gun-cleaning tool comprising a main body formed with a threaded longitudinal socket, opposite supporting members formed of spring material and having their rear ends fixed to the main body and their front ends provided with laterally-extending portions lapped upon each other and formed with notches aligned with each other, abrasive members mounted on the supporting members, and an adjusting part for forcing outwardly the intermediate portions of the supporting members, said adjustable part having its rear end adjustable lengthwise in the threaded socket and normally fixed therein and having its front end passed through the notches in the laterally-extending portions of the supporting members and provided with a shoulder arranged in advance of said laterally-extending portions for forcing the same rearwardly, substantially as and for the purpose described.

7. A gun-cleaning tool comprising a main body, opposite supporting members formed of spring material and having their rear ends fixed to the main body and their front ends separable, abrasive members mounted on the supporting members and having their rear ends fixed to the main body and their front ends united together in advance of the separable ends of the supporting members, and an adjusting part for forcing outwardly the intermediate portions of the supporting members, said adjusting part having its rear end adjustable lengthwise of the main body and normally fixed thereto and having its front end provided with a shoulder arranged in advance of the point of union of the abrasive members, substantially as and for the purpose specified.

8. A gun-cleaning tool comprising a main body formed with a threaded longitudinal socket and slots arranged on opposite sides of the socket, opposite supporting members formed of spring material and having their rear ends fixed to the main body within said slots and their front ends separable and provided with laterally-extending portions lapped upon each other and formed with

notches alined with each other, abrasive members mounted on the supporting members and having their rear ends fixed to the supporting members within said slots and their
5 front ends united together in advance of the separable ends of the supporting members, and an adjusting part having its rear end adjustable lengthwise in the threaded socket and normally fixed therein and having its
10 front end passed through the notches in the laterally-extending portions of the supporting members and provided with a shoulder

arranged in advance of the point of union of the abrasive members, substantially as and for the purpose set forth.

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In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 20th day of December, 1900.

ALFRED HOWLETT DURSTON.

Witnesses:

S. DAVIS,

D. LAVINE.