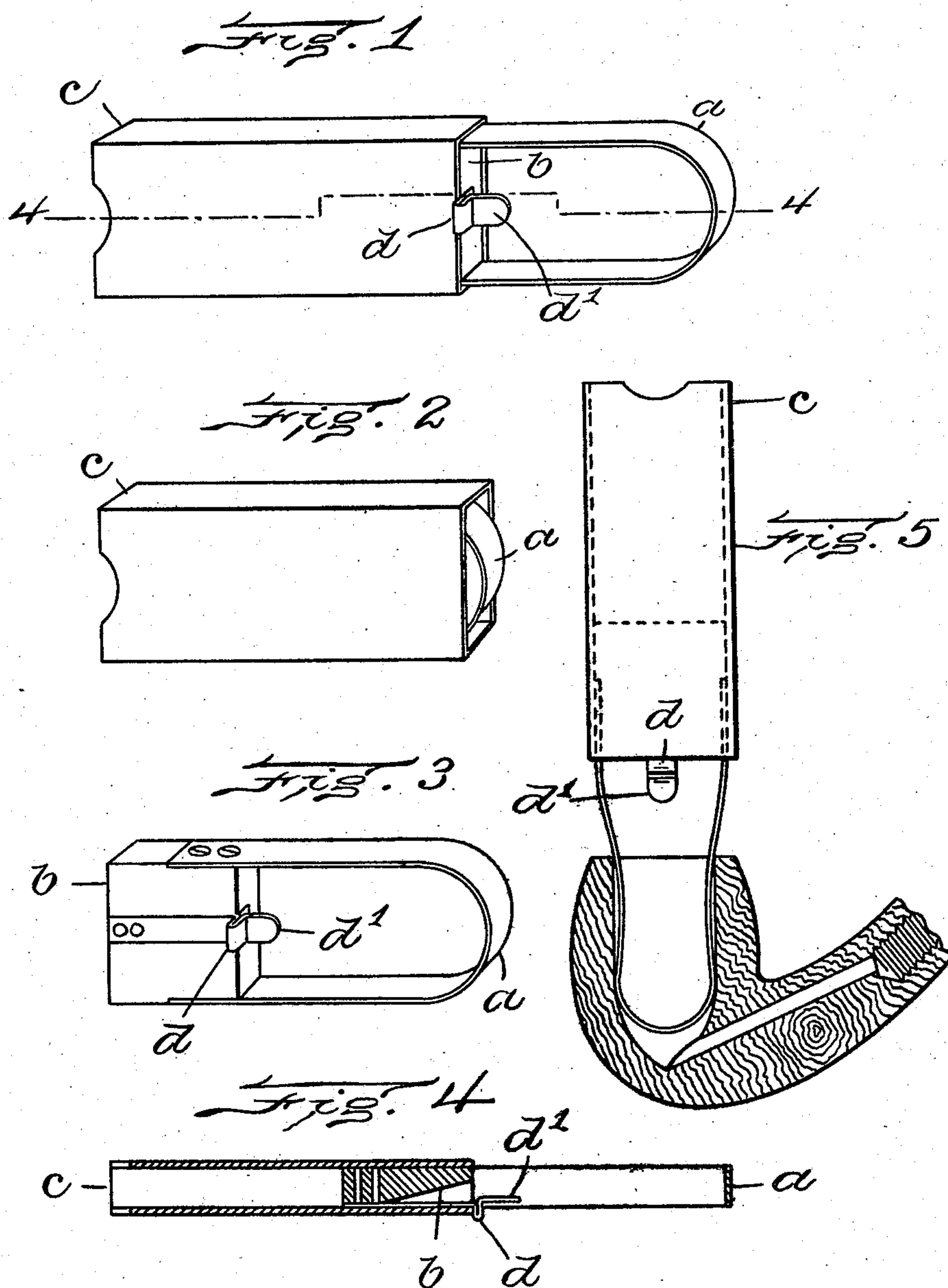


No. 867,885.

PATENTED OCT. 8, 1907.

M. E. KANALY.
PIPE CLEANER.
APPLICATION FILED JAN. 14, 1907.



Witnesses:
Forrest Roulstone.
E. Patchell

Inventor
M. E. Kanaly
by Night Brown Quinby May
Attorneys.

UNITED STATES PATENT OFFICE.

MORRIS E. KANALY, OF ARLINGTON, MASSACHUSETTS.

PIPE-CLEANER.

No. 867,885.

Specification of Letters Patent.

Patented Oct. 8, 1907.

Application filed January 14, 1907. Serial No. 352,283.

To all whom it may concern:

Be it known that I, MORRIS E. KANALY, of Arlington, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Pipe - Cleaners, of which the following is a specification.

This invention has for its object to provide an improved device for cleaning the interior of the bowl of a smoking pipe in such manner as to thoroughly remove all ashes, and partly consumed tobacco, leaving the inner surface of the bowl cleanly and smoothly scraped.

The invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification,—Figure 1 represents a perspective view showing my improved pipe cleaner ready for use. Fig. 2 represents a perspective view showing the same reduced in length for insertion in a pocket. Fig. 3 represents a perspective view of the blade of my improved cleaner, and its shank removed from the casing shown in Figs. 1 and 2. Fig. 4 represents a section on line 4—4 of Fig. 1. Fig. 5 represents a side view of my improved cleaner, and a sectional view of a pipe bowl.

The same letters of reference indicate the same parts in all the figures.

My improved pipe cleaner comprises a blade *a* and a shank *b* to which the blade is affixed. The blade is composed of a single strip of resilient steel bent into U shape, the ends of the strip being rigidly attached to the shank *b*, which may be of any suitable material, such as vulcanized fiber, wood, etc. The strip composing the blade *a* is relatively thin and uninterrupted from end to end, and presents U-shaped scraping edges, the form of the blade corresponding approximately to the form of the interior of a pipe bowl. The flexibility of the blade is such that its scraping edges conform accurately to the interior of the pipe bowl when the blade is pressed into the bowl, as indicated in Fig. 5, the side portions of the blade normally standing farther apart than the internal diameter of the pipe bowl, so that when the blade is forced into the bowl, its side portions will be sprung inwardly, and thus caused to spring outwardly toward the sides of the bowl in the effort of the blade to assume its normal position. It will be seen, therefore, that when the blade is inserted in the bowl and given a rotary movement therein, the scraping edges will attack the accumulation of ashes, partly burned tobacco, etc. in the bowl, and bore or scrape the same away until the

bowl is entirely cleaned. The blade may be rotated in either direction, so that each of its scraping edges may be utilized.

c represents a casing adapted to receive the blade and its shank, the casing being preferably composed of sheet metal, and made of such length that the blade may be retracted within the shank, and protected thereby, as indicated in Fig. 2, the device being thus adapted for carriage in a pocket. When the device is required for use, the blade is projected from the casing, as shown in Figs. 1, 4 and 5, the casing then acting as a handle by which the blade may be rotated in the pipe.

Means are preferably provided for preventing the blade and its shank from sliding inwardly into the socket when the device is in use, the means here shown comprising a spring catch *d*, affixed to the shank *b*, and adapted to spring outwardly to engage one end of the casing *c*, as indicated in Figs. 1 and 4, the catch having a projecting end piece *d'* standing between the side portions of the blade, by which it may be forced inwardly to disengage it from the casing, and permit the blade and shank to be moved inwardly, the shank having a recess behind the attached portion of the catch to permit the latter to spring inwardly sufficiently to enter the casing. When the blade and shank have been withdrawn to the desired extent, the catch springs outwardly into engagement with the end of the casing, thus locking the blade and shank to the casing against pressure tending to force the blade into the casing.

It will be seen that the described device is adapted to be readily reduced to compact form for carriage in the pocket, and to be readily made operative for use.

My invention is not limited to the particular form of shank and casing here shown, it being obvious that these parts may be of any suitable form and construction, enabling the shank to be adjusted relatively to the casing, so that the casing will form a handle when the blade is projected. It is also obvious that the blade and shank may be used without the casing, the shank serving as the handle. The blade *a* constitutes a flexible reamer which conforms automatically to the interior of a pipe bowl.

I claim:

1. A pipe cleaner comprising a U-shaped resilient blade, a shank to which the ends of the blade are secured, and a casing in which the blade and shank are slidingly mounted.

2. A pipe cleaner comprising a U-shaped resilient blade, a shank to which the ends of the blade are secured, and a casing in which the blade and shank are adjustably mounted, means being employed for securing the blade and

shank to the casing against pressure tending to move the blade into the casing.

- 5 3. A pipe cleaner comprising a U-shaped resilient blade, a shank to which the ends of the blade are secured, and a casing in which the blade and shank are slidably mounted, the shank being provided with a spring catch adapted to engage one end of the casing, and prevent movement of the blade and shank into the casing.

4. A pipe cleaner comprising a flexible reamer formed

of a single uninterrupted piece of resilient metal adapted 10 to conform to the interior of a pipe bowl, and an operating handle therefor.

In testimony whereof I have affixed my signature, in presence of two witnesses.

MORRIS E. KANALY.

Witnesses:

C. F. BROWN,

E. BATCHELDER.