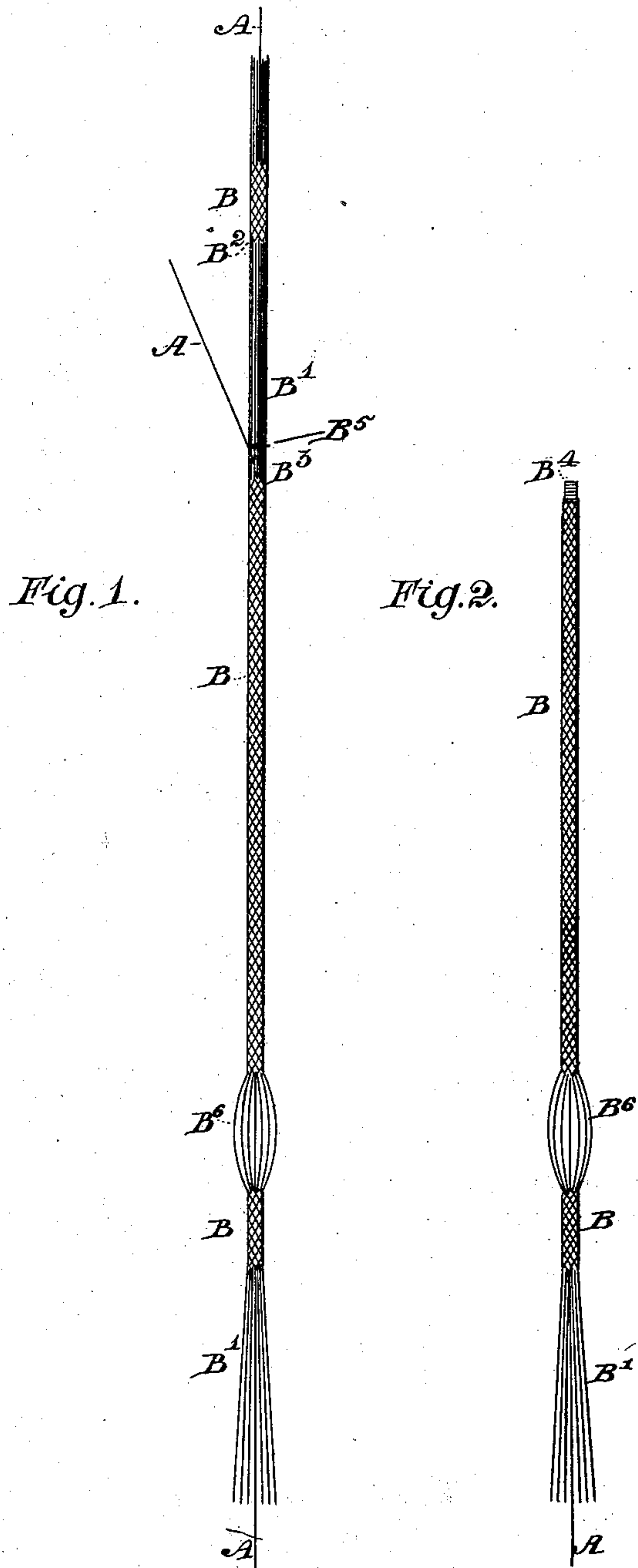


(Model.)

J. F. FORTH.
TOBACCO PIPE CLEANER.

No. 347,169.

Patented Aug. 10, 1886.



Witnesses:

H. W. Gough C.E.
J. H. Gough.

Inventor:

J. F. FORTH

UNITED STATES PATENT OFFICE.

JOHN FREDERICK FORTH, OF NOTTINGHAM, ENGLAND.

TOBACCO-PIPE CLEANER.

SPECIFICATION forming part of Letters Patent No. 347,169, dated August 10, 1886.

Application filed February 23, 1886. Serial No. 192,888. (Model.) Patented in England January 9, 1886, No. 383.

To all whom it may concern:

Be it known that I, JOHN FREDERICK FORTH, a subject of the Queen of Great Britain, and a resident of Nottingham, England, have invented a new and useful Improved Tobacco-Pipe Cleaner, (for which I have obtained a patent in Great Britain, No. 383, bearing date January 9, 1886,) of which the following is a specification, reference being had to the accompanying drawings.

In the drawings, Figure 1 shows an enlarged view of one of my improved cleaners connected to the end of another cleaner, and Fig. 2 a plan view of a completed cleaner.

I construct my improved cleaners by supplying a twisting, plaiting, or braiding machine with a central core, A A, (see Fig. 1,) of thin brass or copper wire, and either twist, plait, or braid three or more strands of cotton, B, firmly round the wire core for a length of six or more inches, according to the length of the stem of the pipe to be cleaned. The machine is then stopped, and the wire core and strands of cotton are drawn through the machine for a length of three inches (more or less) without the strands of cotton being twisted, plaited, or braided. The machine is again started, so as to twist, plait, or braid the strands of cotton firmly round the wire core for another length, and repeat such movements for any length required. This operation leaves the untwisted or unbraided portion B⁶ intermediate the ends of the completed cleaner. Then at the lower end of each short length B of the twisting, plaiting, or braiding the wire core alone is cut through at B² and turned outward, then twisted firmly several times round the cotton strands and itself at B³, and the remainder cut off at the point B⁵. The loose strands left after one cleaner is completed constitute the loose strands B' at the end of the subsequent cleaner. Such twisting holds the core in position and binds the strands of cotton to it, and also slightly reduces the diame-

ter of the cleaner at the entering end, as shown at B⁴, Fig. 2. The cotton strands are then cut through close to the twisted-wire core, thereby leaving three inches or other length of open cotton strands B⁶ at the lower end of each cleaner, as shown at the lower end of Fig. 1, but without the wire core at that end.

By preference, a plaiting or braiding machine may be employed in making the cleaners, as the strands of cotton can be laid closer and tighter upon the wire core than by a twisting-machine. Each strand of cotton employed consists of three or more threads laid side by side. The number and thickness of each thread will depend upon the diameter of the cleaner required. By employing a wire core covered with strands of cotton plaited or braided upon it a stem is formed of equal thickness throughout, which may be coiled in a small compass, and when uncoiled still retain its rigidity for use. The plaiting or braiding of the strands upon the core obviates the necessity of employing a cement to keep the strands from untwisting and makes the cleaner sufficiently rigid.

What I claim is—

1. As a new article of manufacture, a tobacco-pipe cleaner consisting of a core having a braided covering, with a section, B⁶, thereof between the ends unbraided, substantially as described.

2. A tobacco-pipe cleaner consisting of a metallic core having a braided covering of textile strands, with a section, B⁶, thereof between the ends unbraided, the strands being free and unbraided at one end of the core, substantially as described.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN FREDERICK FORTH.

Witnesses:

H. W. GOUGH,
J. H. GOUGH.