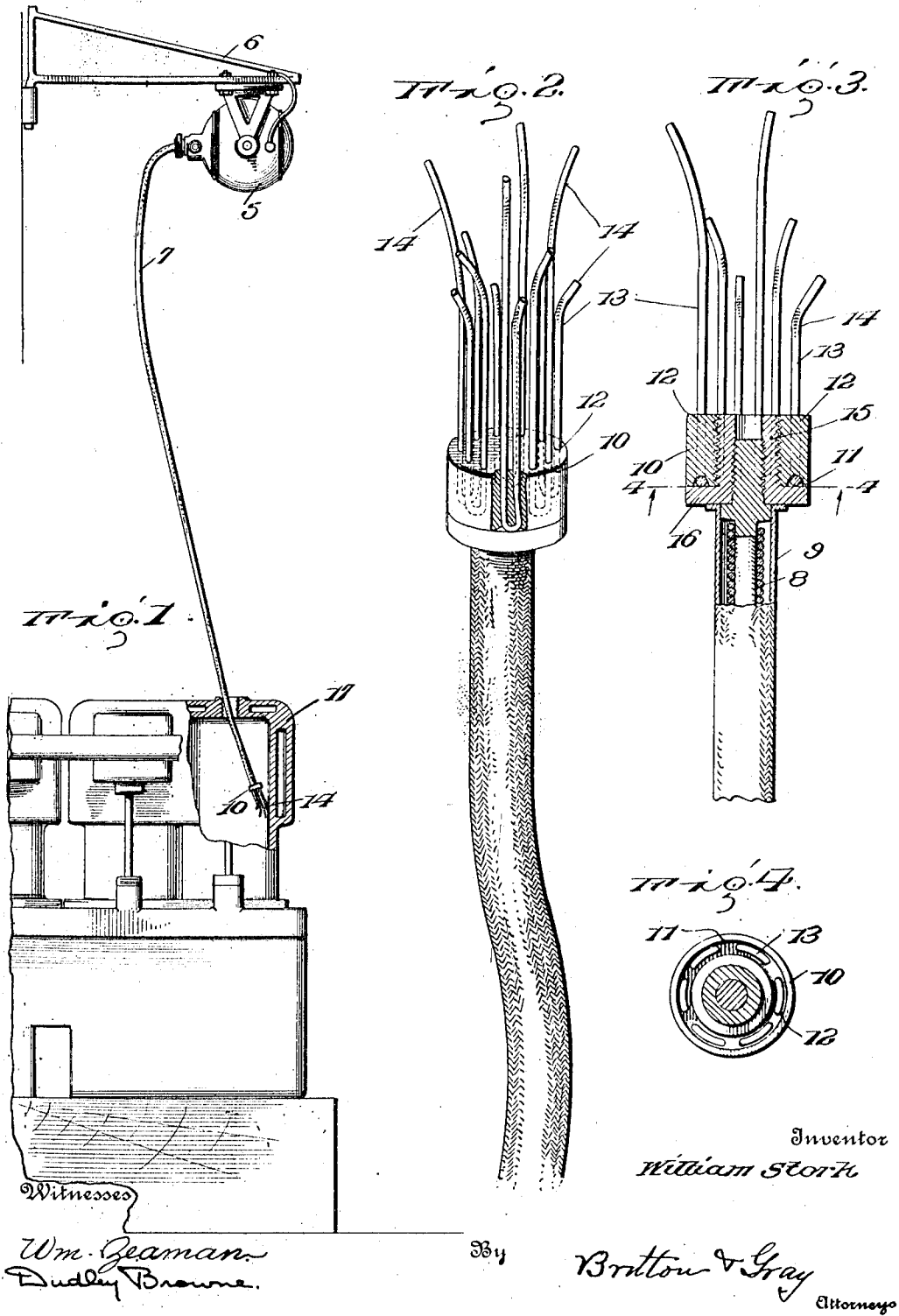


W. STORK.
ROTARY BRUSH.

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1,040,808.

Patented Oct. 8, 1912.



UNITED STATES PATENT OFFICE.

WILLIAM STORK, OF SAN DIEGO, CALIFORNIA.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM STORK, a citizen of the United States, residing at San Diego, in the county of San Diego and State of California, have invented certain new and useful Improvements in Rotary Brushes, of which the following is a specification.

My invention relates to certain new and useful improvements in rotary brushes adapted to be secured to the end of a flexible shaft or the like, whereby the brush may be inserted in the various places that it is desired to clean, such for instance as the cylinder of a gas or other engine, flues of a boiler, or other places where deposits accumulate.

A further object of my invention is to provide a device of the character referred to in which the wires forming the bristles can be readily and expeditiously replaced when broken, and also to provide a device which shall be simple and efficient in operation.

With these and other objects in view my invention consists in certain constructions, combinations and arrangements of parts the preferred form of which will be first described in connection with the accompanying drawings and then the invention particularly pointed out in the appended claim.

Referring to the drawings wherein the same part is designated by the same reference numeral wherever it occurs, Figure 1 is a perspective view, partly broken away, showing my invention inserted through the spark plug opening of the cylinder of an automobile so that the cylinder may be cleaned; Fig. 2 is an enlarged perspective view of the brush and flexible shaft, with a portion of the brush broken away; Fig. 3 is a central longitudinal section of Fig. 2, and Fig. 4 is a cross section taken on line 4, 4 of Fig. 3 and looking in the direction of the arrow.

5 designates a motor which may be of any desired type and suitably supported, as for instance on a bracket 6. To the motor is connected the shaft 7, which may be of any desired character, and for the sake of illustration is shown as flexible, and this shaft is composed of an inner rotating section 8, and an outer cover 9 as is common in flexible shafts. It is to be understood, however,

that a solid or non-flexible shaft may be substituted if desired. The parts so far described form no part of my invention.

10 designates a ring provided on one end with a circular groove 11, from which extend the pairs of bores 12, into which are placed the U- or hair-pin shaped wires 13, with the base of each wire in the groove 11. Preferably, and as shown, the outer ends of these wires are bent outwardly, as shown at 14, so that the ends will better engage the sides of the construction which it is desired to clean. The interior of the ring is threaded, and into this threaded portion is screwed the sleeve 15, which has at one end the collar 16 adapted to extend over the end of the ring covering the groove 11 and securing the wires in position in the ring. The sleeve 15 is centrally bored and preferably screw-threaded as shown, in order to be engaged by the threaded end of the shaft 8.

In the use of my invention, when it is desired to clean for instance the interior of the cylinders of a gas engine, said engine cylinder being indicated at 17 in Fig. 1, the spark plug need only be removed and my device inserted therein and the motor started rapidly revolving. The wires 13 are of such size that under the rapid rotation of the brush they will spread out slightly, so that by moving the device around in the cylinder the deposits on the inside thereof can be rapidly cut from the surface. It is to be understood that the wires 13 are so made as not to be hard enough to scratch the surface operated upon.

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

The combination with a ring having pairs of openings extending therethrough, of U-shaped wires passed through the openings, a sleeve secured in the ring, said sleeve having a collar extending over one end of the ring and securing the wires in position.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM STORK.

Witnesses:

BODO MILLER,
W. B. JOHNSON.