

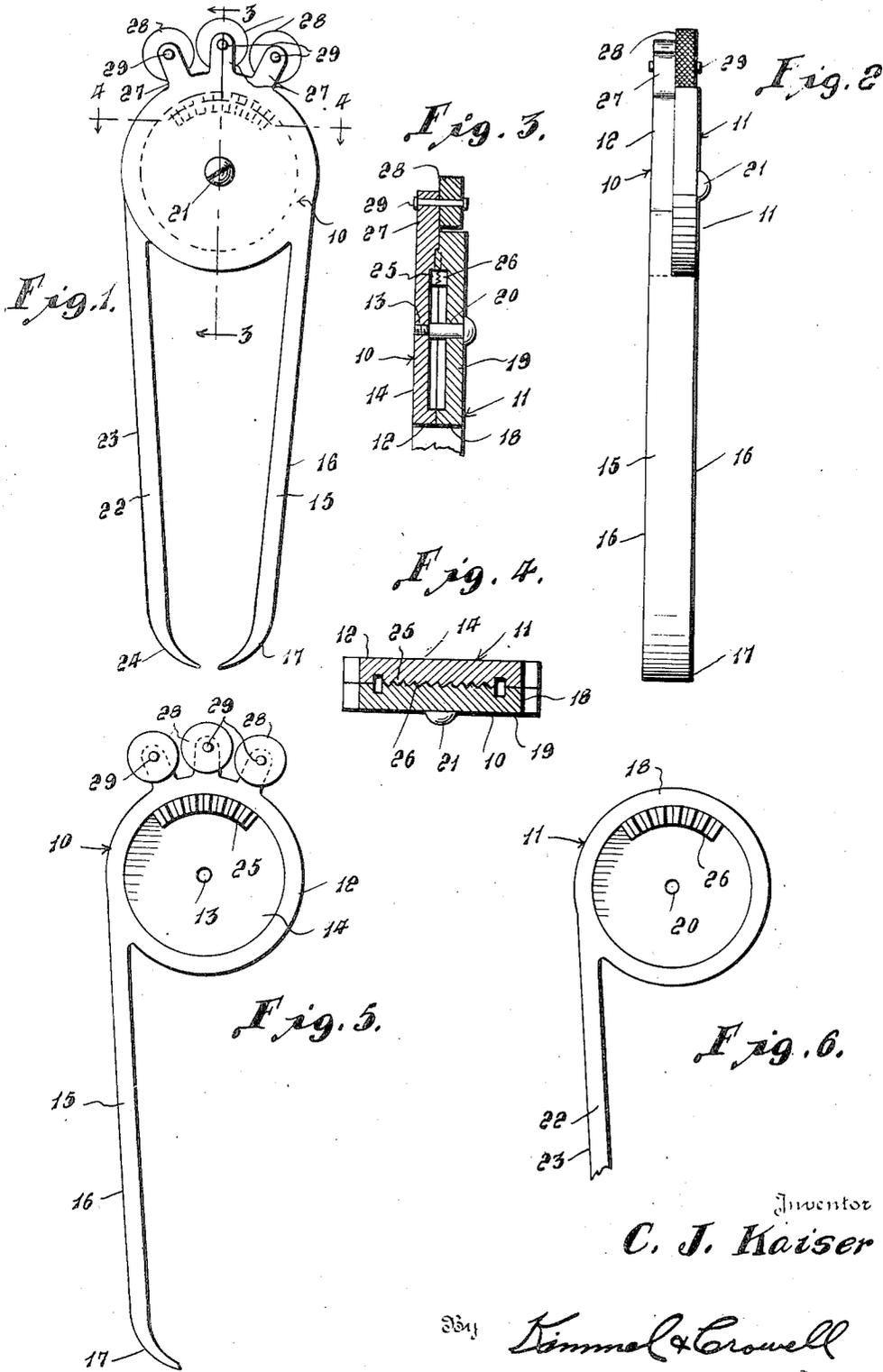
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PIPE CLEANER

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PIPE CLEANER

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This invention relates to pipe cleaning devices and more particularly to a cleaning device for cleaning smoking pipes or the like.

5 An object of this invention is to provide a combination tool or article adapted for use with cleaning smoking pipes and also for use in sharpening knives or the like.

10 Another object of this invention is to provide a pipe cleaning device which is adapted to clean the interior of a pipe bowl and which is so constructed that it may be readily adjusted to fit the interior of different sizes of pipe bowls.

15 A further object of this invention is to provide a cleaner of this type which is provided with relatively rigid cleaning members which are adapted to be adjusted relative to each other, the cleaning members being adapted to be rotated on the interior of a pipe bowl and including a relatively keen edge which is engageable
20 within the bowl so as to clean the bowl upon rotation of the device therein.

To the above objects and to others which may hereinafter appear, the invention consists of the novel construction, combination and arrangement
25 of parts as will be more specifically referred to and illustrated in the accompanying drawing, wherein is shown an embodiment of the invention, but it is to be understood that changes, modifications and variations may be resorted to
30 which fall within the scope of the invention as claimed.

In the drawing:

35 Figure 1 is a detail front elevation of a pipe cleaning device constructed according to an embodiment of this invention.

Figure 2 is a detail side elevation of the device,

40 Figure 3 is a sectional view taken on the line 3—3 of Figure 1,

Figure 4 is a sectional view taken on the line 4—4 of Figure 1,

Figure 5 is a detail front elevation of one of the cleaning members, and

45 Figure 6 is a view similar to Figure 5 partly broken away of another of the cleaning members.

50 Referring to the drawing, the numeral 10 designates generally a cleaning element constructed according to an embodiment of this invention and the numeral 11 designates generally a complementary cleaning element adapted to be secured to the cleaning element 10 and adjustable as will be hereinafter described.

55 The cleaning element 10 comprises an annular member or body 12 provided with an end wall 14

having a threaded opening 13 in the axial center thereof. The body 12 is provided with an elongated pipe cleaning arm 15 which is secured at one end to the annular member 12. The secured end of the arm 15 is disposed tangentially with respect to and is disposed adjacent to one side of the horizontal median of the body 12. The arm 15 from its point of connection to the body 12 extends inwardly throughout towards a line aligning with the vertical median of member 12. The arm 15 is substantially rectangular in transverse section and the opposite outer corners thereof are relatively sharp and provide keen edge portions which are adapted to engage the interior of a pipe bowl so as to scrape the material off of the bowl. The free or outer end terminal portion 17 of the arm 15 is formed throughout upon an inwardly directed curve and is adapted to engage the curved bottom of the pipe bowl so as to effect a cleaning of the bottom of the bowl upon rotation of the arm 15 within the bowl.

The cleaning member 11 comprises an annular element 18 having an end wall 19 provided with an opening 20 through which a bolt or screw 21 is adapted to engage. The bolt or screw 21 is adapted to be threaded into the threaded opening 13 so as to hold the two elements 10 and 11 together in adjusted position relative to each other. The annular member 18 is provided with an elongated cleaning arm or blade 22 of the same construction as the arm 15. The arm 22 is arranged relatively to the member 18 in the same manner as arm 15 is arranged with respect to member 12, but arm 22 is oppositely disposed with respect to arm 15. The arm 22 from its point of connection with member 18 extends inwardly throughout towards a line aligning with the vertical median of member 18. The free or outer end terminal portion of the arm is indicated at 24 and it coacts with the portion 17 of arm 15 for cleaning the curved bottom of the pipe bowl.

In order to tightly hold the two elements 10 and 11 in adjusted position relative to each other, the cleaning element 10 is provided with a toothed rack 25 which may be integral with the annular member 12 and project into the interior thereof. The annular member 18 is also provided with a toothed rack 26 which as shown in Figures 3 and 4 is adapted to engage the rack 25 so that when the bolt 21 is tightened, the two annular members 12 and 18 will be tightly held against rotation relative to each other.

The annular members 12 and 18 are offset

laterally from one edge of the arms or blades 15 and 22 respectively so that these blades will confront each other.

In order to provide a means whereby knife blades or like keen edged articles may be sharpened, I have provided spaced apart radially disposed ears 27 which are fixed to the annular member 12 and one or more disc-shaped sharpening blades 28 are carried by each ear 27 and are rotatably mounted on a pin or shaft 29 which as shown in Figure 3 may have the opposite ends thereof upset so as to secure the pin 29 on an ear 27.

In the use of this device the cleaning blades or arms 15 and 22 may be adjusted relative to each other by loosening the adjusting bolt 21 sufficiently to permit movement of the two members 12 and 18 relative to each other. The arms or cleaning blades 15 and 22 are then moved toward or away from each other with the bolt 21 as a fulcrum so that these cleaning members will be able to enter the interior of the bowl.

The annular members 12 and 18 including the blades 14 and 19 constitute a handle by means of which the blades 15 and 22 may be rotated within the bowl and the keen edge portions or corners 16 and 23 of the blades 15 and 22 are adapted to scrape the material off of the interior of the bowl. The arcuate portions 17 and 24 have a curve similar to the curvature of the bottom of the bowl so that these members will thoroughly clean the bottom of the bowl at the same time that the plates 15 and 22 clean the side wall of the bowl.

In order to sharpen knives or like articles the knife is inserted between a pair of sharpening members 28 and pulled thereacross so that the edges of these members 28 will cut the metal of the blade and provide a keen edge thereupon. A pipe cleaning device constructed according to this invention can be manufactured at a relatively small cost and can be manufactured in such a size that it can be readily carried in a pocket or the like. In the event the cleaning blades 15 and 22 become dulled on their outer corners the blades may be readily sharpened by a file or other tool reestablishing the sharp corners on these members.

What I claim is:

1. In a cleaning device for tobacco smoking pipes, a pair of complementary oppositely disposed cup-shaped members disposed in inner facewise opposed relation, one being revolvably adjustable relative to the other, means for connecting said members together, said means providing a shaft for the said revolvably adjustable member, and a

pair of elongated oppositely inwardly inclined cleaning arms of like form each having one of its ends integral with an edge portion of an outer side edge of a member, said arms having free end terminal portions disposed upon an inwardly directed curve throughout.

2. In a cleaning device for tobacco smoking pipes, a pair of complementary oppositely disposed cup-shaped members disposed in inner facewise opposed relation, one being revolvably adjustable relative to the other, means for connecting said members together, said means providing a shaft for the said revolvably adjustable member, a pair of elongated oppositely inwardly inclined cleaning arms of like form each having one of its ends integral with an edge portion of an outer side edge of a member, said arms having free end terminal portions disposed upon an inwardly directed curve throughout, said arms being of rectangular contour in transverse cross section, and each of said members being off-set with respect to one of the lengthwise edges of that arm with which it is integral.

3. In a cleaning device for tobacco smoking pipes, a pair of complementary oppositely disposed cup-shaped members disposed in inner facewise opposed relation, one being revolvably adjustable relative to the other, means for connecting said members together, said means providing a shaft for the said revolvably adjustable member, and a pair of elongated oppositely inwardly inclined cleaning arms of like form each having one of its ends integral with an edge portion of an outer side edge of a member, said arms having free end terminal portions disposed upon an inwardly directed curve throughout, the ends of said arms integral with said members being disposed tangentially with respect to and arranged below the horizontal median of said member.

4. In a cleaning device for tobacco smoking pipes, a pair of annular members disposed in inner facewise opposed relation, one being revolvably adjustable relative to the other, means for connecting said members together in opposed relation, said means providing a shaft for the said revolvably adjustable member, a pair of elongated oppositely inwardly inclined cleaning arms of like form, each having one of its ends integral with an edge portion of an outer side edge of a member, said arms having free end terminal portions disposed upon an inwardly directed curve throughout, and said members having coacting means for latching the revolvable member in its adjusted position.

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