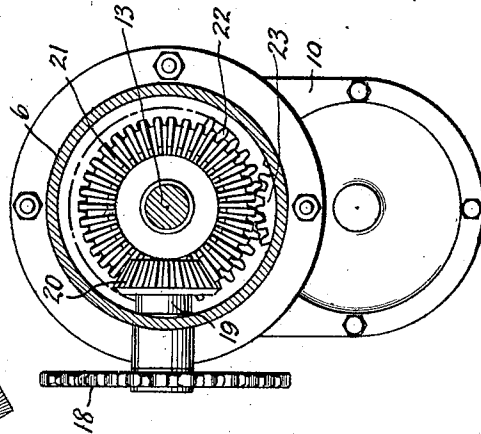
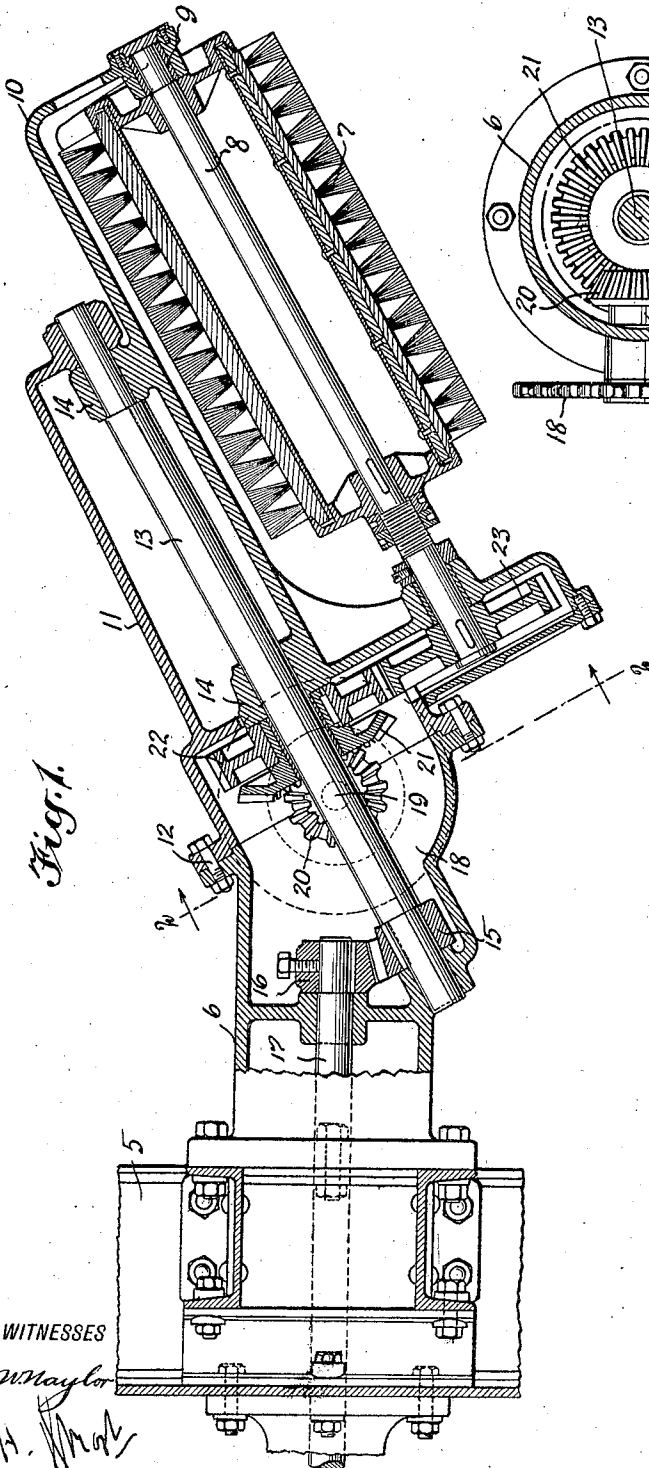


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E. GEIGER
CLEANING BRUSH

Original Filed Aug. 18, 1921



WITNESSES

Geo. W. Taylor
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UNITED STATES PATENT OFFICE.

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CLEANING BRUSH.

Application filed August 18, 1921; Serial No. 493,434. Renewed October 25, 1922. Serial No. 536,898.

To all whom it may concern:

Be it known that I, EUGEN GEIGER, a citizen of the German Republic, and a resident of Karlsruhe, Germany, have invented a new and Improved Cleaning Brush, for which I have filed an application for Gebrauch's Muster which bears date of May 28th, 1918, and No. 684,185, and of which the following is a specification.

My invention relates to a brush and more particularly to a power-driven brush such as is utilized for cleaning surfaces.

It is an object of my invention to provide a brush and an operating mechanism therefor, which brush will be adjustable to virtually all planes and which will further be primarily adapted to co-operate with a surface to be cleaned, which surface is disposed at an angle to the mounting of the brush.

It is a further object of my invention to provide a device of the character described, the parts of which will be extremely simple in construction so as to be adaptable to virtually all purposes for which the brush may be utilized.

With these and further objects in view, reference is to be had to the accompanying drawings, which illustrate one practical embodiment of my invention, and in which drawings—

Figure 1 is a sectional side elevation of a brush embodying my improved construction; and

Figure 2 is a transverse sectional view taken on the line 2—2, in Figure 1 and in the direction of the arrows indicated in this figure.

The difficulties incident to the construction of a brush of the character specified, are well appreciated in that the brush itself presents a body of relatively great length, which body must be disposed at an angle and must also be capable of being adjusted in such a manner that it may cooperate with a surface to be cleaned at all times.

To nevertheless construct a brush possessing these qualifications, which brush will have a relatively simple arrangement of parts, it will be seen, reference being had to the drawings, that the numeral 5 indicates a suitable support of any desirable character below which a sleeve 6 extends, this sleeve carrying a brush 7 of any de-

sired type, by means of a construction hereinafter more fully specified.

It will be seen in Figure 1 that the brush 7 is secured to a shaft 8 which is rotatably mounted within bearings 9 provided at each end of a stirrup 10. Also, the sleeve 6 is extended in the form of a casing 11 which may be connected to it by any suitable means such as 12, this casing rotatably mounting a secondary shaft 13.

With a view of connecting the stirrup element 10 to the casing, it will be noted that the said stirrup is formed with ears 14 which are secured to the shaft 13 and thus rocking connection between the stirrup and the casing is established in that upon the shaft 13 being oscillated, the stirrup will also be oscillated by virtue of the connection existing between the ears 14 thereof and the said shaft and this oscillation of said shaft may be accomplished by securing a segmental gear 15 to the inner end thereof, which gear cooperates with a similar gear 16 associated with a third shaft 17 extending into the sleeve 6, this latter shaft being actuated by a suitable control (not shown).

With a view of establishing a drive for the brush 7, it will be noted, reference being had to Figure 2, that I preferably utilize a sprocket gear 18, which is fixedly secured to a stub shaft 19 the outer end of which extends beyond the sleeve 6. A bevel gear 20 is affixed to the inner end of the stub shaft and co-operates with a similar gear 21 rotatably mounted upon the shaft 13. A gear wheel 22 is connected to the bevel gear 21 and the teeth of this gear wheel engage the teeth of a secondary gear wheel 23 affixed to the shaft 8.

Thus, it will be obvious that all the objects set forth in the preamble of the specification are accomplished in that primarily the support 5 and sleeve 6 will at all times constitute relatively fixed elements and by virtue of the fact that the stub shaft carrying the sprocket wheel 18, is associated with this sleeve portion no difficulties will be experienced in connection with establishing a drive at this point. Further this drive will readily be transmitted in the form of rotation to the brush 7, and irrespective of the speed at which the latter is rotated, it being seen that the stirrup carrying the same may be

rocked with respect to the casing 11 and sleeve 6 without the slightest interfering with this rotation.

Obviously numerous modifications of the structure might readily be resorted to without departing from the scope of my claims, which are:

1. A cleaning device including a brush comprising a body portion, a shaft mounting said body portion, means for rotating said shaft, and means for bodily oscillating said shaft, the axis of oscillation extending in a line substantially parallel to the body of the brush.

2. A cleaning device including a stirrup, a shaft rotatably carried by said stirrup, a brush mounted upon said shaft, a casing, a secondary shaft within said casing, said stirrup being connected to said latter shaft, a third shaft disposed at an angle to said last-named shaft, and means for connecting said shafts one to the other whereby upon said last-named shaft being oscillated, said stirrup will be caused to swing.

3. A cleaning device including a stirrup, a shaft rotatably carried by said stirrup, a brush mounted upon said shaft, a casing, a secondary shaft within said casing, said stirrup being connected to said latter shaft,

a third shaft disposed at an angle to said last-named shaft, and means for connecting said shafts one to the other whereby upon said last-named shaft being oscillated, said secondary shaft and stirrup will be caused to swing, said first and second shafts lying substantially parallel to each other.

4. A cleaning device including a stirrup, a shaft rotatably carried by said stirrup, a brush mounted upon said shaft, a casing, a secondary shaft rotatably disposed within said casing, said stirrup being carried by said secondary shaft, and interengaging gear wheels associated with each of said shafts, a beveled gear wheel rotatably supported upon said secondary shaft, a stud shaft carried by said casing, a beveled gear carried by said stud shaft and engaging said last named gear wheel, and further means connected to said stud shaft for positively rotating the same.

5. A cleaning device including a casing, a shaft disposed within said casing, a brush fixedly connected to said shaft, means for oscillating said shaft and the brush carried thereby, and further means for rotating said brush.

EUGEN GEIGER.