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SUCTION NOZZLE

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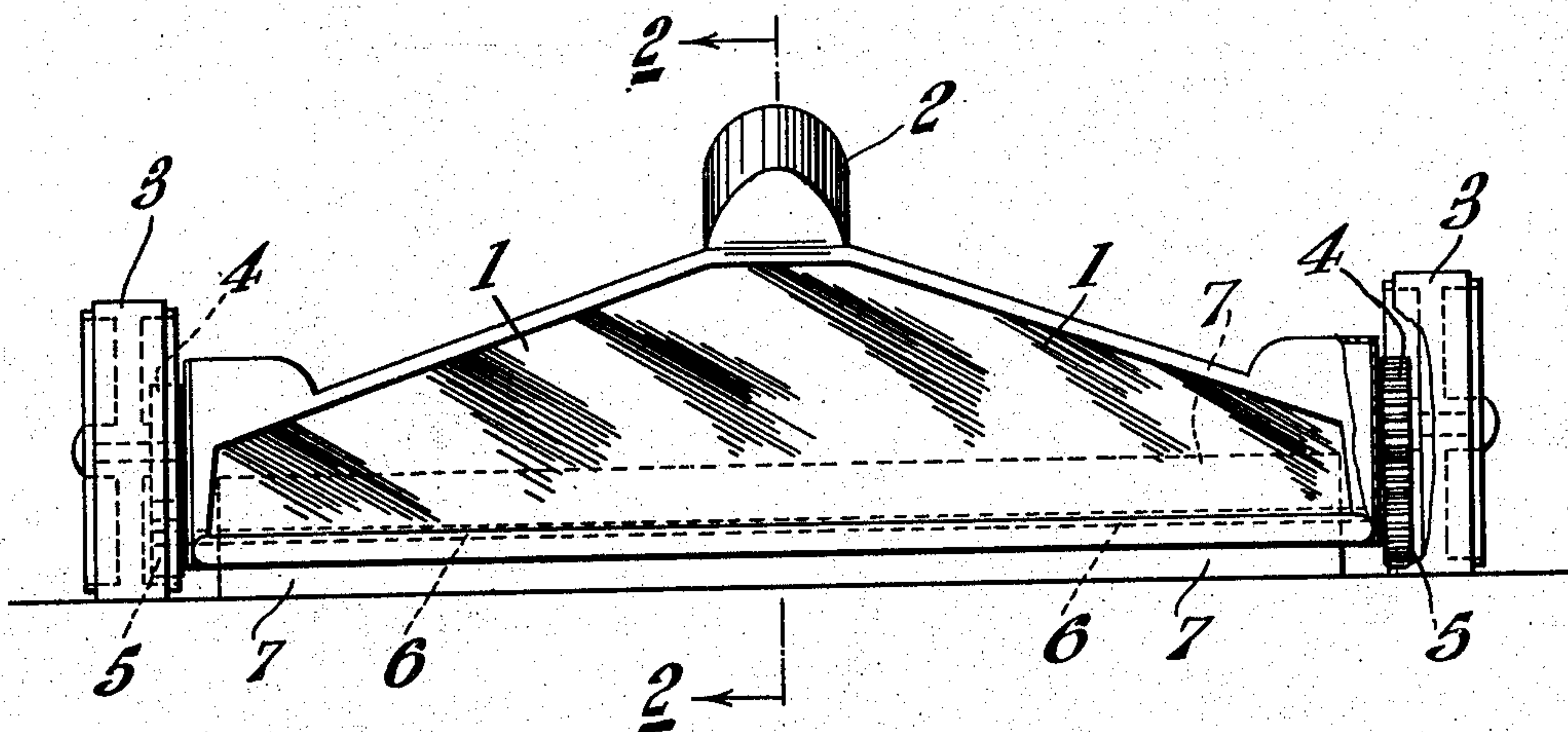


Fig. 1.

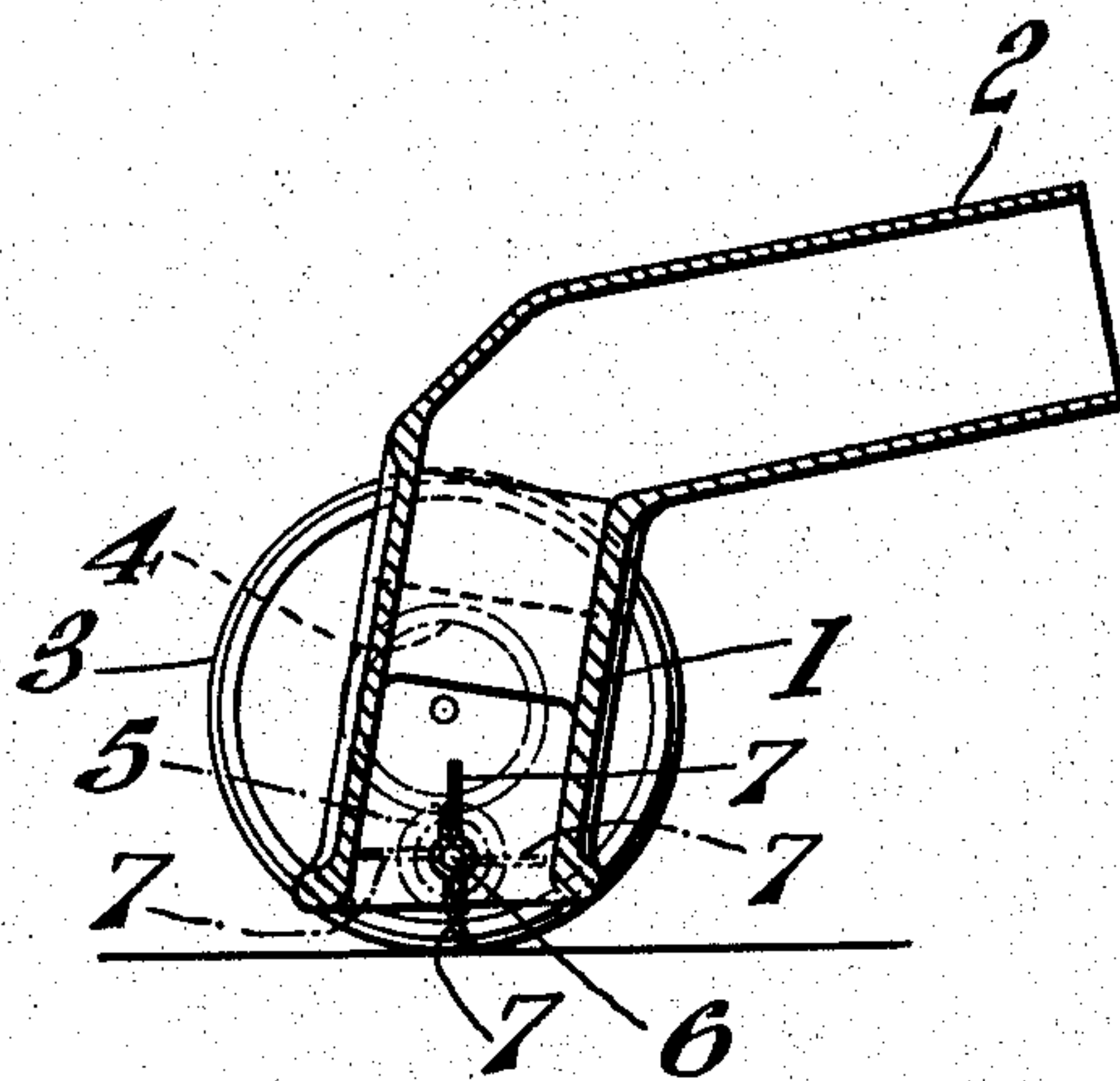


Fig. 2.

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SUCTION NOZZLE

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3 Claims. (Cl 15—155)

This invention relates to a suction nozzle for vacuum cleaning apparatus of the kind having a rotary element or beater mounted in the mouth thereof. While having particular reference to a suction nozzle adapted to be connected to its associated suction producing device in a readily detachable manner the invention is obviously not limited in its application to such nozzles.

An object of the invention is to provide a suction nozzle having a rotary element or beater that will have an extremely strong brushing or cleaning action.

Another object of the invention is to provide a suction nozzle having a rotary element or beater that will not gather and become choked with fluff as do bristle brushes.

Another object of the invention is to provide a suction nozzle in which rapid alternations of pressure occur at the mouth of the nozzle.

With these and other objects in view the invention comprises certain novel combinations of parts shown in the accompanying drawing and hereinafter more fully described and claimed.

In the drawing:

Figure 1 is a front elevation of a suction nozzle in accordance with my invention;

Figure 2 is a vertical section therethrough taken on the line 2—2 of Figure 1.

Referring now to this drawing, the nozzle comprises a casing 1 which is open at the bottom and is secured at the top to a pipe 2 by means of which it can be detachably connected to a suction producing device. The casing 1 is supported at each end by a rubber-tired, I-section wheel 3 which is carried on a stub axle projecting from the end of the casing. Secured to the inner face of the web of each wheel 3 is a pinion 4 which meshes with a smaller pinion 5, fast on one end of a shaft 6 journaled in the ends of the casing 1. Secured to the shaft 6 are two diametrically opposite strips of rubber, felt, fibre or other flexible and resilient material.

When the nozzle is moved over the surface to be cleaned the friction wheels 3 rotate and, act-

ing through the step-up gearing 4, 5, cause rapid rotation of the beater shaft 6. The distance of the shaft 6 from the surface of the article to be cleaned is less than the width of the strips 7, so that owing to their resilience the latter have a strong brushing action on the article to be cleaned. Moreover, the parts are so dimensioned that when the strips 7 lie in the position shown in dotted lines in Figure 2 they almost completely close the suction passage. Thus as the nozzle is moved over the article to be cleaned, rapid alternations of pressure occur within the suction nozzle. This greatly improves the cleaning effect, and in particular the capacity of the nozzle for picking up threads and similar articles.

What I claim and desire to secure by Letters Patent is:—

1. A suction nozzle comprising an open-bottomed casing, a rotary shaft journaled in said casing and a number of strips of resilient material each secured at one edge to said shaft, the said strips being disposed opposite one another on the shaft and coacting with the nozzle to substantially interrupt passage of air through the nozzle when said strips are transversely of the nozzle during their rotation.

2. A suction nozzle comprising an open-bottomed casing, a rotary shaft journaled in said casing at a distance from the bottom thereof equal to less than half the width of said casing and a number of pairs of diametrically opposite strips of resilient material each secured at one edge to said shaft and each of a width equal substantially to one half the width of said casing.

3. A suction nozzle comprising a casing having an air passage therethrough, a rotary member comprising a shaft and vanes projecting diametrically from said shaft mounted in said casing and operative to intermittently close said air passage during the rotation of the shaft whereby said air passage is alternately guarded by the vanes and unguarded thereby during the rotation of the shaft.

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