Dec. 31, 1929. W. M. DRENNON 1,741,145

SANDER AND BUFFER

Filed May 28, 1928

Fig. 1.

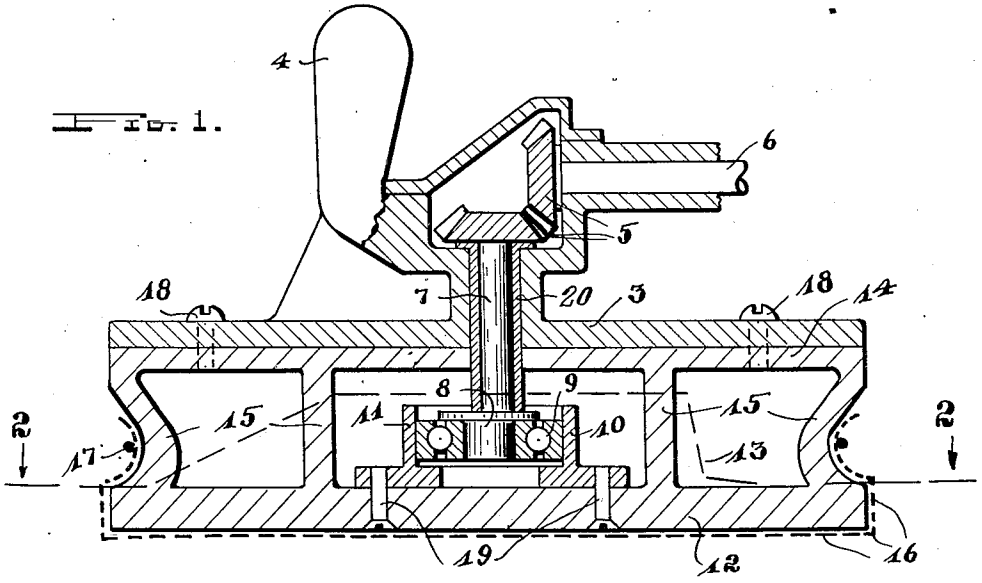
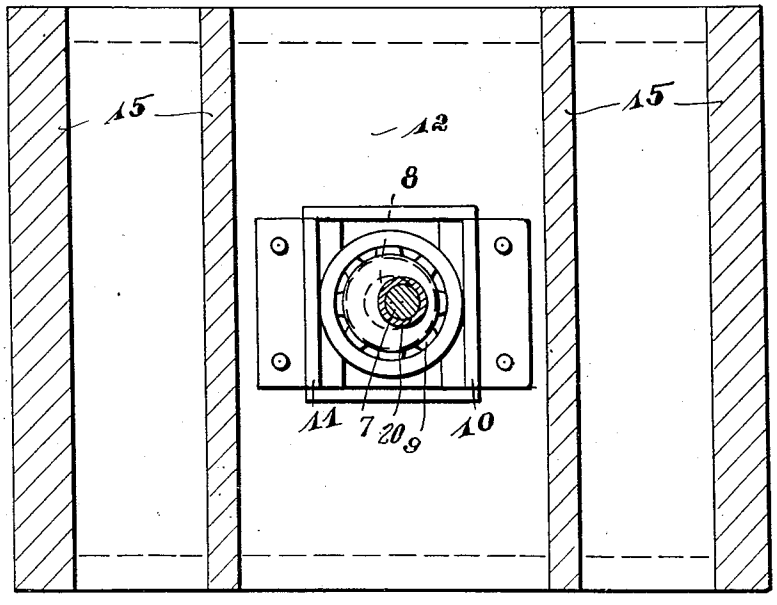


Fig. 2.



INVENTOR:
WILLIAM M. DRENNON,
By: Albert H. Ringer,
his Atty.

Patented Dec. 31, 1929

1,741,145

UNITED STATES PATENT OFFICE

WILLIAM M. DRENNON, OF ANAHEIM, CALIFORNIA

SANDER AND BUFFER

Application filed May 28, 1928. Serial No. 281,342.

This invention relates to devices used for sanding, buffing and cleaning surfaces.

One of the objects of this invention is to provide a simple and durable structure designed to vibrate on a portion of its surface while it may be held firmly and comparatively stationary as far as other portions of the structure are concerned.

Another object is to provide a flexible portion on such a vibrator made of flexible but durable material, such as rubber.

Another object is to provide a cam actuated vibrating structure whereby a portion of the surface may be caused to vibrate or oscillate and adapted to be forced into the cavities of an eventually uneven surface that is to be cleaned or polished.

Another object is to provide a flexible portion for a sander and buffer designed so that the cleaning or polishing medium, such as sandpaper, may be securely held to the oscillating surface of the device.

Other objects will appear from the following description and appended claims as well as from the accompanying drawing, in which—

Fig. 1 is a vertical midsectional view of a simple sander and buffer with a rotating cam attached to one portion of a flexible structure by which the vibrating or oscillating movement can be transmitted to a flexible face of this sander and buffer according to this invention.

Fig. 2 is a section through the flexible portion of the sander and buffer on line 2—2 of Fig. 1.

The comparatively rigid base 3 is provided with a handle 4 by which the base may be held during sanding and other operations.

Meshed gears 5 are mounted in the base 3 in operative connection with a driving shaft 6 and a driven shaft 7, the shaft 7 being turnably disposed in the extended tubular bearing in form of the sleeve 20. A cam 8 is provided on the innermost end of the shaft 7. On this cam 8 a ball bearing 9 is disposed to move between the flanges 10 and 11 secured to the front portion of the flexible head 13.

The flexible head is preferably made of a form that it may be firmly secured to the base 3 having therefore a base securing wall portion 14 to rest against the base. Between this wall portion 14 and the front wall portion 12 of the flexible head webs 15 are provided whereby the front wall portion 12 is suitably supported on the back or base securing portion 14. These webs, however, are designed to allow a back and forth movement, or oscillating, or vibrating of the front wall portion 12, which forms the working face of the device, in relation to the flange 14.

A rotation of the shaft 6 by any outside mechanism, not shown in the drawing, such as an electric motor or any rotating force, is transmitted to the shaft 7.

The rotating movement of the shaft 7 is transformed into an oscillating or vibrating motion on the front wall 12 of the flexible head of this device.

Through the cam 8 and ball bearing 9 interposed between the shaft 7 and the flanges or guides 10 and 11, for cleaning and grinding purposes, sandpaper or the like, and for polishing purposes any buffing material can be applied over the flexible head in the manner indicated in dotted lines at 16 to be securely held by a band or suitable means indicated at 17.

The flexible head is secured to the base 3 as indicated at 18, and the flanges or guides 10 and 11 are secured to the front wall 12 of the flexible head 13 as indicated at 19.

The flexible head 13 is preferably made of rubber though not necessarily, depending on local or technical requirements, the principal feature being that this flexible head is made of such a material that it can be secured to a base and that the front wall or portion of the flexible head can be vibrated in the manner set forth above.

Four webs 15 are only indicated in the drawing, however, it must be understood that I do not limit myself to this specific design and that the flexible head may be shaped to suit various conditions and requirements to which a device of this type may be subjected in various industries.

Having thus described my invention, I claim:

1. In a device of the class described, a base

including operating means, and a flexible head firmly secured to the base and operatively connected to the operating means so that the working face of the flexible head will vibrate through the action of the operating means in the base.

2. In a device of the class described, a base including operating means, a flexible head secured to the base, guides secured to the flexible head, and a cam disposed between the flexible head and the operating means in the base whereby the front portion and working face of the flexible head is caused to vibrate by an actuation of the operating means in the base.

3. In a device of the class described, a base with a handle portion, gears mounted in the base and in operative connection with a driving and a driven shaft, a flexible head consisting of a wall secured to the base and another wall forming the working face oscillatory connected to the first-named wall, guiding means provided on the second-named wall, and a cam interposed between the driven shaft and the guiding means on the second named wall for oscillating the working face of the flexible head by means of the shafts in the base.

4. In a device of the class described, a base with a handle portion, gears mounted in the base and in operative connection with a driving and driven shaft, a flexible head consisting of a wall secured to the base and another wall forming the working face oscillatory connected to the first-named wall, guiding means provided on the second-named wall, a cam on the innermost end of the driven shaft, and a ball bearing interposed between the cam and the guiding means on the second-named wall.

In testimony that I claim the foregoing as my invention I have signed my name.

WILLIAM M. DRENNON.