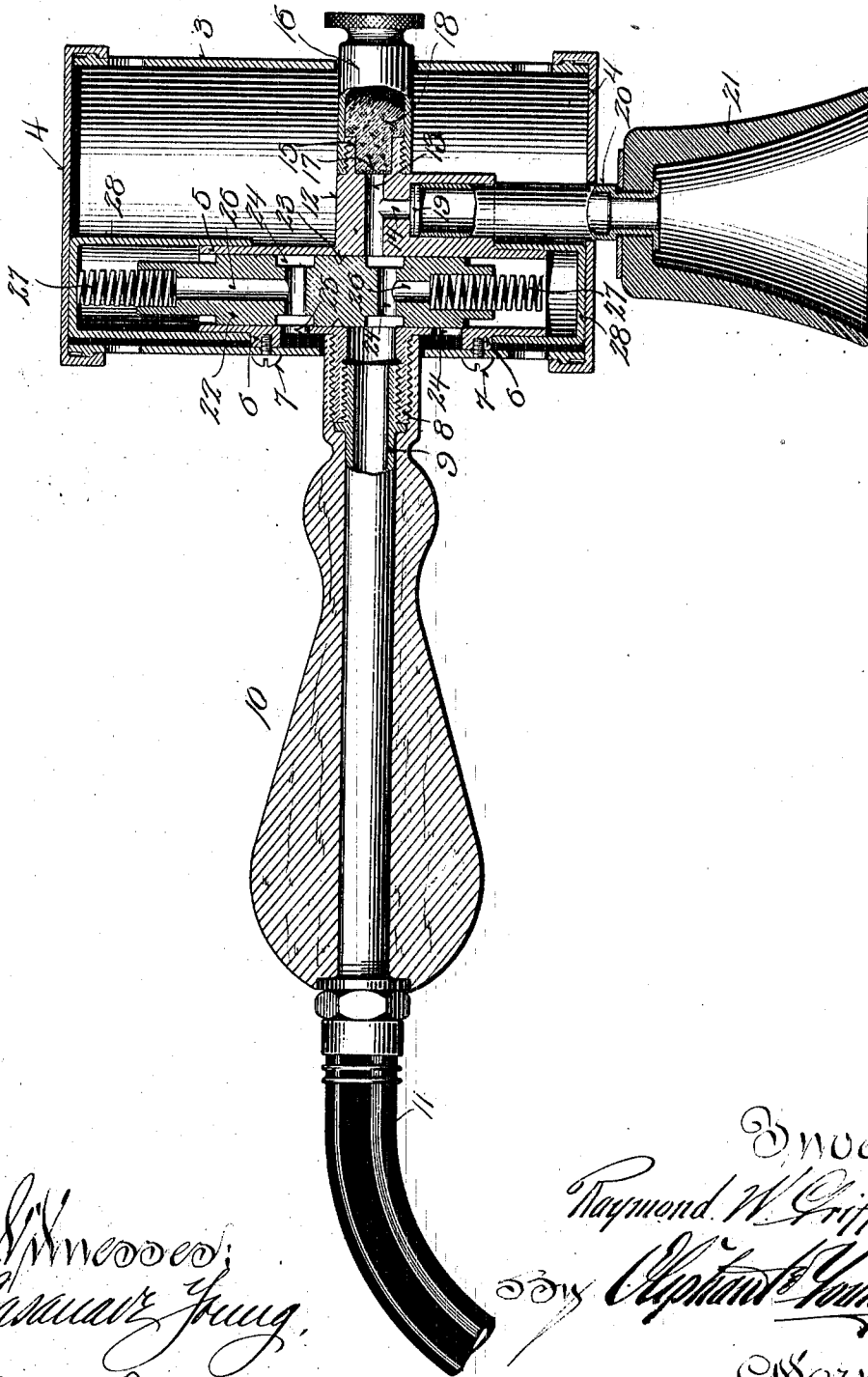


1,059,455.

Patented Apr. 22, 1913.



Witnessed:
Carroll Young
May Downey

Inventor:
Raymond W. Griffith
by *Clifton Young*
Attorney

UNITED STATES PATENT OFFICE.

RAYMOND W. GRIFFITH, OF MILWAUKEE, WISCONSIN.

MASSAGING IMPLEMENT.

1,059,455.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Application filed July 8, 1912. Serial No. 708,095.

To all whom it may concern:

Be it known that I, RAYMOND W. GRIFFITH, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Massaging Implements; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention consists in what is herein particularly set forth with reference to the accompanying drawing and pointed out in the claims of this specification, its object being to simplify and cheapen the vacuum vibrator massaging implement specified in my Letters Patent No. 996924, granted July 4, 1911.

The drawing represents a central longitudinal section of one of my improved vacuum vibrators having a suction-cup applicator applied thereto.

Referring by numerals to the drawings, 3 indicates a cylindrical casing having heads 4 in snap-fit thereon or otherwise detachably secured thereto. The casing incloses a cylinder 5 provided with lugs 6, and by means of screws 7 engaging said lugs, the cylinder is detachably secured in said casing. Extending from the cylinder midway of its ends and through an opening in the casing, is a hollow boss 8, the same being the exhaust of said cylinder. In screw-thread connection with the boss is a preferably shouldered end of a rigid pipe 9 that extends through a handle 10 of suitable material, this handle being threaded or otherwise suitably fitted on said boss.

In practice the pipe 9 is detachably coupled to a flexible tube 11 leading from a suction generator not shown but common in the art to which my invention relates. Opposite its boss 8, the cylinder is provided with an outer lug 12 having intersecting bores 13 and 14, at right-angles, the bore 14 being countersunk. The bored lug 12 constitutes the inlet of the cylinder and a hollow boss-extension 15 of said lug is in line with the bore 13 of the same. Extending through an opening in the casing 3 is a cap 16 in screw-thread connection with the boss 15 of the lug 12, and by means of said boss 15 and cap 16, a chamber is provided. Seated in the chamber is a woven-wire strainer 17 for a mass 18 of suitable lubricant composition.

Engaging the countersink of the lug-bore 14 against preferably interposed air-strainer-

disks 19, of felt or other suitable material, is shown the hollow shank 20 of a suction-cup 21, but any other form of applicator may be utilized.

A floating piston 22 of suitable weight is guided in the cylinder. The piston is provided with an outer annular preferably V-shaped groove 23 midway of its ends, and with a pair of transverse passages 24 that are equi-distant from said groove in opposite directions, each passage being alternately registrable with a cylinder-port 25 and the exhaust of the cylinder. Each of the piston-passages 24 is intersected by a countersunk longitudinal bore 26 of the piston, and engaging the countersink of each of these bores is a spiral spring 27 constituting an elastic cushion opposed by a cap-head 28 of the cylinder.

In the operation of my vacuum vibrator, air is exhausted from one end of the cylinder 5 through a bore 26 and passage 24 of the piston then in communication with the inlet and exhaust of said cylinder, while at the same time air is admitted to the other end of said cylinder through a port 25 of the same then in register with a passage 24 of said piston. The result is a rapid movement of the piston to the vacuum-end of the cylinder, whereupon an immediate reverse movement of said piston takes place, its reciprocation being against resistance of the elastic cushions 27 that serve, by compression, to limit the piston-movement in opposite directions as well as to render the apparatus practically noiseless. The automatic rapid reciprocation of the piston effects the vibrations desired, its groove 23 being a lead that prevents cutting off the suction through the cylinder, and incidental to the suction, the lubricant 18 is supplied to said cylinder and the piston in sufficient quantity.

In the showing, the lower passage 24 and bore 26 of the piston are for the instant in communication with the inlet and outlet of the cylinder, the other piston passage and bore being open to the upper air-port 25 of said cylinder. Now as there is suction through the pipe 9, a quick downward stroke of the piston occurs and this stroke is sufficient to bring the upper passage 24 and bore 26 of said piston into communication with the inlet and outlet of the cylinder, the aforesaid air port being then closed and the lower air-port of said cylinder open to the lower piston passage and bore, it being un-

derstood that said piston has considerable momentum when on stroke in either direction. There is an immediate reverse stroke of the piston, and continued reciprocation of the same as long as the suction through the pipe 9 continues. The path of reciprocation of the piston is short, but sufficient to produce the vibrations necessary for massaging purposes.

10 I claim:

1. In a vibrator massaging implement, the combination of a cylinder having an inlet and exhaust midway of its ends, as well as ports in opposite directions from said inlet and exhaust, the aforesaid inlet being for the engagement of the shank of an applicator; and a floating piston in the cylinder provided with an outer annular groove midway of its ends, a pair of transverse passages equi-distant from said groove in opposite directions and bores intersecting the passages; each passage being intermittently registrable with a cylinder-port.

2. In a vibrator massaging implement, the combination of a cylinder having an inlet and exhaust midway of its ends, as well as ports in opposite directions from said inlet and exhaust, the aforesaid inlet being for the engagement of the shank of an applicator; and a floating piston in the cylinder provided with an outer annular groove midway of its ends, a pair of transverse passages equi-distant from said groove in opposite directions and countersunk bores intersecting the passages; each passage being intermittently registrable with a cylinder-port, an elastic cushion in the countersink of each of said bores opposed to a cylinder-head.

3. In a vibrator massaging implement, the combination of a cylinder having an inlet and exhaust midway of its ends, ports in opposite directions from said inlet and exhaust, and a lubricant chamber in communication with the aforesaid inlet, which inlet is designed for the engagement of the shank of an applicator; and a floating piston in the cylinder provided with an outer annular groove midway of its ends, a pair of transverse passages equi-distant from said groove in opposite directions and bores intersecting the passages; each passage being intermittently registrable with a cylinder-port.

4. In a vibrator massaging implement, the combination of a cylinder having an inlet and exhaust midway of its ends, as well as ports in opposite directions from said inlet and exhaust, the aforesaid inlet being for the engagement of the shank of an applicator; a handle having a bore in register with the exhaust aforesaid, and a floating piston in the cylinder provided with an outer annular groove midway of its ends, a pair of transverse passages equi-distant from said groove in opposite directions and bores intersecting the passages; each passage being intermittently registrable with a cylinder-port.

5. In a vibrator massaging implement, the combination of a casing, a cylinder fast in the casing and having an inlet and exhaust midway of its ends, as well as ports in opposite directions from said inlet and exhaust, the aforesaid inlet being for the engagement of the shank of an applicator; and a floating piston in the cylinder provided with an outer annular groove midway of its ends, a pair of transverse passages equi-distant from said groove in opposite directions and bores intersecting the passages; each passage being intermittently registrable with a cylinder-port.

6. In a vibrator massaging implement, the combination of a casing, a cylinder fast in the casing and having an inlet and exhaust midway of its ends, as well as ports in opposite directions from said inlet and exhaust, the aforesaid inlet being for the engagement of an applicator; a pipe constituting an extension of the cylinder-exhaust, a handle surrounding the pipe, and a floating piston in the cylinder provided with an outer annular groove midway of its ends, a pair of transverse passages equi-distant from said groove in opposite directions and bores intersecting the passages; each passage being intermittently registrable with a cylinder-port.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee in the county of Milwaukee and State of Wisconsin in the presence of two witnesses.

RAYMOND W. GRIFFITH.

Witnesses:

N. E. OLIPHANT,
M. E. DOWNEY.