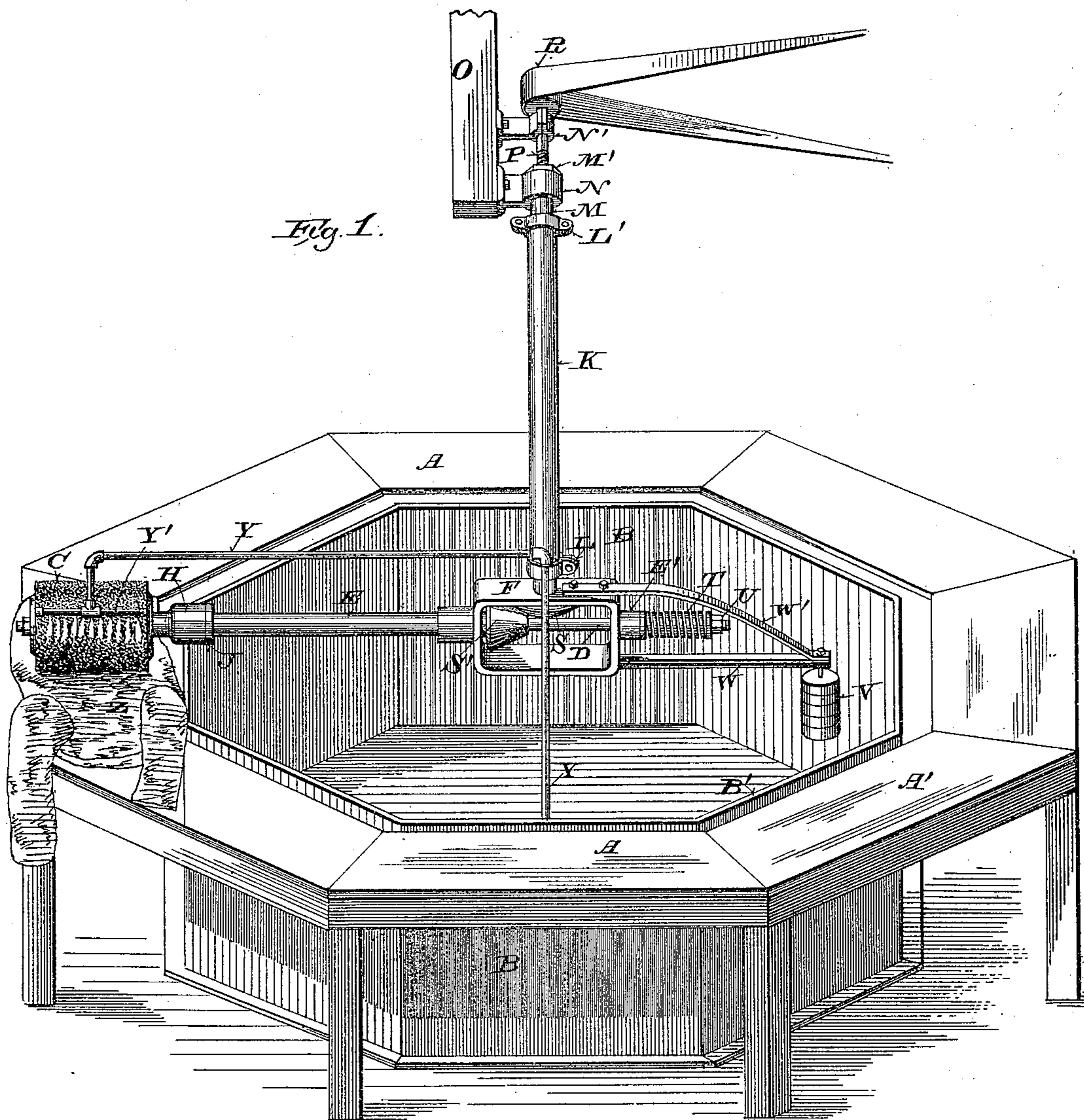


2 Sheets—Sheet 1.

No. 440,149.

Patented Nov. 11, 1890.



E. C. Amos

Anna Faust.

Inventors:
John Pic Hack
Nicholas Altus

By *C. T. Benedict*
Attorney.

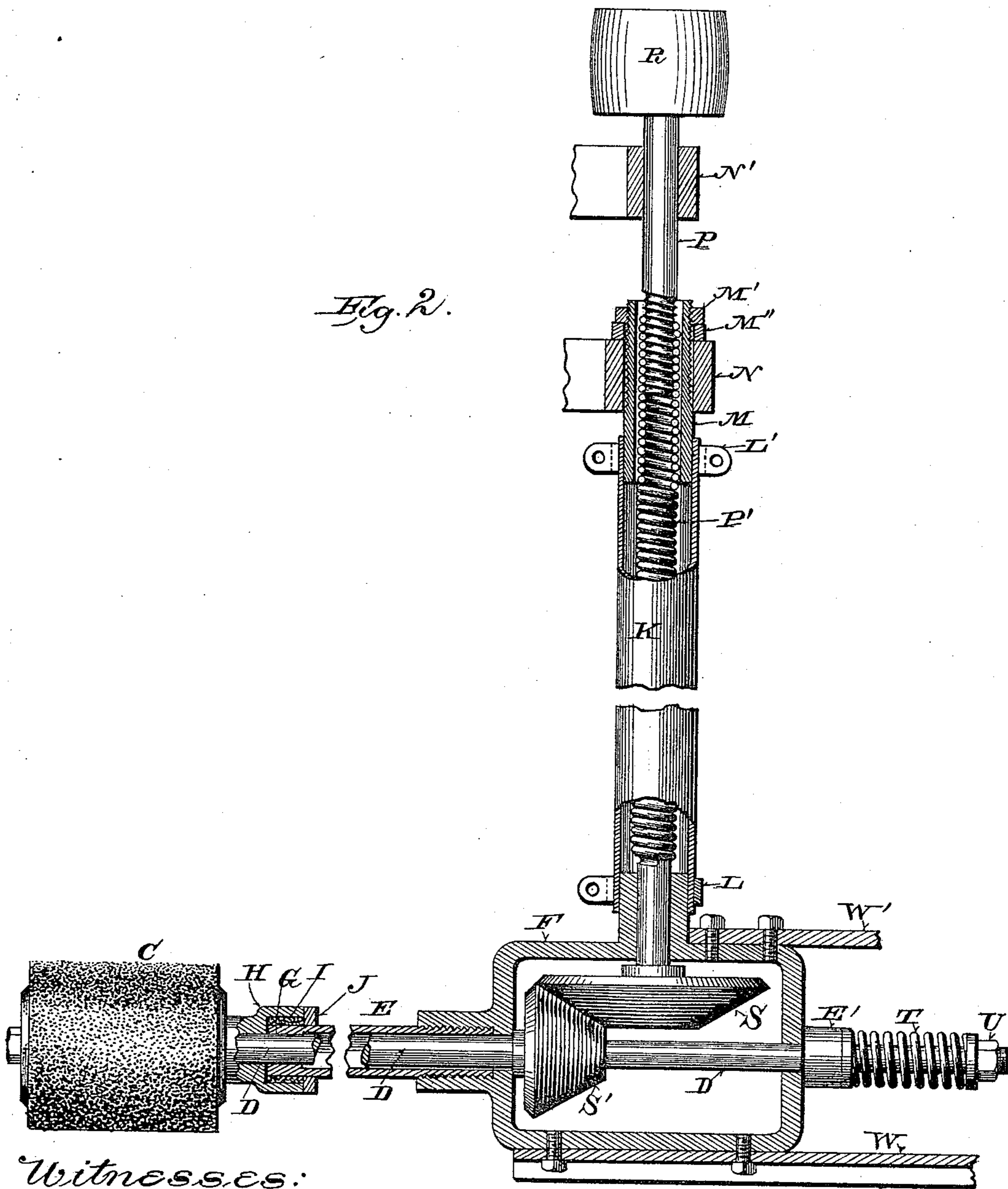
(No Model.)

2 Sheets—Sheet 2.

J. N. HACK & N. ALTEN.
BRUSH.

No. 440,149.

Patented Nov. 11, 1890.



Witnesses:

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Attorney

UNITED STATES PATENT OFFICE.

JOHN NIC HACK AND NICKOLAS ALTEN, OF MILWAUKEE, WISCONSIN.

BRUSH.

SPECIFICATION forming part of Letters Patent No. 440,149, dated November 11, 1890.

Application filed July 26, 1890. Serial No. 359,999. (No model.)

To all whom it may concern:

Be it known that we, JOHN NIC HACK and NICKOLAS ALTEN, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have
5 invented a new and useful Improvement in Brushes, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

10 Our invention relates to a revolving brush constructed and adapted for use in a dyer's or cloth-cleaning establishment for cleaning clothes or cloth, either by brushing in a dry condition or in connection with a supply of
15 water.

In the drawings, Figure 1 is a perspective view of the complete device. Fig. 2 is an elevation of the principal parts of the operative mechanism, parts being shown in section and
20 other parts being broken away to show interior construction and for convenience of illustration.

A is a table, which may be in circular form or in the octagonal form shown in the drawings.
25

B is a wall or guard extending upwardly from the floor, just inside of the table and to nearly the same height as the table. This wall is adapted to screen the person of the operator from the water thrown off from the table by the action of the brush. A section of the table, as A', and a section of the wall, as B', opposite thereto, may be made removable for allowing the operator to pass readily
30 within the circle of the wall B. The section A' of the table to be removable is made independent of the remainder of the table and remains in position by its gravity or may be retained by bolts, and the section B' of the wall being made separate from the remainder of the wall may also be held in place by bolts in any convenient manner well known for such purposes, which bolts are not shown in the drawings, as no claim of novelty is made on
35 the construction of this portion of the device.

A cylindrical brush C is fixed on the horizontal shaft D, which shaft has its bearings in sleeves E and E', secured rigidly to a frame F. The bearing of the shaft in the sleeve E
40 is near its outer end at G. An enlarged sleeve or casing H is placed about the shaft D, between the brush C and the end of the sleeve

E, which casing is so enlarged about the outer end of the sleeve E as to form an annular chamber thereabout, which is supplied with
55 fibrous packing I. The inner end of the casing H bears against a collar J, rigid on the sleeve E. This construction is adapted to provide for properly lubricating the bearing of the shaft D in the bearing at G, while at
60 the same time preventing the lubricating material from dropping or being thrown onto the cloth or garment being cleaned.

The frame F is supported by the leather or other flexible tubing K, which is secured at
65 its lower end by a clamp L to the frame, and at its upper end is secured by a clamp L' to a sleeve M, which sleeve passes movably through the bracket N and is supported thereon by a nut M', turning by a screw-thread on the
70 sleeve, a washer M'' being interposed between the nut M' and the bracket N. The bracket N is secured rigidly to the hanger O. By this construction the sleeve M is made revoluble in the bracket N, and any slack or undue
75 stretching of the tubing K can be taken up by the nut M' turning on the sleeve M.

A vertical shaft P, having bearings in a bracket N', fixed on the hanger O, and also having a bearing in the frame F, has at its
80 upper end a fixed driving-pulley R and at its lower end a beveled friction-wheel S. A medial portion of the shaft P is formed of flexible coiled wire P', conveniently secured at its ends to the extremities of the shaft by
85 turning it by a screw-thread thereon. This method of constructing the shaft makes it flexible, and as the supporting-tubing K is also flexible and revoluble the frame F and thereon-supported mechanism can be turned and
90 shifted in any direction. A beveled friction-wheel S', fixed on the shaft D, is adapted to bear against the friction-wheel S and communicate motion from the shaft P to the brush. The friction-wheel S' is held yield-
95 ingly against the friction-wheel S by means of a coiled-wire spring T about the outer end of the shaft D, between the sleeve E' and an adjustable nut U, turning on the shaft by a screw-thread. The brush is supported and
100 held in a horizontal position by a counterpoise V, hung on an arm W, fixed to the frame F, and projecting therefrom opposite to the brush. A re-enforcing arm W', fixed to the

frame and to the outer end of the arm W, strengthens the weight-supporting arm.

A pipe Y, provided with a water-discharging cross-head Y', is arranged to discharge 5 water on the garment Z while being cleaned, if desired. The pipe Y may be a flexible tube or may be arranged to revolve over the table, being constructed in the form shown in Fig. 1, the central vertical part being provided 10 with a water-tight revoluble joint near the floor for that purpose.

What we claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a substantially 15 circular table, of a brush-supporting frame, a flexible tubing secured to the frame and attached above, suspending the frame normally a little above and at the center of the table, a horizontal shaft journaled in the frame, a 20 cylindrical brush on the free end of the shaft above the table, and a flexible shaft inclosed in the flexible tubing on which the frame is suspended, which flexible shaft is geared to the horizontal shaft, substantially as de- 25 scribed.

2. The combination, with a flexible vertical shaft, of an inclosing flexible tubingsupporting a frame and thereon a horizontal revolving shaft, a sleeve provided with a head, to 30 which sleeve the tubing is secured permanently, and a fixed bracket on which the sleeve is supported by its head movable revolubly and vertically, substantially as described.

3. The combination of a frame suspended 35 movably, laterally, and revolubly and a flexible shaft arranged to transmit motion to mechanism supported in the frame, of a horizontal shaft supported in the frame and carrying a brush at its free end, and a counter- 40 poise secured to the frame opposite the brush

which it is arranged to balance and support, substantially as described.

4. In swinging and rotating brush mechanism, a vertical shaft, as P, consisting of 45 rigid portions provided with screw-grooves therein, and a flexible coiled wire medial portion of the shaft secured to the rigid portions by turning its coils in the screw-grooves of the rigid portions, substantially as described. 50

5. In brush-driving mechanism, the combination, with a frame suspended by a flexible support and a flexible driving-shaft entering the frame at the side of the support and provided with a gear-head at its extremity, of a 55 horizontal brush-carrying shaft journaled in the frame and having a gear-wheel meshing with the wheel on the driving-shaft, and a spring coiled about the shaft bearing against a nut or stop on the shaft and against the 60 frame, whereby the wheels are held yieldingly in gear, substantially as described.

6. The combination, with a flexible tube supported revolubly at its upper extremity, a frame suspended on the flexible tube, and 65 a flexible shaft in the flexible tube, of a horizontal brush-carrying shaft provided with a wheel meshing with a wheel on the flexible shaft, a spring coiled about the horizontal shaft bearing against a stop on the shaft and 70 against the shaft-supporting frame, whereby the wheels are held yieldingly in gear, and a counterpoise suspended on the frame opposite the brush on the horizontal shaft, substantially as described. 75

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN NIC HACK.
NICKOLAS ALTEN.

Witnesses:

C. T. BENEDICT,
ANNA FAUST.