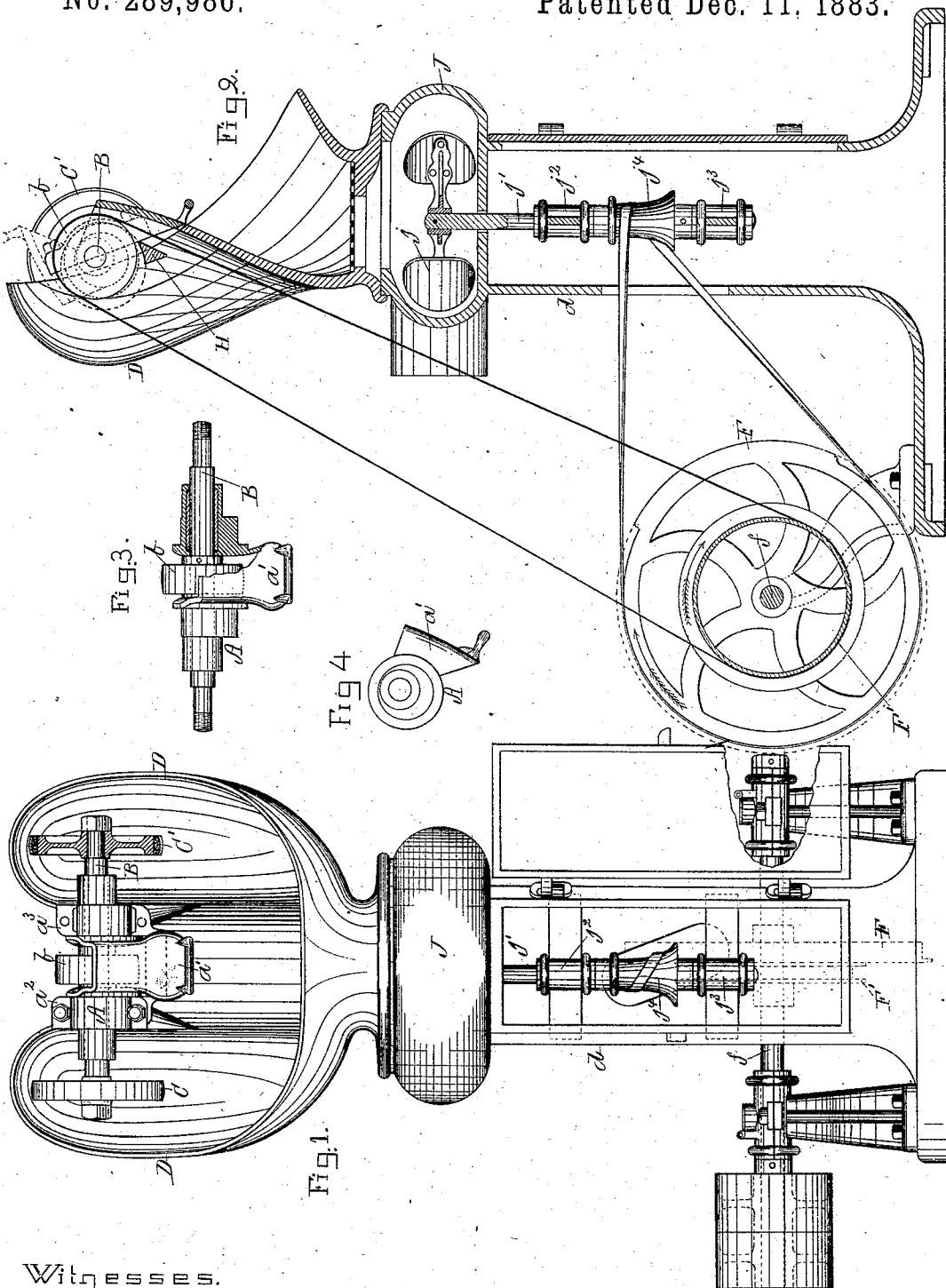


(No Model.)

F. W. COY.
ABRADING MACHINE.

No. 289,986.

Patented Dec. 11, 1883.



Witnesses.

G. B. Maynard
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UNITED STATES PATENT OFFICE.

FREDERICK W. COY, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO GEORGE H. P. FLAGG, TRUSTEE, OF SAME PLACE.

ABRADING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 289,986, dated December 11, 1883.

Application filed September 6, 1883. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK W. COY, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Abrading-Machines, of which the following is a specification.

In the accompanying drawings, which illustrate a heel-scouring machine with all my improvements embodied in the best way now known to me, Figure 1 is a front elevation, partly in section. Fig. 2 is a vertical longitudinal cross-section. Fig. 3 is a front view, and Fig. 4 an end view, of the sleeve in which the shaft is mounted.

In most machines for scouring the edges of boot and shoe heels and for buffing the bottoms of boots and shoes, and also in machines for sandpapering wood-work, the sand-paper needs frequent changing, and to take off the worn-out paper and put on fresh it is necessary to stop the machine. In my machines the sleeve A (shown detached in Figs. 3 and 4) has a hole bored eccentrically through it lengthwise to form the boxes for the shaft B, which carries the abrading wheels or rolls C C'.

The sleeve A, as shown in the drawings, consists of two parts connected rigidly by a piece, *a'*. This piece *a'* also forms a handle, by means of which the sleeve A can be turned in its boxes *a*² *a*³, which are secured to a hood, D, supported on a bench or stand, *d*. By turning the sleeve A to the position shown in dotted lines in Fig. 2, the pulley *b*, fast to the shaft B, is, by reason of the eccentric position of the shaft B in the sleeve A, not only moved toward the main driving-pulley F, thereby releasing the belt, but it is also brought in contact with a brake, H, suitably located for the purpose, by means of which its motion is arrested. The driving-pulley F is preferably so located and the belt is so run as to tend to turn the support A, when in working position, in a direction to keep the belt tight.

Heretofore in abrading-machines the exhaust-blower has been placed in a vertical position with its axis horizontal. In my improved machine the blower-case J is horizontal, with its axis vertical, the blower *j* being mounted horizontally in the case J on a vertical shaft, *j'*, supported in suitable boxes, *j*² *j*³,

and this shaft *j'* is driven by a belt running from the pulley F' over the pulley *j*⁴ on the shaft *j'*. This part of my invention consists in the arrangement of the abrading-rolls C C' and the hood D, in which the rolls are mounted, with the blower-case J joined to and at right angles with the hood D, and a fan, *j*, mounted in the case J on a shaft, *j'*, the axis of which practically coincides with a line drawn centrally through the hood. The hood receives the dust from the abrading-rolls and opens directly into the blower-case. I find the action of the fan very greatly improved by this novel arrangement, the draft being so direct as to make a marked improvement in carrying off the dust and preventing it escaping from the front of the hood.

In order to make my abrading-machine sufficiently compact, it is necessary to have the driving-shaft *f* at right angles with shaft *j'* and to use a belt with a quarter-turn from pulley F' to a pulley on shaft *j'*. This at first sight seemed to require guides or idlers for the belt; but I finally devised the bell-shaped pulley *j*⁴, and found that I was enabled by its use to dispense with all guides or idlers. This pulley is so made that the belt is taut when in the position shown in the drawings, and, as its diameter increases gradually below that position, it is impossible for the belt to run down the pulley *j*⁴ without increasing its length. Moreover, it being a quarter-turn belt, its natural tendency is for the upper portion to always remain on a line at right angles with the shaft *j'* and tangent to pulley F'.

What I claim as my invention is—

1. The sleeve A, in combination with shaft B and its abrading-wheels, substantially as and for the purpose specified

2. In an abrading-machine, the combination, with the abrading-rolls and the hood in which they are mounted, of a blower-case at right angles to and communicating directly with the hood, and a fan mounted in the blower-case and adapted to be revolved, substantially as set forth.

FREDK. W. COY.

Witnesses:

G. B. MAYNADIER,
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