

(No Model.)

F. H. GOOD.  
CARPET CLEANER.

No. 310,045.

Patented Dec. 30, 1884.

Fig. 1.

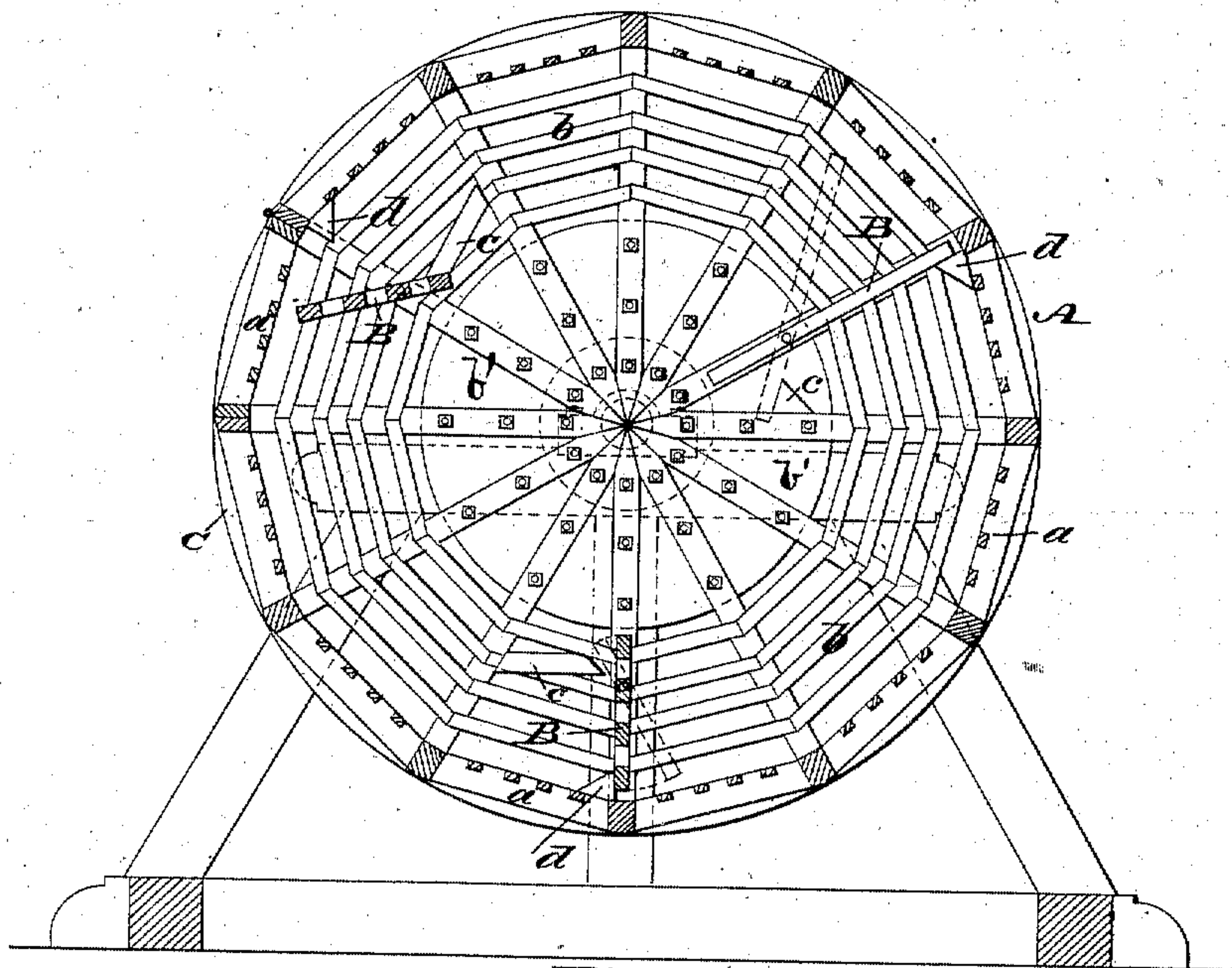


Fig. 2.

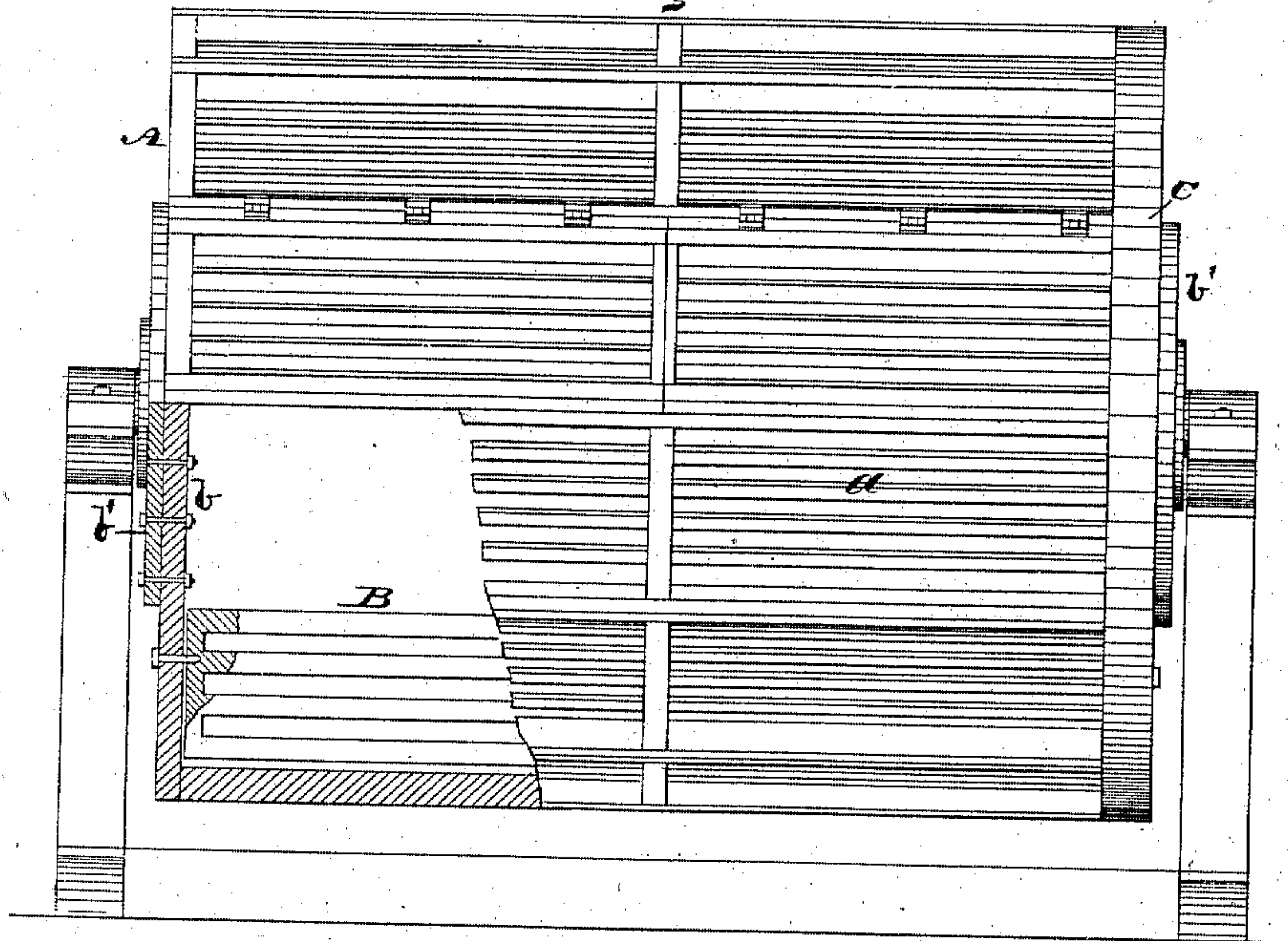
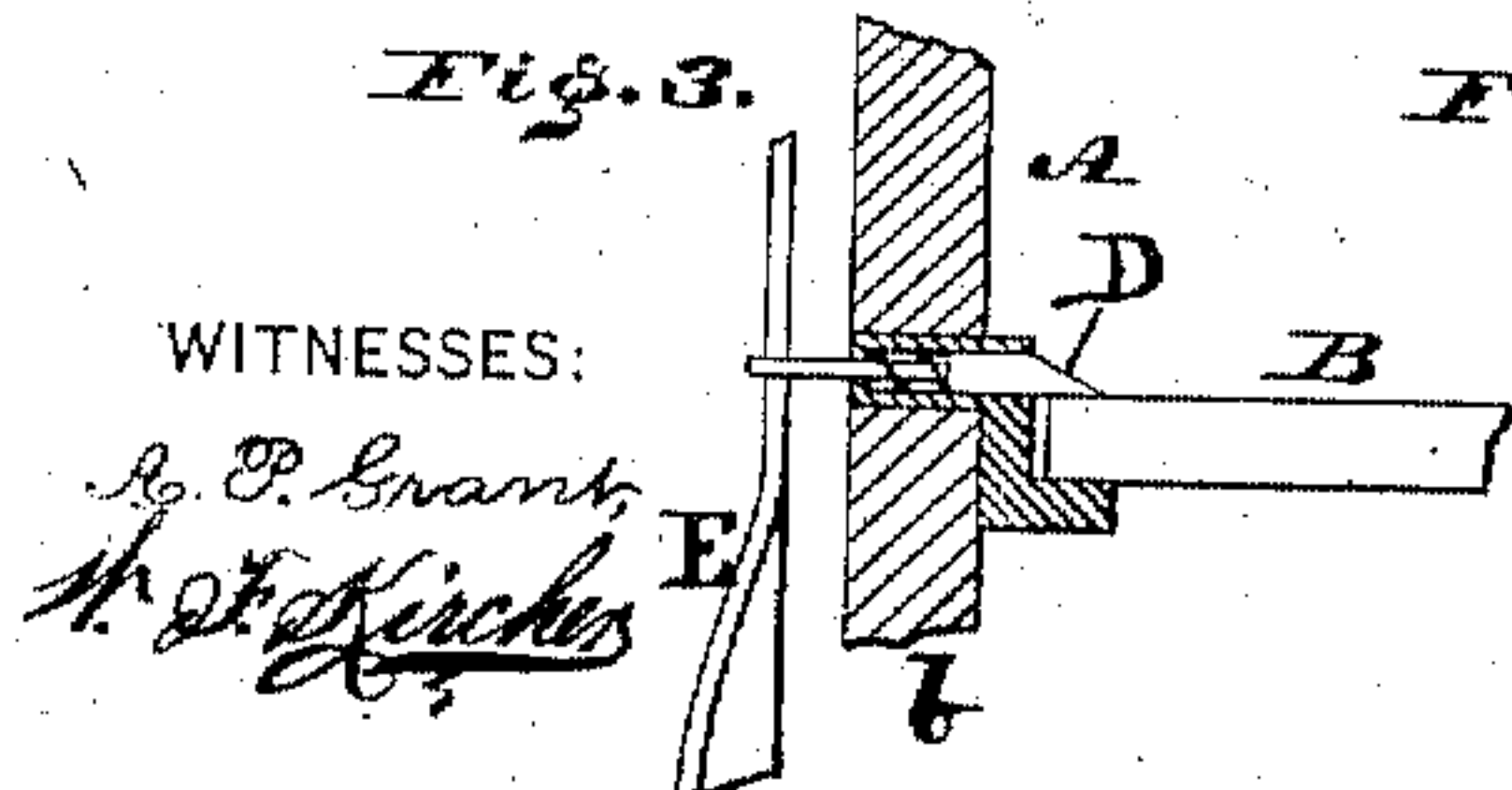


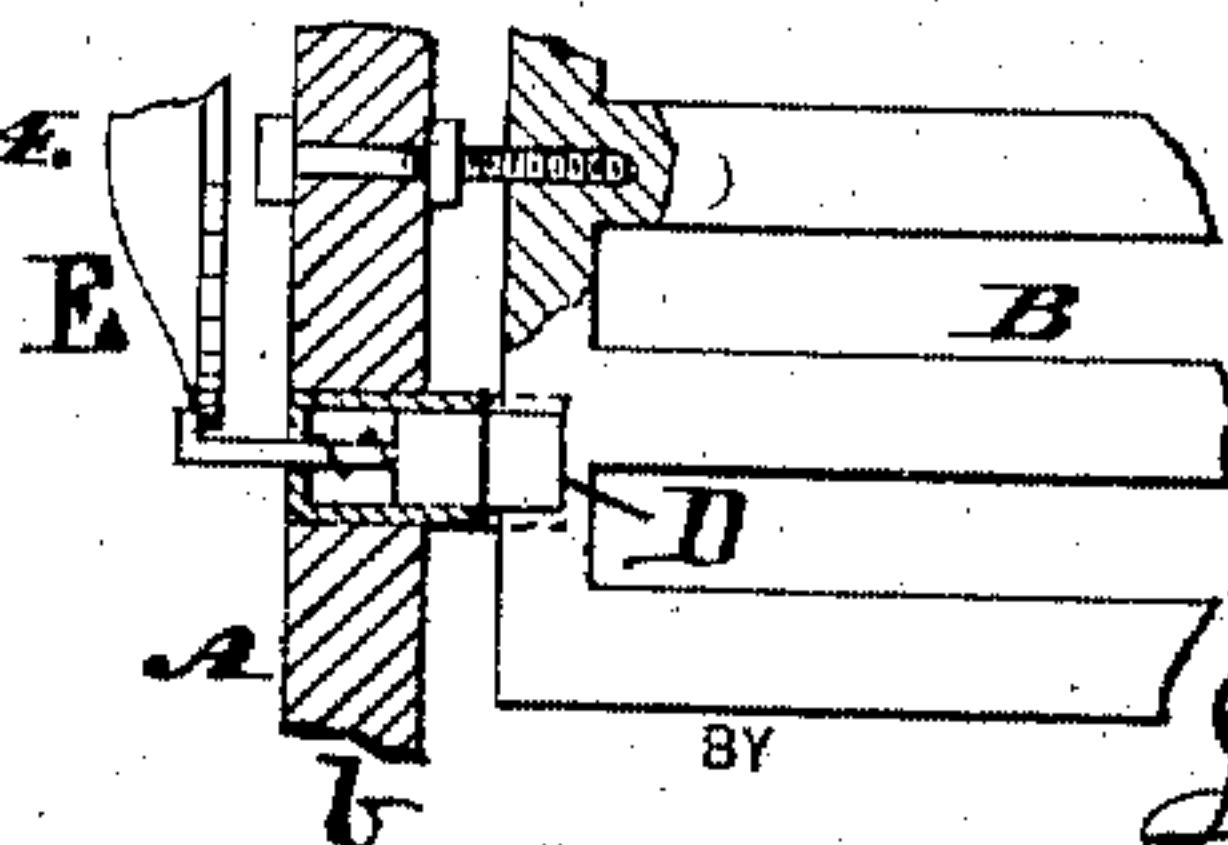
Fig. 3.



WITNESSES:

*A. P. Grant*  
*H. F. Fisher*

Fig. 4.



INVENTOR

*Francis H. Good*  
*John A. Biedersheim*

BY

ATTORNEY.



# UNITED STATES PATENT OFFICE.

FRANCIS H. GOOD, OF PHILADELPHIA, PENNSYLVANIA.

## CARPET-CLEANER.

SPECIFICATION forming part of Letters Patent No. 310,045, dated December 30, 1884.

Application filed November 30, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, FRANCIS H. GOOD, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Carpet-Cleaners, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a transverse section of a carpet-cleaner embodying my invention. Fig. 2 is a side elevation thereof partly broken away. Figs. 3 and 4 are enlarged views of detached portions.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a carpet-cleaner having a cylinder or drum within which are mounted lifters or elevators which have eccentric axes, so that they overturn at intervals, or when they reach a certain point or height, and thus throw the carpet forcibly forward and downward to the bottom of the drum.

It also consists of stops for limiting the degree of rotation of the lifters.

It further consists of locks or latches for preventing rotation of the lifters until they reach the required height.

Referring to the drawings, A represents a cylinder or drum formed of slats or open-work *a*, and the heads or end pieces formed of slats or open-work *b*, which are connected with disks *b'* at the center of the sides of the heads, to which journals or gudgeons are attached, the latter being mounted on a stand or hangers, as desired, the periphery of the heads being polygonal, whereby the periphery of the drum is polygonal or many-sided. Within the drum are elevators B, which are formed of suitable vanes or blades extending parallel with the axis of the drum and pivoted at intervals to the heads or ends *b*, said vanes or blades being of slatted or open work, so as to permit the dirt and dust to fall therethrough. The elevators have their axes eccentric, so as to overturn when they reach a certain point, the overturning being limited by stops *c*, secured to the heads *b*, and in order to support the elevators immovably at other points the heads *b* are provided with stops *d*, against which the said elevators abut, it being noticed that the stops *c d* for each elevator are secured to the

heads at such places that they are in front of the elevator in the direction of rotation.

C represents a pulley which is secured to the periphery of the drum, and may be formed of segments secured thereto, said pulley being adapted for a band or belt driven by any suitable power.

The operation is as follows: The carpet is introduced into different parts of the drum through the doors or openings thereof, the latter being afterward duly closed. Power is then communicated to the drum, and as it rotates the first elevator resting against the stop *c*, coming in contact with some of the carpets, raises the same until it approaches the highest point, where said elevator, owing to its eccentric axis, overturns and throws the carpet forcibly forward and downward to the bottom of the drum, causing it to be beaten against the slatted periphery, the elevator now resting on the other stop, *a*, whereby it is prevented from overturning to improper extent, or standing vertically. Another load of carpets is meanwhile in such position that the second elevator takes hold of the same and begins the elevation just about the time that the first load has been thrown off and around from the first elevator. Now, when the first load strikes the bottom, it does it in such manner as to give an impetus and power to the drum, thus assisting the rotation thereof, and as only one load is being raised the engine or motor is relieved of double work. The next elevator then raises the load previously thrown down, and meanwhile the second elevator has cleared itself, the operations being repeated until the work is completed, the dirt, dust, &c., being completely beaten from the carpets, leaving them clean and bright. Another advantage of the use of the elevators is such that the carpets are kept separated, whereby they are more readily cleaned. Again, the carpets are turned or overturned and drop or fall without rolling on the periphery of the drum, thus avoiding the abrasion due to such rolling. Furthermore, when the carpets fall they strike angular faces of the drum, and are thus subjected to greater beating and cleaning action than if such faces were round.

In Figs. 3 and 4 I show means for locking the elevators until they reach a required height, when they are relieved and permitted to over-



turn. For this purpose I employ spring-latches D, which are withdrawn by the action of cams E on the frame or hanger of the bearings of the drum, so that the elevators may be released and permitted to turn, after which they assume their normal positions and the latches re-engage, so as to hold the elevators firmly for advancing the carpet in the manner hereinbefore stated. The latches or bolts D are passed through the pieces b, and their shanks or stems D' engage with the cams E, above mentioned, whereby when the elevator has reached the proper height the stem of the latch thereof comes in contact with the cams and causes the latch or bolt to be withdrawn from the elevator, and thus the latter is permitted to overturn and drop its load of carpet, the latter falling to the bottom of the drum, as hereinbefore stated. As soon as the stem of the latch clears the cam the bolt returns to its normal position, so as to prevent accidental overturning of the elevator as it again rises with the drum. The band wheel or pulley secured to the periphery of the drum acts as a brace, serving to strengthen the same. Having thus described my invention, what I

claim as new, and desire to secure by Letters Patent, is--

1. A carpet-cleaning drum having within the same a rotatable lifter whose axis is eccentric, and a stop for each end of the lifter, both stops being located in front of the lifter in the direction of rotation, substantially as and for the purpose set forth.

2. In a carpet-cleaner, a drum, in combination with a latch engaging with the lifter of the drum, and a cam engaging with the latch for withdrawing said latch from the lifter, whereby the lifter is automatically released, substantially as and for the purpose set forth.

3. In a carpet-cleaner, a drum having a lifter, and stops for each end of the lifter, located in front of the same in the direction of rotation, in combination with a latch and cam, said latch engaging with the lifter and said cam operating the latch, substantially as and for the purpose set forth.

FRANCIS H. GOOD.

Witnesses:

JOHN A. WIEDERSHEIM,  
A. P. GRANT.

Corrections in Letters Patent No. 310,045.

It is hereby certified that in Letters Patent No. 310,045, granted December 30, 1884 upon the application of Francis H. Good, of Philadelphia, Pennsylvania, for an improvement in "Carpet-Cleaners," errors appear in the printed specification requiring correction, as follows: on page 1, line 53, and on page 2, lines 32 and 42-43, the words "in front of" should read *behind*.

On page 1, line 66, the reference letter "c" should read *d*.

On page 1, line 73, the reference letter "a" should read *c*.

And that the proper corrections have been made in the files and records pertaining to the case in the Patent Office, and should be read in the Letters Patent to make it conform thereto.

Signed, countersigned, and sealed this 13th day of January, A. D. 1885.

[SEAL.]

M. L. JOSLYN,  
*Acting Secretary of the Interior.*

Countersigned:

BENJ. BUTTERWORTH,  
*Commissioner of Patents.*