

(No Model.)

2 Sheets—Sheet 1.

M. R. BISSELL.

CARPET SWEEPER.

No. 272,022.

Patented Feb. 13, 1883.

Fig. 1.

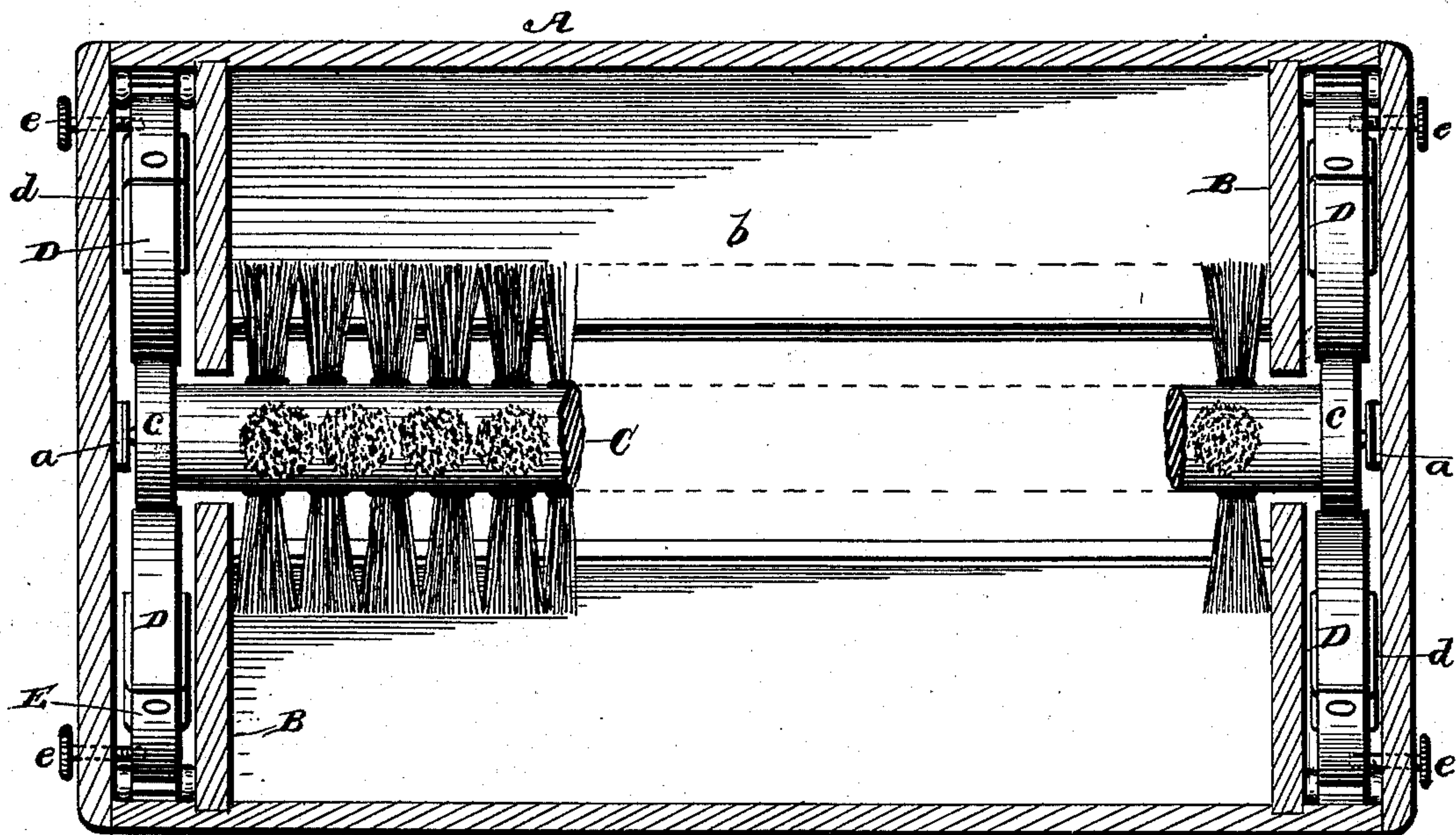
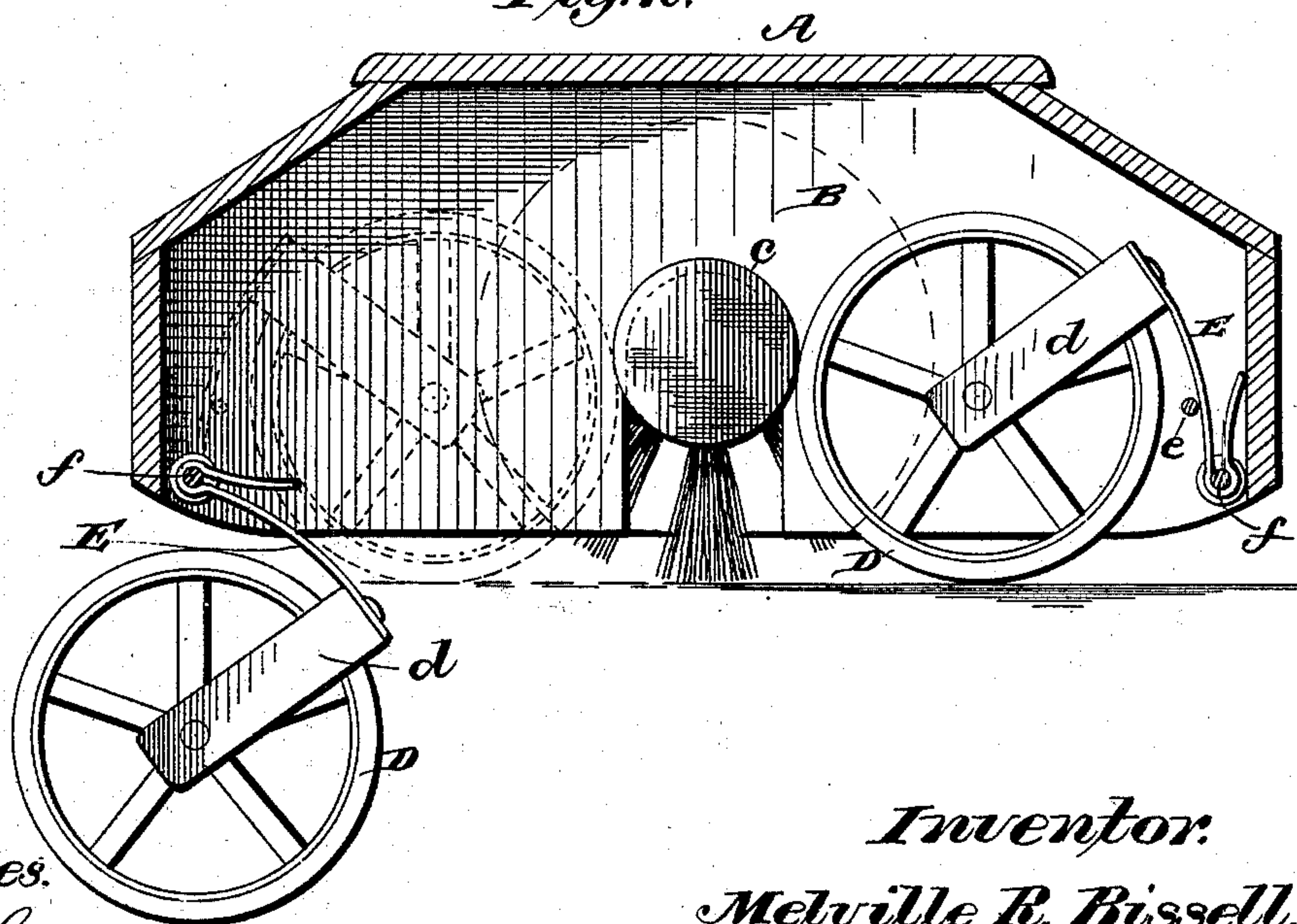


Fig. 2.



Witnesses.

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Fig. 3.

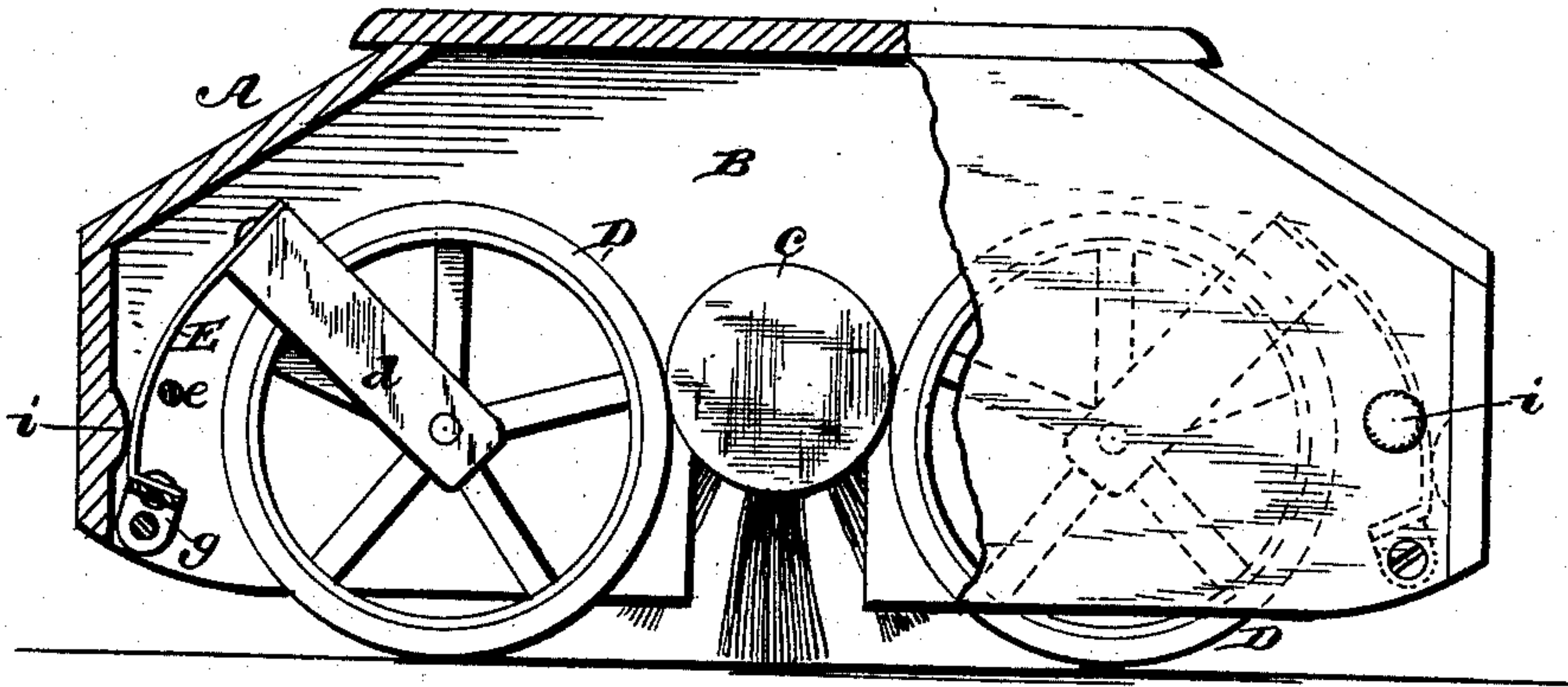


Fig. 4.

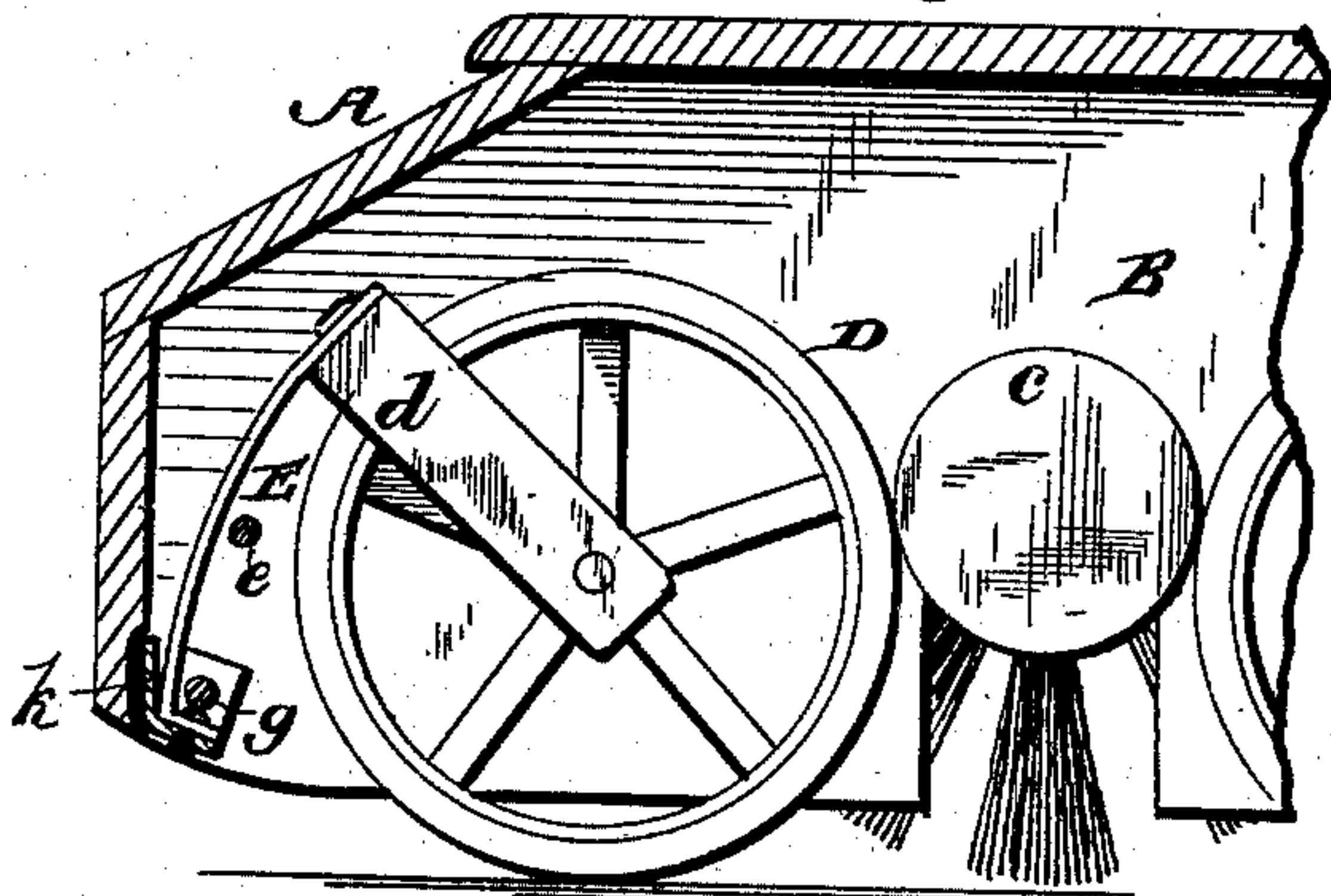


Fig. 5.

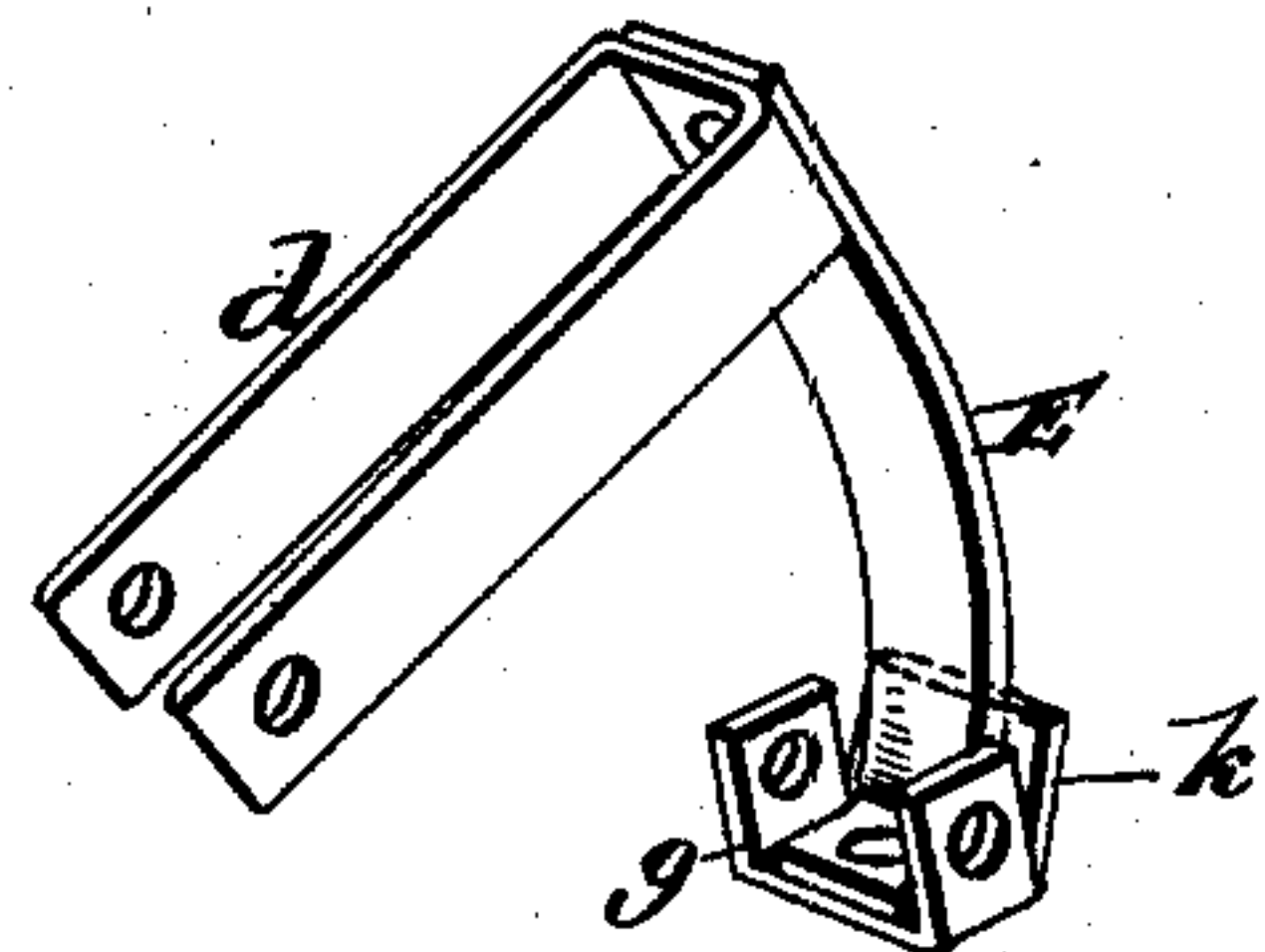


Fig. 6.

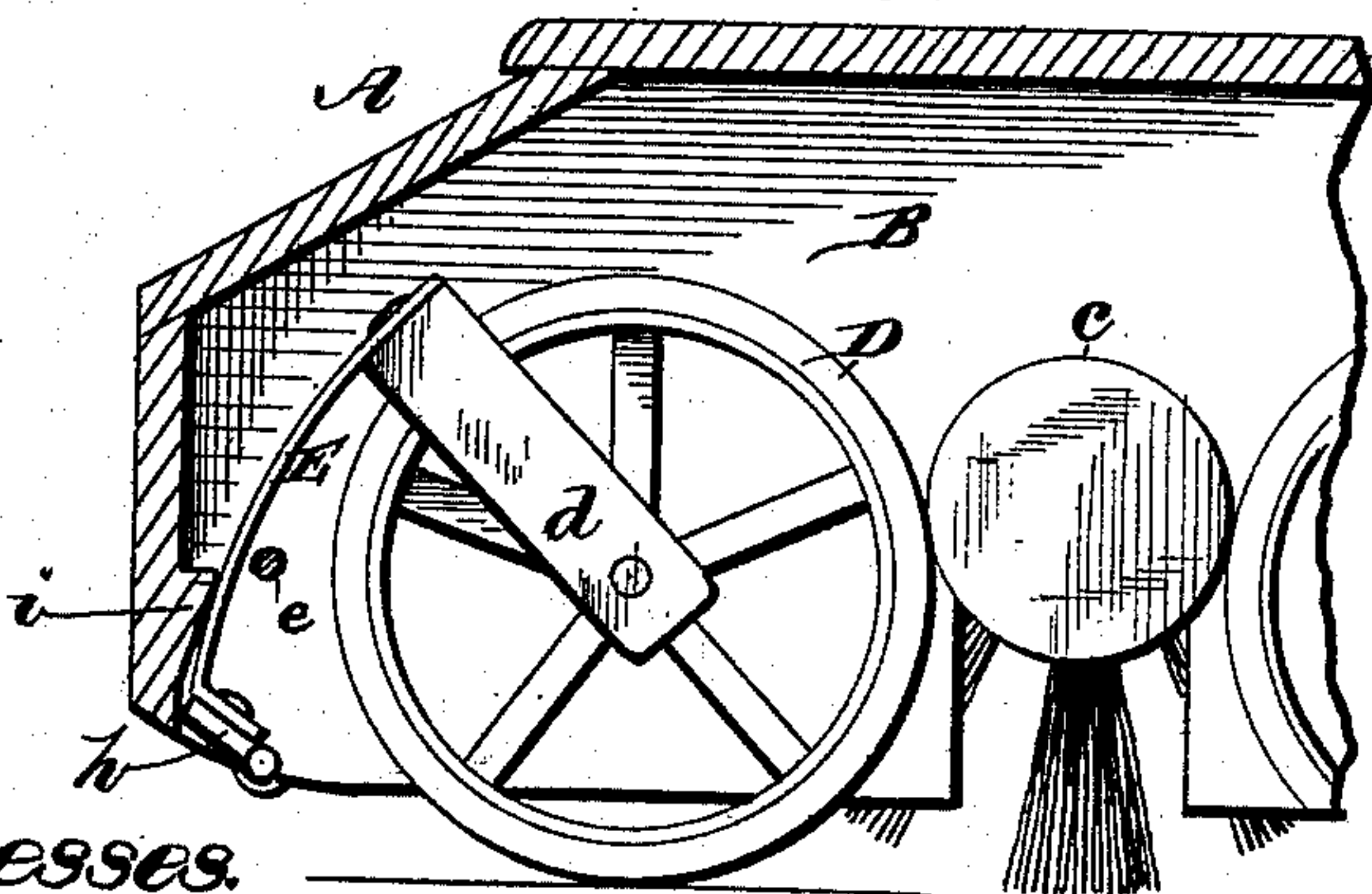
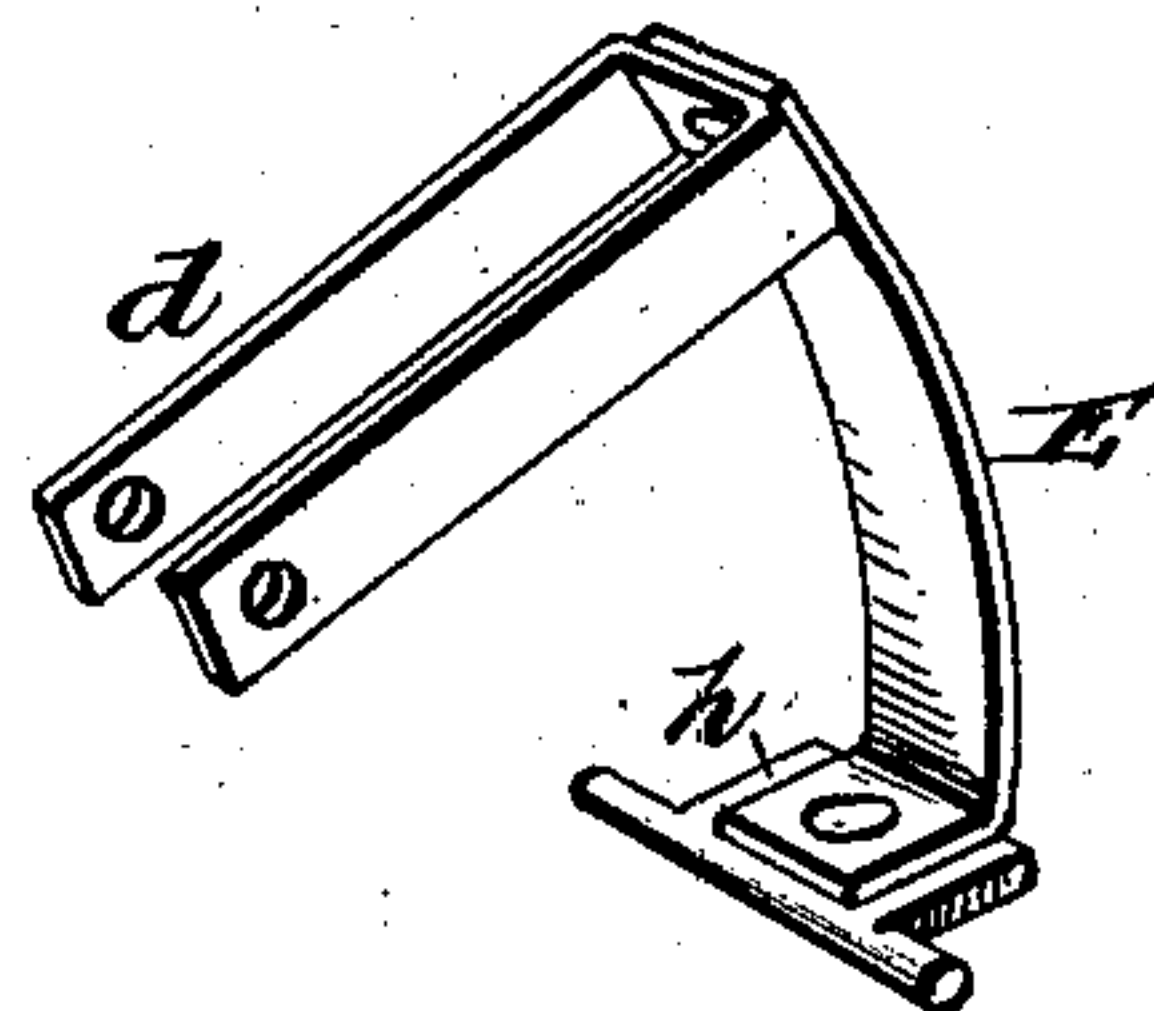


Fig. 7.



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UNITED STATES PATENT OFFICE.

MELVILLE R. BISSELL, OF GRAND RAPIDS, MICHIGAN.

CARPET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 272,022, dated February 13, 1883.

Application filed September 30, 1882. (No model.)

To all whom it may concern:

Be it known that I, MELVILLE R. BISSELL, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented new and useful Improvements in Carpet-Sweepers, of which the following is a specification.

This invention relates to that class of carpet-sweepers which are provided with a rotary brush and with supporting and driving wheels adapted to bear upon and rotate the brush-shaft by frictional contact therewith, said wheels being preferably provided with noiseless rubber tires.

The object of my invention is to provide novel means whereby the wheels which drive the brush-shaft can be dropped from the sweeper-casing when the latter is lifted from the floor, thereby permitting the drive-wheels to be oiled or cleansed. This object I accomplish by the construction and combination of parts illustrated in the accompanying drawings, in which—

Figure 1 represents a top view of a carpet-sweeper with the cover or lid removed, and showing an arrangement of wheels for supporting the sweeper-casing and rotating the brush-shaft. Fig. 2 is an end elevation of my improved sweeper, the end of the casing being removed and one of the wheels being shown as swung outward beneath the body of the casing. Fig. 3 is a similar view of the sweeper in position for operation, and illustrating a modified construction of elastic devices for pivoting the wheel-support. Fig. 4 shows another modification in the pivoted spring-support, a perspective of which is shown in Fig. 5; and Figs. 6 and 7 are similar views, illustrating a third modification of said devices, all of which will be hereinafter more fully described, like letters of reference being used to designate the same parts in the several views.

The casing or box A, which contains the dust-receptacles, rotating brush, and the supporting and operating mechanism, may be made of any suitable material and in any convenient or desirable form. This box or casing should be provided with a bail or handle, and with suitable lids or covers, which are not shown, however, in the drawings.

Near each end of the box or casing A is a transverse partition, B B, which divide the box

into three compartments, as shown in Fig. 1. These partitions are each notched or cut away on their under edges to permit the passage of the ends of the brush-shaft C, which bears at each end against a flat spring, *a*, secured to the inner face of the box at each end. On each side of the brush and arranged between the partitions B B is a dust-receptacle, *b b*, constructed, in the ordinary manner, of tin or other light and suitable material.

The brush-shaft C is preferably provided at each end with an enlarged portion, forming a friction roller or pulley, *c*, which may be either formed on or attached to the shaft in any well-known manner.

On each side of the friction pulley or roller *c*, at either or both ends of the casing, is placed a supporting-wheel, D, that is so arranged as to bear against the pulley *c* and drive the same by frictional contact, thereby rotating the brush-shaft and brush when the sweeper is rolled over a floor or carpet. The driving and supporting wheels D may be made in any suitable manner and of any appropriate material, and are preferably provided with rubber tires, or tires of other similar elastic and noiseless substance.

If desired, the pulleys or rollers *c* may be covered in a similar manner; or the rubber or other elastic material may be applied to them alone; but I prefer to attach it to the drive-wheels only.

It will be observed that the drive-wheels D and pulleys *c* are arranged in the narrow spaces or compartments formed at each end of the box by the partitions B B, and that their respective position is such that the pulleys on the brush-shaft are supported and rotated through their frictional contact with said drive-wheels.

The sweeper-supporting and brush-driving wheels D D are journaled in yokes or housings *d d*, attached to springs E E; and in order that the wheels may be turned down and out of the casing for the purpose of being cleansed and oiled when required, their spring-bearings E are pivoted to the case in any suitable manner, a thumb-screw, *e*, or other equivalent device—such as a snap or spring—being arranged to hold the parts in their normal position when required. The spring E, as shown in Figs. 1 and 2, extends down from the yoked *d*, and after passing around a screw or pivot, *f*, is carried

back and up into the sweeper-case, so as to rest or bear against the inner side of the same. This construction secures all the advantages of an elliptic spring, and permits of greater elasticity in the working of the drive-wheels than would be possible with an ordinary straight spring alone, though such spring may be used, if desired. By means of the pivotal connection of the spring-yoke with the sweeper-casing it is held at all times in a true and upright position, so that the wheels will not lap over to one side when bearing on the brush-shaft. By the construction, also, the wheel may be readily turned or swung out for cleansing, oiling, or other purposes. After the wheels have been returned to their usual and proper position they are prevented from swinging or falling outward by means of the screws *e*, which secure the wheel-bearings, so that the sweeper may be swung from the floor without disarranging the wheels.

Instead of passing the spring *E* around a pivot, *f*, as shown in Fig. 2, it may be attached to a pivoted stirrup, *g*, as shown in Figs. 3 or 4, or to a pivoted plate, *h*, as shown in Figs. 6 and 7.

In Figs. 3 and 6 the interior of the casing is shown provided with an abutment, *i*, that may be either convex or concave in form, and arranged at any suitable height to form a counter-bearing for the spring *E* when forced back by the drive-wheels resting on the floor or surface to be swept.

In Fig. 4 the abutment *i* is omitted; but the pivoted stirrup or connection *g*, as shown in Fig. 5, is provided with a flange or projection, *k*, that is adapted to bear against the interior of the casing and hold the spring *E* from contact therewith, the same purpose being also accomplished by the short upwardly-curved end of the spring, as shown in Fig. 2.

It will be seen that as the sweeper is operated its weight, either together with or independent of the pressure exerted by the opera-

tor, will be sufficient to hold the wheels in frictional contact with the brush-shaft, thereby causing the same to rotate. By reason of the rubber or elastic tires on the wheels they are enabled to operate noiselessly and without liability of injury to a carpet, while by being hung or supported in pivoted bearings, as described, they may be readily swung outward for cleansing, so as to prevent them from becoming clogged.

It is obvious that the supporting and driving wheels, as described, may be arranged at only one end of the sweeper-casing, if desired, though the construction and arrangement shown is deemed preferable.

Having thus described my invention, what I claim is—

1. In a carpet-sweeper, the combination of a sweeper-casing, a brush-shaft, a drive-wheel for revolving the brush-shaft, a support carrying the drive-wheel, and a pressure-spring connected at one end with the wheel-support, and having at its other end a hinged or pivoted connection with the sweeper-casing, which permits the wheel, its support, and the pressure-spring to descend out of the sweeper-casing when the latter is lifted from the floor, substantially as described.

2. In a carpet-sweeper, the combination, with a casing and a rotary brush-shaft supported therein, of driving-wheels journaled in movable yokes, springs attached to said yokes and curved around a suitable pivot, and means for securing the wheels within the casing and in frictional contact with the brush-shaft, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

MELVILLE R. BISSELL.

Witnesses:

JAMES L. NORRIS,
J. A. RUTHERFORD.