

**No. 643,778.**

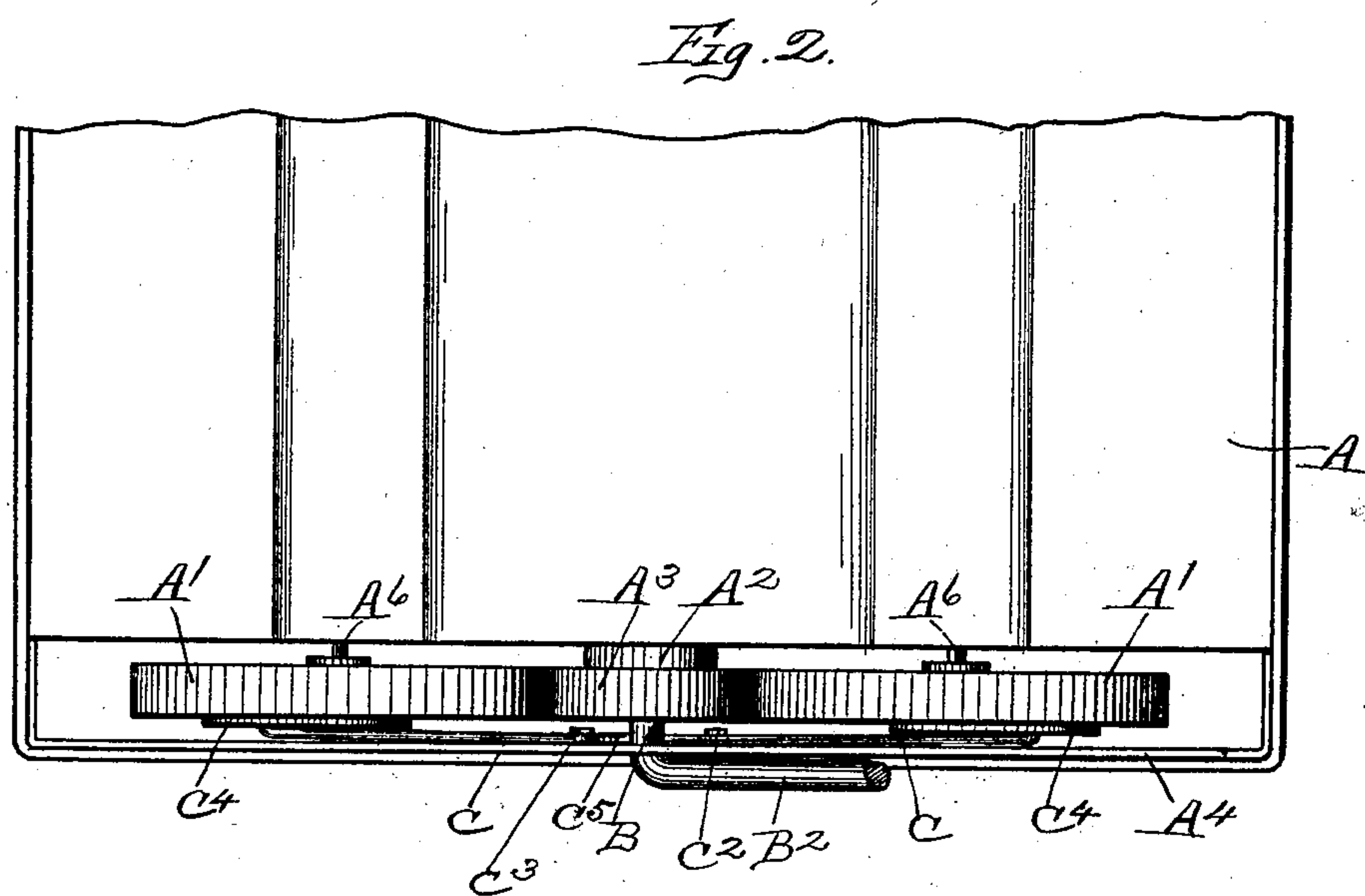
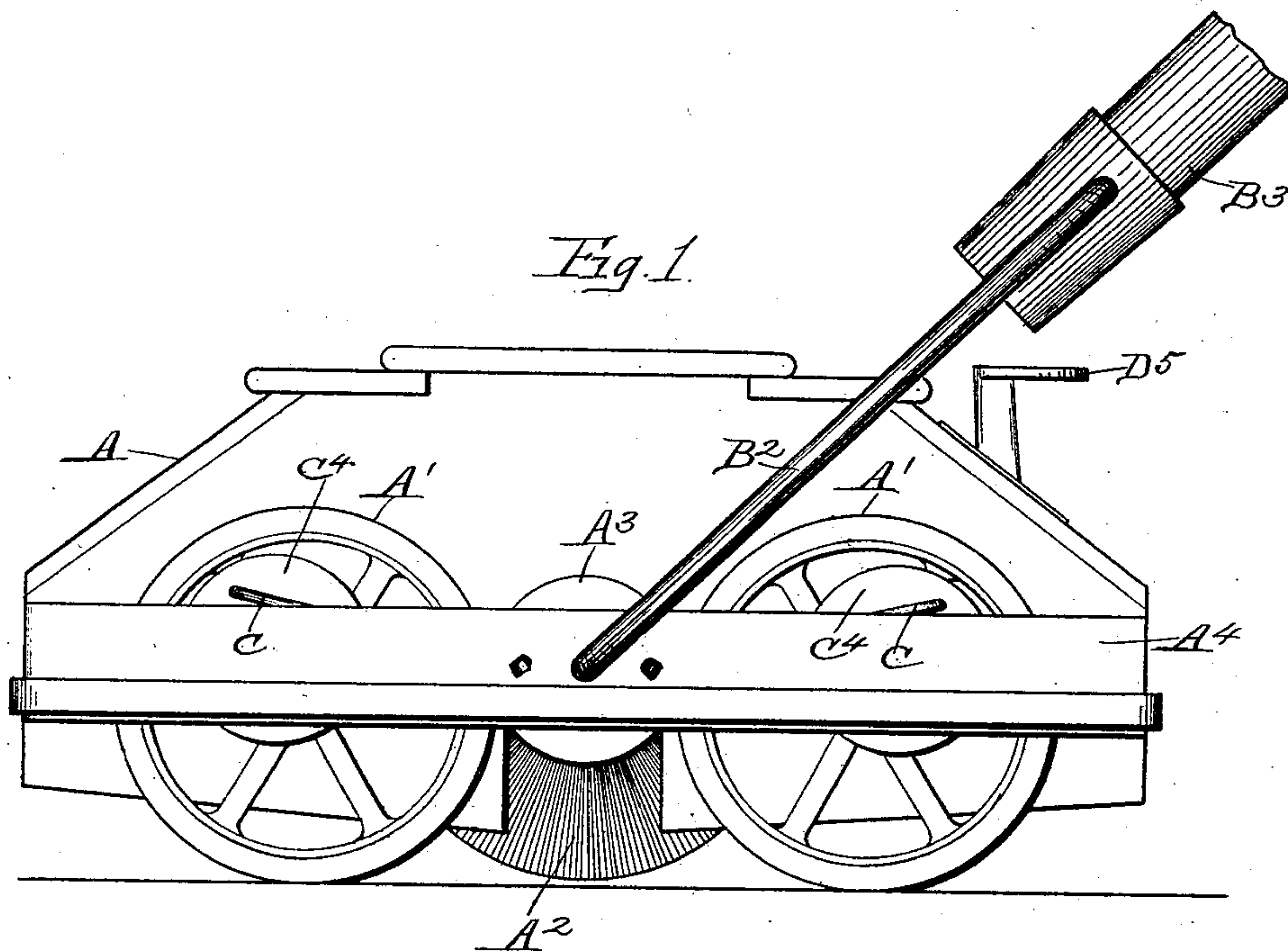
**Patented Feb. 20, 1900.**

**S. PALMER.**  
**CARPET SWEEPER.**

(Application filed July 6, 1898.)

(No Model.)

**2 Sheets—Sheet 1.**



Witnesses:  
J. E. Curtis.  
G. L. Curtis.

Inventor:  
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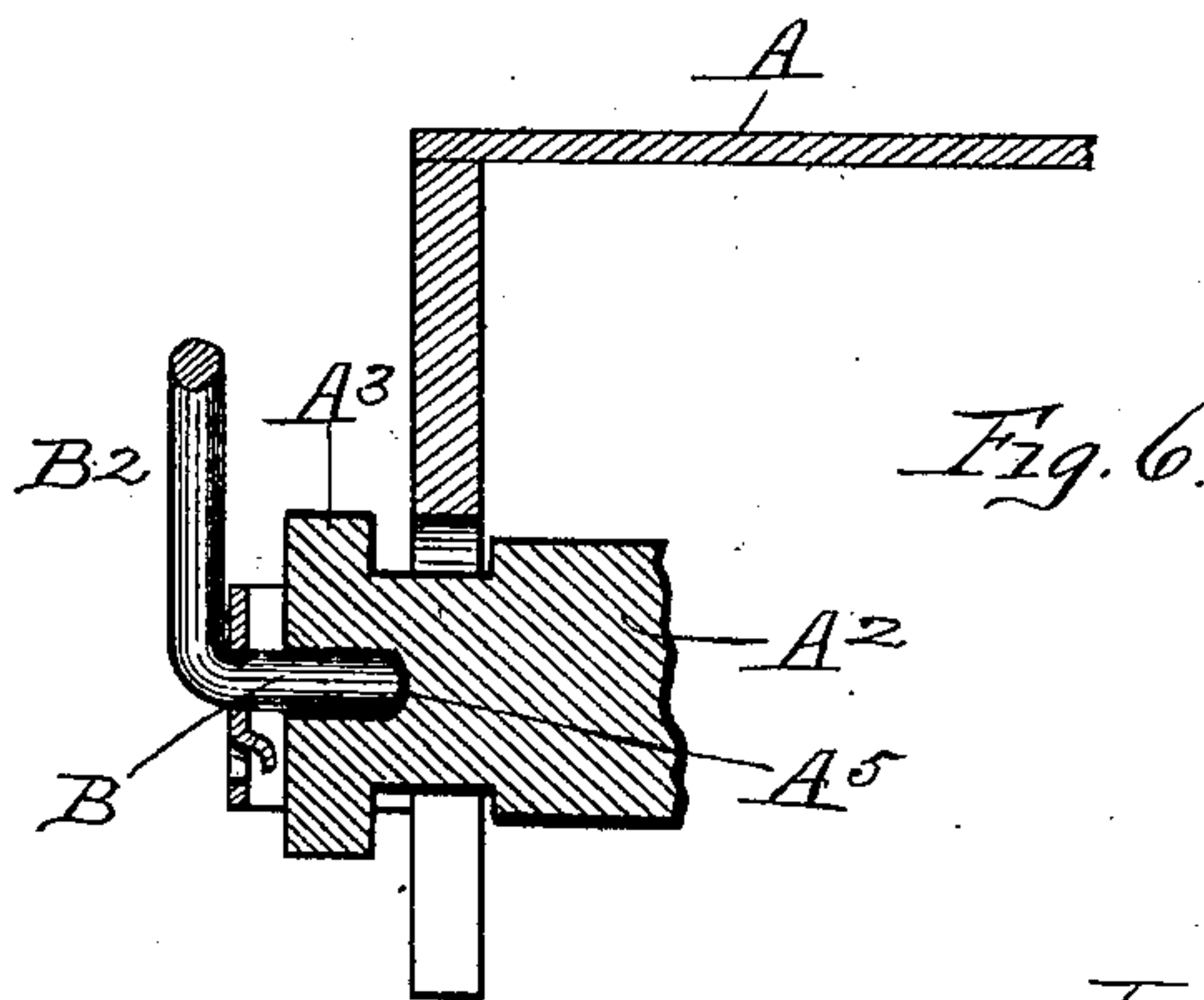
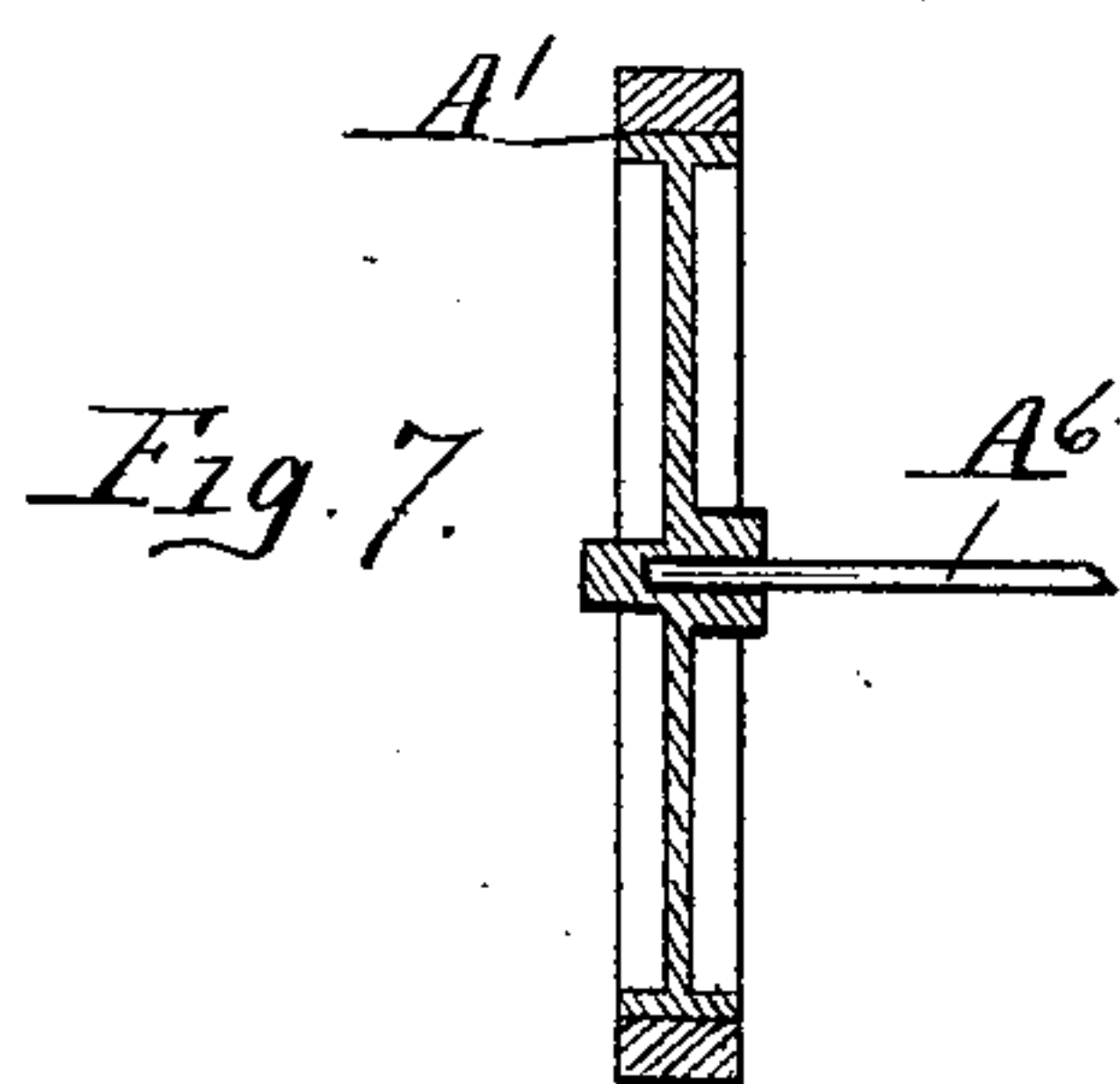
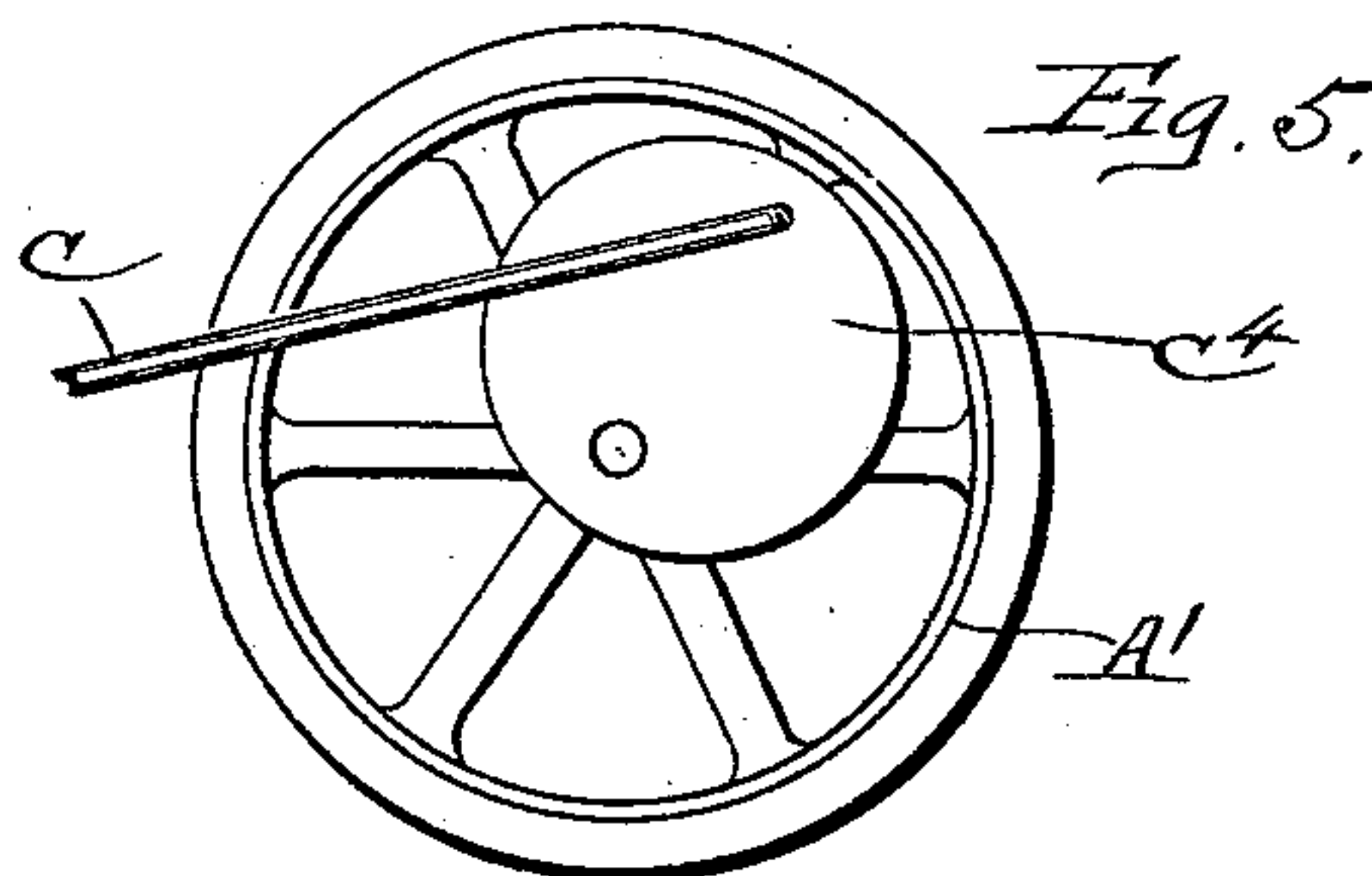
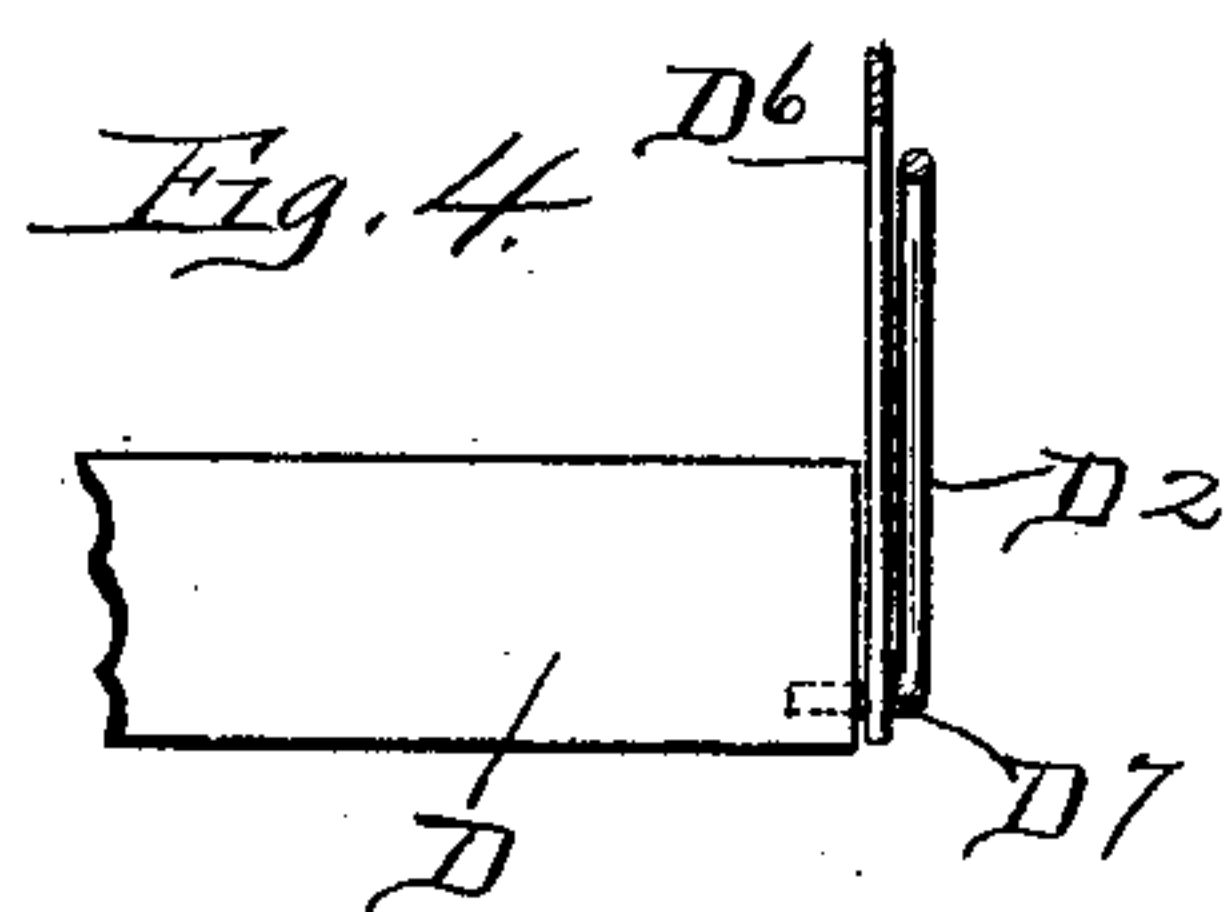
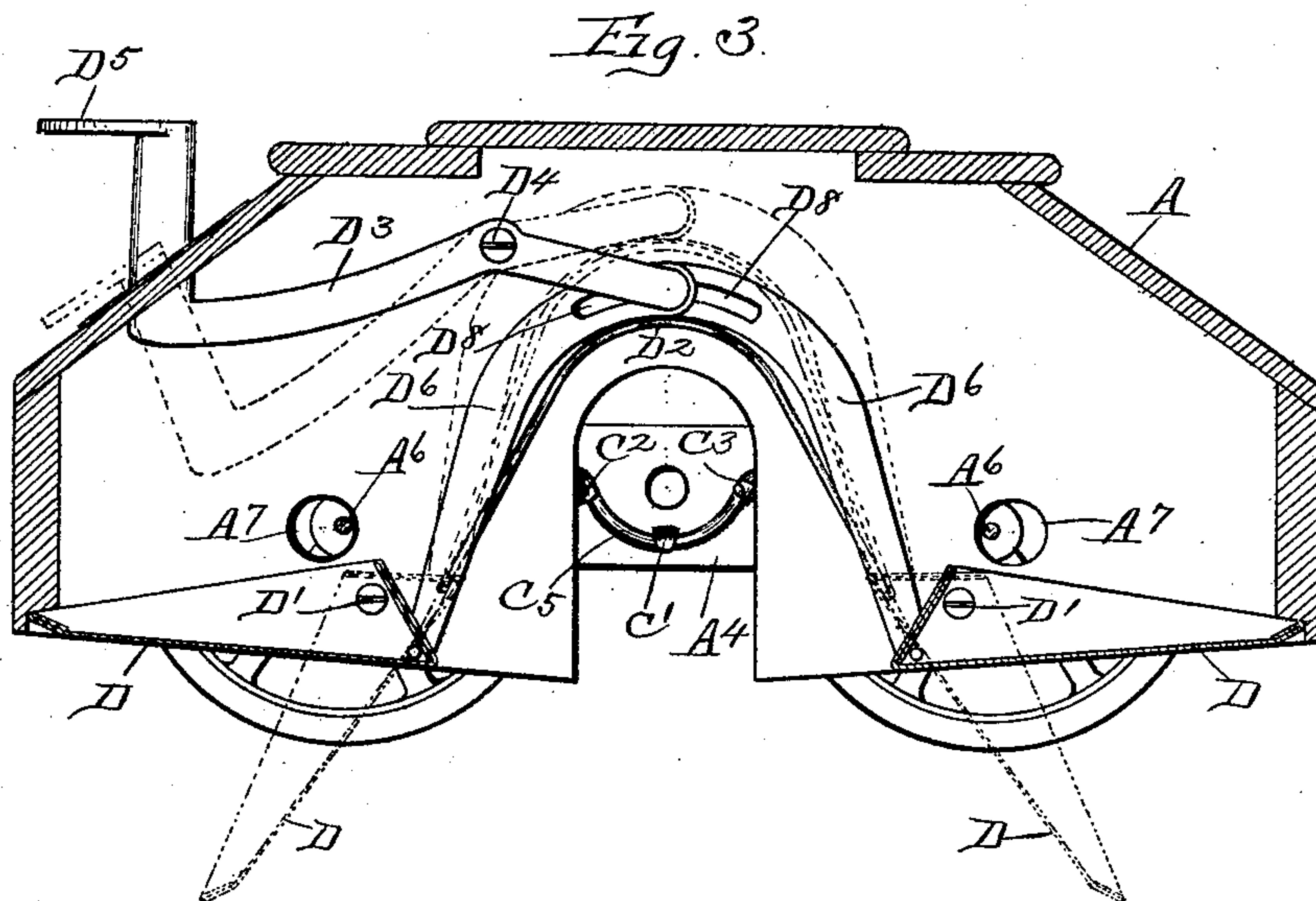
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# UNITED STATES PATENT OFFICE.

STEPHEN PALMER, OF LANSINGBURG, NEW YORK.

## CARPET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 643,778, dated February 20, 1900.

Application filed July 6, 1898. Serial No. 685,245. (No model.)

*To all whom it may concern:*

Be it known that I, STEPHEN PALMER, a citizen of the United States, residing at Lansingburg, county of Rensselaer, and State of New York, have invented certain new and useful Improvements in Carpet-Sweepers, of which the following is a specification.

The invention relates to such improvements; and it consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in the several figures.

Figure 1 of the drawings is an end elevation of my improved carpet-sweeper. Fig. 2 is a top plan view of the same with one end broken away. Fig. 3 is a vertical cross-section of same. Fig. 4 is a detail view in plan showing the pivotal connection with a dustpan of its actuating-link and retracting-spring. Fig. 5 is a detail in elevation showing the link connection between the case-supporting spring and one of the drive-wheels. Fig. 6 is a central vertical section showing the bail-support for one end of the brush-roll. Fig. 7 is a vertical central longitudinal section of a drive-wheel hub and its axle.

The case A, drive-wheels A', and brush-roll A<sup>2</sup> are made and arranged relatively to each other in substantially the common well-known manner, whereby the drive-wheels, acting as traction-wheels, engage the friction-gear A<sup>3</sup> on the brush-roll and cause the same to rotate. The roll is supported at its ends independently of the case by the inturned ends B of the well-known spring-bail or bifurcated arms B<sup>2</sup> of the propelling-handle B<sup>3</sup>. The bail is secured to the case by means of the same inturned ends, which pass through apertures in the end bars A<sup>4</sup> of the case. The bifurcated arms of the bail are made of spring material and so formed relatively to each other that when they are sprung into place, as shown in Figs. 1 and 6, they will closely engage the end bars of the case, and the inturned ends will engage the bottoms of the sockets A<sup>5</sup> in the ends of the roll, whereby the roll is wholly supported by the bail ends and does not fric-

tionally engage with any part of the case or with any other object except the drive-wheels by which it is made to rotatively operate.

The drive-wheels are provided with wire axles A<sup>6</sup>, upon which they are loosely mounted, and which pass through relatively-large apertures A<sup>7</sup> in the end walls of the case from a wheel on one end to a similar wheel on the other end, whereby the case is capable of a considerable movement vertically, as well as in other directions, without bearing directly upon the wheels or their axles.

As a means for supporting the case I provide the same with a wire spring C, one on each of the ends of the case, which springs have their middle portions rigidly secured to the case by means of the three hooks C', C<sup>2</sup>, and C<sup>3</sup>, leaving their ends free to yield vertically. These ends are connected with the respective drive-wheels by means of links C<sup>4</sup>, which are pivoted at their lower ends to the wheel axle or hub and at their upper ends upon the ends of the springs at points located without vertical lines projected upward from the bases of the respective wheels. With such a form of construction any downward pressure upon the bail tends to force the brush-roll down near the carpet and with it the case. As the case descends it causes the ends of the wire springs C to press downwardly upon the links which connect the ends of the springs with the respective drive-wheels. The pressure so exerted upon the drive-wheels being applied from points above and without the wheel-bases tends to press the wheels on each end of the case toward each other and cause the wheels to more tightly engage the interposed gear of the brush-roll, thereby insuring a rotary movement of the brush-roll. I have shown the links C<sup>4</sup> in circular disk form, as they may be more easily turned up in that form when made of wood; but they may be of any known form of links which will pivotally connect the ends of the spring with the wheel axles or hubs.

I prefer to make the links C<sup>4</sup> of wood or other absorbent material, the pores of which are filled with lubricating-oil, as by soaking the wood in oil until it becomes saturated therewith. Wooden links treated in this manner afford a noiseless bearing for the hub or



axle of the drive-wheel and offer little frictional resistance to the rotary movement of the hub or axle in such bearing.

The usual well-known dust-pans D are pivoted at D' upon the case, being shown in a closed position by the solid lines and their position when open indicated by the dotted lines in Fig. 3. The pans are held in a normally-closed position by means of the bow-spring D<sup>2</sup>, the ends of which are secured to the short arms of the pans, respectively. To open the pans for the purpose of removing the load accumulated by the rotating brush, I provide a lever D<sup>3</sup>, fulcrumed at D<sup>4</sup> upon the case, one arm of the lever projecting out through the case-wall and terminating in a lever-operating handle D<sup>5</sup>. The inner end of the lever is connected by the links D<sup>6</sup> with the short arm of the respective pans. The bent end D<sup>7</sup> of the spring, which is inserted in an aperture in the pan, is first passed through a receiving-aperture in the link, as shown in Fig. 4. I am thus able to make the same pivotal connection serve for both the spring and link.

By providing the upper end of the links with elongated pivot-apertures D<sup>8</sup>, through which the pivotal connection with the operating-lever passes, the pans can be opened by the hand, independently of the lever, much farther than the lever would open them, and if they are accidentally forced farther the parts will not be injured, though made of comparatively light material, as the pivot will simply slide along the elongated apertures.

By mounting the drive-wheels loosely upon the wire axles I provide for rotation of such wheels independently of a rotative movement of such axles and I am able to secure all the advantages of construction due to the use of an axle extending from one end of the case to the other and at the same time prevent the rotary movement of the wheels from being interfered with by accumulations of lint, thread,

&c., upon the portions of the axles within the case, which accumulations tend to retard or prevent the rotation of the axles.

The end bars or straps A<sup>4</sup> are preferably formed of thin strips of metal, and the hooks C', C<sup>2</sup>, and C<sup>3</sup> are struck up from the body of the strap, the lower hook C' extending downwardly and the other two hooks extending upwardly and inwardly, whereby they are together adapted to securely hold the spring in position by engaging the middle semicircular offset or bend C<sup>5</sup> formed therein.

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

1. In a carpet-sweeper, the combination with the drive-wheels, a vertically-movable case; and case-supporting spring-and-link connections between the case and drive-wheels, of a spring-bail having inturned ends projecting through and fitting apertures in the ends of the case, with the bail-arms bearing upon the outer surface of the case ends respectively; a brush-roll provided with axial end sockets having end bearings for the respective bail ends, whereby the roll is supported by the bail independently of the case; and actuating connections between the roll and drive-wheels, substantially as described.

2. In a carpet-sweeper, the combination with a case, a pair of oscillatory pans, and a retracting bow-spring made of wire and connecting the two pans; of an actuating-lever fulcrumed upon the case; a pair of links each pivotally connected at one end with the lever, and at the other end pivoted upon the end of one of the arms of the bow-spring where it enters the pan, substantially as described.

In testimony whereof I have hereunto set my hand this 29th day of June, 1898.

STEPHEN PALMER.

Witnesses:

FRANK C. CURTIS,  
GEO. A. MOSHER.