

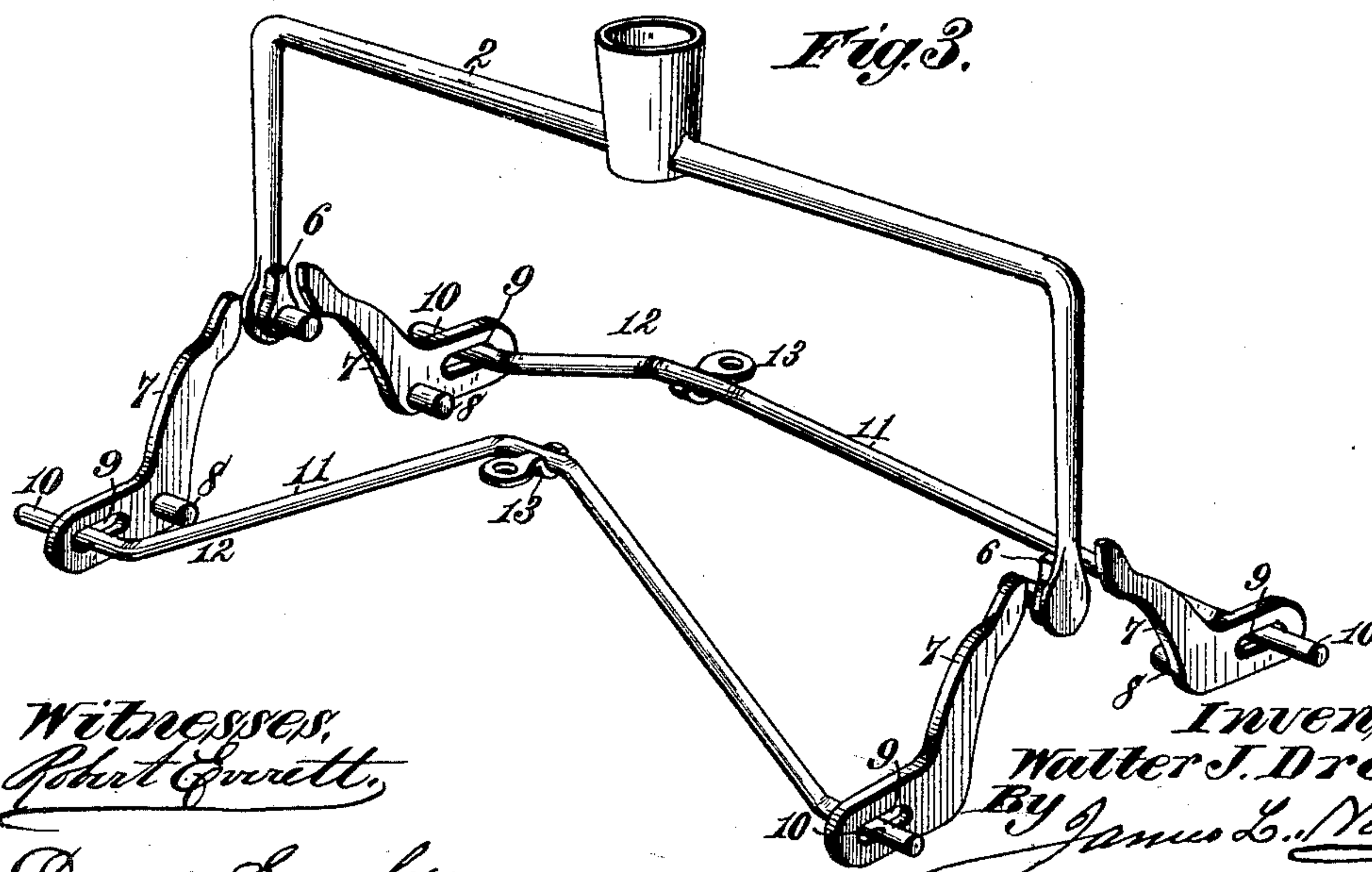
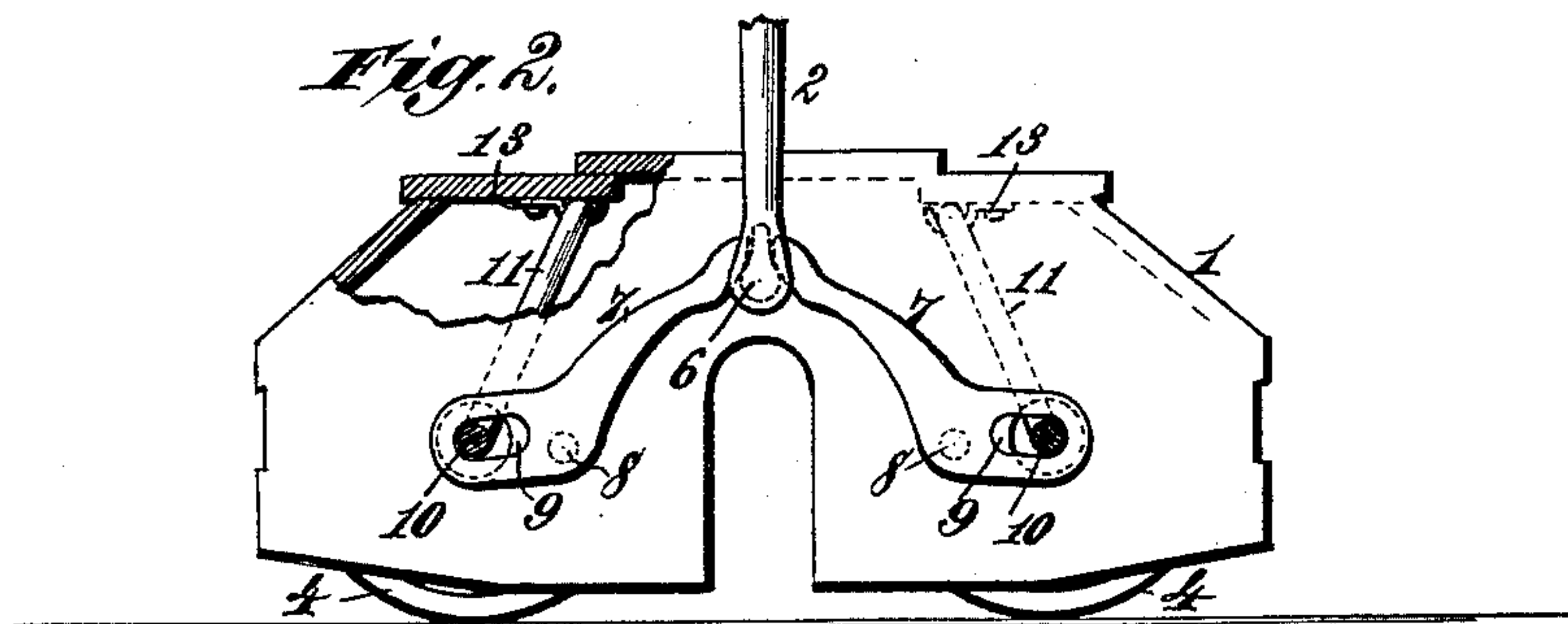
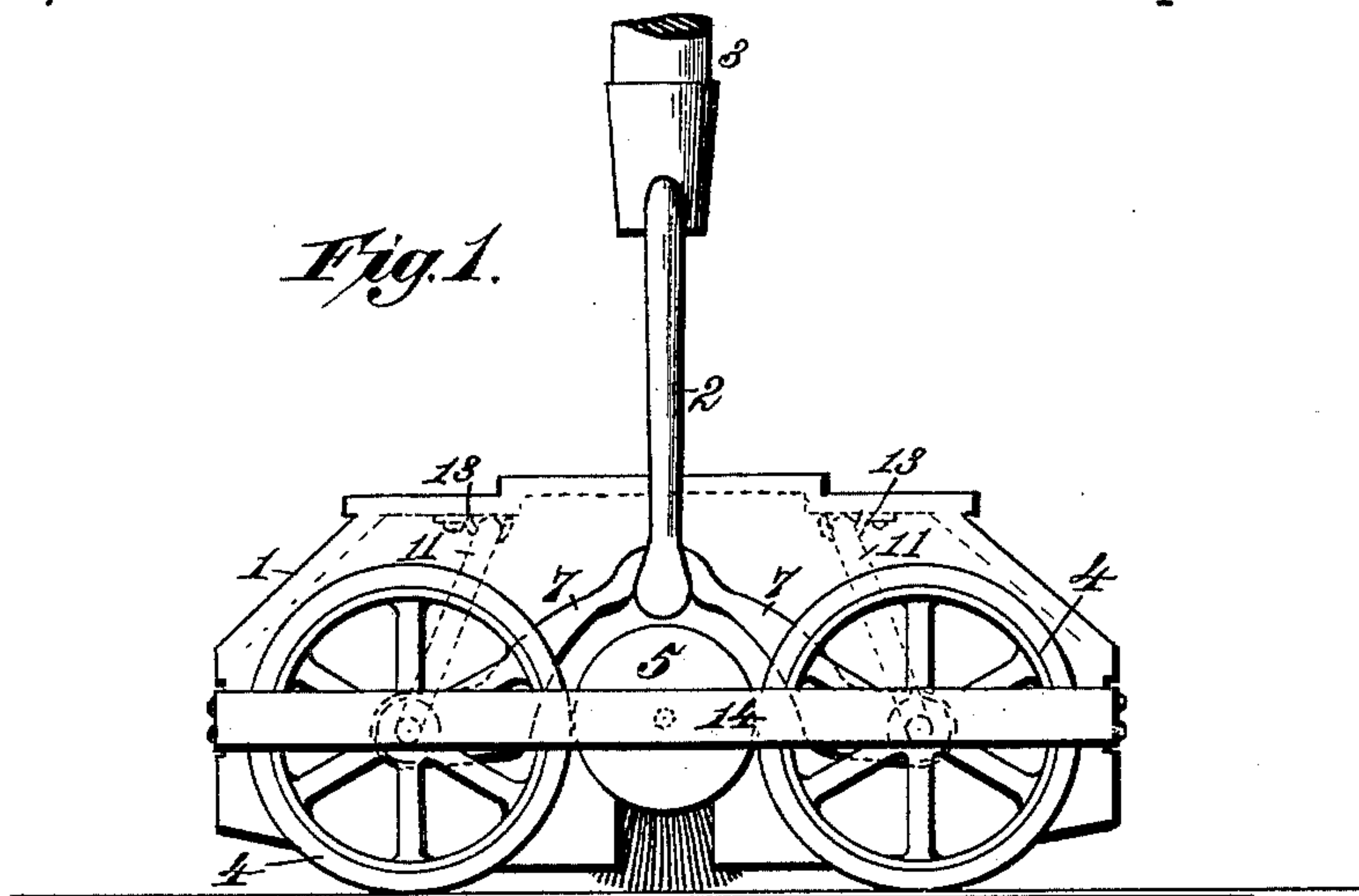
(No Model.)

2 Sheets—Sheet 1.

W. J. DREW.
CARPET SWEEPER.

No. 424,672.

Patented Apr. 1, 1890.



Witnesses,
Robert Everett,
Deane Sumby.

Inventor:
Walter J. Drew.
By *James L. Norris,*
Att'y.

(No Model.)

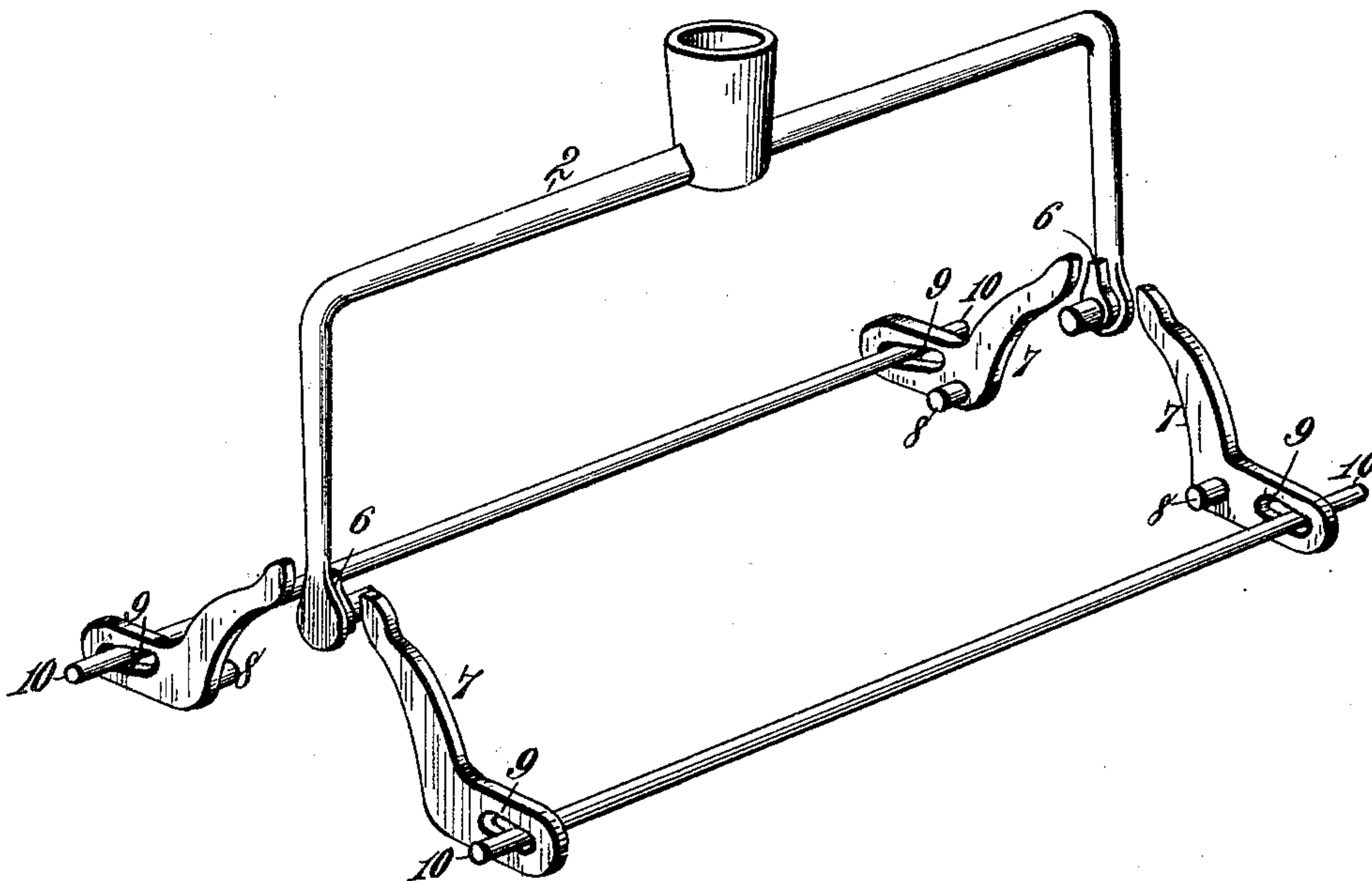
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Fig. 4.



Witnesses,
Robert Everett,

Dennis Sumby.

Inventor,
Walter J. Drew.

By
James L. Norris,
Atty.

UNITED STATES PATENT OFFICE.

WALTER J. DREW, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR TO THE
BISSELL CARPET SWEEPER COMPANY, OF SAME PLACE.

CARPET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 424,672, dated April 1, 1890.

Application filed July 22, 1889. Serial No. 318,269. (No model.)

To all whom it may concern:

Be it known that I, WALTER J. DREW, 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 type of carpet-sweepers for which Letters Patent No. 233,371 were issued to A. D. Plumb, October 19, 1880, wherein the position of the rotary brush relatively to the surface traversed is varied by the vertical movement of the sweeper-case through the medium of supporting drive-wheels, which permit the case, with the brush, to rise and fall by operating or manipulating the handle, the object being to raise and lower the brush by the depression and elevation of the sweeper-case to produce what is technically known as the "broom action."

The object of the present invention is to provide novel, simple, economical, and efficient means for varying the position of the brush relatively to the carpet or other surface traversed by raising and lowering the propelling-handle, and to provide novel means whereby the drive-wheels at one side of the brush-shaft can be operated by the bail independent of the drive-wheels at the opposite side of the brush-shaft in such manner that the side of the sweeper-case and the dust-pan farthest from the operator are maintained close to the floor, while the side of the sweeper-case and dust-pan nearest the operator are raised or lowered to adjust the brush by manipulating the handle, which is desirable for that in the effective work a sweeper is mostly pushed away from the operator and the farthest pan receives most of the dirt, since the brush revolves in a direction opposite to that in which the sweeper is pushed.

The objects of the invention are accomplished by the new combination of devices hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is an end elevation of a carpet-sweeper embodying my invention, with parts in rear of the drive-wheels and end wall of the case represented by dotted lines. Fig. 2 is a similar view omitting the drive-wheels

and the transverse bands. Fig. 3 is a perspective view showing in detail the axles, the slotted levers, and the bail, all separated from the sweeper-case. Fig. 4 is a view similar to Fig. 3, showing a modified form of axle.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, where—

The numeral 1 indicates the sweeper-case; 2, the pivoted reversible bail; 3, a portion of the propelling-handle; 4, the drive-wheels, and 5 the friction wheel or pulley of the brush-carrying shaft. The bail is provided at each pivoted end with a suitable cam projection or stud 6, here shown as formed heart-shaped and formed integral with the bail, but which may be otherwise formed and constructed to act upon the upper ends of two levers 7, that are pivoted intermediate their ends, as at 8, to a part of the sweeper-case, and have their lower ends provided with slots 9, along which the drive-wheel axles or journals 10 are movable in a direction to and from the friction wheel or pulley of the brush-carrying shaft.

To preserve the frictional contact of the drive-wheels with the friction wheel or pulley of the brush-shaft, I may, if desired, provide means whereby the wheel-carrying axles or journals are at all times pressed in a direction toward the axis of the brush, and to effect this by simple and economical means I subject each axle or journal to spring-pressure in such manner that the tendency of the axles or journals is to move along the slots in the levers toward the brush-shaft. As shown in the drawings, the spring-pressure is effected by the springs 11, made integral with an axle or journal at each end extending through enlarged circular or other shaped openings in the end walls of the case, such enlarged openings being represented in Figs. 1 and 2 by the largest circle of dotted lines.

The springs are each composed of elastic wire rods arched upward from its axle or journal ends, as at 12, and secured at the middle of its length, which is the highest part of the arch, to the sweeper-case by means of a device such as a loop 13. The point of attachment is preferably adjacent to the longitudinal

nal axis of the case, so that the spring-pressure is always directed on the wheel axles or journals in a direction toward the brush-shaft. The slots in the lower ends of the levers permit the wheel-axles to move along the same, and these slots are important in this type of sweepers, for that while the sweeper-case can rise and fall by the action of the levers, as hereinafter explained, the axles or journals can be constantly pressed in such manner that the friction between the drive-wheels and the friction wheel or pulley on the brush-shaft is maintained substantially uniform whether the brush be in its lowest or highest position; but while I may use spring-pressed axles to preserve friction I wish it understood that I do not confine myself thereto, as the required friction may be otherwise secured.

The upper ends of the levers respectively bear against the opposite sides of the projections or studs on the bail, and when the handle is perpendicular the narrow parts of the projections or studs are presented to the levers, so that the slotted ends of the latter are raised to their highest position, thereby causing the sweeper-case to descend and lower the brush nearer to the carpet or other surface traversed for heavy sweeping. If the handle be swung downward at one side of the case, the upper ends of the levers at that side of the case are moved by the projections or studs upward and toward the operator, thus depressing the slotted ends of such levers, and causing that side of the sweeper-case to rise and slightly elevate the brush for light sweeping. The springs here shown tend to cause the drive-wheels to recede, as it were, when the handle is raised, and thus the springs act to force the sweeper-case and brush-shaft downward as the handle is elevated; but the weight of the sweeper-case, or its weight in connection with pressure on the case, will produce the same result.

By my invention the levers at one side of the brush-shaft can be operated by the bail independent of the levers at the opposite side of the brush-shaft, and consequently the drive-wheels at one side can be operated by the bail independent of the drive-wheels at the opposite side, in such manner that the side of the sweeper farthest from the operator is maintained close to the surface traversed, while the side nearest the operator is moved to raise and lower the brush. This is very desirable, in that the most effective work of a sweeper is accomplished by pushing the sweeper away from the operator, and the farthest dust-pan receives most of the dirt,

and hence should be maintained as near the floor as is possible.

The brush-shaft is shown as supported by a transverse elastic bar 14, and by the novel construction set forth the working parts can be placed in position or taken apart with ease and facility.

In my invention the levers act directly on the axles of the drive-wheels, by which the construction of this type of sweepers is materially simplified.

I may employ straight axle-rods, as shown in the modification, Fig. 4, in which arrangement the slots 9 of the levers 7 are so formed and inclined that their inner ends, which are nearest brush-shaft, are elevated above their outer ends, which are nearest the sides of the sweeper-case. The construction is such that pressure on the sweeper-case causes the two axle-rods to move toward each other in their respective slots, and consequently the greater the pressure brought to bear on the sweeper-case the greater will be the pressure of the drive-wheels on the brush-shaft.

Having thus described my invention, what I claim is—

1. The combination of a sweeper-case having a rotary brush-shaft, axles carrying drive-wheels, pivoted levers arranged, respectively, at opposite sides of the brush-shaft, and a swinging bail having a cam interposed between the free extremities of the levers and constructed substantially as described and shown, to operate the levers at one side of the brush-shaft independent of and without moving the levers at the opposite side thereof, substantially as described.

2. The combination, with a sweeper-case, a brush-shaft, and a handle-carrying bail having a cam, of pivoted levers operated by the cam and having slotted ends and axles carrying drive-wheels and movable along the slots in the levers, substantially as described.

3. The combination, with a sweeper-case, a brush-shaft, a handle-carrying bail having cams, and pivoted levers operated by the cams, of the spring-rods secured to the case, and having their ends provided with axles engaging the levers and carrying drive-wheels which the spring-rods constantly press into frictional contact with the brush-shaft, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

WALTER J. DREW.

Witnesses:

ARTHUR C. DENISON,
HARRY P. VAN WAGNER.