No. 717,397. Patented Dec. 30, 1902.

W. HIGHT.

STREET SWEEPER.

Application filed June 27, 1902.)

(No Model.)

Fig. 1.

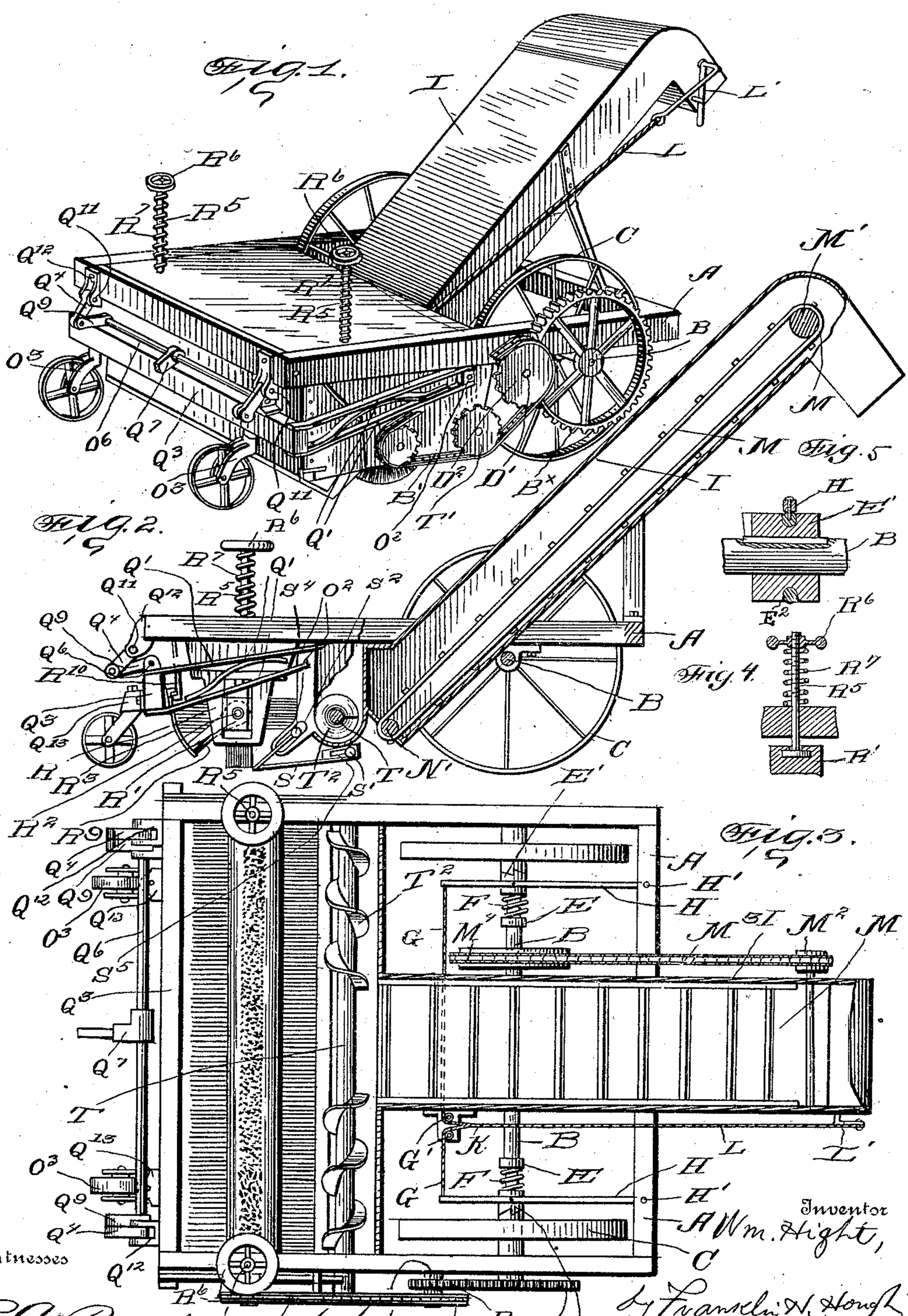

Fig. 2.

Fig. 4.

Fig. 5.

Witnesses

R. A. Boswell

C. L. Hough

Inventor

Wm. Hight,

by Franklin N. Hough

Attorney

UNITED STATES PATENT OFFICE.

WILLIAM HIGHT, OF MACON, ILLINOIS.

STREET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 717,397, dated December 30, 1902.

Application filed June 27, 1902. Serial No. 113,523. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HIGHT, a citizen of the United States, residing at Macon, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Street-Sweepers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in street-sweepers; and it consists in the general improvement of my street-sweeper upon which I have been granted Letters Patent in the United States No. 648,949, dated April 29, 1902, and in the present invention I aim to improve upon machines of this nature and provide a double screw which is adapted to carry the dirt which falls into a rotary box in which the screw is positioned and deposit the dirt upon an endless carrier designed to convey the same to a wagon or other receptacle to which the street-sweeper is attached.

The invention relates, further, in the provision of means whereby the brush may adjust itself to the pavement and the provision of a shoe or fender on either side of the brush and adapted to have vertical play to allow the shoe to pass over obstacles.

Another object of the invention consists in the provision of means for raising the rear end of the frame of the sweeper, comprising toggle-link connections between a bar journaled on the frame, to which bar a folding handle is attached, and the frame.

The invention consists, further, in various details of construction and combinations of parts, as will be hereinafter fully described and then specifically defined in the appended claims.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved sweeping apparatus. Fig. 2 is a side elevation, partly in section. Fig. 3 is a top plan view, partly in section. Fig. 4 is a sectional detail view of a brush-adjusting mechanism. Fig. 5 is a sectional view through the clutch mechanism, showing the manner in which the same is mounted upon the main driving-axle.

Reference now being had to the details of the drawings by letter, A designates the frame of the machine, which has an operating-shaft B, mounted in suitable bearings, and wheels C are loosely journaled upon said shaft. Keyed to the main shaft is a gear-wheel $B^{\times}$, which is in mesh with a pinion-wheel D, mounted on a stud D′, and on the hub of the pinion-wheel D is secured a sprocket-wheel D^2, and a sprocket-chain B′ passes about the sprocket-wheel D^2 and said pinion-wheel. Mounted on the shaft are the collars E, and E′ designates clutch members, which are adapted to engage with the serrated edges of the hubs of said wheel C when it is desired to cause the shaft to rotate with the main driving-wheels. Said clutch member is preferably secured to the shaft for longitudinal movement thereof, and E^2 designates a swiveled ring mounted on and adapted to move said clutch member, and connected to said ring is a lever H, which is pivoted at one end to the frame, as H′, and connecting corresponding ends of said levers are the ropes G, which pass about pulleys G′ on the frame and are connected together at K and fastened to a rope L, which is connected to an operating-handle L′, pivotally mounted on the conveyer-box I. Springs F are interposed between the collars E and the clutch members E′ and are adapted to normally hold the clutches in engagement with the hubs of the driving-wheel, whereby the first mechanism is operated while the machine is in motion.

An endless conveyer M is mounted upon the reels or drums M′ and N′, which are journaled, respectively, at the top and bottom of the conveyer-box, and said reel or drum M′ is mounted upon a shaft $M^{\times}$, to the end of which is keyed a sprocket-wheel M^2, over which a sprocket chain or belt M^3 passes, which is driven by means of a sprocket-wheel M^4, secured to the main operating-shaft, whereby the endless conveyer is driven.

Mounted in a suitable boxing is a shaft T, having a sprocket-wheel T′ at one end, which is driven by means of the sprocket-chain B′, and on said shaft T are worms T^2, which serve for the purpose of conveying dirt that has been deposited by the rotary brush into

said box to a central position, where it will be deposited upon the endless conveyer. Mounted in the boxings R′, which have a vertical play in the depending ways or brackets R, is a shaft R^2, carrying the rotary brush, and secured to each bearing in a vertical position is a rod R^5, having a hand-wheel R^6 mounted upon a threaded portion thereof, and interposed between the side beam of the apparatus and said hand-wheel R^6 is a coil-spring R^7, whereby the brush-carrying shaft may be yieldingly held at different heights. By this means as the wheel R^6 is screwed down the tension of the spring will cause the brush to rise, while the brush is at liberty at all times to yield to the contour of the pavement. Mounted immediately in front of the rotary brush is a shoe S, which has a slight vertical and transverse play limited by means of the pin S^4, which moves in a slot S^2, and a pin S′, which has a play in a substantially horizontal slot S^5. Immediately in the rear of the rotary brush is a fender-plate R^3, the lower end of which is mounted on an arm R^9, which arm has an aperture in one end and loosely journaled on the brush-axle, and the upper end of said fender R^3 has a hooked end which is adapted to engage an angled projection in a plate R^{10}. By means of said fender R dirt which may be carried by the brush is prevented from being thrown out behind the brush on the downward throw of the brushes and the shoe in front will adjust itself to the pavement and obstructions with which the brush may come in contact and will cause the dirt which is brushed up to fall over the edge of the box containing the screw conveyers.

Pivoted at O^2 on the outer edges of the beam of the spraying-sweeper are the arms Q′, which are provided with intermediate brace, and fastened to the cross-piece Q^3 and carried by said cross-piece Q^3 is a bar Q^6, to which a lever Q^7 is rigidly secured, and secured to said rod Q^6 are the links Q^9, which in turn are pivoted to the links Q^4, and said links Q^4 are in turn pivoted at Q^{11} to the bracket-arms Q^{12} on the frame of the machine. Said beam has fastened thereto the brackets Q^{13}, which carry the caster-wheels O^3.

From the foregoing it will be seen that by the provision of the means comprising my invention, as illustrated in the drawings, that the conveyer may be easily thrown into or out of gear, and the shoe which is mounted adjacent to and immediately in front of the rotary brush will have a slight play in order to conform with the contour of the pavement or to yield in case the same comes in contact with an obstruction, and by the provision of the toggle-link connections at the rear end of the sweeper the frame may be easily raised or lowered and held in either position, and the brush by reason of the construction which I have illustrated will have a yielding play in the frame of the sweeper.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a sweeper, the combination of a frame, the rotary brush and driving mechanism, a shoe, pins projecting from the ends thereof and working in diagonally-disposed slots in the frame, as set forth.

2. In combination with a sweeper comprising a frame, a rotary brush and means for operating the same, a fender mounted at the rear of the frame and having arms journaled on the shaft of the brush, a depending plate having a lateral projection at its lower end and adapted to be engaged by a lateral projection on said fender to permit the downward throw of the same, as set forth.

3. In a street-sweeper, the combination, a rotary brush and means for operating the same, a frame, knee-joints pivoted to said frame, a caster-carrying beam having arms which are pivotally mounted on the frame, a shaft journaled on said beam, arms secured to said shaft and pivotally connected to said knee, and means for rocking the shaft, whereby the rear end of the frame may be raised and lowered, as set forth.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

WILLIAM HIGHT.

Witnesses:
J. F. VAN GUNDY,
I. W. ANDERSON.