J. Critcherson.

Street Sweeper.

No. 37,611. Patented Feb. 10, 1863.

Fig. 2.

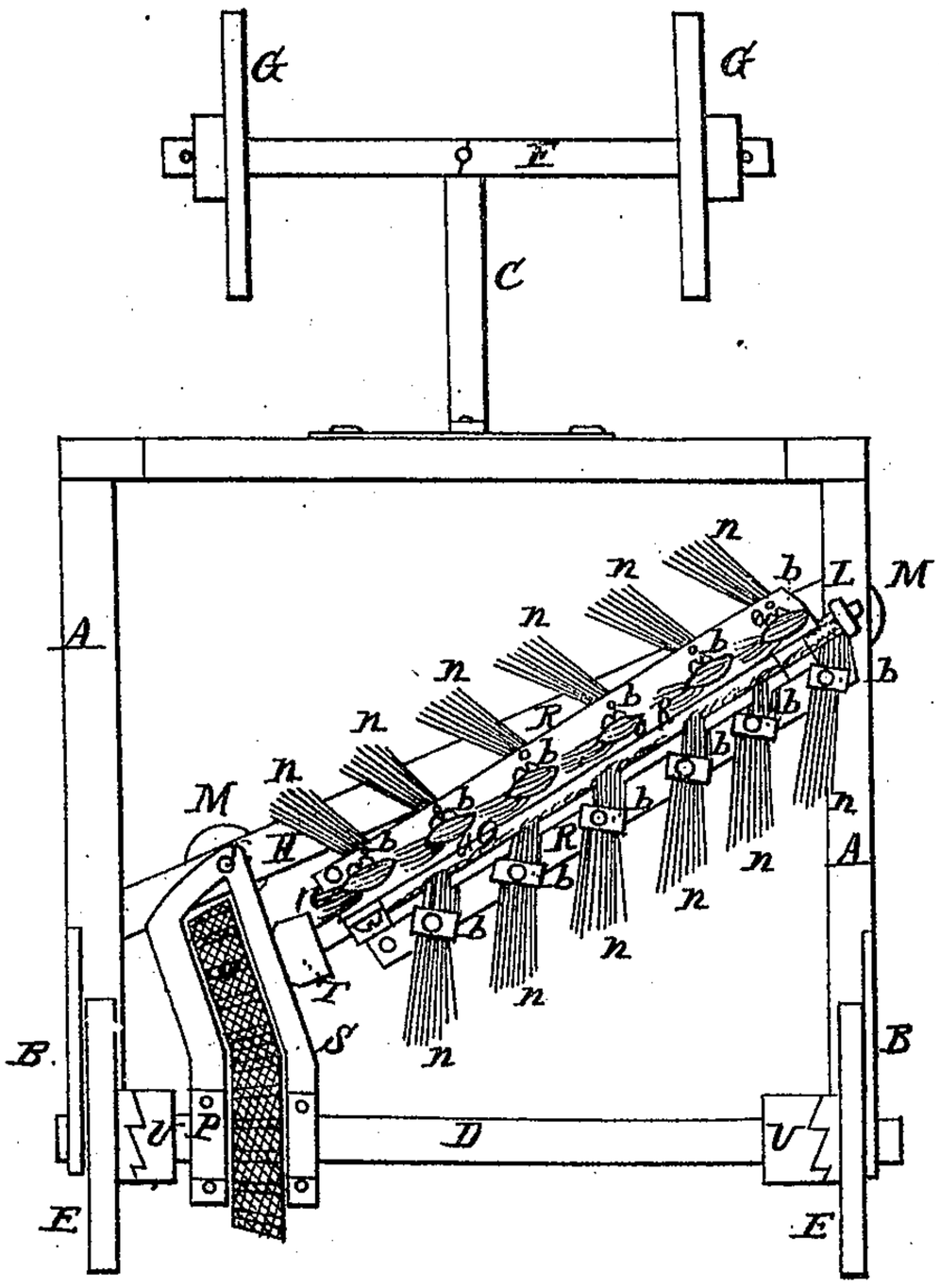
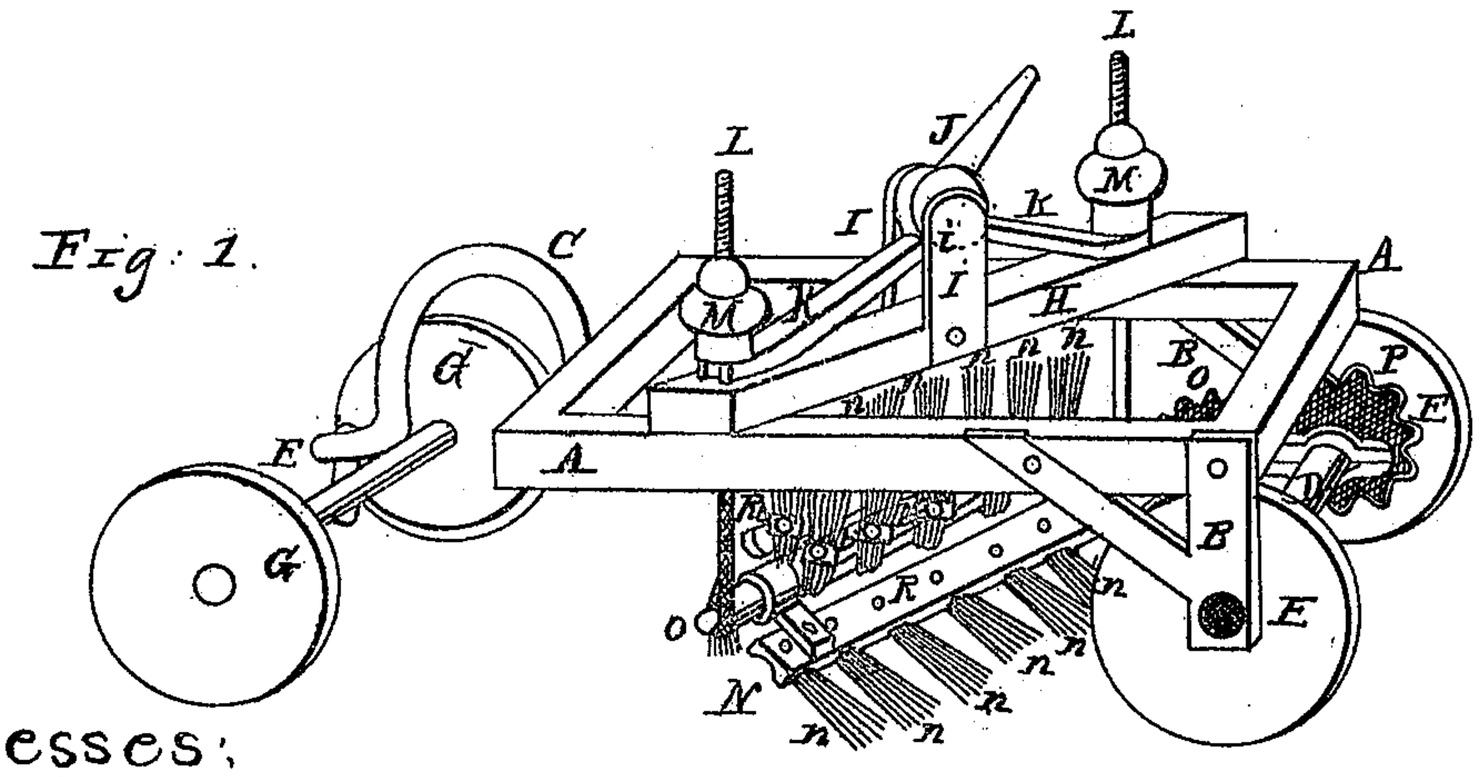


Fig. 1.



Witnesses:
N. Ames
M. Bowers

Inventor:
John Critcherson

UNITED STATES PATENT OFFICE.

JOHN CRITCHERSON, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN STREET-SWEEPING MACHINES.

Specification forming part of Letters Patent No. **37,611**, dated February 10, 1863.

To all whom it may concern:

Be it known that I, JOHN CRITCHERSON, of Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented a new and useful Improvement in Street-Sweeping Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a perspective view, and Fig. 2 is a bottom view.

Like parts are indicated by the same letters in both figures.

The nature of my invention consists, first, in attaching the fagots or broom material to the rotating arms or cylinder obliquely, instead of perpendicularly, so that said fagots or broom material, striking on the pavement or ground, will yield or spring, thereby not only working better into the inequalities of the surface to be swept, but also rendering the broom more durable and less liable to be broken; second, in hanging the shaft of the rotating broom to the lower ends of vertical rods rendered adjustable by means of nuts and capable of being raised or depressed by means of levers and a cam; and, third, in the peculiar device for attaching the fagots or broom material to the rotating arms or cylinder, the same consisting of depressions in said arms or cylinder, and concave caps through a hole in the center of which a bolt passes and is screwed into the center of said depressions, whereby the broom material is securely and readily confined or removed at pleasure.

To enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

A is a rectangular frame, about twelve feet long and eight feet wide, to the hind corners of which are attached metallic legs B B, through and in the lower extremities of which the axle D of the driving-wheels E E passes and turns.

C is a bar of iron attached to the front of the frame A, and bent as shown in Fig. 1, to the forward end of which bar the axle F of the front wheels, G, is connected by means of a linchpin.

H is a beam running diagonally across the top of the frame A, to which it is fastened.

I I are two uprights attached to the sides of the beam H.

J is a cam-lever turning on the pivot *i*.

K K are levers the contiguous ends of which bear against the cam J, the outer ends of said levers being slotted, so as to receive the rods L L, in the lower ends of which the axis O of the broom N turns.

M M are nuts screwing onto the upper ends of the rods L L, by means of which it is obvious the rotating broom may be raised or depressed at pleasure. It is also obvious that by means of the cam J and levers K K the broom may be elevated so as not to touch the ground at all when it is desirable to move the machine from place to place without sweeping.

R R R R are slats or arms, attached at their extremities to the spokes of the axle O by means of screws, as shown in the drawings.

a a a a a a (see Fig. 2) are depressions running obliquely across the arms R, into which depressions are placed the fagots or broom material *n*.

b b b b b b are concave caps placed at right angles over the depressions *a*, (as seen in Fig. 2,) through the center of which caps passes a screw into the center of the said depressions, by means of which it is obvious that the fagots *n* can be securely and readily attached or removed at pleasure.

The advantages of arranging the fagots or broom material obliquely (instead of perpendicularly, as hitherto arranged on street sweeping machines) have been mentioned above.

My devices for raising, depressing, and adjusting either end of the broom-shaft O, as well as for lifting the broom entirely from the ground, are also, I think, a very useful and desirable improvement.

U U (see Fig. 2) are sliding thimble-clutches, provided with teeth to mesh into corresponding indentations in the hubs of the wheels E E, by means of which the latter are either made to revolve the shaft D or left free to turn on its ends, like a common carriage-wheel.

S is a metallic frame, through one end of which the axle D passes, the other end being supported by one of the rods L, as shown in the drawings.

P is a beveled pinion, fast to the axle D; and Q is another similar pinion actuated by it. One end, T, of the axle of pinion Q, forms,

with one extremity of the broom-axle O, a socket-joint, which allows O to revolve at an angle with the axle of Q. A horse or horses are attached to the forward axle, F, in any obvious manner, and a suitable seat is placed on top of the frame A, so that a man occupying the seat can drive the team and operate the cam-lever J when it is desirable to raise the broom from the ground. As the machine is driven along, the rotating broom sweeps the dirt to one side and leaves it in a windrow, thereby doing the work of a great number of men.

Having thus described the construction and operation of my improvement, what I claim as new, and desire to secure by Letters Patent, is—

The attaching the fagots or broom material obliquely to the axis, when the same is accomplished by means of and in combination with the depressions running obliquely across the arms R, and the concave caps *b*, secured by screws, which confine the said fagots or broom material, as and for the purpose herein described.

JOHN CRITCHERSON.

Witnesses:
N. AMES,
N. EVANS, Jr.