

D. Sargent

Street Sweeper.

No 47,461.

Patented Apr. 26, 1865.

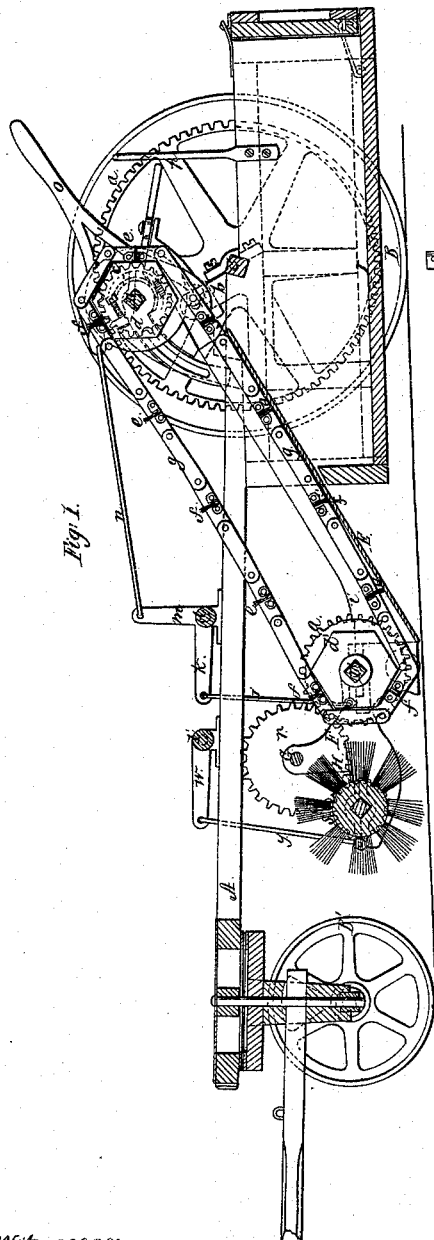


Fig. 1.

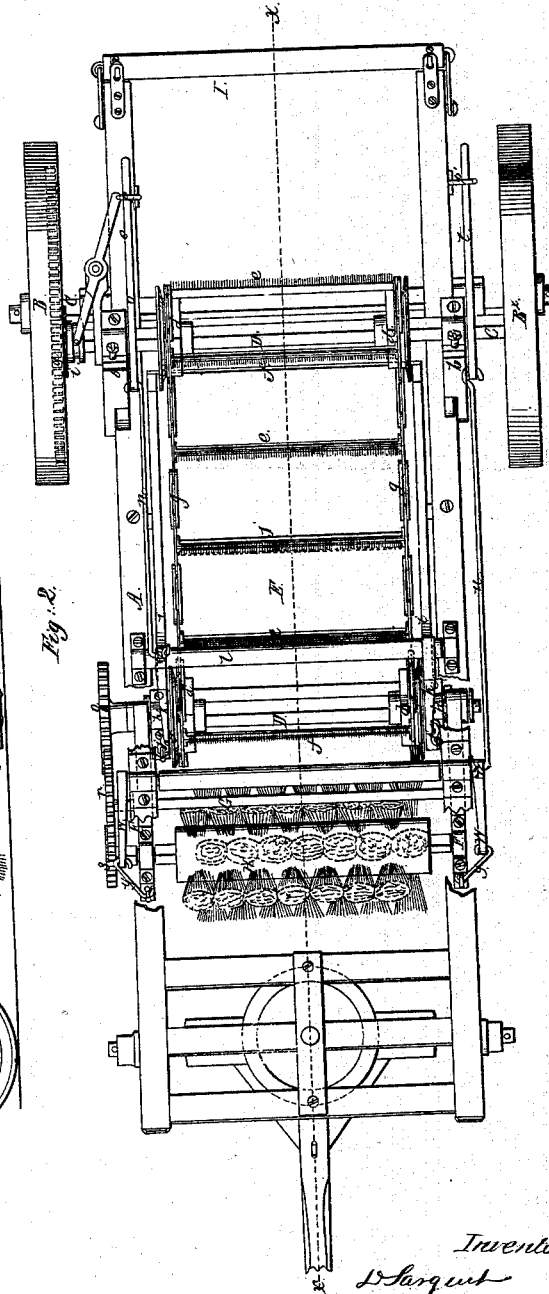


Fig. 2.

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN STREET-SWEEPING MACHINES.

Specification forming part of Letters Patent No. 47,461, dated April 25, 1865.

To all whom it may concern:

Be it known that I, D. SARGENT, of the city, county, and State of New York, have invented a new and Improved Street-Sweeping Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a longitudinal vertical section of this invention, the line *xx*, Fig. 2, indicating the plane of section. Fig. 2 is a plan or top view of the same.

Similar letters of reference indicate like parts.

This invention relates to certain improvements in that class of street-sweeping machines in which a rapidly-revolving brush is used for the purpose of throwing the dirt on an inclined scoop. An endless chain of scrapers and brushes, extending over suitable wheels, serves to carry the dirt up the inclined scoop and throw it in a box, which can be readily opened or detached for the purpose of dumping its contents at the proper place. The chain-wheels are mounted on axles, the upper one of which receives motion from the driving-wheel of the machine, and this motion is communicated by the chain itself to the lower axle and from it by suitable gear-wheels to the revolving brush. The axle of the brush has its bearings in three-armed levers, which are suspended and swing freely up and down on the ends of the axle of the lower pair of chain-wheels, so that either the brush can be raised or lowered independent of the scoop, or the scoop independent of the brush, without throwing the cog-wheels out of gear. The pinion which transmits motion from the driving-wheel to the axle of the upper chain-wheels is so arranged that it can be thrown in or out of gear with said driving-wheel and the scoop and revolving brush are raised by an independent set of hand-levers, bell-cranks, and rock-shafts so that all the working parts of this machine are perfectly under the control of the operator.

A represents a frame, made of wood or any other suitable material and supported by four wheels, B B* B'—two behind and two in front—as clearly shown in the drawings. The wheels

B B* turn loosely on the axle C, and the axle B is provided with an internal gear, *a*, by means of which motion is transmitted to the several working parts of the machine. From the rear end of the frame A rise two standards, *b*, which form the bearings for the shaft D. Arranged on one end of this shaft is a pinion, *c*, in such a manner that it can be instantaneously thrown in or out of gear with the internal gear, *a*, of the driving-wheel B, and there are mounted also on said shaft two chain-wheels, *d*, at such a distance apart as the length of the scrapers *e* and brushes *f* requires. The scrapers consist of flat blades of sheet metal or any other suitable material and the backs of the brushes are secured to the chains *g*, which extend from the chain-wheels *d* on the shaft D, over corresponding chain-wheels *d'*, on the shaft D'. This latter shaft has its bearings in journal-boxes *h*, secured to the edges of the side rails, *i*, of the scoop E, which is hinged to the frame A and extends down in an inclined position, as shown in Fig. 1. The chains *g* run close to the inner surfaces of the side rails, *i*, of the scoop and in such a position that the edges of the scrapers *e* and the brushes *f* sweep close over the inclined surface of the scoop. The lower end of the scoop is suspended by means of rods *j* from arms *k*, extending from a rock-shaft, *l*, which connects by means of an arm, *m*, and rod *n* with a hand-lever, *o*, which is pivoted to one of the standards *b*. By depressing said hand-lever the scoop is raised, and if the hand-lever is secured under the spring-catch *p*, the scoop is held in an elevated position so that the machine can be driven from one place to another without obstruction from that source. The shaft D' extends through its bearings, and on its outer ends are hung two three-armed levers or hangers, F, which form the bearings for the intermediate shaft G, and for the spindle of the brush H. This brush receives motion from the shaft D' by means of cog-wheels *q* *r* *s*, mounted, respectively, on the shaft D', intermediate shaft G, and spindle of the brush, and the brush is vertically adjustable by a hand-lever, *t*, which is pivoted to one of the standards *b*, opposite the hand-lever *o*, and which connects by a rod, *u*, with an arm, *v*, connected to a rock-shaft, *v'*. A spring-catch

may be made to drop over and retain the hand-lever. From the rock shaft *U'* extend two arms, *w*, which connect by rods *y* with the extreme ends of the three-armed levers, *F*, so that by depressing the hand-lever *t* the brush is raised clear of the ground.

It will be noticed that in lifting the brush the bearings of the intermediate shaft and of the brush-spindle describe circles round the shaft *D'*, and the gear-wheels *r*, *s*, and *q*, will always remain in gear, whatever the relative position of the scoop and of the brush. A box, *I*, suspended from and secured to the frame *A*, under the elevated end of the scoop, serves to collect the dirt taken up by the action of the brush and scoop.

In drawing the machine from one place to another, and when the same is not to be used, the scoop and the brush are both elevated and held in an elevated position by causing the spring-catches *p p'* to drop over them, and at the same time the pinion *c* is thrown out of gear with the driving-wheel and all the working parts of the machine remain stationary; but when the machine has arrived in the street which is to be cleaned, the pinion *c* is thrown in gear with the driving-wheel and the scoop and brush are lowered, and as the machine moves along the brush revolves and throws the dirt on the scoop, and by the action of the scrapers and brushes, secured to the endless chains *g*, the dirt is carried up

over the inclined surface of the scoop and deposited in the box *I*.

If the scoop or the brush meets with an unforeseen obstruction, it can be easily and instantaneously raised, without interrupting the operation of the machine.

It will also be noticed that the brush can be raised independent of the scoop, and the scoop independent of the brush, if it should be desired to use either one of these parts independent of the other.

When the box *I* is full, the pinion is thrown out of gear, the brush and scoop are raised from the ground, and the machine is drawn to the dumping-ground, or the box *I* may be made detachable, so that the full one can be taken off and replaced by one that is empty, and in this case the operation of the machine is not interrupted.

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

The adjustable scoop *E* and box *I*, in combination with the three-armed hangers *F*, adjustable brush *H*, rock-shafts *U U'*, hand-levers *t*, movable pinion *C*, and wheel *B*, constructed and operating substantially in the manner and for the purpose herein set forth.

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Witnesses:

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