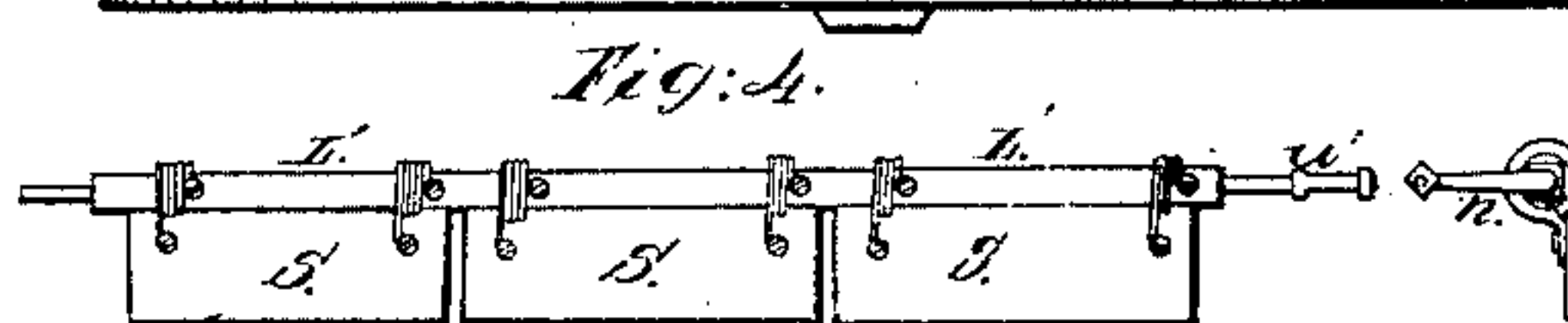
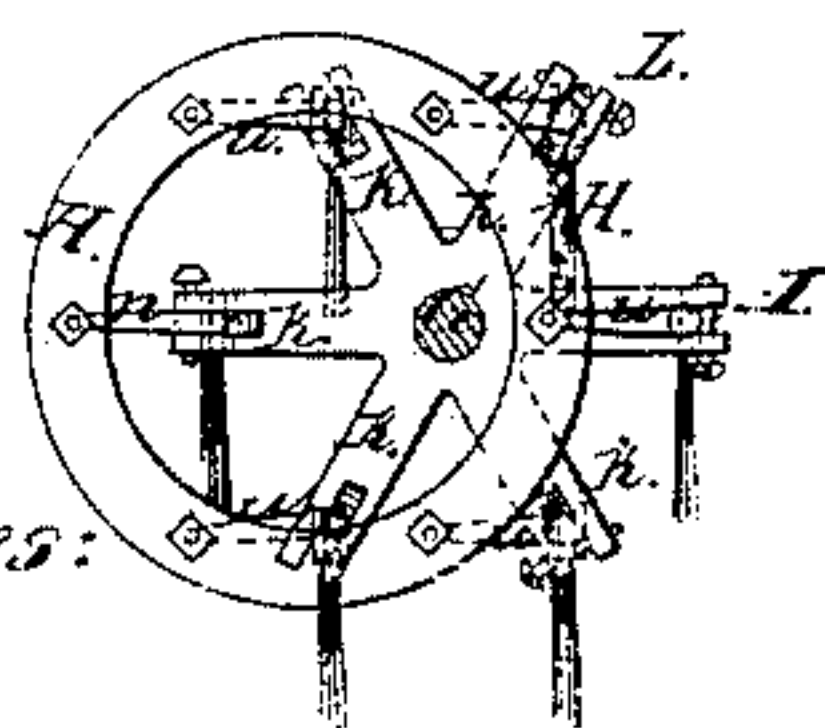
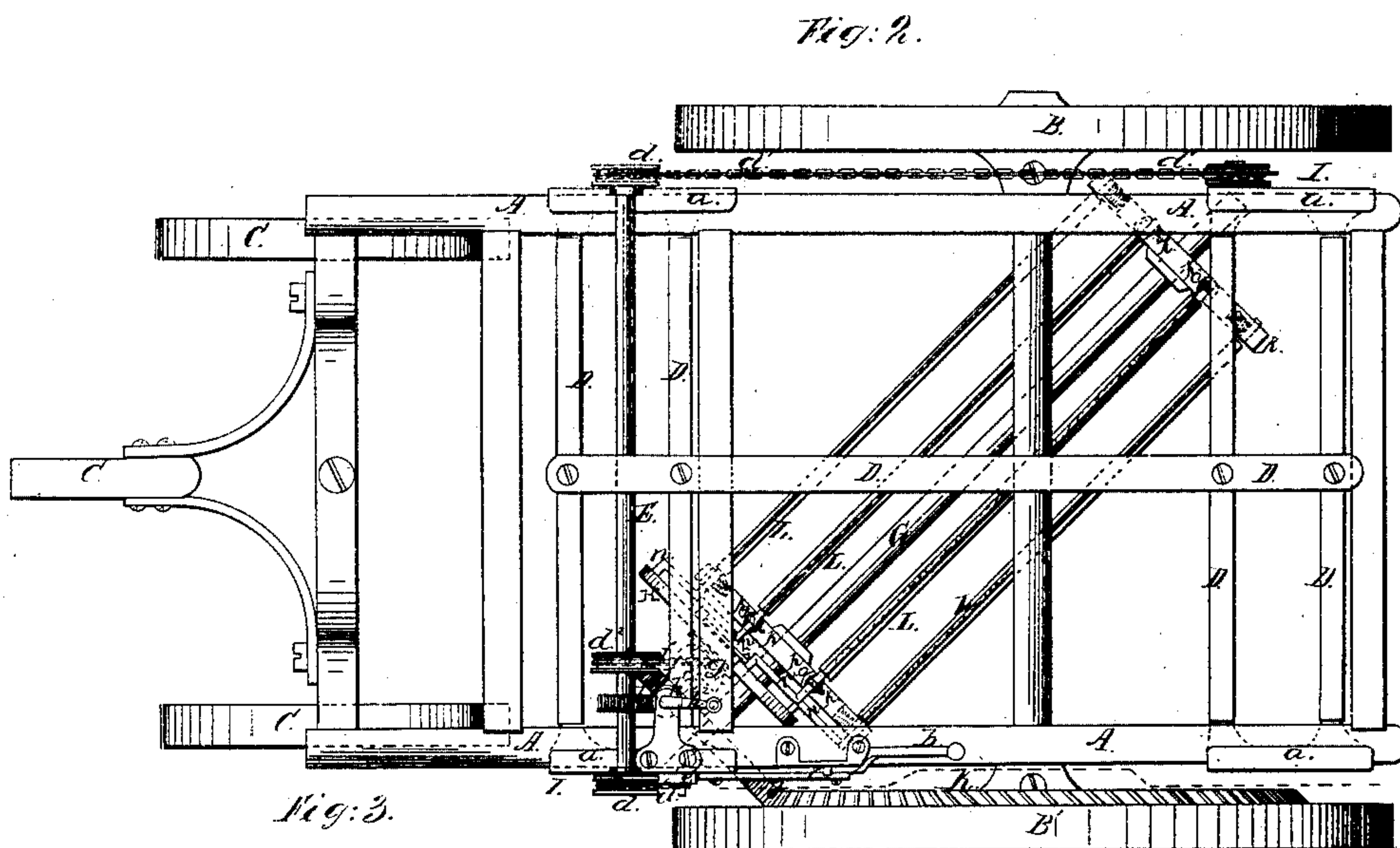
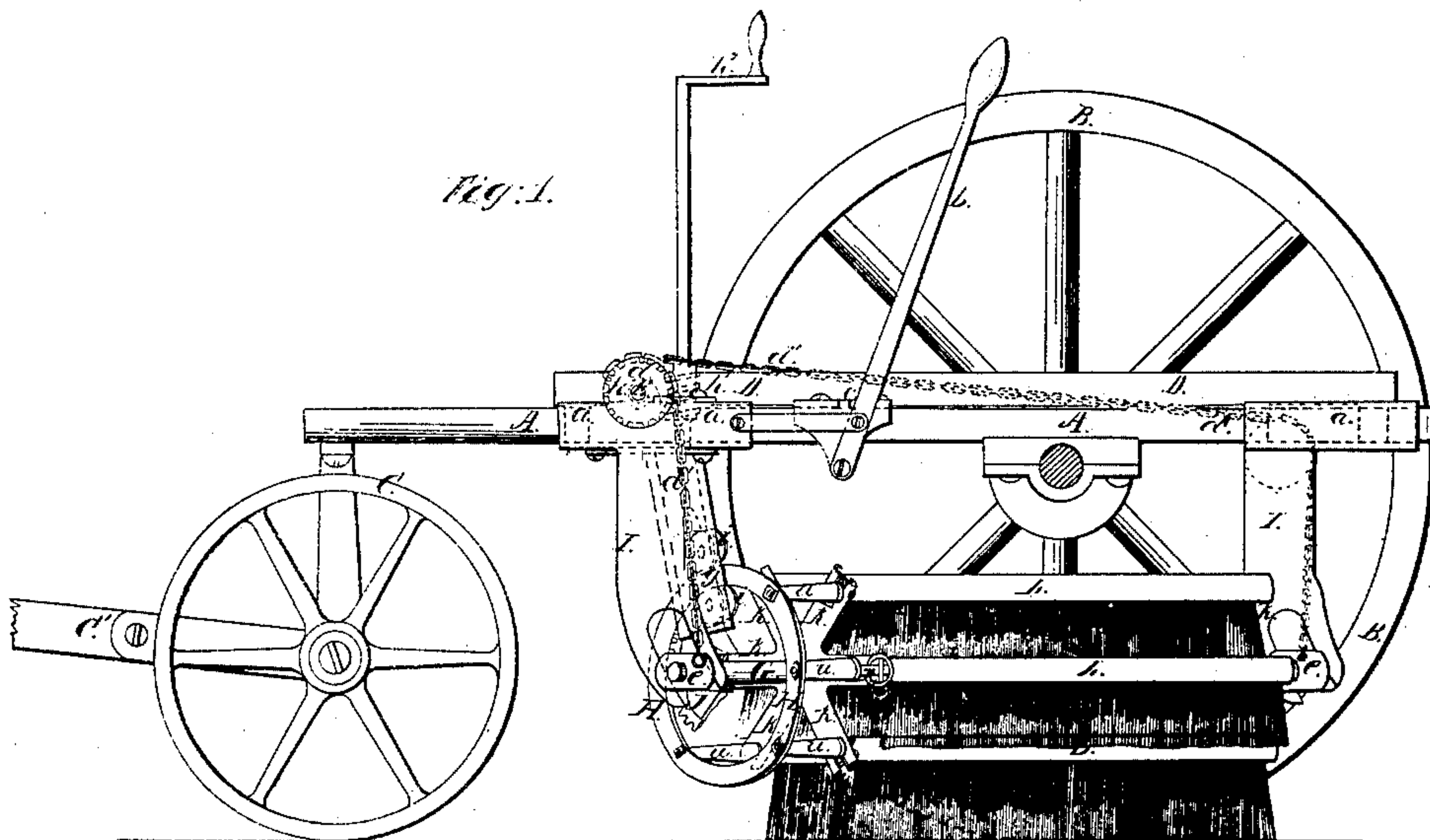


S. LONGLEY.  
STREET SWEEPING MACHINE.

No. 30,644.

Patented Nov. 13, 1860.



Witnesses:  
J. W. Combs,  
R. S. Speman

Inventor:  
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attys



# UNITED STATES PATENT OFFICE.

SERVETUS LONGLEY, OF CINCINNATI, OHIO.

## STREET-SWEEPING MACHINE.

Specification of Letters Patent No. 30,644, dated November 13, 1860.

*To all whom it may concern:*

Be it known that I, S. LONGLEY, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Street-Sweeping Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, shows a side elevation of the improved machine with the driving wheel removed. Fig. 2, is a plan view of the perfect machine. Fig. 3, is an end view, in detail, of the eccentric ring and brushes. Fig. 4, shows a side, and an end view, of one of the scrapers that are used when the brushes are taken off.

Similar letters of reference indicate corresponding parts in the four figures.

This invention is intended for cleaning streets and rail-roads of snow, dust and dirt by sweeping the dirt into windrows from the middle, to the sides of the street so that it may be rapidly carried away.

My invention is applied to brooms or scrapers that extend diagonally across the machine and which sweep or scrape, as the case may be, the dirt, dust and snow to one side of the machine into windrows. It consists in hanging the broom-shaft in such a manner that it may be raised or depressed so that the brooms, or scrapers, may be raised entirely free from the ground if desirable; and it consists in attaching, by a crank arm each broom, or scraper-head, or stock, to an eccentric ring which will keep the brooms, or scrapers always in a perpendicular position with the surface of the street, at the same time all the brooms are allowed to yield and to accommodate themselves to the unevenness of the surface of the street, all as will be hereinafter described.

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

A, is the carriage frame mounted behind on two large wheels B, B', one of which is a driving wheel, and in front it is mounted on two smaller wheels C, C, the axle of which is attached to the frame A, by a king bolt making these front wheels guiding wheels.

The draft pole, C', is attached to the

front axle. D, is a sliding frame-work which is attached to the carriage frame, A, by suitable clamping plates *a a* so that this frame may be moved back and forth longitudinally with frame A, by means of a hand lever *b*, which is placed in a convenient position to be operated by the driver. This hand lever *b*, is moved from one side to the other of a stop pin *c*, which holds the lever and the frame in the desired position. A shaft E, extends transversely across the sliding frame D which shaft has two grooved pulleys *d, d*, keyed to each end over which passes chains or suitable cords *d' d'*, which are attached to the movable bearing blocks *e, e*, of the brush shaft, G. Another grooved pulley *d<sup>2</sup>*, is keyed to the shaft E, near one end over which passes a chain *f*, that connects with the bearing block *g*, of a ring H. The blocks *e, e* and *g* are simultaneously raised by turning the shaft E, a spur-wheel *h*, and a worm wheel *h'* and crank *h<sup>2</sup>* being used for this purpose.

The bearing blocks *e, e*, of the brush shaft G, are set in inclined slots in the bottoms of two hangers I, I, one placed near the front end and the other near the back end of the frames A, D, and both move forward or backward with the said frame. The brush shaft is thus set diagonally and at about an angle of 45° with the sides of the frames A, E.

J is a toothed wheel that is keyed to one end of the shaft G, which engages with the beveled teeth of an annular ring K, which ring is attached concentrically to the inside of driving wheel B'.

Near the ends of the brush shaft G, are keyed two hubs from which radiate six, or more, or less, hollow radial arms *k* into the ends of which the brush heads L, are pivoted as clearly shown in the drawing, Fig. 1. Each brush-head is arranged parallel with the axis of shaft G, and each head is acted upon by springs placed in the hollow arms *k* which allow the brush-heads to yield and accommodate the brushes to the ununiform surface of the street. These springs are of sufficient strength to hold the brush heads out at the ends of the arms *k*, and keep them well down to their work. From each brush-head at its forward end projects a crank arm *n*, the end of which is pivoted to an annular ring H, which is hung at its top between two grooved wheels *i, i*, shown in



Fig. 1, these wheels have their bearings in the block *g*, above referred to—which wheels with the pivot connections of the cranks of all the brush heads to the ring *H* keep the ring in a steady position, and allows it to turn with the brush shaft and brushes. The object of this ring *H*, is to keep the brushes or brooms in a perpendicular position with the surface of the street, so that they will operate more effectively upon the dirt &c. and will not scatter the dirt, or raise the dust as much as if they were fixed to the arms *k* as in the present machines for this purpose.

The material of which the brush is made, is secured to the brush heads by plates which are bolted to the heads. The brush grass may thus be removed and renewed with very little labor.

The entire machine is controlled by the driver who can throw the parts into or out of gear, and raise or lower the brush shaft, *G*,—and at the same time the eccentric ring

and cause the brushes to act with greater or less force upon the surface of the street.

The scrapers, one of which is shown in Fig. 4, are operated in the same manner as the brushes. They consist of a number of plates *S, S*, which are attached to heads *L'*, by suitable springs. The brushes are removed from the arms *k k*, and these scrapers are attached in their places, and are kept in a vertical position by the eccentric ring *H*.

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

The eccentric ring *H* arranged and combined with the brush heads substantially in the manner and for the purposes herein set forth.

SERVETUS LONGLEY.

Witnesses:

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