

A. Dyson,

Street Scraper,

No 78,583,

Patented June 2, 1868.

Fig 2

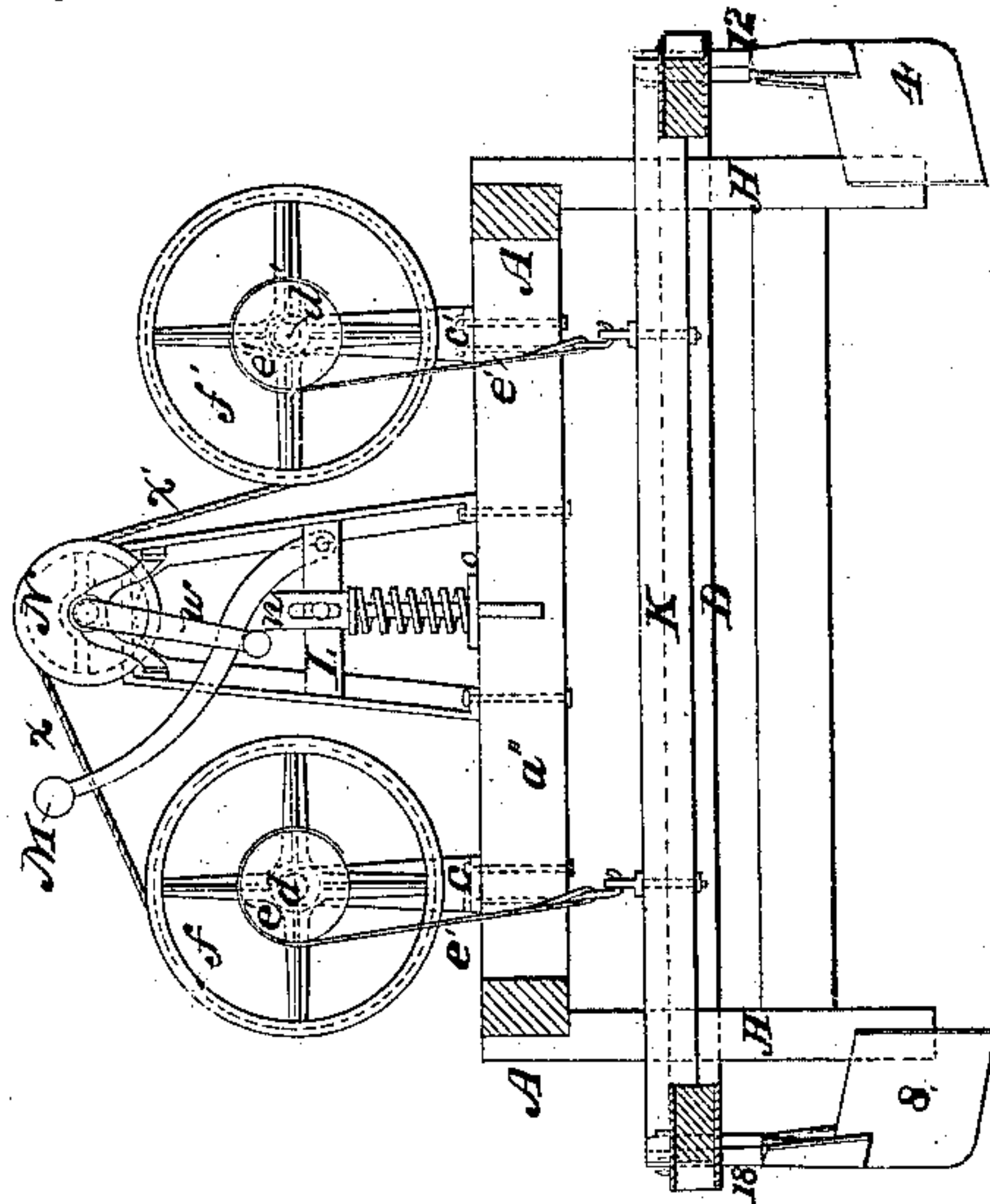


Fig 1

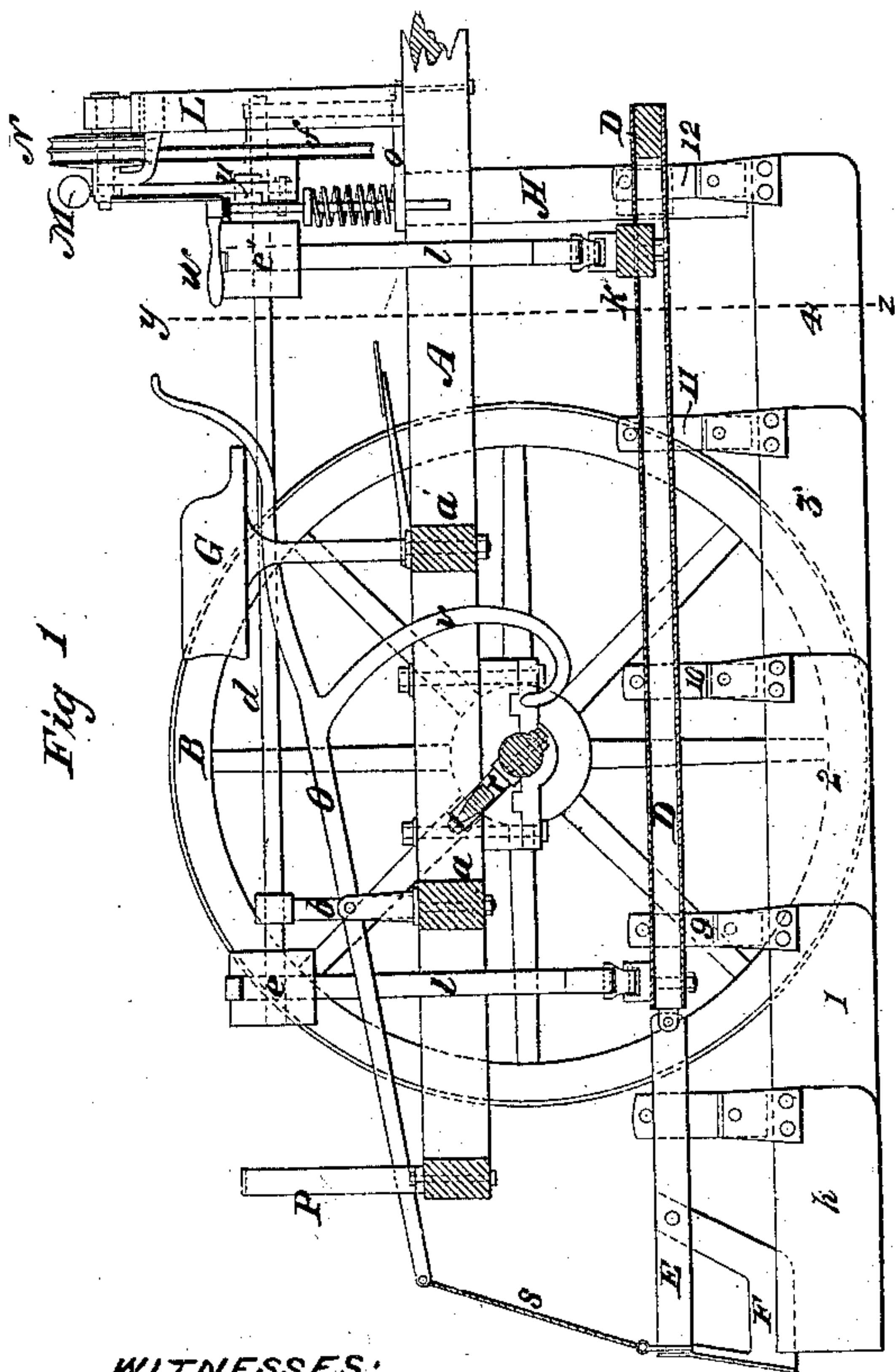
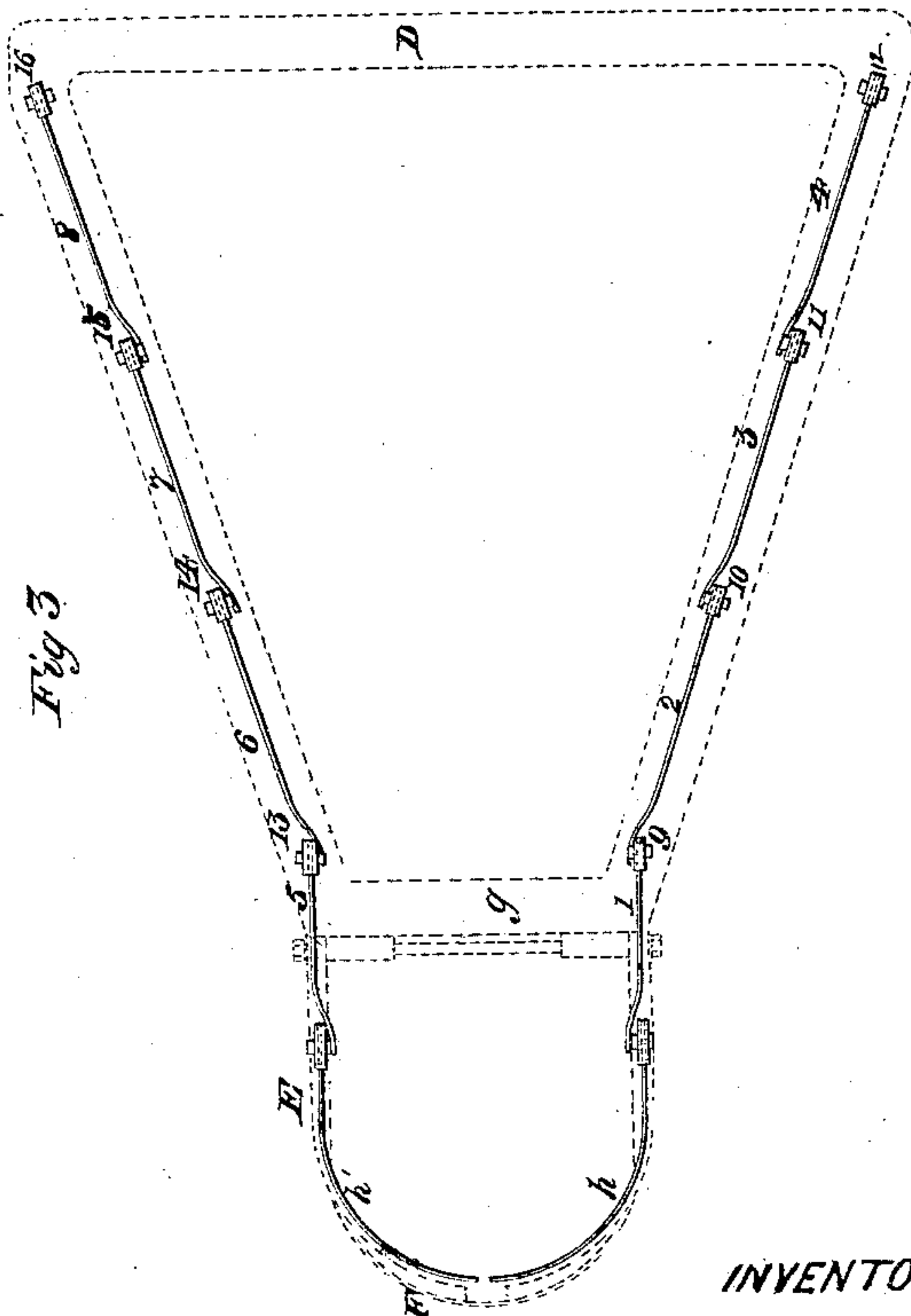


Fig 3



WITNESSES:

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INVENTOR:

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United States Patent Office.

ABRAHAM DYSON, OF ST. LOUIS, MISSOURI.

Letters Patent No. 78,583, dated June 2, 1868.

IMPROVED STREET-SCRAPER.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ABRAHAM DYSON, of St. Louis, in the county of St. Louis, and State of Missouri, have invented a new and useful Improved Street-Scraper, of which the following is a full, clear, and exact description, reference being had to the annexed drawing, making a part of this specification, in which—

Figure 1 represents a longitudinal sectional elevation of my invention, with the forward end broken off.

Figure 2 represents a transverse sectional elevation of same at *y z*.

Figure 3 represents a detached top view of the scraper-frame and scraper, the frame being in outline only.

Similar letters indicate like parts.

I mount a square wooden frame, A, figs. 1, 2, on three wheels, two, B B', at one end, B only being shown, and one in front, which is not shown. The wheel, B, is made fast to the axle, while its sister is loose, so that when the wheel B revolves, it carries the axle with it. This frame is strengthened by three or more cross-pieces, *a a'*, fig. 1, *a''*, fig. 2, and on *a* are placed two uprights, one of which, *b*, is shown in fig. 1, and two others, *c c'*, fig. 2, are placed on *a''*, these uprights forming the bearings for two shafts, one of which, *d*, is seen in fig. 1, and *d d'*, fig. 2, and to these shafts are fixed four blocks, two on each, *e e'* being shown in fig. 1, and *e' e''* in fig. 2, *e'''* not being shown. At the forward end of each shaft is fastened a wheel, *f*, fig. 1, *f f'*, fig. 2.

A triangular frame, D, figs. 1, 2, 3, its base being equal to the length of the axle of the wheels B B', has in its side-pieces numerous slots for the reception of the bars 9 10 11 12, fig. 1, 12 16, fig. 2, and 9 10 11 12 13 14 15 16, fig. 3, which slide freely up and down in them, being prevented from dropping out by pins passing through their upper end, as shown. To the lower end of these bars are pivoted scrapers, 1 2 3 4, fig. 1, 4 8, fig. 2, and 1 2 3 4 5 6 7 8, fig. 3, the other end of the scraper being free. These scrapers are made sufficiently heavy to bear with considerable force on the ground, and the free end of each is curved so as to lap under or behind the back fixed end of its neighbor, as clearly shown in fig. 3.

To the cross-piece *g*, fig. 3, at the apex of the frame D, is hinged a semicircular metal frame E, figs. 1, 3, having beneath it, and firmly attached to it, as shown, a smaller frame, F, figs. 1, 3. Two circular scrapers, *h*, fig. 1, *h h'*, fig. 3, are attached to E, in the manner already explained in relation to D. The frame F being made to come a little below and outside of the upper edge of *h h'*, as shown in fig. 1. A cross-piece, *k*, figs. 1, 2, connects the sides of the triangular frame D, at a short distance from its base.

To the blocks *e e' e'' e'''* are attached elastic straps or bands *l l' l'' l'''*, *l l'* being seen in fig. 1, *l' l''* in fig. 2, and *l'''* not shown at all, having their lower ends fastened to the scraper-frame D, which by them is hung beneath A, as seen in fig. 1, the length of the bands being so adjusted as to allow the scrapers to rest on the ground. To prevent D from swinging too far to one side or the other, and also to prevent it from being forced back when the machine is in operation, a frame, H, figs. 1, 2, extends down from A, between the base of the triangle and the cross-piece *k*, and inside of the sides of the triangle. A similar but smaller frame is arranged at the other end of the triangle, just inside of *g*, but this is not shown.

On the cross-piece *a''* is erected a standard, L, figs. 1, 2, forming a bearing for the double-grooved wheel N, figs. 1, 2, having a crank, *w*. N is connected by cords, *x x'*, with the wheels *f f'*, in such a manner, that when the crank is turned, *f f'* revolve, and with them the shafts *d d'*, which, winding up the bands *l l' l'' l'''* on the blocks *e e' e'' e'''*, raise the scrapers clear of the ground. A catch, *n*, figs. 1, 2, attached by a pin, working in a slot, to the standard *m*, while its other end passes through the plate *o*, extending from *a''*, and moving up and down on a spiral spring, as shown, is so arranged, that when the crank is turned to wind up the scrapers, and has passed the catch, it springs up and prevents the crank from returning, one revolution of the crank being sufficient to raise the scrapers. Fig. 3 shows the crank when thus triggered. By pressing down the lever M, figs. 1, 2, pivoted to the standard L, the catch is forced down, releasing the crank, and allowing the scrapers to drop to the ground again.

A seat, G, is placed on the cross-piece *a'* for the driver.

To the upright, *b*, is pivoted a lever, O, extending beyond the end of the frame A, where it is connected by a link, *s*, to E, first passing through the inverted U-iron, P serving as a guide. Its other end passes beneath

and curves up in front of the driver's seat, as seen in fig. 1. A curved arm, *v*, extends down from O, a little below the axle of the hind wheels, in such a manner that a cam, *r*, attached to the axle, may engage with it as the axle revolves.

The scrapers resting on the ground, the horses are started, and all the refuse inside of the line of the sides of the triangle is gathered up, and, by the action of *h h'*, carried along till the cam *r*, engaging with the arm *v*, raises the frame E, which, dropping as soon as the cam and arm disengage, leaves the dirt collected in a heap; but if it is desired to make a continuous line of scrapings, the driver, by depressing the lever O, may hold the frame E up, as long as necessary.

The frame D being hung on elastic bands, and one end of each scraper being free, while the other works freely up and down in slots of the frame D, as already described, it is evident that any inequality of surface does not interfere with the scraping, and should a stone or any other obstruction be met by either of the scrapers, it can pass over or by it without affecting the other scrapers, as each works entirely independently of the others. Should the obstruction, however, be met by *h h'* only, they can easily pass over it, for if it strikes one, it can rise, to pass over, without affecting the other, since each works independently, and even if it happens to be just in the centre, they will still rise and pass over, instead of being broken or carrying the obstruction along with them, as would be the case were they united and formed an unbroken line. If the obstruction cannot, for any reason, be passed, the driver need only depress his lever and raise the frame E. It is, therefore, almost impossible for any part of the machine to be broken by obstructions that may be met, since, by turning the crank M, the driver can in a moment raise all the scrapers from the ground.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The wheels *f f'* and N, blocks *e e' e'' e'''*, shafts *d d'*, and frame D, with their connecting-cords *x x'* and elastic bands *l l' l'' l'''* of a street-scraping machine, all arranged relatively to each other and the rest of the machine, substantially as and for the purpose shown and specified.
2. The lever O, with its arm *v*, link *s*, frame D, and cam *r* of a street-scraping machine, all arranged relatively to each other and the remaining parts of the machine, substantially as and for the purpose shown and specified.
3. The combination of the scrapers 1 2 3 4, &c., and *h h'*, with the frames D, E, and F, all constructed, arranged, and operating substantially as and for the purpose shown and specified.
4. A street-scraping machine, combining the devices above mentioned, when constructed, arranged, and operating substantially as and for the purpose shown and specified.

A. DYSON.

Witnesses:

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J. GULDAC.