

(No Model.)

J. A. WYMAN.

MECHANISM FOR CLEANING SEWERS.

No. 382,127.

Patented May 1, 1888.

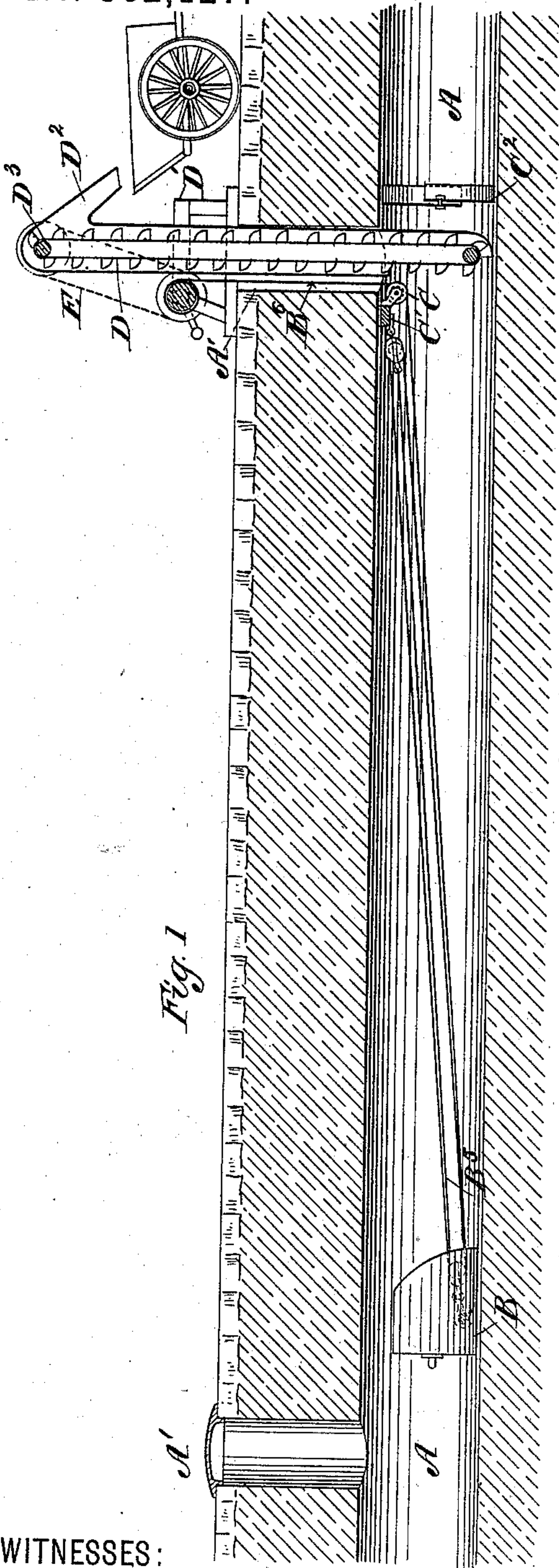


Fig. 1

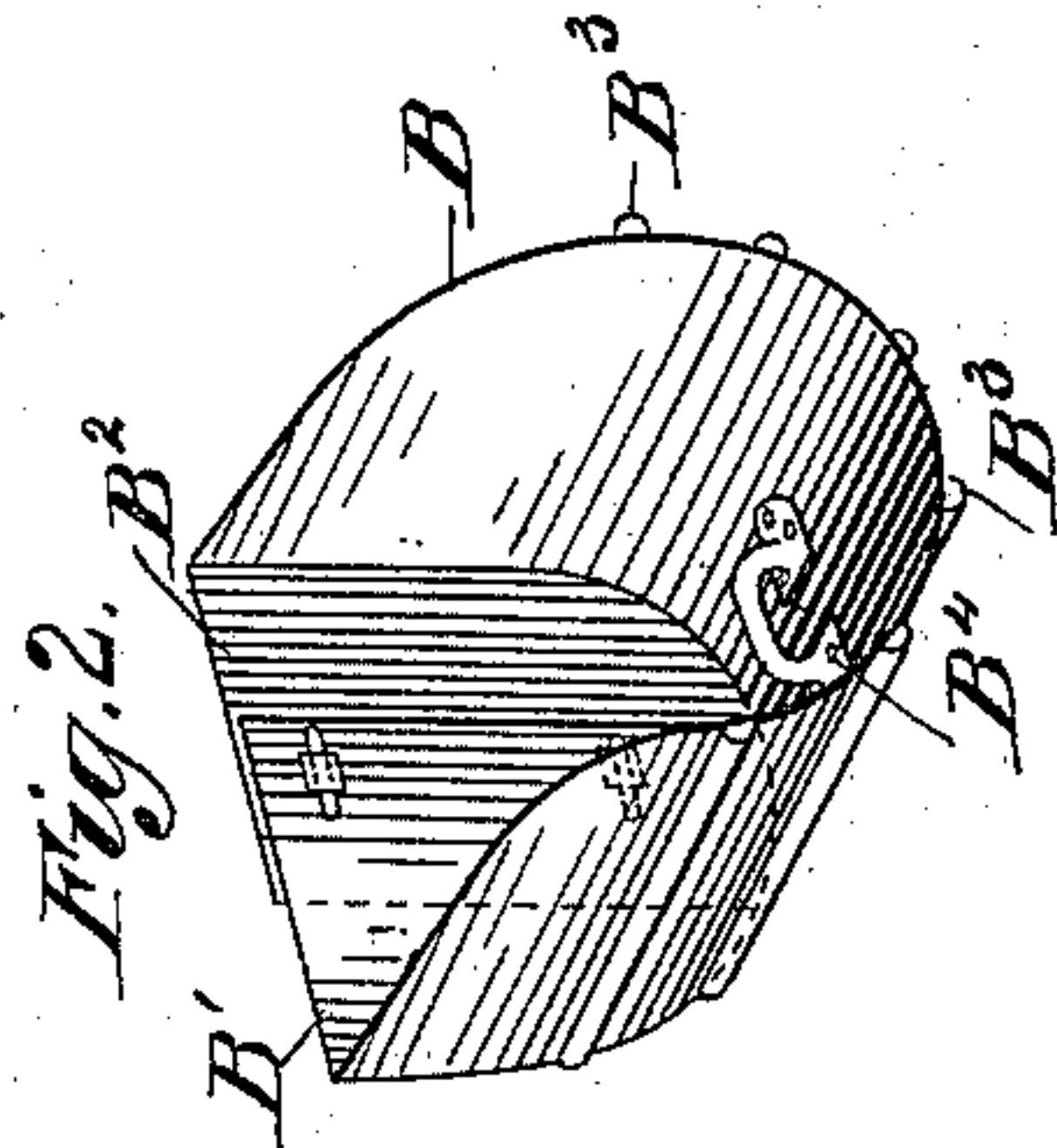


Fig. 2.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## MECHANISM FOR CLEANING SEWERS.

SPECIFICATION forming part of Letters Patent No. 382,127, dated May 1, 1888.

Application filed May 17, 1887. Serial No. 238,470. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN ADAMS WYMAN, a citizen of the United States, residing at the city of New York, in the county and State of New York, have invented a new and useful Mechanism for Cleaning Sewers, of which the following is a specification.

My invention relates to mechanism for removing earthy and other solid substances from sewers used for draining towns and cities, and for other purposes; and the objects of my improvements are to provide a mechanism that may be placed in the sewer and moved horizontally therein by any suitable motor for the purpose of carrying forward any earthy matter that may collect in a sewer and deposit at or near a man-hole in said sewer, or into an elevator passed down through a man-hole, said elevator being so constructed and arranged that as the buckets thereof are moved in the proper direction they will take the earthy matter from the sewer and deposit it in a cart or other vehicle standing in the street; second, to provide a scoop of novel construction for collecting the earthy or other refuse matter and carrying it forward to the vicinity of the man-hole or to the elevator, and, third, to provide certain combinations for operating the scoop which collects the earthy matter and the elevator which raises it out of the sewer. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a horizontal and vertical sectional elevation showing a section of a sewer with one of its man-holes, a scoop within it, chains or ropes for moving said scoop, a movable frame supporting a windlass which operates the scoop used, the elevator, a bulk-head made adjustable, a cart for receiving the material from the elevator, and a chute for directing it into said cart. Fig. 2 is a perspective view showing a scoop made adjustable as to width in order that it may be made to fit sewers of different widths.

In Fig. 1 of the drawings there is shown a sewer, A, which may be of any of the forms recognized as suitable, it being provided with man-holes A' at suitable distances apart, which, as sewers are at present constructed, serve to admit persons to the sewer and the removal of earthy matter therefrom, which

matter under the present system is bailed or shoveled into buckets, lifted out, and poured into open carts for removal to the dumping-ground—an operation which is both expensive and offensive, owing to the time consumed in removing it and the offensive odor given off while it is being removed.

My invention has for its object the remedying of the above-recited and other objections to the existing method, to accomplish which I provide a scoop, B, which, when used in a cylindrical sewer, may be of the form shown in Fig. 2, where it is shown to be adjustable in one direction, in order that it may be adapted to sewers of different diameters, the adjustability being provided for by allowing the sheets of metal B' B<sup>2</sup> to overlap each other, and providing them with slots, through which bolts pass for holding them in their adjusted position. In providing for placing this scoop in the sewer when its dimensions are so great as to prevent it from passing through the man-holes, it is proposed to make the parts B' B<sup>2</sup> of sheets of such width that they can be readily passed into the sewer, where they can be bolted or riveted together. To facilitate the moving of the scoop in the sewer, there is secured to its lower outer surface a number of rods or bars, B<sup>3</sup> B<sup>3</sup>, which extend the entire length thereof, the object of which is to lessen the amount of surface in contact with the sewer, and thus reduce the friction in moving it.

For moving the scoop in the sewer, it is proposed to use a block and fall of any suitable construction and with any number of folds that may be required to give the force necessary to move the scoop by a windlass turned by the hand of the operator; or it may be turned by steam or horse power. There is shown in Fig. 2 a device, B<sup>4</sup>, to which the inner end of the fold B<sup>5</sup> is attached, from which point it extends to a point near a man-hole, as shown in Fig. 1, where it is secured to a block of wood or metal, C, which is attached to the upper inner surface of the sewer by any suitable means. To the side of the block C which is opposite the one to which the fold B<sup>5</sup> is secured there is attached a bracket, C', the outer end of which carries a grooved sheave, over which the free end B<sup>6</sup> of the fold passes, and from which it is let up through the man-hole to and



around a windlass or drum, so that as the drum is revolved the scoop will be caused to move horizontally in the sewer, the effect of which will be to cause it to carry forward any earthy or other matter that may have been deposited in the sewer and place it in a position where it can be taken out by an elevator, soon to be described.

For preventing the material in the sewer from being carried past the man-hole in which the elevator is placed, there is provided a bulk-head, C<sup>2</sup>, which is by preference made of two or more parts, as shown in Fig. 1, so that it can be made to fit sewers of different diameters, and so that it can readily be taken apart when it is to be removed from the sewer.

The elevator above alluded to is clearly shown at D in Fig. 1, where it is represented as being in position for use, its lower end having been passed down through one of the man-holes of a sewer, in which position it is held by the frame of the windlass or in any other convenient manner, its construction and arrangement being substantially such as is shown and as enables it to receive the material brought to it by the scoop, carry it to the desired elevation, and deliver it into a spout, D<sup>3</sup>, by which it is directed into a cart, which is by preference provided with a tight cover, in order that the offensive odors that would otherwise arise from it may be prevented from escaping. In constructing an elevator of this character I prefer to make the band to which the buckets are attached of flat links of metal and to attach the buckets thereto by rivets. This elevator may be driven by a crank or pulley placed on the shaft D<sup>3</sup> in its upper end; or it may be driven by a rope or

belt, E, passed around the windlass or drum which moves the scoop, as shown in Fig. 1.

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

1. A scoop arranged to be moved horizontally in a sewer and to move the earthy and other deposits found therein from one point thereof to another and deposit them at different points for removal, in combination with an adjustable bulk-head, substantially as specified, and for the purpose set forth.

2. The horizontally-adjustable scoop B, made of two or more sheets of metal, provided with inwardly-projecting flanges having in them slots for permitting the sheets to be adjusted in the manner described, whereby the scoop is made capable of use in sewers of different diameters, as described.

3. In combination with a street or other sewer, a scoop for removing the earthy matter from a sewer, a bulk-head for checking the movements of the earthy matter, and suitable mechanism for imparting movement to said scoop, substantially as set forth.

4. In a mechanism for cleaning sewers, the combination of an elevator supplied with a series of buckets for elevating the material carried forward by the scoop, and a bulk-head for arresting the movements of said material, the arrangement of the parts being substantially as described, whereby the lower end of the elevator is made capable of being inserted into a sewer.

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Witnesses:

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