

(No Model.)

2 Sheets—Sheet 1.

J. H. MEDCRAFT.
APPARATUS FOR CLEANING SEWERS.

No. 438,254.

Patented Oct. 14, 1890.

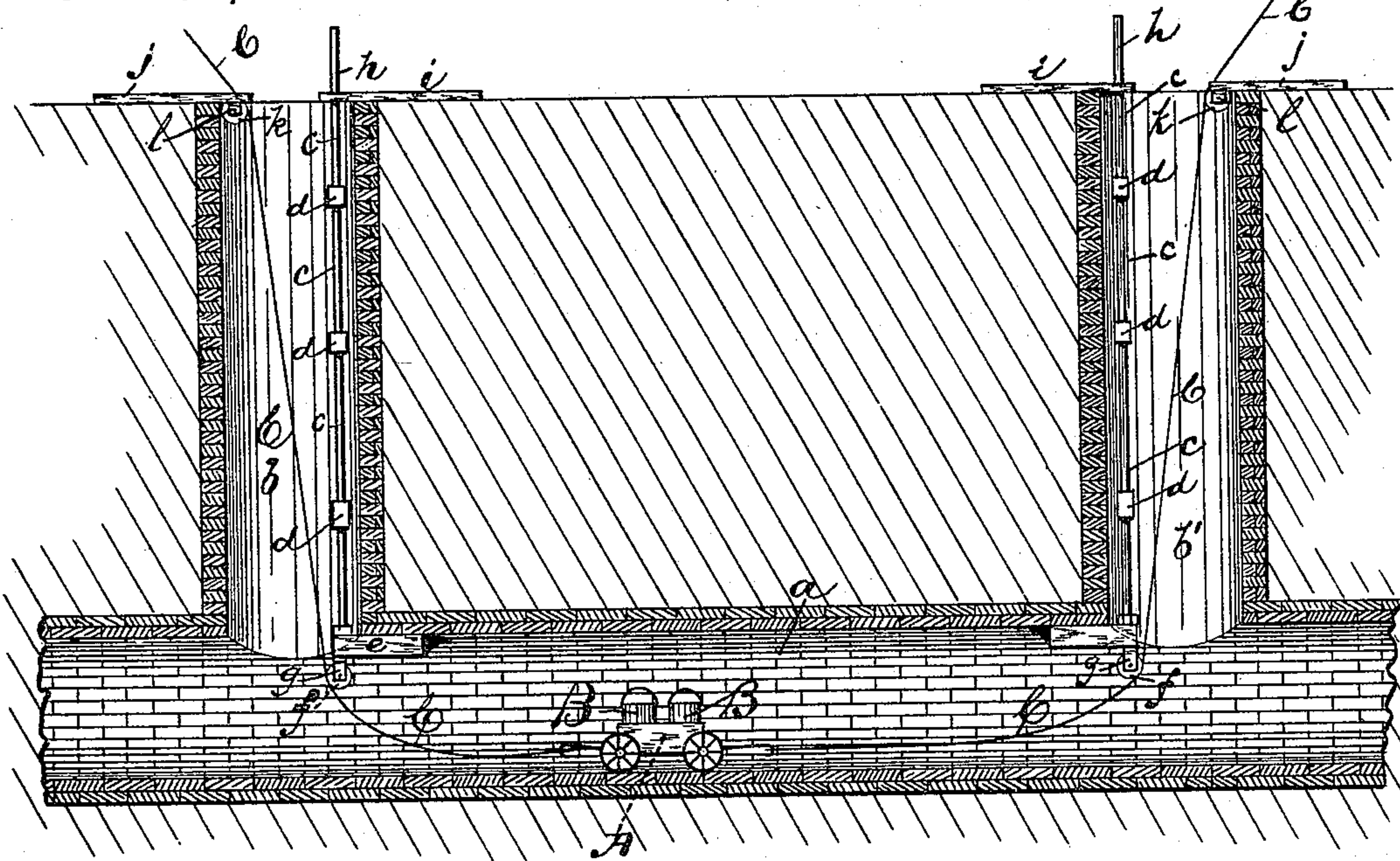


Fig. 1

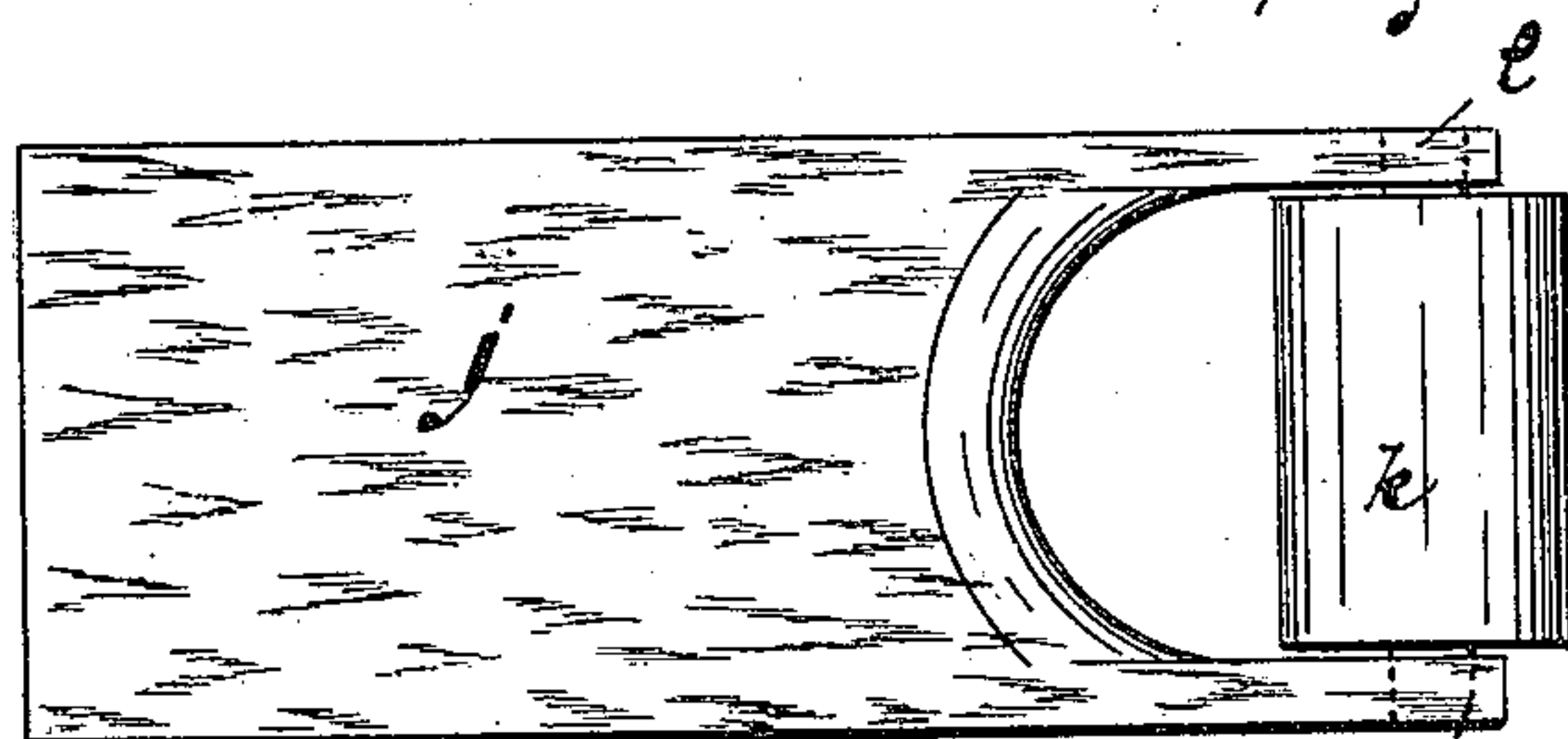


Fig. 2

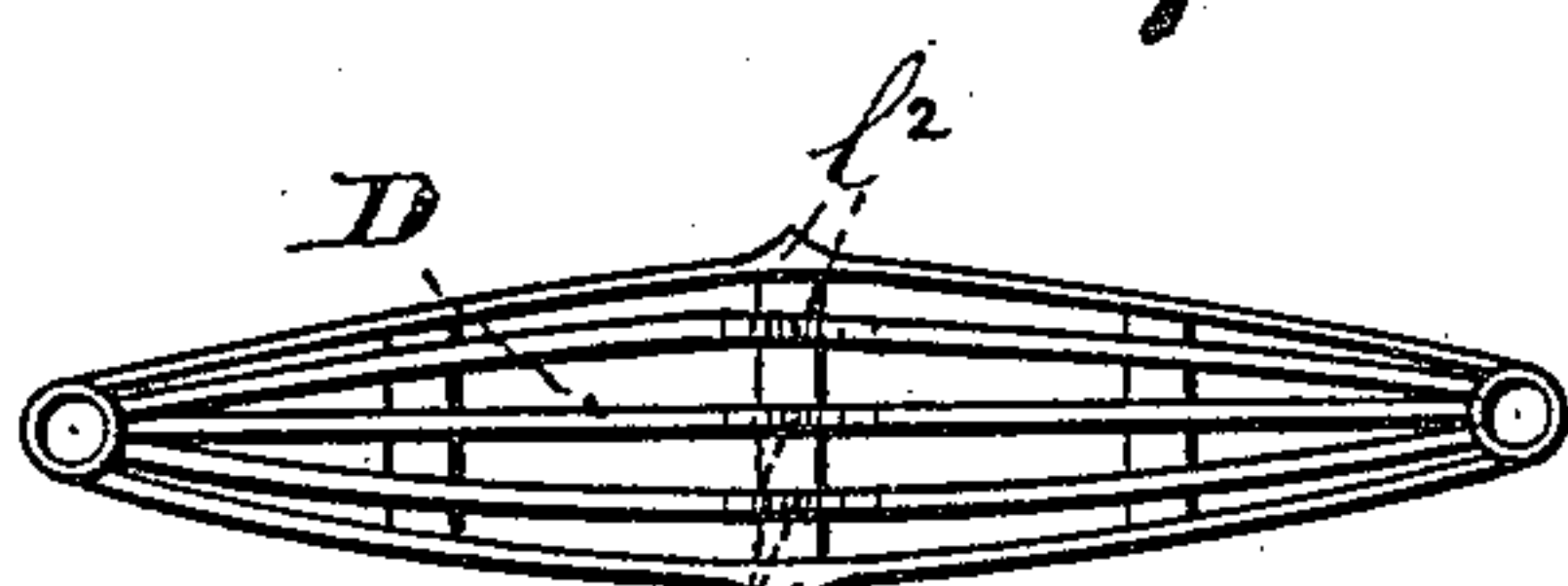


Fig. 4

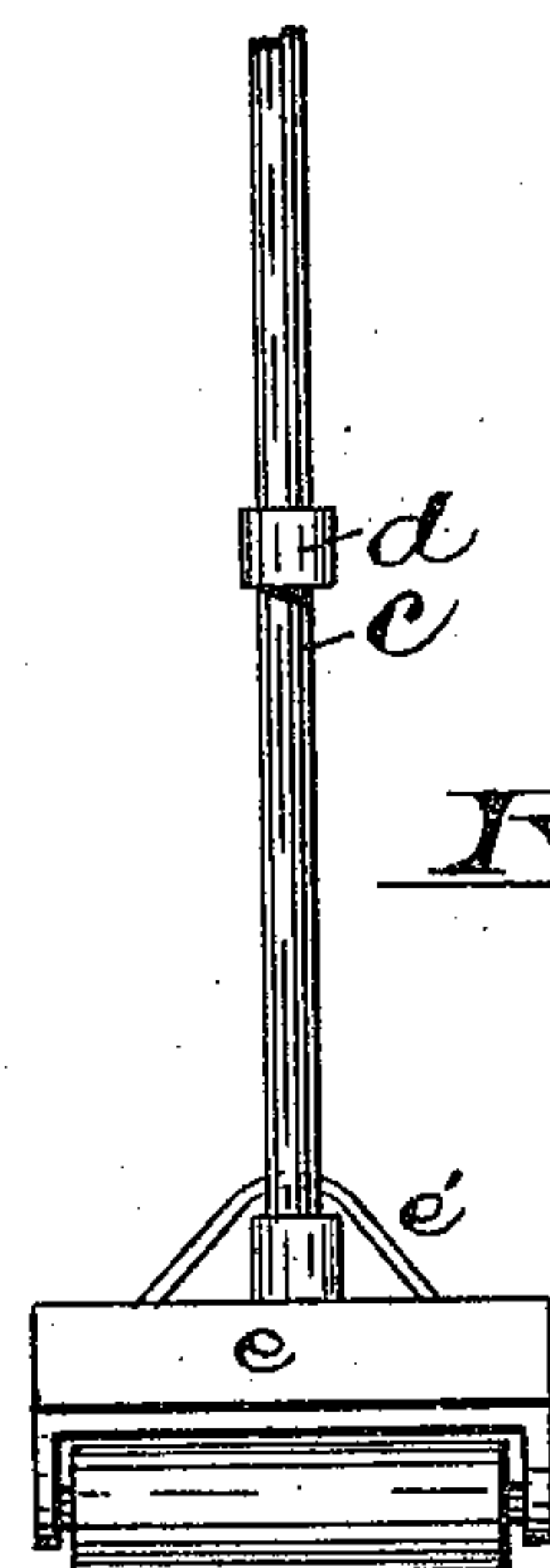


Fig. 3

Witnesses

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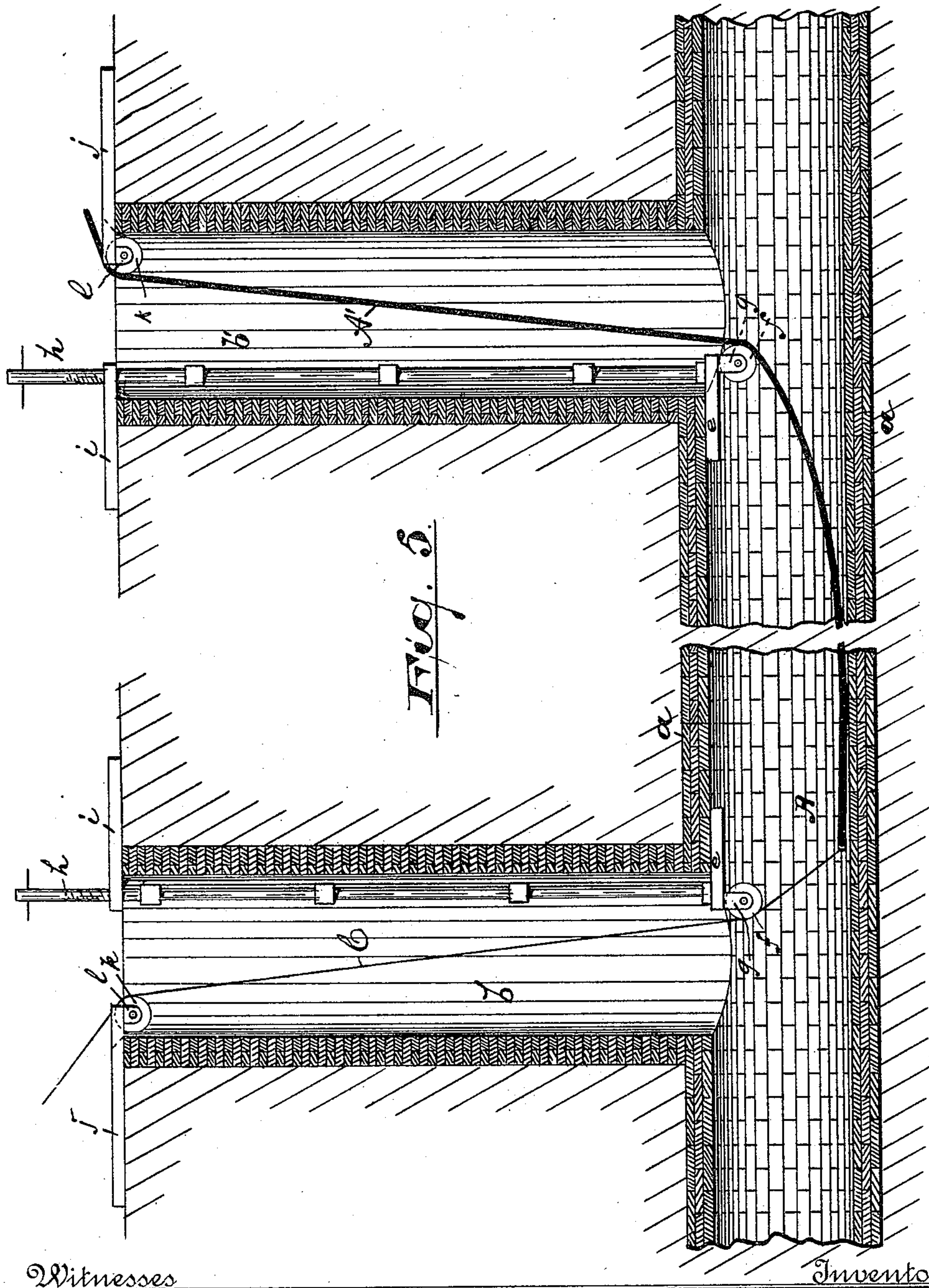
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UNITED STATES PATENT OFFICE.

JOHN H. MEDCRAFT, OF NEWARK, NEW JERSEY.

APPARATUS FOR CLEANING SEWERS.

SPECIFICATION forming part of Letters Patent No. 438,254, dated October 14, 1890.

Application filed July 30, 1890. Serial No. 360,389. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. MEDCRAFT, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Apparatus for Cleaning Sewers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to facilitate the operation of removing dirt and other obstructions from sewers, and to save the wear and tear of hose and ropes as ordinarily used; and the invention consists in the apparatus herein shown and described, and in the combination and arrangement of the several parts thereof.

Referring to the accompanying drawings, in which similar letters of reference indicate corresponding parts wherever they occur, Figure 1 represents a section of an ordinary brick sewer and man-holes leading thereto, with my improved apparatus in position for operation. Fig. 2 represents in plan a detail of a certain bar carrying a friction-roller. Fig. 3 represents in end elevation the same bar, &c., and a sectional tubular rod to which the same is secured. Fig. 4 is a detail in plan of a certain breaker; and Fig. 5 is a view similar to Fig. 1, with a certain truck, &c., left out.

In said drawings, *a* indicates an ordinary brick sewer, and *b b'* two man-holes, which intersect therewith in the usual manner. *c* indicates a solid or tubular rod composed of sections united by screw-couplers *d*, whereby it is capable of being lengthened or shortened, as may be required by the man-holes, which vary in depth, as will be understood farther on. To one end—i. e., the lower end—of said rod is attached a bar *e*, of wood or metal, carrying a friction-roller *f*, journaled in suitable bearings *g* on said bar. The upper end of said rod is threaded and connects with a screw *h*, which passes through a corresponding aperture in a plate or block *i*, in which it rotates but does not move longitudinally,

which lies at the top or mouth of the man-hole at one side thereof, as indicated in Fig. 1; or the screw may work longitudinally in the block and its end be secured to the rod, so as only to rotate therein, as will be understood. At the opposite side of the man-hole lies another beam or plate *j*, carrying a friction-roller *k*, journaled in suitable bearings *l* and projecting slightly over the edge of the man-hole, as indicated in said Fig. 1.

A indicates a truck, capable of being let down through a man-hole into the sewer and arranged to hold and carry one or more mud buckets or pails *B*. Each end of the truck is arranged to connect with a rope or cable *C*, which cables pass through the sewer in opposite directions and up through the man-holes *b* and *b'* to the surface of the street, as will be understood upon reference to the drawings.

In small or pipe sewers, in which the truck and buckets cannot be used, the cables are attached to a hose *A'*, Fig. 5, which connects with a hydrant, and the hose is drawn into the sewer to any point desired and the water let on to force a passage through the mud, also to force the latter to the man-hole, when it is lifted out by means of buckets, as will be understood.

The depth of the man-holes being first ascertained and after sufficient mud has been removed therefrom to admit the truck, the rod *c*, carrying the plate or bar *e*, is adjusted by means of the couplers to the proper length and let down into the man-hole, close against the wall thereof, the free end of the plate or bar *e* being thrust into the sewer at the upper side thereof. The clamp-screw *h*, passing through the plate *i*, which lies at the mouth of the man-hole, is then screwed into the rod or bar *c* until the plate or bar *e*, carrying the roller *f*, is firmly clamped in position.

It will be observed that there should be mud enough taken out of the man-hole and sewer to make room for the truck, which should be let down through the man-hole into the sewer. Then the apparatus can be adjusted as stated above, and by means of the ropes or cables it can be drawn in both directions—back and forth—with the empty or loaded buckets, as may be desired, and the necessity of turning it round avoided. The mud may

then be lifted out through either of the man-holes, as convenience may dictate.

In small pipe-sewers, in which the truck cannot be used, I attach the cables or ropes 5 to the hose and draw it through the sewer to the desired point at which to let the water on to wash the mud to the man-hole, from whence it can be removed.

In either case the ropes or cables pass under 10 the friction-roller at the bottom of the man-hole and over that at the top, where workmen seize the ropes and draw the truck or hose in either direction, as may be required, until all the mud in the sewer between two man-holes 15 has been removed. When this is done, the apparatus, or a portion thereof—*i. e.*, the rod and its attachments and the two plates or bars—are removed to another man-hole and the mud removed in the same manner from 20 another section of the sewer, and so on till the entire sewer has been cleaned, as will be understood.

The bar *e*, if required, may be braced against the side of the man-hole, as indicated by *e'*, 25 Fig. 3, or by a brace inserted beneath the back end of said bar and resting upon the bottom of the sewer, to keep the bar from shifting or slipping, as will be understood.

The skeleton breaker D (shown in Fig. 4) is 30 provided with a series of pointed lugs *l*, which are designed to break or disintegrate solid matter which is sometimes deposited from tanneries, &c. In such cases the breaker is connected to the ropes at each end and drawn

rapidly back and forth over such deposits 35 until they are broken up, as will be understood.

Having thus described my invention, what I claim as new is—

1. The sewer-cleaning apparatus herein described, consisting of a rod *c*, a bar *e*, secured 40 to said rod and carrying a roller *f*, a clamp-screw *h*, a bar *i*, carrying said screw, and a block *j*, carrying a roller *k*, adapted to be adjusted to the man-hole of a sewer and to operate as described, for the purpose set forth. 45

2. The sewer-cleaning apparatus herein described, consisting of a rod *c*, a bar *e*, secured to said rod and carrying a roller *f*, a clamp-screw *h*, a bar *i*, carrying said screw, a block *j*, 50 carrying a roller *k*, a truck A, and means for drawing the same back and forth in the sewer, as described, for the purposes set forth.

3. The sewer-cleaning apparatus herein described, consisting of a rod *c*, a bar *e*, secured to said rod and carrying a roller *f*, a clamp-screw *h*, a bar *i*, carrying said screw, a block *j*, 55 carrying a roller *k*, and a cord or rope adapted to pass over said rollers and connect with a device in the sewer, as described, said parts being arranged in relation to one another and 60 to operate as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 25th day of July, 1890.

JOHN H. MEDCRAFT.

Witnesses:

OLIVER DRAKE,
OSCAR A. MICHEL.