

(No Model.)

J. SCHEIPERS.

PIPE CLEANER.

No. 412,125.

Patented Oct. 1, 1889.

Fig. 1,

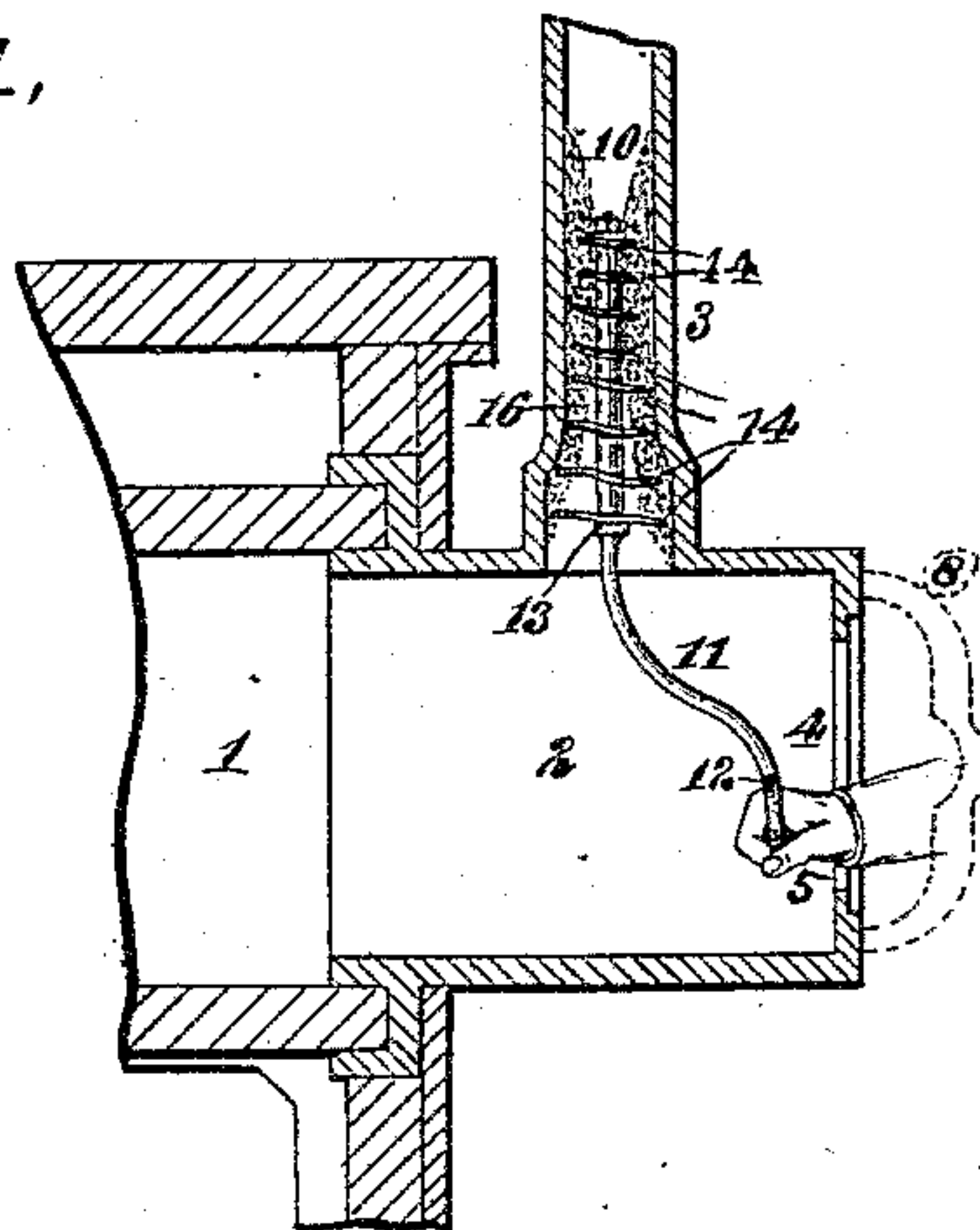


Fig. II,

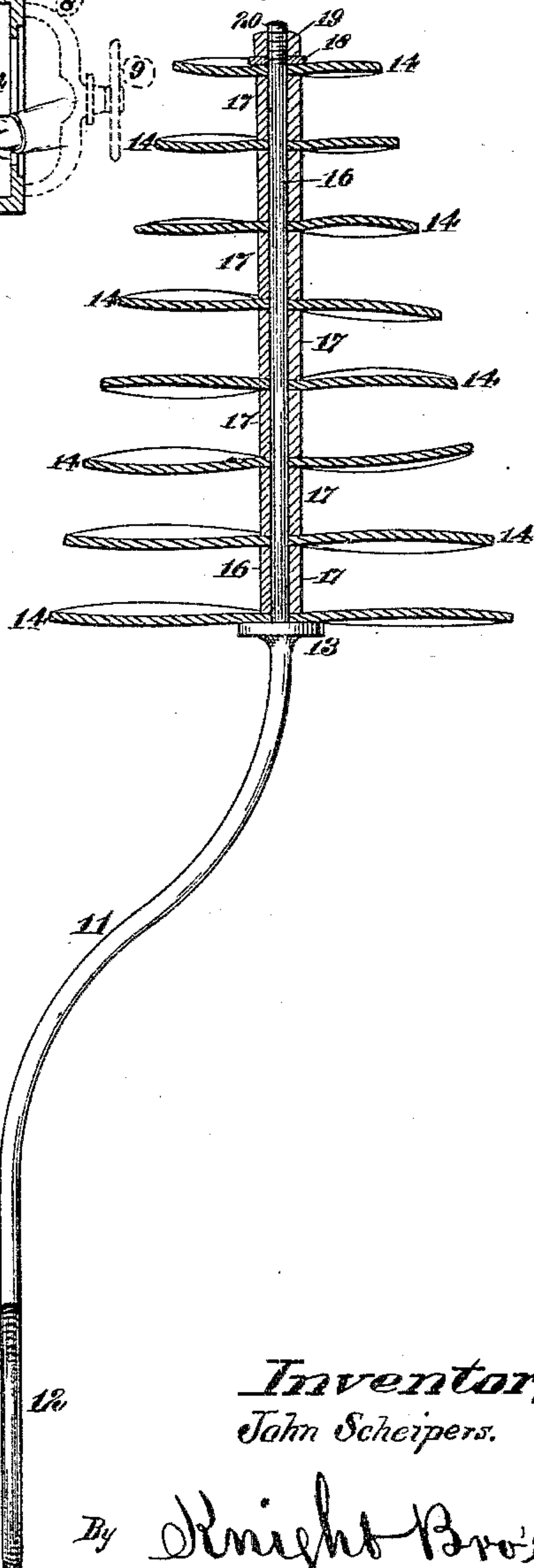


Fig. III,

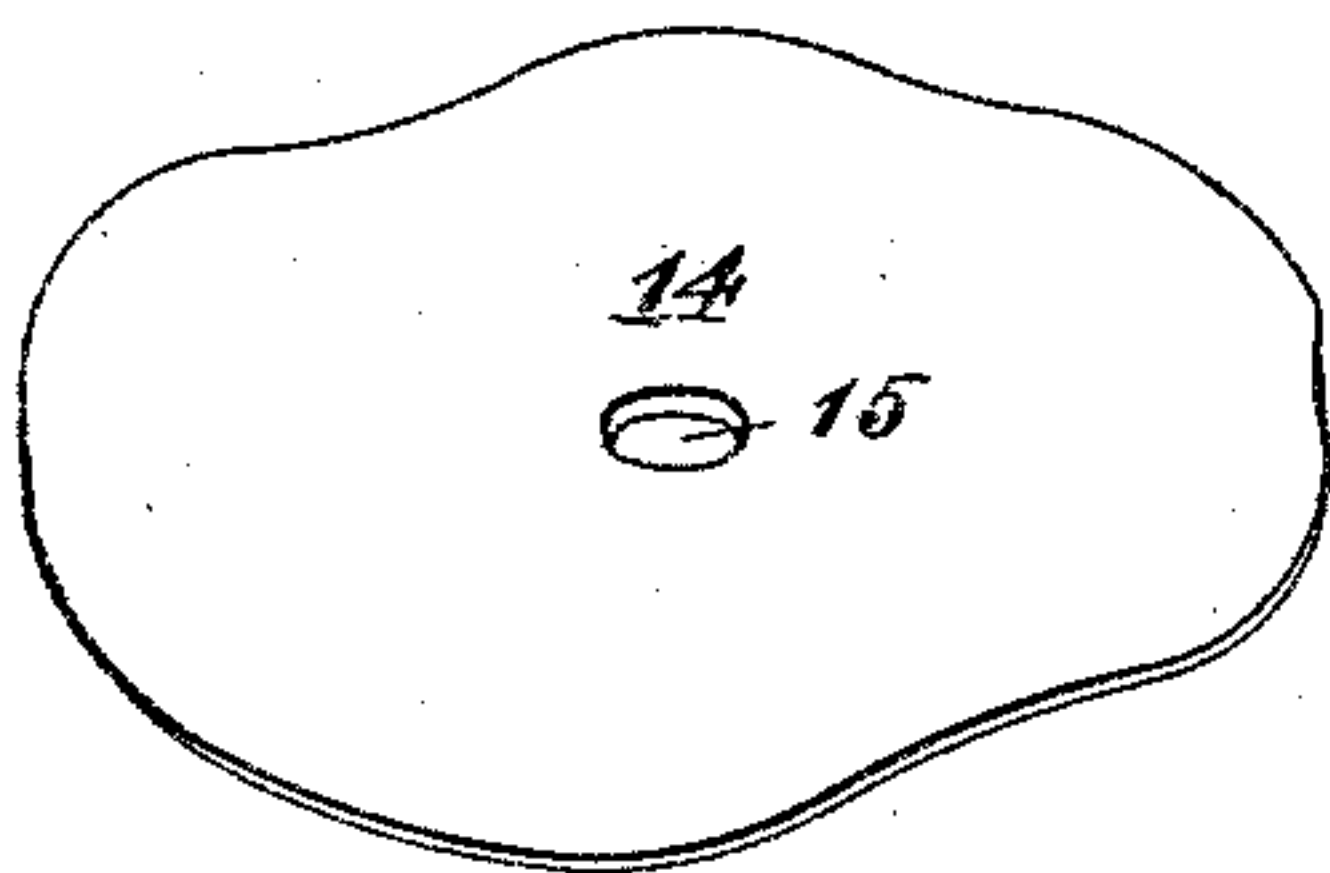
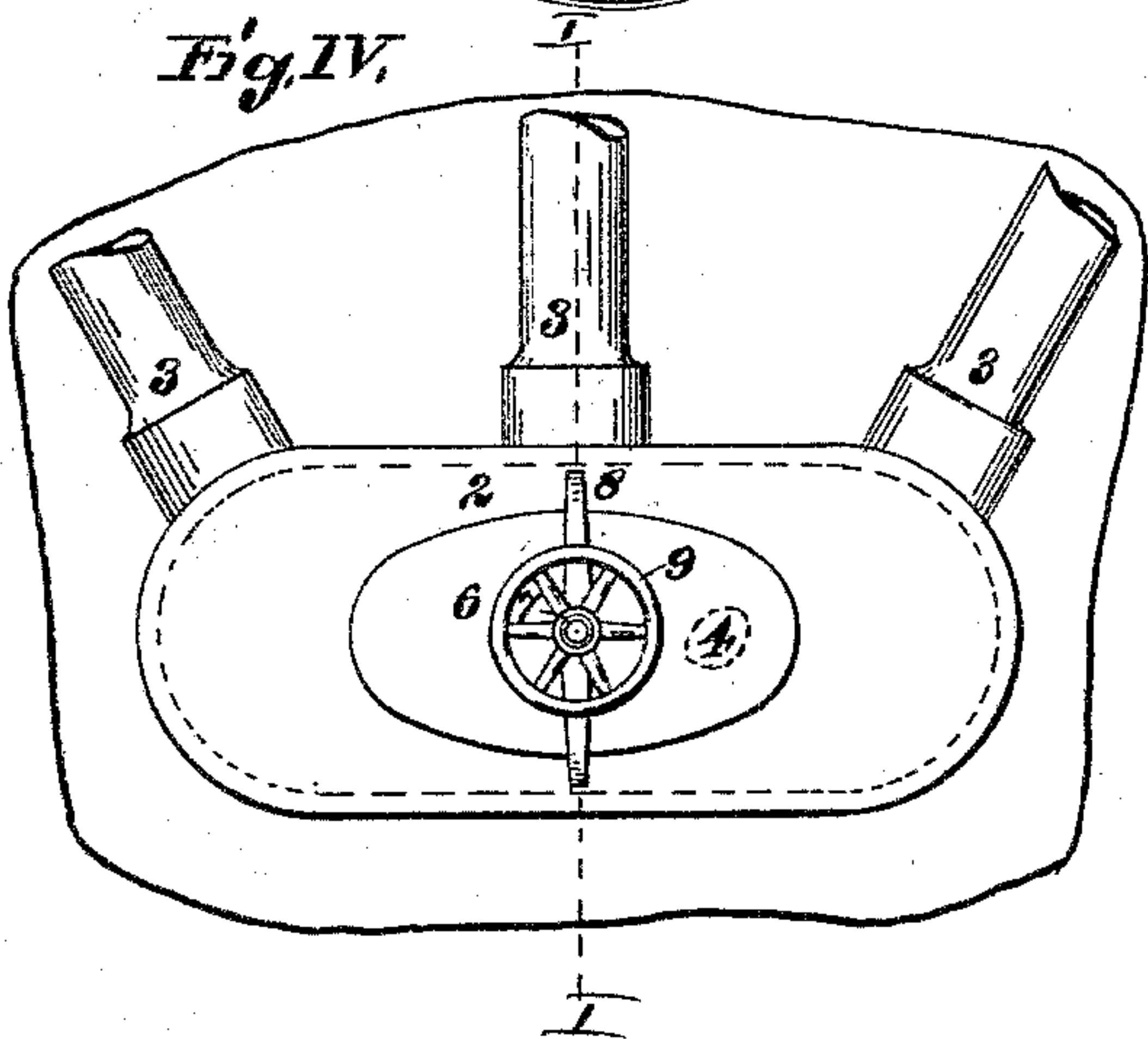


Fig. IV,



Attest;

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JOHN SCHEIPERS, OF ST. LOUIS, MISSOURI.

PIPE-CLEANER.

SPECIFICATION forming part of Letters Patent No. 412,125, dated October 1, 1889.

Application filed April 29, 1889. Serial No. 308,978. (No model.)

To all whom it may concern:

Be it known that I, JOHN SCHEIPERS, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Pipe-Cleaners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a sectional coner 10 auger for cleaning stand-pipes and other flues; and the invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a vertical section taken on line 15 I I, Fig. IV, and shows a foul stand-pipe in the course of being cleaned by the auger. Fig. II is an enlarged perspective view of the auger. Fig. III is a top view of one of the disk-bits, which are seated on the shank of the instru- 20 ment and are respectively to each other of a conically-reduced diameter toward the point or forward end of said instrument; and Fig. IV is an end view of the extension transmittal flue of the retort and a detail of the stand- 25 pipes surmounting the same.

Referring to the drawings, 1 represents the detail of a gas-retort, and 2 is the transmittal flue that forms an extension thereof and from which the stand-pipes 3 ascend, that carry the 30 gas *via* the condenser, washer, purifier, &c., to the holder.

4 represents the hand-hole in the outer end of the transmittal flue through which the hand 5 of the operator enters to effect the cleaning of the stand-pipes. 35

6 is the shutter-cap of the man-hole, which, except at such times as the stand-pipes or the retorts are being cleaned or the retort opened out for other purposes, is secured to its seat 40 by the usual clamping-screw bolt 7 and arch 8, the said bolt being turned to its locking position by the hand-wheel 9, and 10 is the deposit of bituminous and other matter that settles very largely in the stand-pipes near their en- 45 trance.

11 represents the shank of the auger, which is made of a curvilinear form, so as to facilitate the movement of the tool by the handle 12 when manipulated by the operator.

50 13 represents a bracket-shoulder on said shank, on which is seated the rear one of the curvilinear-faced disk-bits 14. The perfora-

tions 15 in the centers of said disks enable them to be slipped in the passage to their seat on the disk-bearing rod 16, which is integral with 55 the shank of the tool, on which rod they are respectively placed in conical succession, said disks being of diverse diameters, that of the widest diameter being seated on the shoulder 13 and the succeeding ones being placed in 60 rotation, each succeeding one, reckoning in their order of attachment, being narrower in diameter than the one immediately preceding, the one at the forward end or point of the tool being of the smallest diameter. 65

17 represents spacing sleeve-rings which adjust the distance apart of the disk-bits and provide shoulders against and between which said disks are seated.

18 is a washer that is seated on the disk- 70 bearing rod that carries the disks immediately in front of the small foremost disk, and 19 is a screw-nut that engages on the terminal screw 20 on the disk-bearer rod and firmly holds said disks in position to their respect- 75 ive seats. Now it will be seen that the disk-bits are formed with curvilinear faces, and the foremost ones are of the smallest diameter, so that they may the more readily insinuate themselves within the contracted pas- 80 sage that is frequently nearly choked with the bituminous and other foul deposit. Thus the small advance disks work their way in ahead, and are followed by disks that are each, respectively, of a little larger diameter 85 than the one in advance thereof. Again, the disks have a curvilinear waving face that effects a gouging worming action that both in creases the incisive penetration of the disks and at the same time clears the track longi- 90 tudinally along the whole extent of the bore of the cleaning-auger; also, the curvilinear waves of the disks and the arrangement of the increased diameter of each of the succeeding disks in boring to that of its predecessor 95 continuously works down and outward the fouling deposit within the stand-pipes.

When cleaning stand-pipe flues of either larger or smaller dimensions, the disks are easily removed and others of diameter to suit 100 the dimensions of the flue are attached in their place.

Among the many advantages of the sectional disk-cutters in this auger-cleaner are:

First. The disks, being removable, are interchangeable with other disks of respectively larger or smaller diameter, so as to increase or diminish the size of the auger indefinitely.

5 Second. The disks when dull are easily removable for sharpening.

Third. The disks provide a deeper working-thread than is attainable in a worm-screw auger.

10 Fourth. The disks having a more nearly direct incisive movement than is attainable with a worm-screw, they cut more quickly through the deposit and thus remove the same much more rapidly.

15 Fifth. The sectional disks provide a much more abundant carriage for the deposit than the augers bore from the inside of the stand-pipes.

20 Sixth. As the sectional disks cut in more freely, the auger while cleaning is worked with less labor.

Seventh. The sectional construction of the cleaning-auger, with its removable disks, sleeve-rings, and shank, adds greatly to the
25 facility of cleaning, which is an object of consideration in the removal of the adhesive sticky bituminous deposit that chokes the throat of the stand-pipes.

30 I have shown eight disk-bits in use on the cleaner; but I do not confine myself to that number, for a smaller or larger number may be used without departing from the essential features of the invention.

I claim as my invention—

1. In a pipe-cleaner, the combination of the 35 crank-bent shank 11, having a handle 12 at one end and an extension disk-bearer rod 16 at the other end, and the succession of disk-cutter bits 14, of diverse diameters, the said disks being secured and spaced on said bear- 40 er-rod in respective conical position, the diameter of said disks being reduced toward the point or front of the auger, substantially as described, and for the purpose set forth.

2. In a pipe-cleaner, the combination of the 45 crank-bent shank having a handle at one end, an extension disk-bearer rod at the other, and a flanged shoulder between said shank proper and said disk-bearer rod, the conically-placed disk-bits of diverse diameters, the said disk 50 being bent into a curvilinear form to provide a biting-grip of the auger when worked, and the sleeve-rings 17, that are seated on the disk-bearer rod and space apart the respective distance of the disks, the said disks be- 55 ing held to their seats by a washer and screw-nut, which latter engages on the screw terminal or point of the disk-bearer rod, substantially as described, and for the purpose set forth.

JOHN SCHEIPERS.

In presence of—

EDW. S. KNIGHT,
THOS. KNIGHT.