

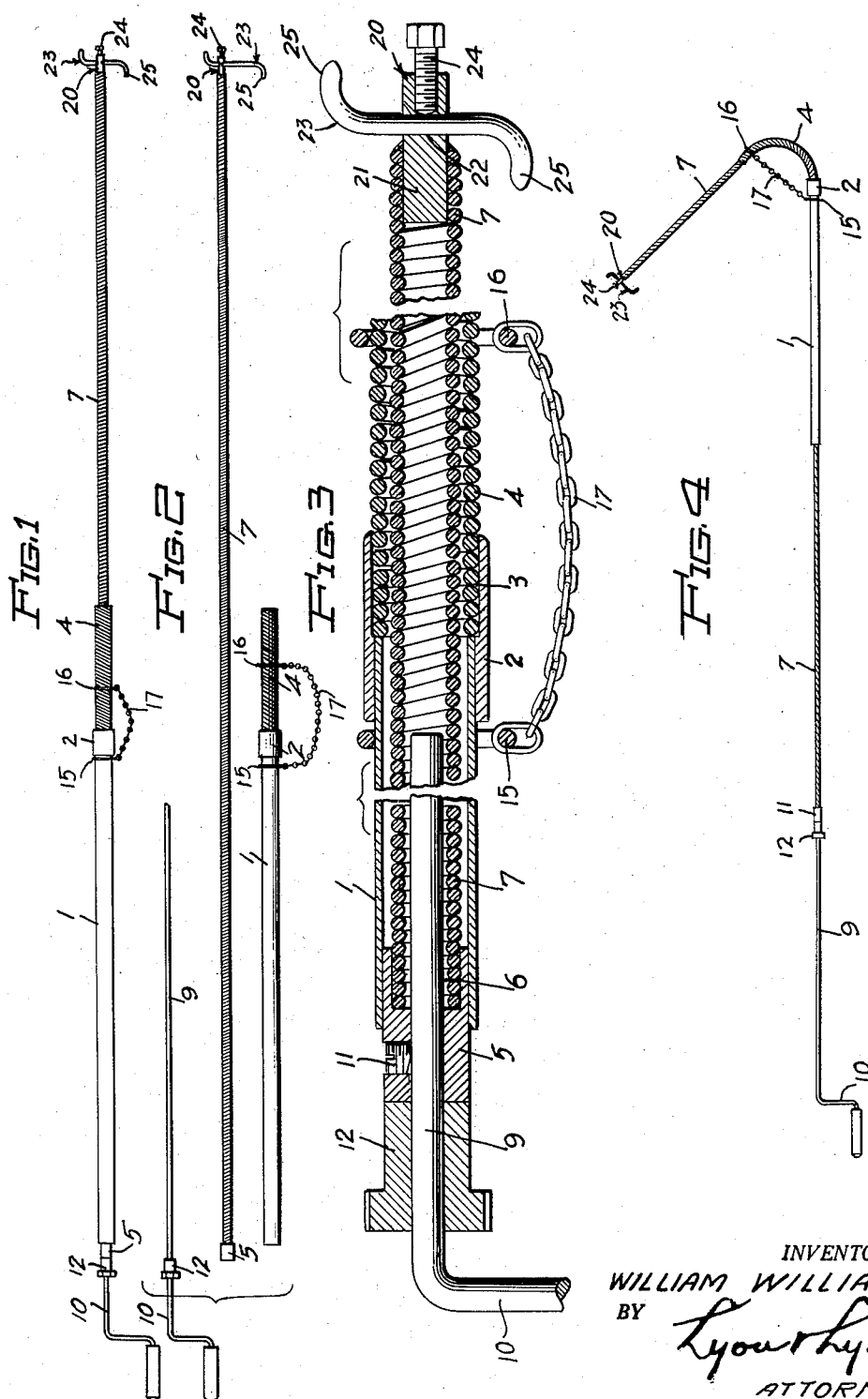
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PLUMBER'S AUGER

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PLUMBER'S AUGER

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6 Claims. (Cl. 15-104.3)

My invention comprises a plumber's auger and more particularly a device primarily formed of a long flexible steel spring which is used for cleaning out obstructions in toilets and other plumbing devices. While there are many plumber's augers now being sold they all have a difficulty that they do not have means for lengthening them over a normal three foot length, or they are of the standard variety which consists of just a long coil spring called a snake.

It is, therefore, an object of my invention to provide a plumber's auger which can be altered as to length and which has a fixed barrel to enable the user to handle the flexible coil spring and yet this rigid barrel permits elongation of the auger.

Another object of my invention is to provide an auger for use specifically in toilets. In this case to get around the curve in the traps it has been customary to put a rigid hook member at the end of the rigid barrel but this member is always of a fixed radius and such an auger is not usable in other plumbing fixtures. It is, therefore, an object of my invention to provide a flexible hook member at the end of the rigid barrel which can be shaped to any radius or can be straightened for use in any toilet or plumbing fixture.

Another object of my invention is to provide a member at the tip of the auger which will cause the end of the auger to remain in the center of the water passage and not be caught by projections into the passage.

Other objects and advantages of my invention will be apparent from the following description of the preferred embodiment thereof:

In the drawings, Fig. 1 is a side elevation;

Fig. 2 is an exploded side elevation;

Fig. 3 is a partial section; and

Fig. 4 is a side elevation.

A plumber's auger constructed in accordance with my invention comprises an elongated barrel 1 which is approximately 3 feet long. This barrel is as long as is customary and as long as can ordinarily be used in a bathroom for cleaning toilets. At the lower end of the barrel 1 is positioned a hub 2 which forms a socket 3 to receive a heavy coil spring 4 which extends from the end of the barrel 1. The other end of the barrel 1 has a slidable piston 5 carrying a socket 6 into which is forced and attached the main snake 7 formed of a long coil steel spring of lighter weight than the spring 4. The snake 7 extends approximately the length of the barrel 1 and 3 feet from its end. A rod 9 passes through the piston 5 and is just slightly longer than the barrel 1. It has a crank 10 on the end extending from the piston 5 and is locked in position in the piston 5 by the set screw 11. A bearing member 12 is positioned upon the rod 9 and adapted to slide into the barrel 1 to close the upper end. By this construction the snake has the usual 3 feet extension from the barrel 1 when the rod 9 is pushed as far into the barrel 1 as possible and the set screw 11 tightened so that the crank 10 can rotate the snake 7. When an extension is desired upon the snake the set screw 11 is released and

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the rod 9 moved outwardly from the upper end of the piston 5 until it is substantially all the way out. Then the set screw 11 is again tightened and the entire snake 7 and rod 9 forced through the barrel. In this way all of the snake 7 can be pushed through the barrel until the entire 6 feet of snake extends from the end of the barrel. The set screw 11 can be set in place upon the rod 9 to give any desired length between 3 and 6 feet.

To form the hook member desired when the auger is used in cleaning toilets a ring 15 is placed upon the barrel 1 just above the hub 2. Another ring 16 is slidably positioned upon the coil spring 4. A flexible chain 17 is connected to the rings 15 and 16. By sliding the ring 16 on the spring 4 the chain 17 can be tightened as shown in Fig. 4 to pull the spring 4 into a curve or hook member as shown in Fig. 4. By sliding the ring 16 towards the barrel 1 the radius of the curve given to the spring 4 is increased until the ring 16 is moved far enough up on the spring 4 to allow the chain 17 to be slack. At this position the spring 4 will remain in a straight line.

Many times in cleaning plumbing fixtures, the tip 20 of the snake 7 will lodge under a ledge or a pocket in the plumbing fixture and thus cannot be forced further through the water passage. To remedy this defect I form the tip 20 in the shape of a cylinder 21 which is rigidly held in the end of the snake 7. A cross bore 22 is provided into which a slidable cross head 23 is placed and held in position by a set screw 24. While in the drawings I have shown the cross head 23 as having hooks 25 at its outer end, the cross head could be a simple straight rod and when rotated would strike the sides of the passage and force the tip 20 to remain in the center of the passage rather than to enter into cavities or under ledges in the plumbing fixture. I provide the hooks 25 on the ends of the cross arm 23 for the purpose of permitting them to cut obstructions and to do a better job of cleaning, but the hooks are not necessary to keep the tip 20 centered.

I claim:

1. A plumber's auger comprising a rigid elongated barrel, a piston slidable in said barrel, an elongated coil spring attached to said piston and extending from one end of said barrel and being longer than said barrel, a rod extending through said piston and substantially the length of said barrel, a crank on one end of said rod extending from said barrel at the opposite end from said spring, means to lock said piston to said rod to vary selectively the effective length of said rod.

2. A plumber's auger comprising a rigid elongated barrel, a piston slidable in said barrel, an elongated coil spring attached to said piston and extending from one end of said barrel and being longer than said barrel, a rod extending through said piston and substantially the length of said barrel, a crank on one end of said rod extending from said barrel at the opposite end from said spring, means to lock said piston to said rod to vary selectively the effective length of said rod, a second coil spring attached to said one end of said barrel and surrounding said first mentioned coil spring, a ring affixed to said barrel, a second ring slidable on said second coil spring, a chain attached at its ends to said rings.

3. A plumber's auger comprising a rigid elongated barrel, a piston slidable in said barrel, an elongated coil spring attached to said piston and extending from one end of said barrel and being longer than said barrel, a rod extending through said piston and substantially the length of said barrel, a crank on one end of said rod extending from said barrel at the opposite end from said spring, means to lock said piston to said rod to vary selectively the effective length of said rod, a cylinder affixed at the outer end of said coil spring, a transverse bore

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through said cylinder, a cross head positioned in said bore, and means to hold said cross head in said bore.

4. A plumber's auger comprising a rigid elongated barrel, a piston slidable in said barrel, an elongated coil spring attached to said piston and extending from one end of said barrel and being longer than said barrel, a rod extending through said piston and substantially the length of said barrel, a crank on one end of said rod extending from said barrel at the opposite end from said spring, means to lock said piston to said rod to vary selectively the effective length of said rod, a cylinder affixed at the outer end of said coil spring, a transverse bore through said cylinder, a cross head positioned in said bore, and means to hold said cross head in said bore, a second coil spring attached to said one end of said barrel and surrounding said first mentioned coil spring, a ring affixed to said barrel, a second ring slidable on said second coil spring, a chain attached at its ends to said rings.

5. A plumber's auger comprising a rigid elongated barrel, an elongated coil spring extending from one end of said barrel and being free for rotational and axial movement relative to said barrel, a second coil spring attached to said end of said barrel and surrounding said first mentioned coil spring, a ring affixed to said barrel, a second ring slidable on said second coil spring, a chain attached at its ends to said rings, a cylinder affixed at the outer end of said first coil spring, a transverse bore through said cylinder, a cross head positioned in said bore, and means to hold said cross head in said bore.

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tioned coil spring, a ring affixed to said barrel, a second ring slidable on said second coil spring, a chain attached at its ends to said rings.

6. A plumber's auger comprising a rigid elongated barrel, an elongated coil spring extending from one end of said barrel and being free for rotational and axial movement relative to said barrel, a second coil spring attached to said end of said barrel and surrounding said first mentioned coil spring, a ring affixed to said barrel, a second ring slidable on said second coil spring, a chain attached at its ends to said rings, a cylinder affixed at the outer end of said first coil spring, a transverse bore through said cylinder, a cross head positioned in said bore, and means to hold said cross head in said bore.

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