H. W. KANE.

CONCRETE DRILL HOLDER.

APPLICATION FILED APR. 8, 1916.

1,217,606. Patented Feb. 27, 1917.

FIG. 1.

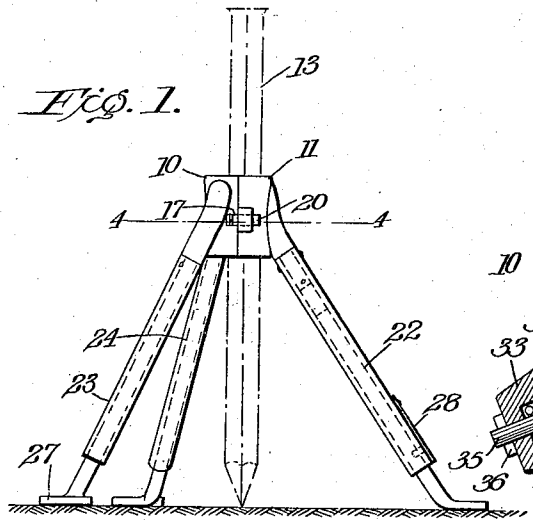


FIG. 4.

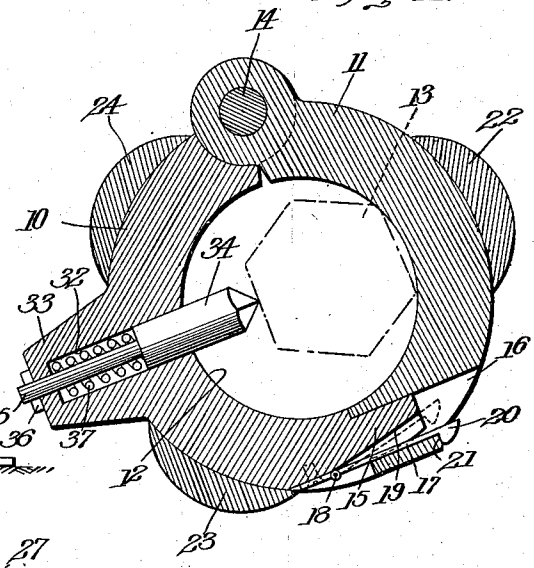
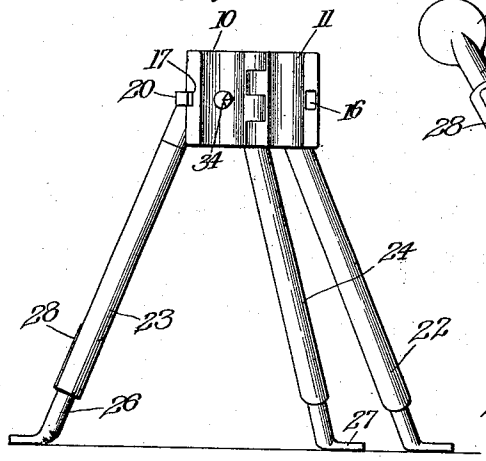


FIG. 3.



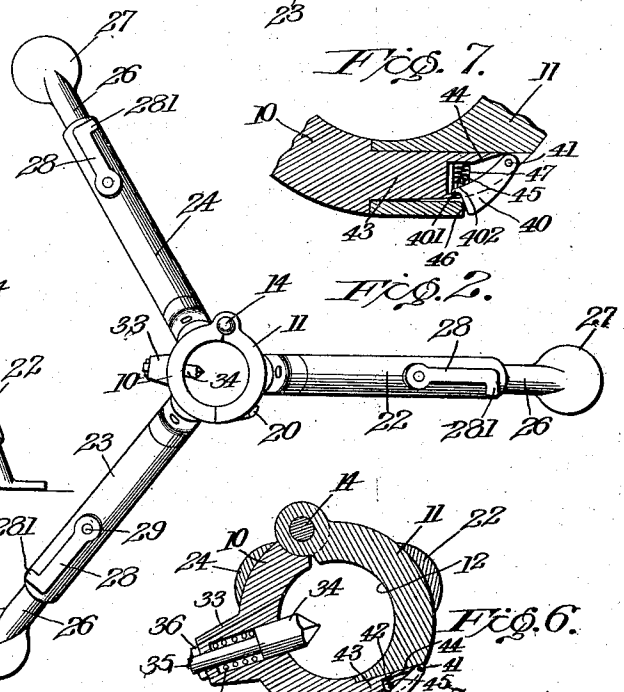


FIG. 7.

FIG. 2.

FIG. 5.

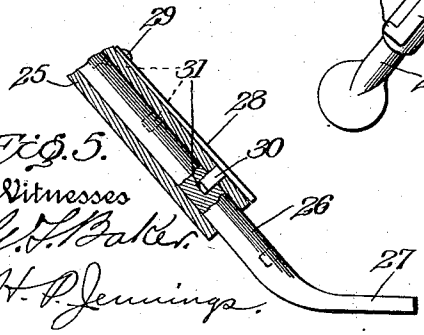


FIG. 6.

Witnesses

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CONCRETE-DRILL HOLDER.

1,217,606. Specification of Letters Patent. Patented Feb. 27, 1917.

Application filed April 8, 1916. Serial No. 89,814.

To all whom it may concern:

Be it known that I, HERBERT W. KANE, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Concrete-Drill Holders, of which the following is a specification.

My invention relates to concrete drill holders and particularly to an appliance in the form of a tripod provided with hinged jaws at the upper ends of the legs thereof.

The principal object of my invention is to provide a simple portable holder for hand drill steels for drilling concrete. It is the usual practice at present for one man to hold the drill steel upright while two or three others alternately strike it with sledges. Many injuries have been caused because the strikers occasionally miss the drill and hit the man holding it. Furthermore, a miss may result because the drill is not held upright steadily. In the concrete drill holder which I have designed the foregoing objections are overcome since the drill will be held upright steadily and also, if a striker misses the drill he merely dents the holder and injures no one.

The objects and novel features of my invention will be apparent from the following description taken in connection with the accompanying drawing in which like parts are designated by the same reference numerals.

In the drawings,

Figure 1 is a side view of a concrete drill holder embodying my invention;

Fig. 2 is a plan view of the same;

Fig. 3 is a side view of the concrete drill holder showing the same with the jaws swung open;

Fig. 4 is an enlarged horizontal sectional view taken on the line 4—4 of Fig. 1;

Fig. 5 is a detail view showing the construction of the legs of the holder;

Fig. 6 is an enlarged horizontal sectional view similar to Fig. 4 and showing a different form of device for locking the jaws; and

Fig. 7 is a detail view of the locking device shown on the holder of Fig. 6.

Referring to the drawing, the head of the holder consists of two semi-annular jaws 10 and 11, of substantial length forming a cylindrical guide chamber 12 between them to receive and guide the drill steel 13, shown in dotted lines. The jaws 10 and 11 are hinged together by a pin 14 which passes through openings in interfitting ears on corresponding vertical edges of the jaws.

At about the center of its other vertical edge the jaw 10 carries a rigid tongue 15 which is adapted to fit into an opening 16 in the opposite abutting edge of the jaw 11. The opening 16 extends through the jaw 11 and opens at the outer side of said jaw, as shown in Fig. 4. The jaw 10 has a spring steel latch mounted thereon adjacent the tongue 15, which latch consists of a bar 17 hinged at 18 on the jaw 10 and fits a slot 19 in the tongue 15. The bar 17 has a head 20 at its outer end which hooks over the shoulder or edge 21 on the jaw 11, thereby locking the two jaws together. By pushing the head 20 inwardly as indicated in dotted lines in Fig. 4, the bar 17 will move into the slot 19 in the tongue 15 and the jaws may then be swung open.

The jaw 11 has a leg 22 integrally secured to it centrally of its outer face and the jaw 10 has the legs 23 and 24 integrally secured thereto near opposite ends of its outer face. The legs may be cast, welded or riveted integral with the jaws and on the periphery of jaws 10 and 11. The legs are outwardly inclined so as to afford a substantial supporting base.

Each leg consists of two sections, as shown in Fig. 5. A hollow section 25 has its upper end rigidly secured to the outer side of a jaw and is open at its lower end to receive the upper end of the foot section 26 which is flattened at its lower end to provide a foot 27. The hollow section 25 has a spring latch 28 secured thereto at 29 and on the inner side of the free end of said latch there is a pin 30. The pin 30 is adapted to pass through an opening in the leg section 25 in order to fit into any one of a series of holes 31 in the foot member 26. The legs may thus be adjusted for length to suit the particular place where the tripod is used. The latches 28 have lateral projections 281 by means of which the free ends thereof may be raised to lift the pins 30 out of engagement with the holes 31 when adjusting the length of the legs.

The jaw 10 has a cavity 32 therein, open-

ing at the inner side of the jaw, extending into and having its bottom in a lug 33 on the outer side of the jaw 10. A plunger 34 works in the cavity and has a stem 35 extending through the bottom of the cavity which is secured near its outer end by a pin 36. A spiral spring 37 is located in the cavity 32 and surrounds the stem 35 and tends to force the plunger 34 into the space between the jaws. The plunger 34 is adapted to yieldingly engage the drill steel 13 and press it against the inside of the jaw 11 to keep the steel upright and hold it steady.

In Fig. 6 I have illustrated a slightly different form of device for locking the jaws in closed position. This form of locking device consists of a latch 40 which is pivoted at 41 in a slot 42 in the outer side of a tongue 43 rigidly mounted on the jaw 10 and extending into the opening 44 in the jaw 11. A spring 45 in the slot 42 tends to push the free end of the latch out of the slot and when the jaws are closed the latch will hook over the shoulder 46 on the jaw 11. The slot 42 is undercut in the tongue 43 to engage the lug 401 at the end of the latch 40. This keeps the spiral spring 45 from pushing the latch 40 out of the slot 42. A hole 47 is drilled centrally in the slot 42 of the tongue 43 and receives and guides the spring 45. The lug 402 on the bottom of the latch 40 further guides it. By pressing the free end of the latch into the slot the same may be positioned so as to pass the shoulder 46 and the jaws may then be swung open. When the jaws are closed the latches of Figs. 4 and 6 automatically snap into locking position. I prefer the form of latch shown in Fig. 4 as it is somewhat cheaper to manufacture but it is to be understood that I do not wish to be limited to the exact details of either form of latch, nor to the exact details of any part of the structure, as various changes may be made therein without departing from the spirit of the invention.

The holder is adapted for use in drilling concrete or pavement and, in use, is set up so that the jaws are positioned approximately over the place where the hole is to be drilled. Then the drill steel is pushed down through the space between the jaws and its point is placed where the hole is desired to be drilled. As the head of the drill is struck with sledges, the drill point is driven into the concrete or pavement, the jaws guiding and holding the upper and middle portions of the drill. When the drill has been driven to some depth, the holder is removed from the drill by pressing the latch down into the tongue and swinging the jaws open, as shown in Fig. 3. The drill may then be driven farther or loosened and taken out of the concrete. The jaws of the holder may then be closed and the operation repeated. This means of drilling requires less time and labor than the same amount of drilling required formerly, with no injury to workmen.

What I claim and desire to secure by Letters Patent is:—

1. A drill holder comprising a pair of jaws hinged to each other and adapted to receive a drill between them, and legs connected to the outer sides of said jaws and adapted to support said jaws above the concrete or pavement operated upon.

2. A drill holder comprising a pair of jaws in the form of two elongated semi-annular plates hinged together along corresponding longitudinal edges, means for automatically locking the jaws together at their other longitudinal edges, and legs integrally connected to said jaws for supporting them.

3. A concrete drill holder comprising a pair of hinged jaws adapted to receive a drill between them, one of said jaws having a recess and the other jaw having a tongue fitting said recess, means for automatically and releasably locking said jaws together, and legs secured to said jaws for supporting said jaws above the concrete or pavement.

4. A drill holder comprising jaws hinged to each other and adapted to receive a drill in the space between them, means in said space to hold the drill upright and steady the drill, and legs secured to said jaws for supporting said jaws above the concrete or pavement.

5. A drill holder comprising a pair of jaws hinged to each other along corresponding edges thereof and adapted to receive a drill between them, and supporting legs for said jaws connected directly to said jaws whereby when either jaw is swung on its hinge the leg or legs connected therewith will move with said jaw.

6. A drill holder comprising a pair of hinged jaws adapted to receive a drill steel between them, means for locking said jaws together, outwardly inclined tubular members secured to the outer sides of the jaws and located in planes substantially radial to the space between the jaws, and legs slidable and adjustable in said tubular members.

7. A concrete drill holder comprising two semi-annular plates hinged together and forming a tubular head for receiving and guiding a drill steel, means for interlocking the free ends of said plates, means in the space between said plates for yieldingly engaging, holding upright and steadying the drill steel, and means integrally secured to said plates for supporting them.

8. A drill holder comprising a pair of jaws hinged to each other and adapted to form a hollow head to receive and guide a drill, and supporting legs for said head having portions integrally united to said jaws whereby when either jaw is swung on its

hinge the leg or legs united to said jaw will move therewith.

9. A drill holder comprising a pair of hinged jaws adapted to receive and guide a drill between them, two supporting legs secured to one of said jaws, and a third supporting leg secured to the other jaw and movable therewith when said other jaw is swung away from the jaw having the two legs secured thereto.

In testimony whereof I affix my signature in the presence of two witnesses.

HERBERT W. KANE.

Witnesses:
E. SKINNER,
CHUCAS LORRY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."