

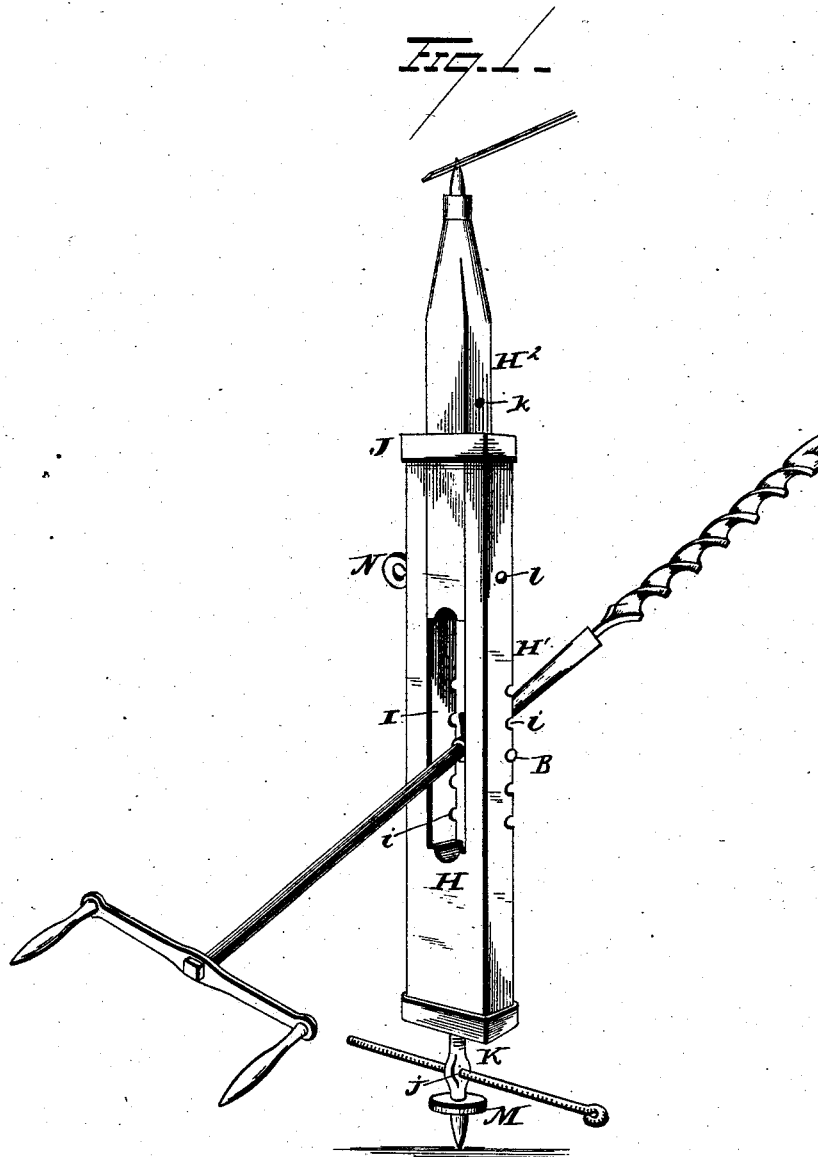
(No Model.)

3 Sheets—Sheet 1.

X. KERN, Jr.
MINING MACHINE.

No. 260,031.

Patented June 27, 1882.



WITNESSES

E. J. Nottingham
S. G. Nottingham

INVENTOR

Xavier Kern Jr.
By [Signature]
Attorneys

(No Model.)

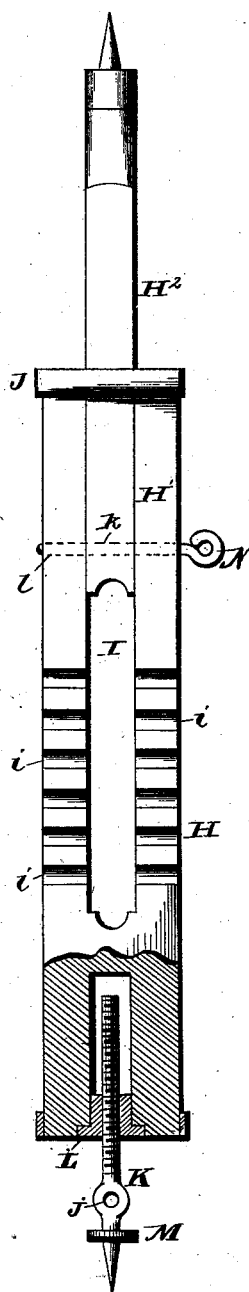
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Fig. 2



WITNESSES

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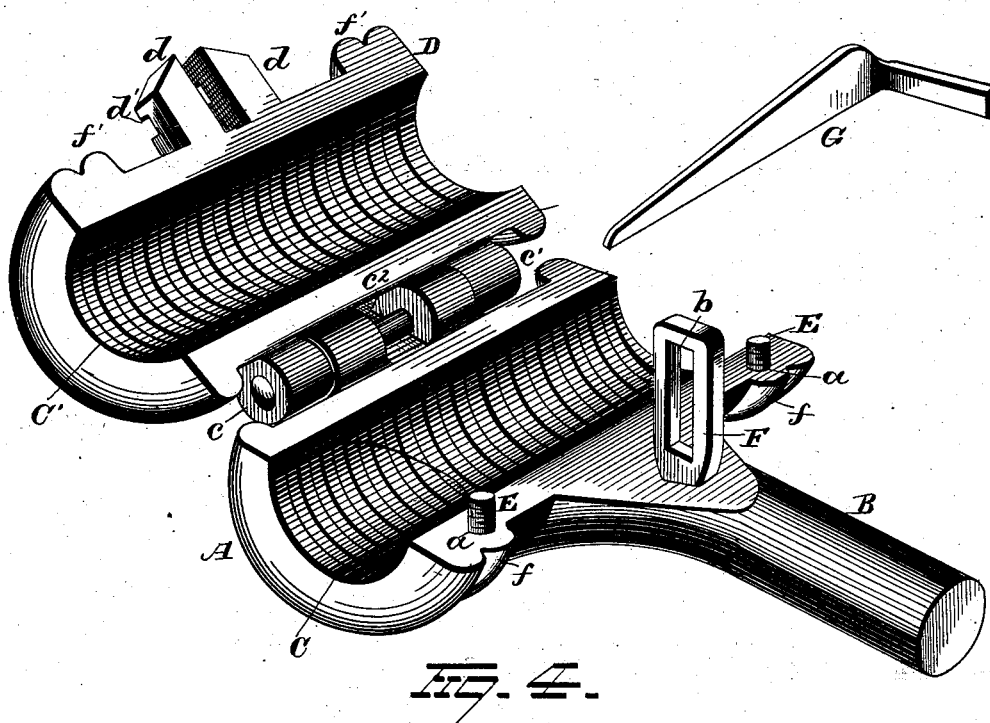
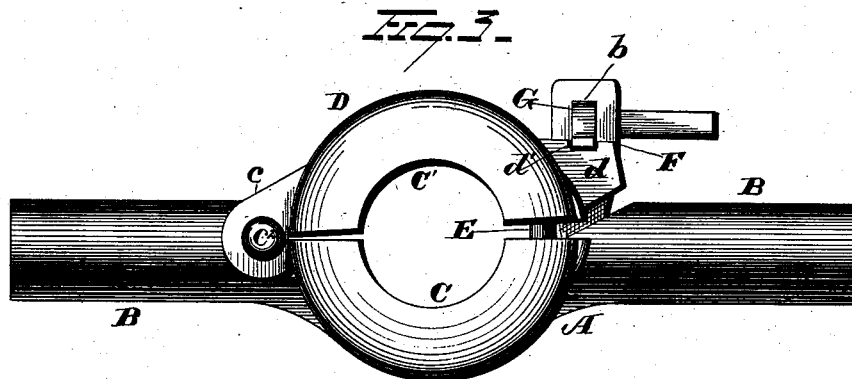
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3 Sheets—Sheet 3.

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UNITED STATES PATENT OFFICE.

XAVIER KERN, JR., OF WEST BROOKFIELD, OHIO.

MINING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 260,031, dated June 27, 1882.

Application filed March 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, XAVIER KERN, Jr., of West Brookfield, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Mining - Machines; 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.

My invention relates to an improvement in mining-machines; and it consists in certain details in construction and combinations of parts, as will be more fully explained, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view, showing my improvement in operative position. Fig. 2 is a view of the adjustable standard. Fig. 3 represents the clamp in locked adjustment, and Fig. 4 is a similar view of the clamp in open adjustment for the reception of the drill-shank.

A represents the body of the clamp, provided with two laterally-extending arms, B, which latter are adapted to rest on the adjustable standard H and form the bearings for the clamp. These lateral arms B enable the clamp, together with the contained drill or auger, to be turned or pointed to any inclination or angle at which it is desired to bore. This body portion A is also provided on its inner face with the semicircular screw-threaded groove C, which, when combined with the semicircular screw-threaded groove C' on the hinged portion D of the clamp, forms a female screw-threaded socket, which firmly holds, directs, and feeds the screw-threaded shank of the auger or drill as the latter is turned by hand or any suitable motive power. The body portion A is also provided with two holes, a, into which are secured screws or lugs E, for the purpose of taking up the wear. When the clamp is first secured to the drill-shank the screws or lugs are adjusted either in or out, so as to cause the clamp to accurately register with the drill-shank, and as the screw-threads in the clamp wear away the screw E can be filed off or driven farther in to take up the wear.

F is a projecting tongue, provided with an

elongated slot, b, into which the wedge G is driven to hold the parts in position.

The portion D of the clamp is hinged to the body portion A by means of the arms c and c' and the pintle c², and is provided on its inclined face with the semicircular screw-threaded groove C', before referred to. The hinged portion D is also provided with the arms d, adapted to rest respectively above and below the tongue F and form the bearing for the wedge. The arms d are provided with the groove d', in which the wedge G rests and bears. When the parts are secured in a locked position the screws or lugs E bear on the lip f' and separate it from the lip f sufficiently to allow the screw-threaded drill or auger shank to pass through without too much friction.

When it becomes necessary to remove a section of the drill for the purpose of putting in a longer one, or for any purpose whatever, it is only necessary to withdraw the wedge G, which allows the hinged portion to be thrown back and the section removed without any trouble whatever. After the section has been removed another one can be placed in position and secured in a few seconds.

H is the adjustable standard, adapted to afford a bearing for the clamp when the latter is in an operative position. This adjustable standard H is composed of the body or main portion H' and the sliding portion H², which latter is adapted to rest and move in the open oblong slot I, extending nearly throughout the body H' of the standard H.

The front face of the main or body portion H' of the standard is provided on both sides of the slot I with the series of open slots i, in which the laterally-extending arms B of the clamp rest, and by which it is adjusted in an elevated or depressed position, as desired. These slots can be of such depth that the clamp, when placed therein, will remain without assistance; or they can be merely slight indentations of depth sufficient to prevent the clamp from slipping from position while operating the drill.

The upper end of the body H' of the standard is provided with the metallic band J, encircling the same, and adapted to brace the upper end of the said body and form a guide for the sliding extension H². This extension H² is provided at its upper end with a pointed me-

tallic bearing-pin adapted to hold the upper end of the standard in position, while the lower end of the body portion of the standard is retained in position by the screw-threaded extension-pin K. This pin K rests in the female screw-threaded socket L, and is provided with the opening *j*, into which a bar is introduced when it is desired to secure the standard in position by lengthening or shortening the screw, which latter is accomplished by turning the screw in opposite directions. This pin K is provided near its lower end with the enlargement M, adapted to form a stop or limit of penetration of the pin. The sliding portion H² of the standard H is adapted to fit snugly in the slot I, and is provided with a series of holes, *k*, adapted to register with the hole *l* in the body of the standard as the sliding extension is moved up or down.

When it is desired to place the machine in position the sliding portion of the standard is moved out or in, as the case may be, and the two are then locked together by the pin N passing through the holes *l* and *k*. The standard is then firmly secured by the screw or pin K, which latter is gradually turned until the standard is secured against displacement. The arms B of the clamp A are then placed in position in the slots *i*, the drill-shank, with its connected drill, is then secured in position within the said clamp, and the machine is ready for use.

When it becomes necessary to remove the drill-shank for the purpose of replacing the contained drill by a larger one, or for any purpose whatever, it is only necessary to unlock the clamp and release the drill-shank, which enables the drill to be withdrawn from the bore without any unnecessary delay.

My improvement is of few parts, is strong and durable in use, can be manufactured at a small initial cost, and answers all the purposes as well as the more costly ones now in common use.

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

1. A drill-clamp composed of hinged sections and provided with a screw-threaded passage-way for the passage of the drill-shank, one of the said sections being provided with screws or lugs adapted to be lengthened or shortened for the purpose of accurately adjusting the drill-shank therein.

2. In a drill-clamp, the combination, with the body portion provided with laterally-extending arms, a semicircular screw-threaded groove, and a tongue provided with an elongated slot, of a hinged portion pivotally secured to the said body portion and provided with a semicircular screw-threaded groove adapted to register with a similar groove in the body portion and arms adapted to rest respectively above and below the said tongue in the body portion, and a wedge for locking the two parts together.

3. In a drill-clamp, the combination, with the body portion provided with laterally-extending arms, a semicircular screw-threaded groove, a tongue provided with elongated slots, and lugs or screws for accurately adjusting the drill-shank in the clamp, of a hinged portion pivotally secured to the said body portion and provided with a semicircular screw-threaded groove adapted to register with a similar groove in the body portion and arms adapted to rest respectively above and below the said tongue, and a wedge adapted to pass through the elongated slot in the said tongue and hold the parts in locked position.

In testimony that I claim the foregoing I have hereunto set my hand this 4th day of March, 1882.

XAVIER KERN, JR.

Witnesses:

THOMAS BLACKBURN,
I. F. HESS.