

(No Model.)

E. BITTENBENDER.

DRILL FRAME ANCHOR.

No. 338,469.

Patented Mar. 23, 1886.

Fig. 1.

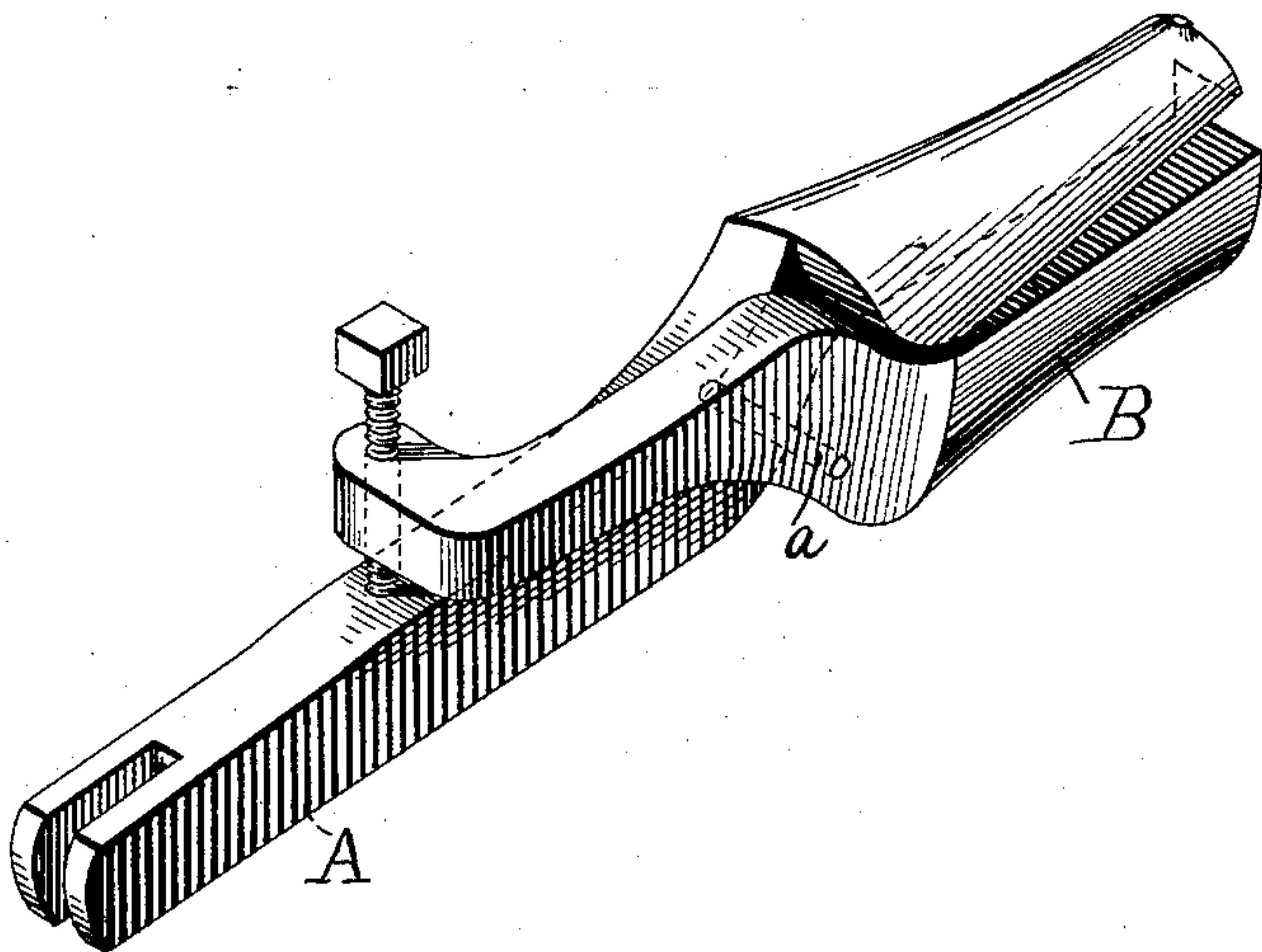
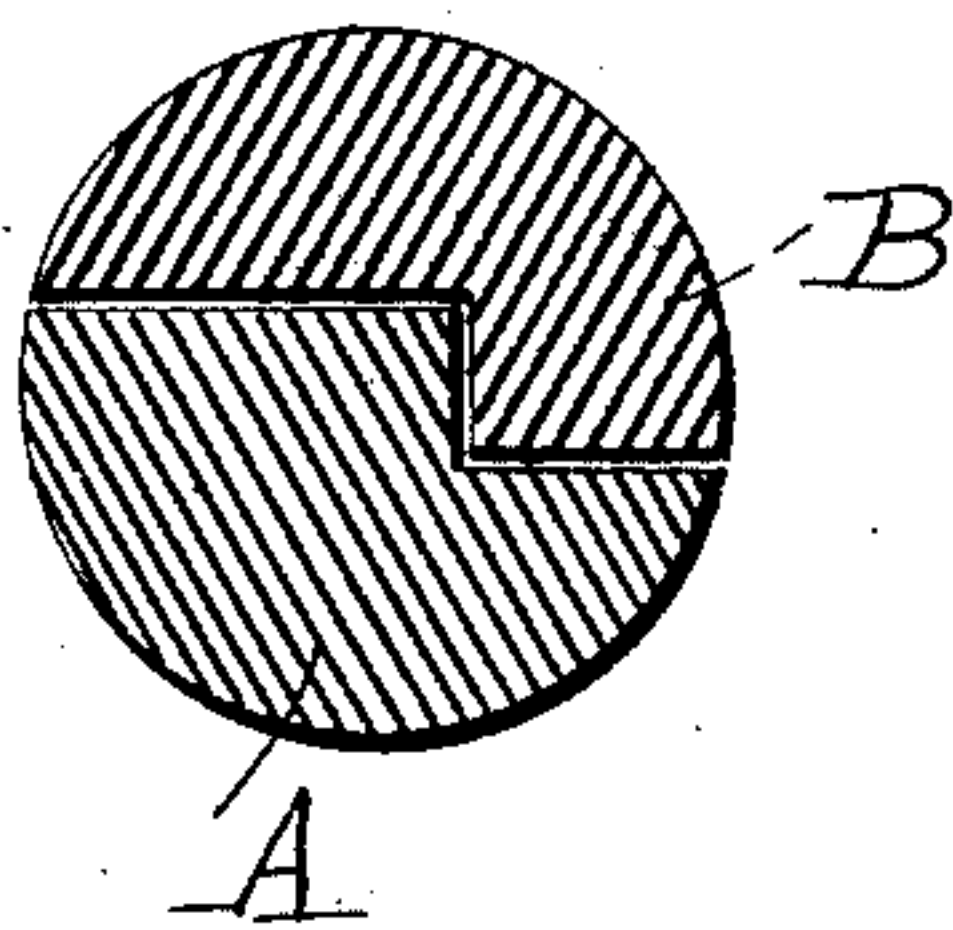


Fig. 2.



Attest:

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ELI BITTENBENDER, OF NANTICOKE, PENNSYLVANIA.

DRILL-FRAME ANCHOR.

SPECIFICATION forming part of Letters Patent No. 338,469, dated March 23, 1886.

Application filed December 23, 1885. Serial No. 1-6,551. (No model.)

To all whom it may concern:

Be it known that I, ELI BITTENBENDER, a citizen of the United States, residing at Nanticoke, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Drill-Holders; and I do 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 ap-

10 pertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification. My invention relates to an improved fast-

15 ener for drilling-machines; and it consists, essentially, of a fastener made in two sections, having rabbeted faces and pivoted to each other in such a manner as to be expansible by means of certain devices, as will be hereinafter fully described.

20 In the annexed drawings, illustrating my invention, Figure 1 is a perspective view of my improved fastener, and Fig. 2 is a cross-sectional view of the same.

25 Like letters designate like parts. The common form of fastener which is at present used with hand drilling-machines consists of a leg or rod coarsely screw-threaded to allow it to be screwed into the rock, coal,

30 or other substance which is to be bored. It is obvious that in order to securely fasten the machine in place the whole device must needs be revolved about to screw the fastener into the coal. This is a very tedious and laborious method; and, further, it is very apt to fasten the drill insecurely, thus giving rise to a great amount of trouble in the subsequent management of the drill. An expansible fast-

35 ener is therefore desirable, one which is constructed in sections, so that after it is inserted into a hole ready made for its reception the sections may be forced apart and made to bind firmly against the sides of the hole, thus immovably securing the machine in position. 45 In the drawings my fastener is shown as composed of two sections, A and B. A represents the section which is formed with a long arm, which extends upward and is attached to the drilling-machine in some appropriate manner. B represents the section hav-

50 ing the shorter arm, which is pivoted to the other section by a pivot, *a*. These two sec-

tions are peculiarly constructed with reference to their inner faces, as is clearly seen in the sectional view of Fig. 2, for each of these 55 faces is provided with a rabbet equal to about half of the width of the face, and extending into the section about half of its thickness, the said rabbets being on opposite edges of the different faces, and so located that the faces 60 may close tightly upon one another, the projecting flanged portion of the one face entering the rectangular longitudinal groove along the edge of the other. By this arrangement of rabbeted faces I am enabled to make a more 65 compact device, and one that can be expanded with greater power than would be possible with plane-faced sections, for I am in this way enabled to locate the pivot *a* at a point in line with the edge of the face of the long arm, and 70 at the same time make both arms with but little curvature, and consequently make the device compact, small, and light. It will be readily seen that if the faces were not rabbeted this location of the pivot could not be secured 75 without making the arms to curve outward considerably from the semi-cylindrical sections, and this increase in their curvature would be at the expense of the expanding-power of the fastener, since the straighter the 80 arms the stronger they will be, and it would also make the fastener more costly and more cumbersome; but with the pivot located in a line which passes through the surface of one of the faces, and consequently through the rab- 85 beted surface of the other at a point about half-way through the thickness of this latter section, the sections are brought close together, and also the arms. It takes but little expansion of the arms, therefore, to expand the sec- 90 tions, and they are consequently made to bind against the walls of the hole into which the fastener is placed with greater firmness than is possible with any ordinary construction.

In order to expand the sections easily and 95 quickly, the shorter arm—as that of section B—is furnished with a screw, which bears upon the arm of section A and forces the two arms apart; or it is evident that a bolt may be passed through the two sections and provided 100 with a nut in such a manner that when the nut is turned on the bolt the sections will be driven apart.

In the management of drill-fasteners it is

customary for the miner to lift the same and drive it with great force into the hole previously made, in order that the force of the blow may carry the fastener to some distance within the rock. When these sections are united by plates or even by a pivot, provided the internal faces be not rabbeted, it is found that when the fastener is thrust into the hole the sections slip by each other or become otherwise dislocated from their true position. When the fastener is constructed of sections pivoted together, which sections have interlocking faces, the forcible thrusting of the fastening, instead of dislocating the parts, tends to close them more tightly together.

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

1. As an improvement in devices for securing a boring or other machine to the face of the work, the combination of a pair of pivoted interlocking jaws, internally rabbeted so

as to lie close together and form, when closed, a solid pin for insertion into a drill-hole, the pin having the same sectional area as the hole into which it is inserted, as shown and described.

2. As an improvement in devices for securing a boring-tool to the face of the work, a pair of pivoted interlocking jaws having internally rabbeted or overlapping surfaces, and forming when closed a solid pin having the same sectional area as the hole into which it is inserted, and provided with a screw by which said jaws may be forced apart and caused to retain their firm hold upon the sides of the hole, as set forth.

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

ELI BITTENBENDER.

Witnesses:

THOMAS ASHTON,
ISAIAH F. HARRIS.