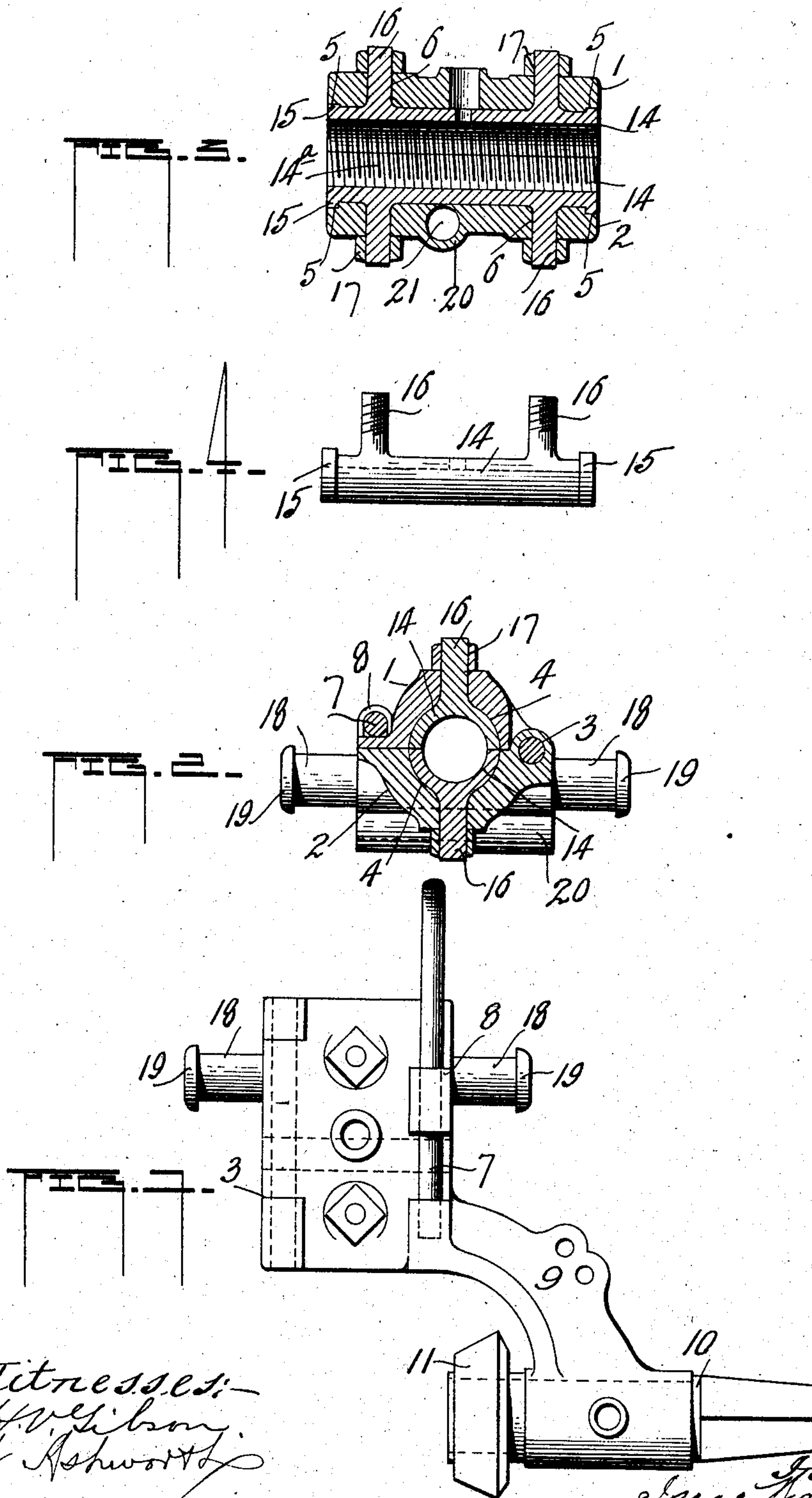


No. 791,304.

PATENTED MAY 30, 1905.

I. WANTLING.
FEED NUT FOR DRILLS.
APPLICATION FILED NOV. 23, 1904.

2 SHEETS—SHEET 1.



Witnesses:
H. Wilson
J. K. Ashworth

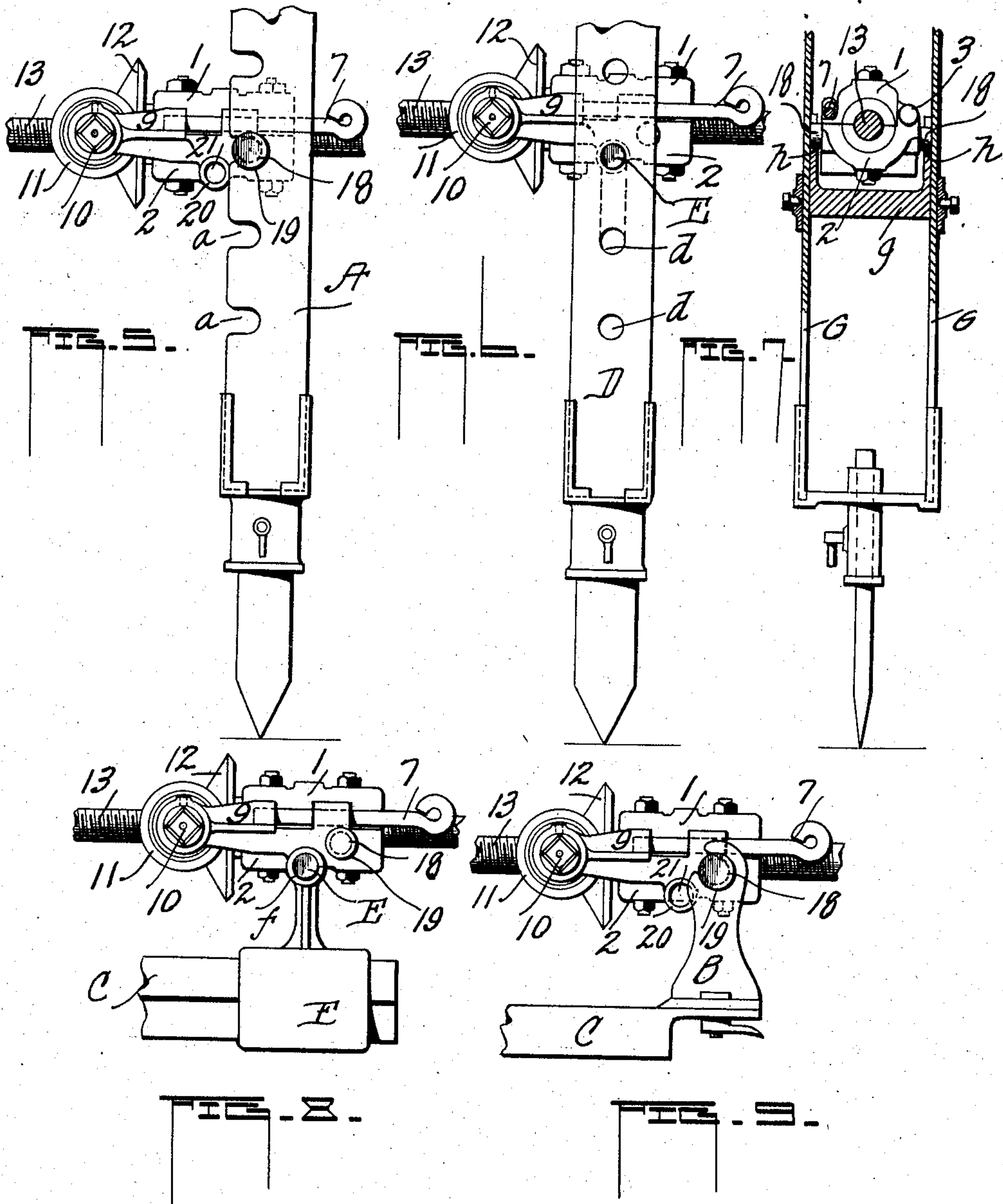
Inventor
Isaac Hartling
By Charles LaPorte, Atty

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2 SHEETS—SHEET 2.



Witnesses:
H. Gibson.
J. H. Ashworth

Inventor.
Isaac Wantling.
By Charles LaPorte atty.

UNITED STATES PATENT OFFICE.

ISAAC WANTLING, OF PEORIA, ILLINOIS, ASSIGNOR TO WANTLING'S FAVORITE COAL DRILL CO., OF PEORIA, ILLINOIS, A CORPORATION OF ILLINOIS.

FEED-NUT FOR DRILLS.

SPECIFICATION forming part of Letters Patent No. 791,304, dated May 30, 1905.

Application filed November 23, 1904. Serial No. 234,068.

To all whom it may concern:

Be it known that I, ISAAC WANTLING, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Feed-Nuts for Drills; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has reference to new and useful improvements in the feed-nuts or hinged boxings of coal or rock drills.

The invention has for its object a feed-nut or hinged boxing adapted to be interchangeably connected with different brackets or chair-supports of post or grip drills.

The feed-nut or boxing consists of two hinged members, the lower or supporting member provided with laterally and oppositely projected trunnions, and the said member is further provided with a depending or swelled portion in which is arranged a transverse aperture.

The invention consists, further, in the combination of a boxing of two hinged sections, one section thereof forming a supporting member and having oppositely-projected trunnions, upon the ends of which are arranged caps or heads; in a transverse depending portion of the supporting member in which is arranged an aperture; in threaded linings attached to the opposing sections of the boxing, the same having flanged ends seated in recesses provided in the sections of the said boxing and secured to said sections by means of a pair of studs adapted to pass through openings in the said sections and engaged by suitable securing-nuts or equivalent means.

The invention will be more fully understood from the drawings attached hereto and forming a part of the following specification, in which—

Figure 1 is a plan view of my improved feed-nut or boxing. Fig. 2 is a cross-section through the said feed-nut or boxing. Fig. 3 is a longitudinal section through the sections

of the boxing and showing the mode of securing the threaded linings therein. Fig. 4 is a detached view in elevation of one of the linings. Fig. 5 is a side elevation of a portion of a post-drill having notched or corrugated sides, showing the manner of supporting the boxing by means of the trunnions. Fig. 6 is a side elevation of a portion of a post-drill having perforated sides, showing the manner of supporting the boxing by means of a pin passed through the transverse aperture in the boxing and coinciding perforations in the sides of the post. Fig. 7 is a front elevation, partially in section, of a post-drill, showing the manner of supporting the boxing by the trunnions when employing brackets or chair-supports slidable on the sides of the post. Fig. 8 is a side elevation of a portion of a grip-drill, showing the manner of supporting the boxing on a chair or bracket by means of a pin adapted to be passed through the transverse aperture in the boxing and perforations in the chair or bracket. Fig. 9 is a side elevation of a portion of a grip-drill, showing the manner of supporting the boxing on a chair or bracket by means of the trunnions of the boxing adapted to be seated in notches of the chair or bracket.

Like characters of reference indicate corresponding parts throughout the figures.

The boxing or feed-nut comprises two half-sections (indicated as 1 and 2) hinged together at 3 and having the semicircular inner matching faces 4. The opposite ends of the inner matching faces of the sections are provided with the semicircular depressed portions 5, and both of said sections at or near their ends are provided with the vertically-disposed openings 6. The sections may be locked after closing by means of the usual staple 7 and clasp 8.

Section 2 will be indicated as the supporting-section and has attached thereto or made integral therewith an arm or bracket 9, in which is journaled a short shaft or stem 10, carrying on its inner end a bevel-pinion 11, adapted to mesh with a bevel-gear 12, carried

by and through which passes a threaded rod 13, adapted to have engagement with the threaded linings carried in the sections 1 and 2. The means of operating the rod 13 is through the stem 10, to which may be attached a suitable crank. (Not shown.) The threaded linings referred to consist of the opposite sections 14, substantially alike in construction, each being provided with the flange portions 15 at their opposite ends, adapted when the linings are in position in the sections 1 and 2 to be seated in the depressed portions 5 described, the said linings threaded on the inner concave faces, as at 14^a, and further provided with the short stems or studs 16, positioned on the linings at or near their outer ends and projecting outwardly from the convex face of said linings, the same adapted to be carried through the openings 6 in the nut-sections and to their outer ends secured the nuts 17 for retaining the linings in place in the nut-sections.

The object of the flanges on the linings and the corresponding depressions in the sections of the boxing is to provide a detachable lining for a boxing which will not buckle or spring no matter whether the operator wishes to do his drilling forward or backward, entirely obviating the danger of having his linings break out. The use of the studs or stems on the linings provides for lowering the linings or packing the same for the purpose of taking up all wear that may occur either on the linings or the threaded bar.

The supporting-section 2 of the feed-nut or boxing is provided with the oppositely-projected trunnions 18, being of suitable length for the purposes herein, and on their ends are provided the caps or enlarged heads 10, as shown and for a purpose to be described.

The section 2 is further provided with the depending or swelled portion 20, extending transversely of the said section and provided with the elongated hole or aperture 21. This aperture is placed forward of the trunnions and below the same, as shown in the drawings.

The application of the invention as an interchangeable boxing for the different makes of post and grip drills may be better understood from the description of the same, with the boxing supported thereby.

In Fig. 5 there is illustrated a post-drill, the sides of which are indicated as A and corrugated or notched, as at *a*. To attach or support the boxing on this post, the trunnions 18 are seated in the notches in the manner shown, or the boxing may be placed in the reverse direction. The heads or caps 19 of the trunnions prevent the boxing from sliding sideways and the trunnions becoming dislodged, which is a useful feature when the boxing is applied to a post which is extra wide. The application of the trunnions of the boxing to a post made with the notches *a* is further carried out in a chair or bracket B, secured to a

grip-bar C of a grip-drill, as seen in Fig. 9, the chair having notches *b* corresponding to the notches *a* in the sides of the post-drill.

In Fig. 6 is illustrated a post-drill, the sides of which are indicated as D and provided with the perforations *d* at intervals therein. To attach or support my boxing to this post, a pin or rod E is used, which is adapted to be slipped through a perforation *d* in one side of the post, extend it through the elongated opening 21 in the swelled portion 20 of the lower or supporting section of the boxing, and through a coinciding perforation *d* in the opposite side of the post. If desired, the pin E may be a yoke-pin, as shown in dotted lines in Fig. 6, for the purpose of firmly locking the said pin in position. In Fig. 8 is shown the chair F of a grip-drill, provided with the perforations *f*, serving the same function as the perforations *d* in the post shown in Fig. 6.

In Fig. 7 a very narrow post-drill is shown, the sides of which are indicated as G, upon which slide a well-known form of bracket *g*, the opposite portions of which have the seats *h* within the walls of the post, adapted to support the boxing. In this instance the trunnions 18 have to be shortened by cutting off portions of the same to adapt the inserting of the same between the posts to place them in the seats *h* of the brackets.

From the above description and by those familiar with drills of the character described herein it will be seen that there are several forms of drills, as well as several forms of chairs or brackets serving as supports for the boxings, and to meet the demand for a boxing which is interchangeable the one herein has been devised, as also provided with detachable linings so retained in the sections of the boxing that they will not buckle nor spring.

What I claim is—

1. In a drill, the combination of a boxing composed of two hinged sections, the lower section having a depending transverse portion in which is arranged an elongated tubular opening, and the said section further provided with oppositely-extended trunnions, whereby the said boxing may have an interchangeable connection with supports of various forms, substantially as specified.

2. In a drill, the combination of a boxing composed of two hinged sections, the lower section having a depending transverse portion in which is arranged an elongated tubular opening, and oppositely-extended trunnions of the said lower section provided with heads at their terminals, whereby the said boxing may have an interchangeable connection with supports of various forms, substantially as specified.

3. In a drill, the combination of a boxing of two hinged sections, each section having semicircular matching faces provided at their opposite ends with matching semicircular de-

pressions, and a pair of transverse openings in the body of the sections; a pair of semicircular threaded linings adapted to be seated in the sections of the boxing, the same provided with
5 flanges at their opposite ends adapted to be seated in the depressions in the boxing, and each lining having extended stud portions to be carried in the transverse openings in the sections and retained therein by means of suitable
10 securing devices, substantially as specified.

4. In a drill, the combination of a boxing of two hinged sections each of which is provided with matching semicircular depressions at their opposite ends; a pair of semicircular

threaded linings adapted to be retained by the
said sections and provided with flange portions at their ends adapted to be seated in the depressions of the said sections, and interchangeable supporting means provided on the
lower section to adapt the said boxings to supports of various forms, substantially as specified.
15 20

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

ISAAC WANTLING.

Witnesses:

S. DOULET,

CHAS. W. LA PORTE.