No. 879,006. PATENTED FEB. 11, 1908.

P. ROMMES.

COAL MINING DRILL POST.

APPLICATION FILED APR. 20, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

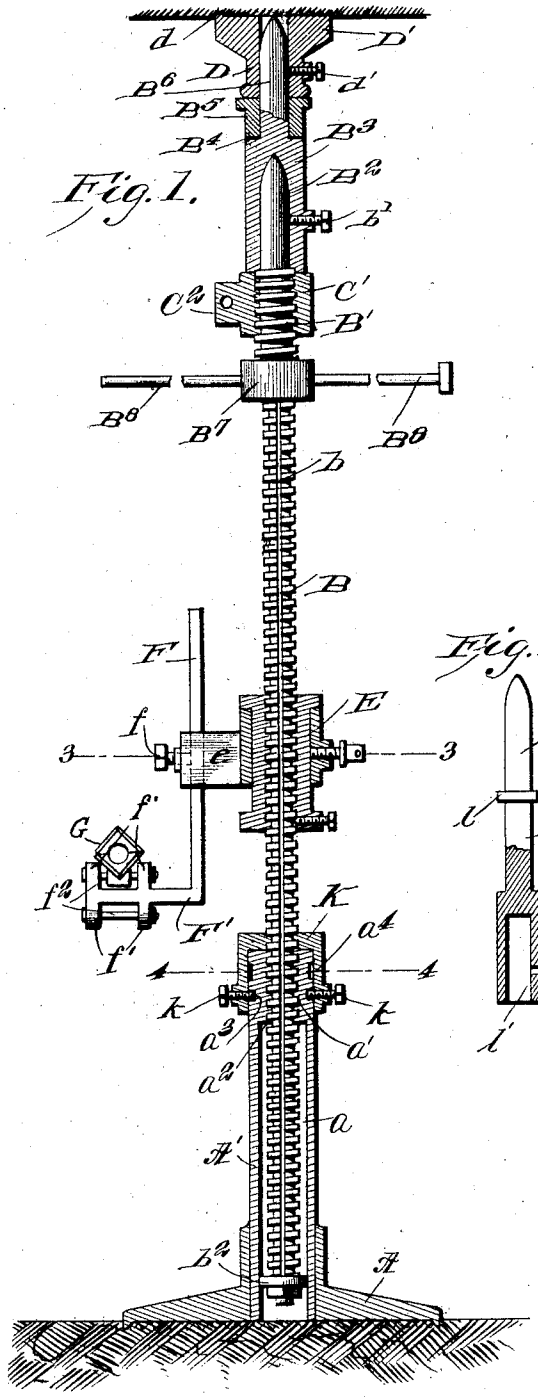


Fig. 10.

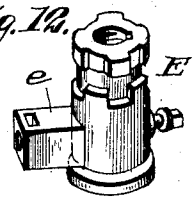


Fig. 3.

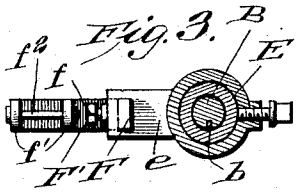


Fig. 11.

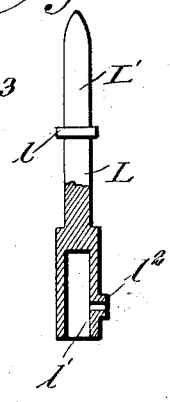


Fig. 4.

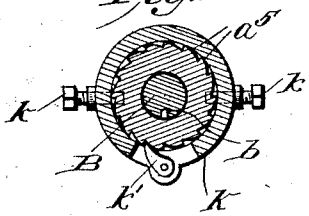


Fig. 2.

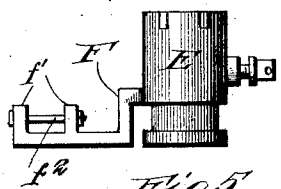
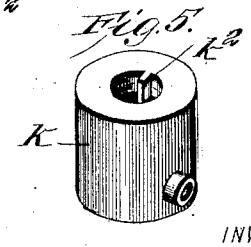


Fig. 5.



WITNESSES

E. F. Callaghan.

Geo. S. Brock.

INVENTOR

PAUL ROMMES

BY Munn & Co.

ATTORNEYS

No. 879,006. PATENTED FEB. 11, 1908.

P. ROMMES.

COAL MINING DRILL POST.

APPLICATION FILED APR. 20, 1907.

2 SHEETS—SHEET 2.

Fig. 6.

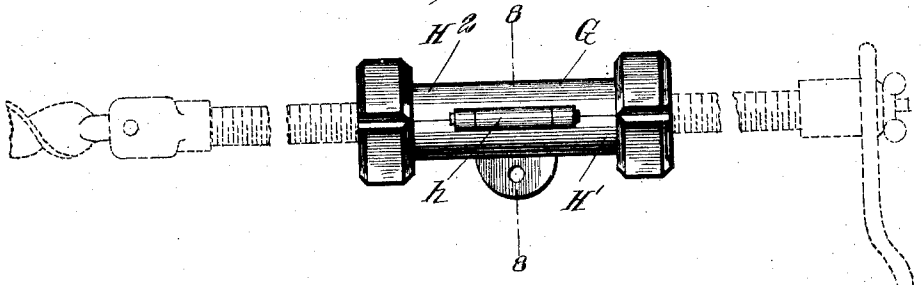


Fig. 8.

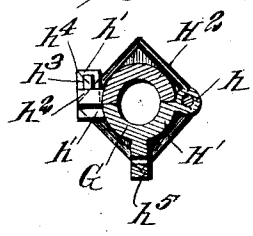


Fig. 7.

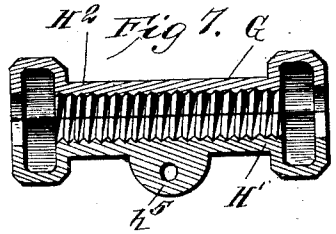


Fig. 10.

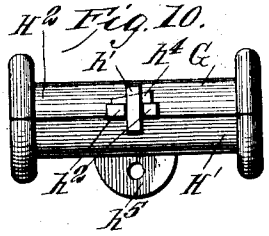
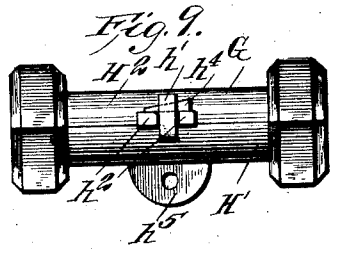


Fig. 9.



WITNESSES

E. M. Callaghan

Geo. S. Brock.

INVENTOR

PAUL ROMMES

BY Munn & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

PAUL ROMMES, OF PITTSBURG, KANSAS.

COAL-MINING DRILL-POST.

No. 879,006. Specification of Letters Patent. Patented Feb. 11, 1908.

Application filed April 20, 1907. Serial No. 369,239.

To all whom it may concern:

Be it known that I, PAUL ROMMES, a citizen of the United States, and a resident of Pittsburg, in the county of Crawford and State of Kansas, have made certain new and useful Improvements in Coal-Mining Drill-Posts, of which the following is a specification.

My invention relates to improvements in drill posts used in mining and has for one of its objects to provide means for determining the course the drill will take before the post is firmly set and to save labor and time.

Another object is to prevent the post from giving way when set on a soft or infirm bottom.

Another object is to secure firmness and obviate wabbling motion when the drill is being operated.

Another object is to afford facilities for the proper adjustment of the threaded box.

Another object is to facilitate changing drills and removing borings from drill hole.

Another object is to afford means for attaching or connecting threaded box of improved pattern, and others of various types and makes.

Another object is to provide means for easily and quickly shifting the threaded box to a higher or lower plane without changing the adjustment of the coupler.

With these and other objects in view my invention consists in certain novel features of construction, arrangement and combination of parts as will be hereinafter fully described and pointed out in the claims, reference being had to the accompanying drawing, in which—

Figure 1 is a vertical sectional elevation of my device complete as in use. Fig. 2 is a side elevation of one form of the coupler detached. Fig. 3 is a horizontal section on line 3—3 of Fig. 1. Fig. 4 is a similar view on line 4—4 of Fig. 1. Fig. 5 is a perspective view of the cap for the upwardly extending threaded tube of the base. Fig. 6 is a side elevation of my improved thread box. Fig. 7 is a vertical section of same. Fig. 8 is a section on line 8—8 of Fig. 6. Fig. 9 is a side elevation of the thread box taken from the side opposite to that indicated in Fig. 6. Fig. 10 is a side elevation of an ordinary thread box showing my improvement for attaching to the bracket arm, and Fig. 11 is a sectional elevation of a sectional point used with my post. Fig. 12 is a perspective view of the coupler used.

The circular base plate A in the center of which, and extending upwardly therefrom, is a tube A′, forms a foot and support for my complete device.

The tube A′ has extending from its lower end upwardly to near its upper end the unthreaded central passage a while the upper passage a' is somewhat reduced and threaded to receive the shaft B which is threaded and provided with a straight groove b extending from its lower end to near its upper enlarged end B′ which is externally threaded but has no groove. On the lower end of shaft B which is reduced and threaded, is screwed a flanged nut b^2 which on being placed on said shaft is turned to the left. This nut is of greater diameter than the upper threaded passage in tube A′, hence a shoulder a^2 will be formed against which nut b^2 may abut and thus prevent the shaft B from being withdrawn from the tube A′.

B^7 represents an enlargement having a hole through the same in which is placed the sweep-bar B^8 for rotating the shaft B, in adjusting the length of the post.

The shaft B has near its upper end the threaded portion B′ and at its extreme upper end the point B^2. The threaded portion B′ passes through the internally threaded sleeve C′ and may be fitted in an extension point B^3. Said extension point has in its lower end a socket into which the point B^2 of shaft B fits; said extension point B^3 has also the shoulder B^4, extending upwardly from which, is the reduced point B^6, which passes through the collar B^5 and into the cap D where it may be clamped by the set screw d'. The upper end B^2 of shaft B may be clamped in B^3 by the set screw b'. The cap D has an enlarged upper end D′, the upper surface of which is provided with projecting points or teeth d. The threaded sleeve C′ has projecting from one side the lug C^2, which is perforated to receive a bar by means of which the point may be screwed up or down on the threaded portion B′ of the shaft B; by means of this the extension point B^3 may be forced upwardly into the roof of the mine when necessary.

The cap D is provided with a set screw d' by means of which it may be clamped to

the point B^6, or removed entirely therefrom, permitting the use alone of the extension point B^3.

E is a coupler which is of the same construction as that shown in my Patent No. 858,217 issued June 25th 1907, with the exception of the bracket lug *e*, which constitutes an arm which may be rotated and adjusted by reason of the adjustability of the outer sleeve of the coupling from which it extends, said arm *e* being provided in this construction with a vertical passage through which is passed the vertical bar F having the horizontal arm F′ at its lower end, said bar being held adjustably in said lug by a set screw *f*. That is said coupler consists of an outer sleeve having notches at its upper end, and an inner tube internally threaded and having horizontally projecting teeth at its upper end, said teeth being adapted to be held seated in or out of the notches in the outer tube by means of a set screw passing through the outer sleeve from one side as shown in Figs. 3 and 12. The horizontal arm F′ is provided on its upper and lower faces with the perforated ears f', f' spaced apart and having the bolts f^2 passed through said perforated ears and held there by nuts, or other suitable means. These bolts are for securing the threaded box G to the arm F′. Said threaded box comprises the two semi-circular members H′ and H^2 pivotally secured together at one side by the hinge *h*, the lower member H′ having at its opposite side the upwardly projecting lug h' which passes between the two spaced lugs h^2 projecting outwardly from the upper member H^2. The upwardly projecting lug h' has a wedge-shaped transverse slot h^3 through which to receive a wedge-shaped key h^4 which bears against the upper faces of the spaced lugs h^2 when the upper and lower members H^2 and H′ are closed, and draws them tightly together by virtue of the wedging action of key h^4 in the slot h^3, the inner circular faces of the members H′ and H^2 are provided with sections of screw threads so that when the two are in a locked position, a complete internally threaded bore is produced to receive the threaded shank of a drill.

The upper end of the tubular extension A′ is provided with a smooth external annular groove a^3 while just above it is another annular groove a^4 having angular ratchet teeth a^5. Fitting over the top of A′ is a perforated cap K, the vertical walls of which carry near its lower end at diametrically opposite points the set screw *k*, which engage in the smooth annular groove a^3 aforesaid. Just above these and in line with the toothed groove, a pawl k' is pivoted within an opening in the wall of the cap, said pawl engaging the ratchet teeth in the upper annular groove. By loosening the set screws and throwing the point of the pawl out of the ratchet groove, the shaft B may be run down into the tubular extension A′; the cap being provided with a gib k^2 which fits in the groove *b* of threaded shaft B, it will rotate with said shaft. The set screws *k* may then be tightened and the cap K securely held in place to form a lock for shaft B. The set screws may also just enter into the groove a^3 and prevent the upward movement of cap K but still permit of its rotation with shaft B.

The threaded box G is attached to arm F′ by placing the lug h^5 which projects from the under side of the thread box, between the two lugs f' on the upper side of the arm F′ and a bolt passed through the perforations in the three lugs, said bolt serving as a pivot by means of which the drill may be pitched or elevated as desired.

The thread box may be removed from the upper side of the arm to the lugs on the under side of the arm F′ if desired, and the bar F may be inserted in the lug of the coupler by sliding the same downward, the horizontal arm F′ being in an uppermost position instead of lowermost as shown in Fig. 1. The drill is raised or lowered by sliding bar F upward or downward in the aperture in coupler E, and adjustment is retained by tightening set screw. This arrangement will be of great advantage as the drill may be adjusted nearer the ground or nearer the roof of the mine by sliding the bar F upward or downward.

Any suitable arrangement may be used for attaching side gear when so desired.

As shown in Fig. 2 the coupler E may be provided with the arm F and the ears $f'f'$ made integral, and arranged at the proper angle.

In Fig. 11 I have illustrated a modified form of extension point which may be used in place of B^3 when a suitable occasion arises.

I claim—

1. In a coal drilling machine, a supporting post, means for anchoring the same at its upper and lower ends, a separable coupling member carried by said post, a bar vertically adjustable with respect to said coupling member and carried thereby, a horizontal arm projecting from said bar, and means carried by said bar for pivotally connecting a threaded box thereon.

2. In a coal drilling machine a supporting post, means for anchoring the same at its upper and lower ends, a separable coupling member carried by said post, a bar vertically adjustable with respect to said coupling member and carried thereby, a horizontal arm extending from the end of said bar, spaced lugs projecting from the upper and lower faces of said horizontal arm, a threaded box having a lug on its lower face, said lug adapted to be pivotally held between the lugs on the horizontal arm.

3. In a coal drilling machine a post com-

prising a base standard internally threaded, a threaded shaft working therein and having at its upper end an enlarged threaded head, an extension member consisting of a threaded sleeve engaging said enlarged threaded head and an upwardly projecting tapered point, and means for rotating the threaded sleeve.

4. In a coal drilling machine the combination with a standard and base and a threaded post working therein having a longitudinal groove, a locking cap mounted on the top of said base, said cap having an inwardly projecting gib fitting in the longitudinal groove of the threaded shaft, and means for locking said cap to the standard.

5. In a coal drilling machine the combination with a standard and base, having an internally threaded bore at its upper end, a threaded shaft working therein and having a longitudinal groove, a cap fitting over the top of said base standard and provided with an inwardly projecting gib fitting said longitudinal groove, the upper end of the base having an annular toothed groove, and a pawl carried by the cap and adapted to engage in the toothed groove and serving to lock the cap against rotation.

6. In a coal drilling machine, a supporting post, means for anchoring the same at its upper and lower ends, an adjustable arm carried by said post, a bar having a horizontal extension and adjustably and reversibly mounted in said arm, and a threaded box and auger shaft adapted to be pivotally mounted on said horizontal extension.

7. In a coal drilling machine, a post having separable sections at its upper end, means for anchoring the same at its upper and lower ends, an adjustable and rotatable arm carried by said post, a vertical bar having a horizontal extension and adjustably and reversibly mounted in said arm, and a threaded box and auger shaft adapted to be pivotally mounted on said horizontal extension.

8. In a coal drilling machine a post having separable and longitudinally extensible sections at its upper end, means for anchoring said post at its upper and lower ends, an adjustable and rotatable arm carried by said post, a vertical bar having a horizontal extension and adjustably and reversibly mounted in said arm, and a threaded box adapted to be pivotally mounted on said horizontal extension.

9. In a coal drilling machine, a supporting post, means for anchoring the same at its upper and lower ends, a separable coupling member carried by said post, an arm carried by said coupling member, a vertical bar having a horizontal extension and adjustably and reversibly mounted in said arm, and a threaded box adapted to be pivotally mounted on said horizontal extension.

10. In a coal drilling machine, an internally threaded base member, a threaded shaft working in said base member, and having at its uppper end an adjustable and removable tapered point, an adjustable and rotatable arm carried by said threaded shaft, a vertical bar having a horizontal extension and adjustably and reversibly mounted in said arm, and a threaded box adapted to be pivotally mounted on said horizontal extension.

11. In a coal drilling machine, a sectional post, means for anchoring the same at its upper and lower ends, an adjustable and rotatable arm mounted on said post, a vertical bar having a horizontal extension at one end and adjustably and reversibly mounted in said arm, and a threaded box adapted to be pivotally mounted on said horizontal extension.

12. In a coal drilling machine, the combination with a base or standard, a threaded post working therein and having a tapered adjustable point at its upper end, of a coupling member, said coupling member consisting of an inner threaded tube and an outer tubular sleeve surrounding the same, an arm projecting from said outer tubular sleeve, a vertical bar having a horizontal extension and adjustably and reversibly mounted in said arm, and a threaded box adapted to be pivotally mounted on said horizontal extension.

13. In a coal drilling machine the combination with a base or standard and a threaded post working therein, said threaded post having a longitudinal groove extending nearly throughout its length, a cap fitting over the top of the base standard and provided with an inwardly projecting gib fitting said longitudinal groove, the upper end of the base having an annular toothed groove, a pawl carried by said cap and adapted to engage in the toothed groove and lock the cap against rotation in one direction, of a coupling member adjustably mounted on said threaded shaft, said coupling having an arm projecting therefrom, a vertical bar having a horizontal extension and adjustably and reversibly mounted in said arm, and a threaded box adapted to be pivotally mounted on said horizontal extension.

PAUL ROMMES.

Witnesses:
J. S. CUMMINS,
H. THOMPSON.