Mar. 3, 1925. 1,528,034

P. THIELMANN

PROP FOR MINES

Filed Feb. 16, 1924

Fig.1

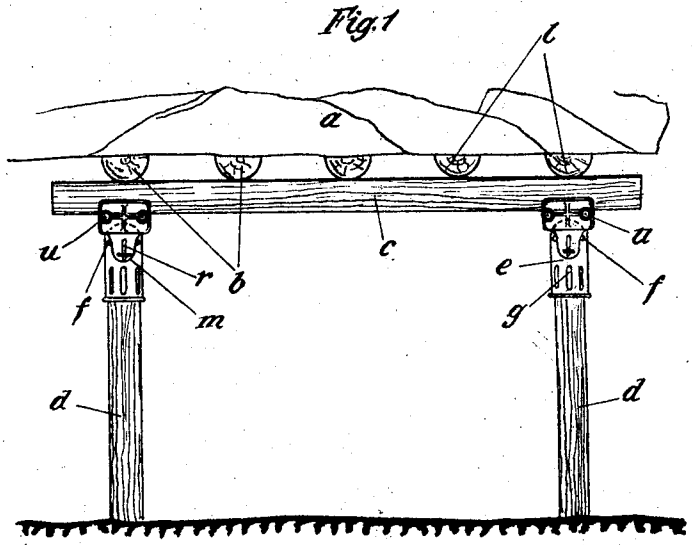


Fig.2

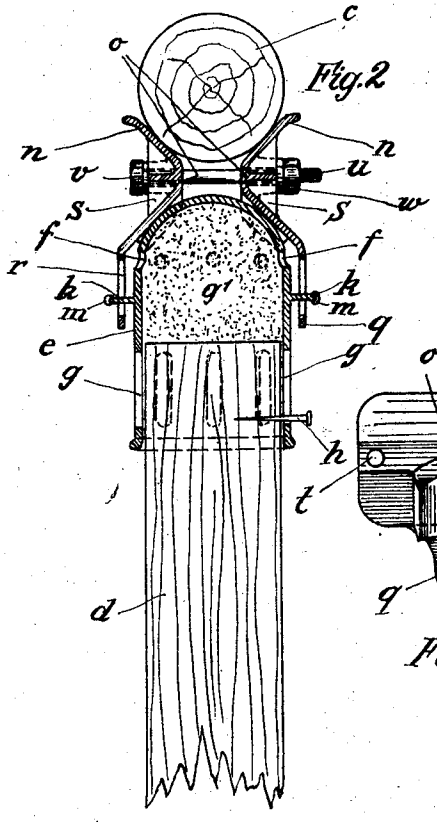


Fig.3

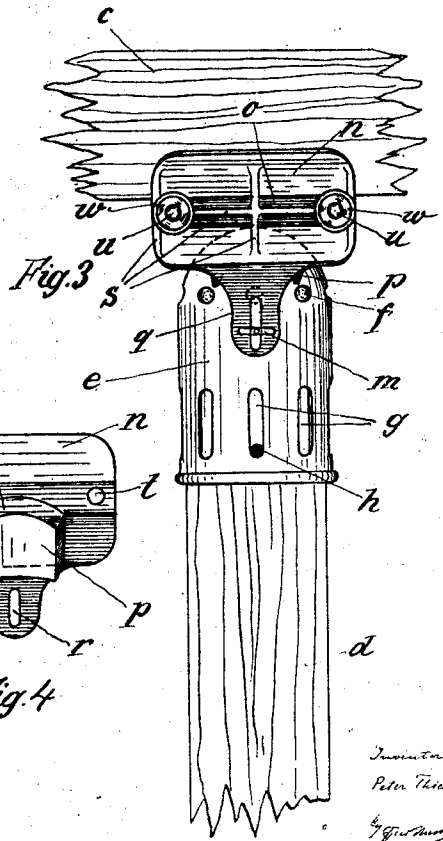


Fig.4

Inventor:
Peter Thielmann

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UNITED STATES PATENT OFFICE.

PETER THIELMANN, OF SILSCHEDE, GERMANY, ASSIGNOR OF ONE-HALF TO THE FIRM GOSWIN u. CO., KOMM. GESELLSCHAFT, OF HASPE IN WESTPHALIA, GERMANY.

PROP FOR MINES.

Application filed February 16, 1924. Serial No. 693,298.

To all whom it may concern:

Be it known that I, PETER THIELMANN, a citizen of the German Republic, residing at Silschede, Germany, have invented certain new and useful Improvements in and Relating to Props for Mines (for which I have filed application in Germany, April 6, 1921), of which the following is a specification.

This invention relates to an improvement of the commonly used props for mines which have a cap partly filled with gobbing and designed to intercept the pressure of the ground transmitted to the stay by the cross-quarter bearing on the cap. When the pressure occurs the filling material in the cap is compressed and squeezed out of the holes provided in the cap. It is rather difficult to compensate the irregular height differences which are unavoidable with such caps. This invention avoids this inconvenience by providing means which allow to easily compensate the difference of height, these means being adapted to be removed together with the props.

According to the invention the cap, mounted on the prop is of semi-spherical shape in its top part. On the side of the semi-spherical head part of the cap strutting irons are arranged the inner surfaces of which adapt themselves to the curved outer surfaces of the cap. The upper ends of the strutting irons which support the cross-quarter are connected with one another in such a manner that the distance between the two irons can be adjusted. The strutting irons are adapted to slide up on the curved part of the cap and to adjust themselves in accordance with the varying interval between the cap and the cross-quarter.

The invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawings forming a part of this specification, with the understanding that while on the drawings one embodiment of the invention is disclosed, the invention is not confined to any strict conformity with the showing of the drawings, but may be embodied in any manner which does not make a material departure from the salient features of the invention.

In the drawing:—

Fig. 1 shows a part of a gallery roof supported by props.

Fig. 2 shows in section a prop head.

Fig. 3 is a side elevation of Fig. 2.

Fig. 4 shows in plan view a strutting iron seen from the inside.

The roof *a* of the mining gallery is stayed by cross-quarters *b* and longitudinal quarters *c* and the quarters *c* are stayed by props *d*. These props *d* have iron caps *e* with holes *f*. The hollow caps *e* are filled with gobbing *g'*. When a pressure is exerted on the cap from above the gobbing is squeezed out through the holes *f*. Nails *h* nailed through longitudinal slots *g* in the lower part of the cap serve to indicate how much the cap has yielded under the pressure and to which extent the filling has been compressed or squeezed out.

According to the invention the top part of this cap *e* is of semi-spherical or other round shape, strutting irons being mounted on either side of the cap designed to carry the quarters *c* and to hold the same at a certain distance from the cap *e*. The strutting irons are composed of the upper bearing arms *n* for the quarter *c*, the middle straight part *o* and the lower butt strap *p* having a concave inner surface which fits the curvature of the cap and an end piece *q* with a longitudinal slit *r*. To increase the stability the strutting iron is reinforced by ribs *s*. From the cap *e* an arm *k* projects at either side and has a cross arm *m* arranged so that it stands transversely to the vertical longitudinal slot *r* of the strutting iron.

To put the strutting irons in place they are turned for 90° so that the slot *r* can be pushed over the cross arm *m*, whereupon the strutting iron is turned back so that the cross arm *m* of the pin *k* stands at right angles of the slot *r* and securely holds the strutting iron on the cap. The straight part *o* of the strutting irons are connected with one another by a bolt *u* which projects through slots *t* of the middle parts and has a head *v* at one end and is threaded at the other end on which a nut *w* is screwed. According to the interval between the quarter *c* and the upper part of the cap the strutting irons are adjusted on the curvature of the cap, the longitudinal slots *r* moving on the pins *k*. If the pressure of the ground becomes too great the strutting irons can be spread farther apart after the nut *w* has been loosened. The interval between the quarter *c*

and the prop head is thus reduced whereby the pressure of the ground is compensated. As the strutting irons are securely attached on the cap by the pins *k* they are removed with the props so that they cannot get lost and are at disposal when the props are to be used again.

I claim:—

1. A prop for mines with a cap partly filled with gobbing comprising in combination a cap having a semi-spherical top part and strutting irons one on each side of the cap having concave bearing surfaces adapted to slide on the curved outer surface of the top part of the cap, means for connecting the two strutting irons with one another, and means for attaching the strutting irons securely but adjustably with the cap.

2. A prop for mines with a cap partly filled with gobbling comprising in combination a cap having a semi-spherical top part and strutting irons one on each side of the cap having concave bearing surfaces adapted to slide on the curved outer surface of the top part of the cap and vertical slits in the lower parts, means for connecting the two strutting irons with one another, two pins one for each strutting iron fixed in and laterally projecting from said cap, and a cross arm of each pin for attaching the strutting arms securely but adjustably with the cap.

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

PETER THIELMANN.

Witnesses:

WLAD. ENDER,

ROGER S. AUGSACH.