

[54] **MOBILE MINE ROOF SUPPORT WITH MINING APPARATUS**

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[58] Field of Search **61/45 D; 299/31, 32, 33**

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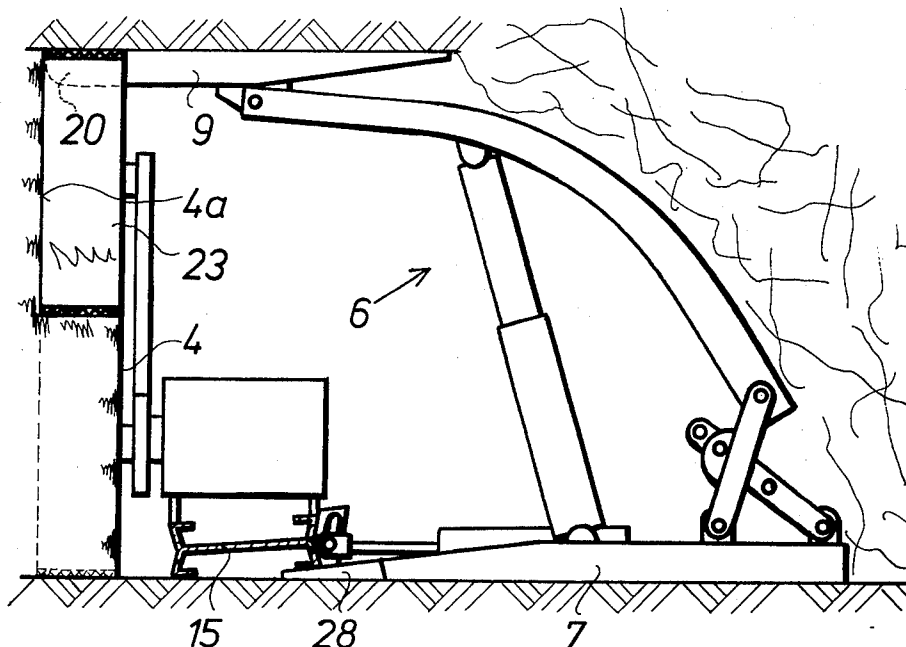
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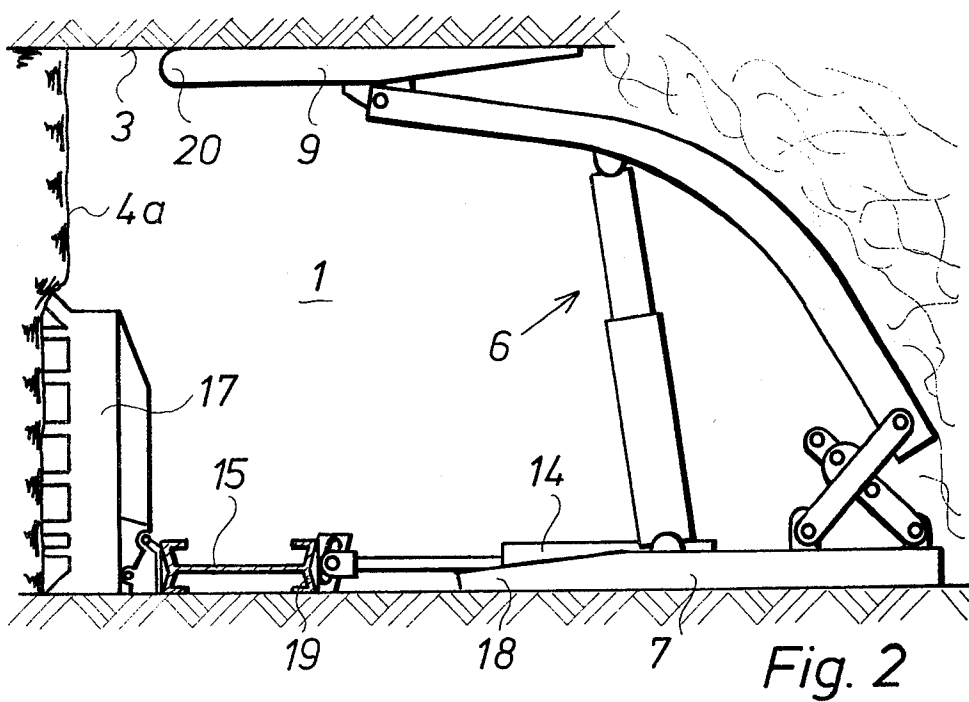
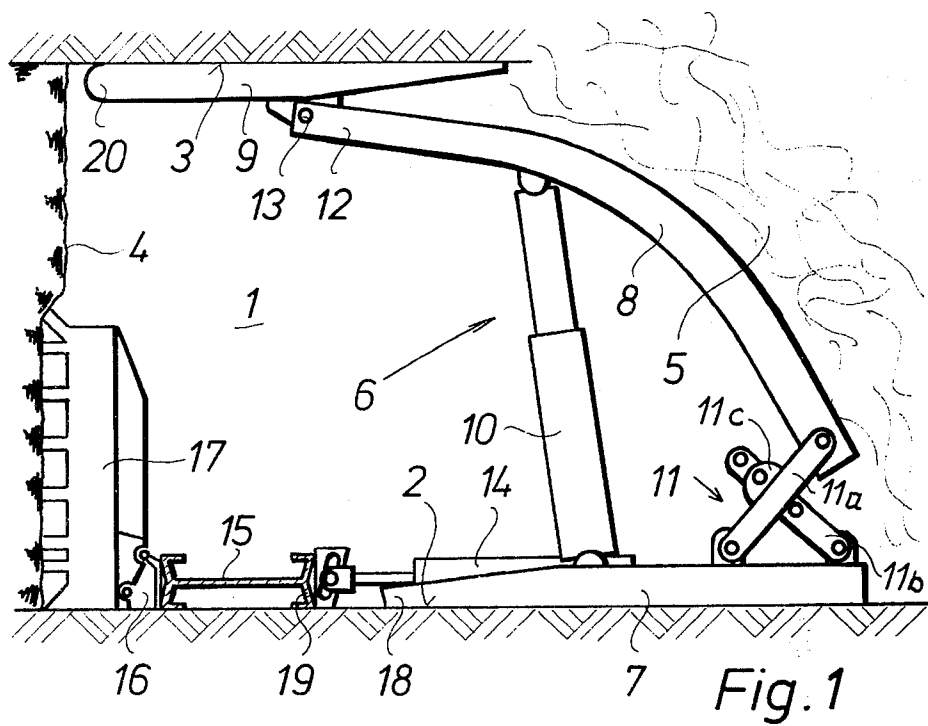
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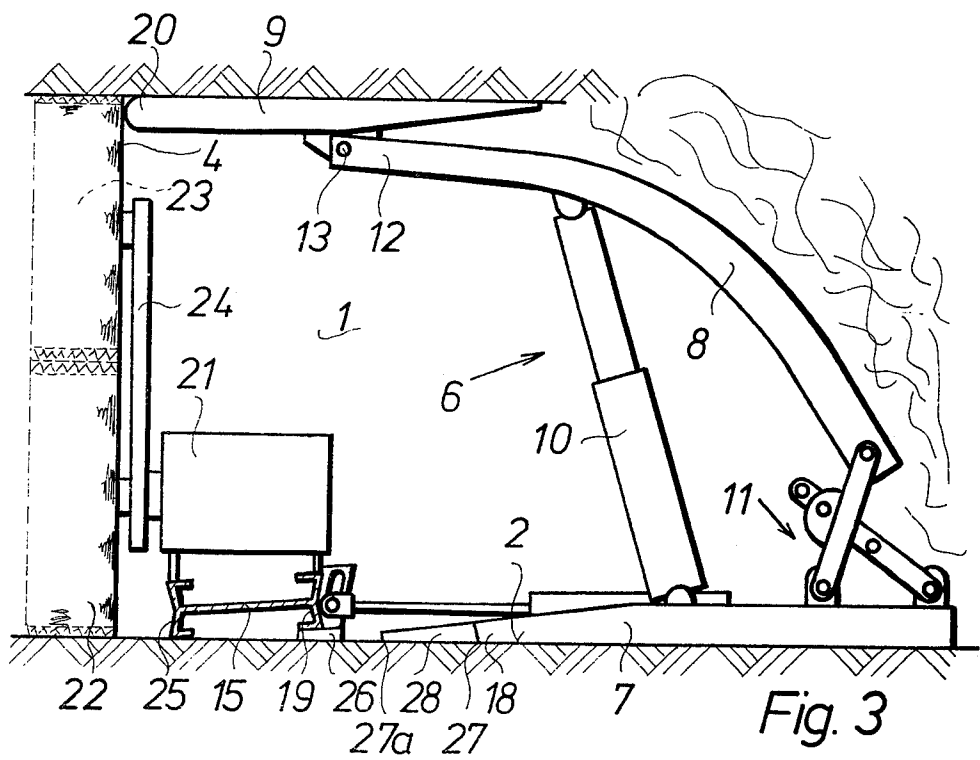
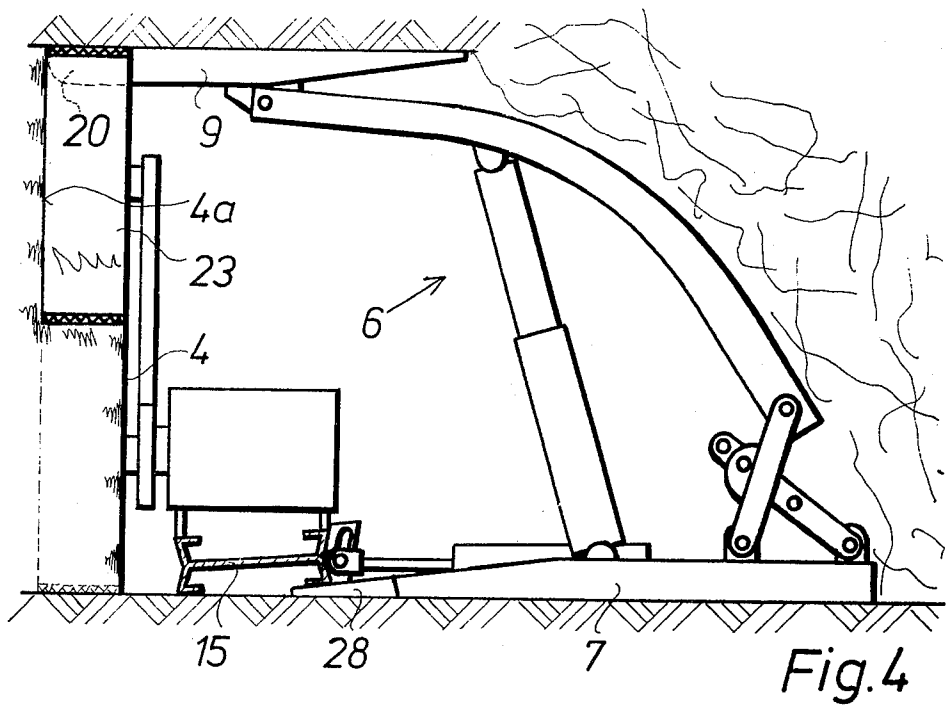
ABSTRACT

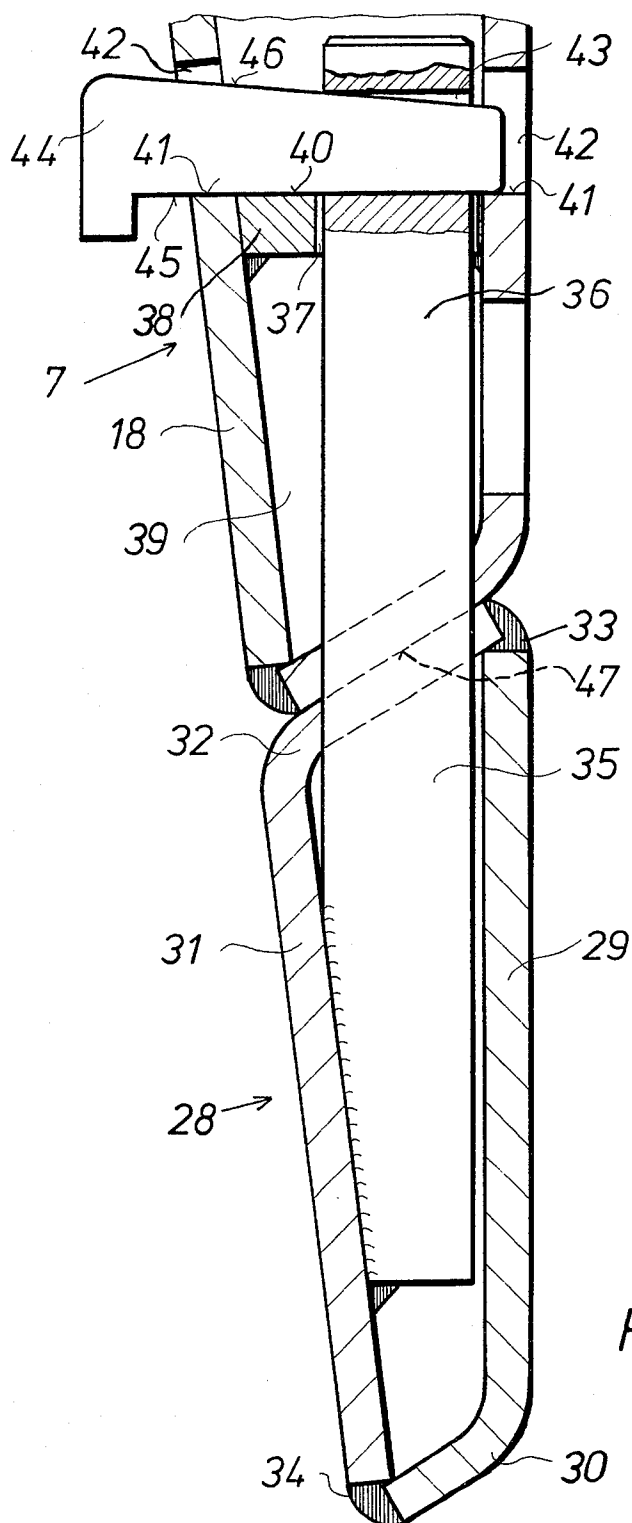
A mobile mine roof support in which a rear shield is pivotally and shiftably attached at one end to the rear end of a sole plate and extends upwardly and forwardly curved therefrom. A mine roof supporting cap is pivotally attached intermediate its ends to the other end of the rear shield and an extensible and contractable prop is pivotally connected at opposite ends to the sole plate and the rear shield, respectively, to thereby press the cap against the roof of a mine gallery, whereby depending on the extension and inclination of the prop, the vertical distance between the sole plate and cap as well as the horizontal distance between the front end of the cap and the front end of the sole plate may be changed. To prevent tipping over of the mine roof support under the pressure of the mine roof exerted on the cap, when the front end of the latter extends too far beyond the front end of the sole plate, extension means are provided which are releasably but rigidly attachable to the front end of the sole plate to rest, as the latter, on the floor of the mine gallery.

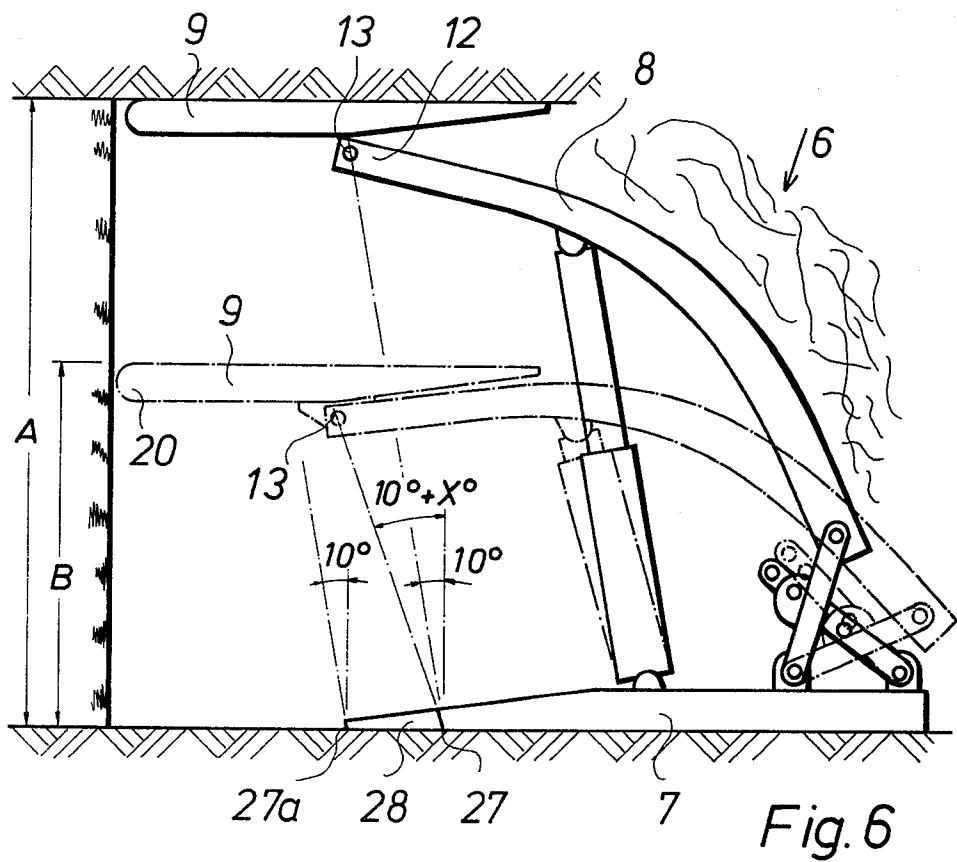
12 Claims, 6 Drawing Figures











MOBILE MINE ROOF SUPPORT WITH MINING APPARATUS

BACKGROUND OF THE INVENTION

The present invention relates to a mobile mine roof support for supporting the roof of a mine gallery or similar underground excavations. Such a mobile mine roof support may comprise a sole plate adapted to rest on the floor of the mine gallery, a rear shield linked in the region of its rear end to the region of the rear end of the sole plate and extending upwardly and forwardly curved therefrom towards the mine face, and mine roof supporting cap pivotally connected to the free end of the rear shield, at least one extensible and contractable prop pivotally connected at opposite ends to the sole plate and the rear shield or the cap, respectively, and moving means extending between and connected at opposite ends, respectively, to the sole plate and to a support or abutment, which may for instance be a conveyor extending along the mine face and provided with a guide for guiding movement of a mining apparatus in longitudinal direction of the mine face.

Arrangements of this type are known in the art and such arrangements are used in connection with a mining apparatus in form of a planar movable in longitudinal and vertical direction of the mine face, as well as with mining apparatus which includes rotary cutters, whereby, however, the arrangement of the conveyor means relative to the mine gallery as well as the arrangement of the mine roof support relative to the conveyor means will be slightly different depending on the mining apparatus used.

As a rule, when the mining apparatus is in form of a planer, the conveyor means, which guides the planer movable in longitudinal direction the conveyor means is, at the start of the mining operation located closely adjacent to the front end of the sole plate while the front end of the mine roof supporting cap is closely adjacent to the mine face. As the mining proceeds, the conveyor means is, corresponding to the depth of the cut produced by the planer, stepwise advanced by the moving means toward the new mine face thus produced while the mine roof support remains stationarily so that the distance between the front edge of the cap from the mine face gradually increases. After the conveyor means with the mining apparatus guided thereon has thus been advanced relative to the stationarily held mine roof support to the maximum extent derivable from the moving means, the mine roof support, respectively a plurality of such mine roof supports arranged along the conveyor means are now advanced by means of the moving means and the now stationarily held conveyor means toward the mine face so that the front end of the sole plate will again be closely adjacent to the conveyor means and the front edge of the cap closely adjacent to the mine face. It is to be understood that during such an advance of the mine roof support the cap thereof has to be slightly disengaged from the roof of the mine gallery.

During use of mining apparatus with rotary cutters, it was so far common practice to mount the conveyor means in a trough-shaped frame provided with sleds abutting against the floor of the mine gallery so that a front portion of the sole plate of the mine roof support could be moved beneath the conveyor means. At the start of the mining operation the front end of the sole plate of each mine roof support is in such an arrange-

ment located beneath the side of the conveyor facing away from the mine face, whereas the front edge of the cap is at the mine face. Immediately after a portion of the mine face adjacent the roof has been cut out by the rotary cutter, the mine roof support is advanced toward the mine face in such a manner that the front end of the sole plate will advance beneath the conveyor toward the mine face until the front edge of the cap will again be closely adjacent to the newly formed mine face.

Even though the two above-described methods have been successfully used, they have the disadvantage that the mine roof supports used for the respective method were designed only for one of these methods and in dependence on the height of the layer or seam to be mined. Since the mine roof supports permit only an adjustment of the vertical distance between sole plate and cap within relatively small limits, a height adjustment beyond a predetermined maximum adjustment will either lead to a greater horizontal distance of the front edge of the cap from the mine face, which may lead to an insufficient and dangerous support of the mine roof, or to a positioning of the front end of the rear shield, to which the cap is pivotally attached, out of a safety zone at which the front end of the rear shield is located in a plane which includes a vertical plane passing through the front end of the sole plate a maximum angle of 10° , in which case the danger exists that the mine roof support will tilt about the front edge of the sole plate under the influence of the force acting between the cap and the mine roof.

Therefore, it was up to now necessary to provide a special construction for each specific use of the mine roof support, which evidently required a considerable expenditure.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a mobile mine roof support constructed in such a manner that it may be usable in connection with mining apparatus in form of a planer reciprocable along the mine face or with mining apparatus including rotary cutting tools.

It is a further object of the present invention to provide for a mine roof support of the aforementioned kind in which, depending on the height of the layer or seam to be mined, the distance between the sole plate and the roof supporting cap may be adjusted within wide limits while still properly supporting the mine roof during the mining operation.

These objects are mainly obtained by providing rigid extension means which may be rigidly, but releasably, connected to the front end of the sole plate of the mine roof support so as to form a rigid forward extension of the latter in engagement with the floor of the mine gallery when during the mining operation the front edge of the roof supporting cap has to be located a considerable distance forwardly of the front end of the sole plate.

The possibility to attach to the front end of the sole plate an extension permits in an extremely simple manner and with a minimum of expenditure to adapt a mine roof support for use with either of the aforementioned mining apparatus and for mining operations in which the height of the layer or seam to be mined may vary considerably. When a mine roof support constructed for use in mines in which the seam to be mined has a great height is to be used in mines having a mine seam of relatively small height, the point of the mine roof

supporting cap which is pivotally connected to the free end of the rear shield will, when the cap is lowered toward the sole plate, automatically be moved a considerable distance forwardly of the front end of the sole plate, resulting in the danger of tipping of the mine roof support about the front end of the sole plate. In such a case it was up to now necessary to exchange the sole plate against a longer one, the front end of which will then be again adjacent to the mine face so that the point of pivotal connection of the cap to the front end of the rear shield will be located within the aforementioned safety zone. According to the present invention it is only necessary to rigidly attach the extension projecting forwardly from the front end of the sole plate so that the front end of the thus extended sole plate will again be positioned within the aforementioned safety zone. An essential advantage of this construction is also that the free cross-section of the mine gallery will not be reduced since by providing the sole plate extension the mine roof support has not to be advanced toward the mine face so that a free space of sufficient cross-section may be maintained between the mine face and the rear shield which is especially advantageous for the proper ventilation of the mine gallery. A further essential advantage according to the present invention is that the width of the mining tool respectively the depth of the cut carried out thereby may be varied considerably without requiring any essential modification of the mine roof support.

The provision of an extension which can be rigidly attached to the sole plate, projecting forwardly therefrom, has also the advantage that when a mining apparatus with rotary cutters is used and in which the mining apparatus is guided on the conveyor, the wall of the conveyor facing the mine face may be mounted with its lower edge directly on the floor of the mine gallery and only the opposite wall must be spaced from the floor so that the extension may be moved for a desired distance beneath the conveyor. The necessary expenditure for the conveyor is thereby reduced since the frame for holding the conveyor spaced from the mine floor may be omitted. At the same time the loading height for the mined material is considerably reduced and thereby the necessary expenditure of energy for the loading operation will likewise be decreased.

The width of the extension is preferably substantially equal to the width of the sole plate and the sole plate is preferably provided with a hollow space extending rearwardly from the front end thereof, while the extension may have a first portion projecting, when the extension is attached to the sole plate, forwardly from the front end of the latter. This first portion preferably tapers in a direction away from the front end of the sole plate, while a second portion of the extension projects into the hollow space of the sole plate and is adapted to be fixedly connected in this hollow space to the sole plate. The mentioned first portion of the extension is preferably in the form of a housing formed from two plates or heavy sheet metal members which are bent at opposite ends toward each other and welded at these ends to each other. The front end of the extension is preferably bent upwardly so it may be easily pushed over any uneven portion of the mine floor. The aforementioned second portion of the extension is preferably plate- or rod-shaped and welded with a part thereof located in the aforementioned housing to the latter, whereas the rearwardly extended portion projects into

the hollow space formed in the sole plate so as to be adapted to be rigidly, but releasably, connected thereto.

The connection of the rearwardly projecting portion of the extension to the front portion of the sole plate is preferably carried out with a self-locking key. Such a construction is simple since the attachment as well as the loosening of the key can be carried out even under the rough operating conditions in a mine in a very simple manner.

Preferably vertically aligned openings are formed in the opposite walls which define the hollow space in the front portion of the sole plate and a corresponding opening is formed in the rearwardly projecting portion of the extension in this opening is alignable with the openings in the aforementioned walls so that a key may be pushed through the aligned openings. The faces of the openings in the walls which are closer to the mine face form thereby abutment faces for the key, whereas the face of the opening in the second portion of the extension which is further spaced from the mine face forms the tightening face for the key. Preferably, reinforcing means are provided within the hollow space of the sole plate adjacent to the aforementioned abutment faces and these reinforcing means are preferably arranged in such a manner that they will also properly center the rod-shaped or plate-shaped second portion of the extension.

The front end of the sole plate has preferably a front face inclined to the vertical and the first portion of the extension has a rear face inclined corresponding to the inclination of the front face of the sole plate and abuts against the latter. The abutting joint between the rear face of the first portion of the extension and the front face of the sole plate is inclined toward the mine face and forms thereby a positive support against turning moments produced by a vertical force acting on the front end of the extension.

The novel features which are considered as characteristic for the invention are set forth in particular in the appended claims. The invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the following description of specific embodiments when read in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a vertical cross-section through a mine gallery and showing a side view of a mine roof support, together with a conveyor, shown in section, and a mining apparatus in form of a planer in front of the conveyor;

FIG. 2 is a view similar to FIG. 1 after the mining apparatus has taken several cuts off the mine face;

FIG. 3 is a view similar to FIG. 1 in which the mining apparatus is replaced by a different mining apparatus having rotary cutters;

FIG. 4 is a view similar to FIG. 3 in which the one of the cutters has cut through part of the mine seam adjacent the mine roof;

FIG. 5 is a vertical cross-section through the front portion of a sole plate of the mining apparatus illustrated in FIGS. 1-4 with an extension attached thereto; and

FIG. 6 schematically illustrates a cross-section through a mine gallery and showing a mine roof support in side view in two differently adjusted positions.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The various Figures illustrate schematically a cross-section through a mine gallery 1 having a mine floor 2, a mine roof 3 and a mine face 4. As shown in FIG. 1, the mine roof 3 is supported against cave-in by a mobile mine roof support 6 which comprises a sole plate 7 resting on the floor of the mine gallery, a rear shield 8 having a lower rear end connected by a linkage 11 to a rear portion of the sole plate 7 and curving upwardly and forwardly from its rear end toward the roof 3 of the mine gallery. A mine roof supporting cap 9 is pivotally connected intermediate its ends at 13 to the upper end 12 of the rear shield 8. The mine roof supporting cap 9 is pressed against the mine roof 3 by means of extensible and collapsible prop means 10 pivotally connected at opposite ends to the sole plate 7, intermediate the ends of the latter, and to the rear shield 8, likewise intermediate the ends of the same. The aforementioned prop means may be constituted by a single or a plurality of props 10 having a lower cylinder part and upper piston part slidably guided in the cylinder part and movable into and out of the same by feeding hydraulic fluid in a known manner into or out from the cylinder part. The linkage 11 which connects the lower end of the rear shield 8 to the rear portion of the sole plate may comprise a link 11a pivotally connected at opposite ends to the lower end of the rear shield and to the sole plate 7, forwardly of the rear end thereof, and a second link 11b pivotally connected to the rear end of the sole plate 7. The link 11a carries a connecting member 11c connecting the link 11a to the second link 11b at different positions.

The rear shield 8 curving upwardly and forwardly from its lower end toward the mine roof holds back loose rock forming mine filling at the right side, as viewed in FIG. 1, of the rear shield.

The mobile mine roof support 6 is connected by hydraulically operated moving means in the form of cylinder and piston means 14 with conveyor means 15 extending along the mine gallery. The conveyor means 15 may, for instance, be constituted by a scraper conveyor comprising a plurality of troughs hingedly connected to each other and extending, as mentioned before, in longitudinal direction to the mine gallery. On the side directed toward the face 4 of the mine gallery, the conveyor means 15 is preferably provided with a longitudinally extending guide 16 for guiding a mining apparatus 17, shown in FIGS. 1 and 2 as a planer movable along the mine face 4.

FIG. 1 illustrates the position of the mine roof support 6, the conveyor 15 and the mining apparatus 17 at the start of the mining operation at which the mining apparatus has taken a first cut through the mine face 4, in which the front end 18 of the sole plate 7 is located closely adjacent to the side of the conveyor 15 facing away from the mine face, and in which the front edge 20 of the mine roof supporting cap 9 is closely adjacent to the face 4 of the mine gallery.

FIG. 2 illustrates the mine gallery after the mining apparatus 17 has taken several cuts and the mine face is therefore advanced to the position 4a as shown in FIG. 2. The front edge 20 of the cap 9 is therefore spaced a greater distance from the mine face 4a, than shown in FIG. 1 and the end 18 of the sole plate 7 is likewise spaced a considerable distance from the side wall 19 of

the conveyor 15 which has been advanced by the moving means 14 together with the mining apparatus 17 as the latter has taken several cuts along the mine face. In the position of the various elements as shown in FIG. 2 it will be necessary to move the front edge 20 of the cap towards the mine face 4a to properly support the mine roof 3 and for this purpose, the mine roof support is moved by means of the moving means 14 toward the mine face 4a, whereby the conveyor 15 serves as anchoring means. It is to be understood that during such movement the cap 9 is slightly disengaged from the mine roof by slightly collapsing the prop or props 10, and after the forward movement has been carried out the props are again extended so that the cap is again properly pressed against the mine roof.

FIG. 3 illustrates a mine roof support 6 as described above located in a mine gallery 1 in which the cutting apparatus 21 guided for movement in longitudinal direction of the mine gallery on the conveyor means 15 comprises two rotary cutter rolls 22 and 23 mounted on the body of the mining apparatus by means of adjustable arms 24 and rotatable about their axes in a known manner.

The conveyor 15 abuts with a side wall 25 facing the face 4 of the mine gallery on the floor 2 of the same, whereas the opposite wall 19 of the conveyor 15 is supported on skids or sleds 26 upwardly spaced from the floor 2.

As shown in FIG. 3, the front edge 20 of the cap 9 is directly adjacent to the mine face 4, whereas the end 18 of the sole plate 7 is spaced from the wall 19 of the conveyor 15. The cutter rolls 23 and 24 are shown displaced in a direction normal to the drawing plane with respect to the mine roof support 6. It will be likewise noticed from FIG. 3 that the prop 10 is inclined further toward the mine face 4 than in FIGS. 1 and 2. This inclination is produced by positioning the rear shield 8 by means of the linkage 11 closer toward the mine face 4 than in the position as shown in FIGS. 1 and 2. In this position, the pivot point 13 at which the cap 9 is linked to the front end 12 of the rear shield 8 is located forwardly of the front end 27 of the sole plate 7 and outside of a safety zone defined by a forwardly inclined plane passing through the front end 27 of the sole plate and including an angle of 10° with a vertical plane. In such a situation the mine roof support 6 becomes top heavy, that is, the danger exists that the mine roof support would tip about the front edge 27 of the sole plate 7 under the counter pressure exerted by the mine roof on the cap 9. In order to avoid this danger, an extension 28 is rigidly, but releasably, connected to the front end 18 of the sole plate, projecting forwardly therefrom while resting on the floor of the mine gallery. By providing the extension 28, the front end 27 of the sole plate is now advanced to the point 27a towards the mine face so that the pivot point 13 will be located within the safety zone of 10°, mentioned above.

If the extension 28 were not provided, then it would be necessary to advance the sole plate 7 and therewith also the prop 10 towards the mine face 4, which, however, would narrow the free space in the mine gallery 1, which in turn would result in reducing the working space in the mine gallery and corresponding difficulties in proper ventilation of the same. The extension 28 according to the present invention obviates these disadvantages while at the same time permitting a proper support of the roof of the mine gallery.

FIG. 4 illustrates the situation in which the upper cutter roll 23 has moved already laterally beyond the cap 9, whereas the lower cutter roll is still located forwardly at the mine roof support. Due to the provision of the extension it is now possible immediately after the upper cutting roll has moved laterally of the mine roof support to advance the latter toward the mine face portion 4a so that the cap 9 with its front edge 20 will be located immediately adjacent the new face portion 4a. The sole plate 7 with its extension 28 is thereby advanced, as shown in FIG. 4, beneath the side wall of the conveyor 15 which is spaced by means of the skids 26 from the sole of the mine gallery.

The extension 28 and its connection to the front portion 18 of the sole plate 7 is illustrated in further detail in FIG. 5. As shown in FIG. 5, the extension 28 comprises a member 29 formed from heavy sheet metal and adapted to rest on the sole of the mine gallery and having an upwardly bent front end 30 and another heavy sheet metal member 31 having a downwardly bent rear portion 32. The two sheet metal members 29 and 31 are welded together at 33 and 34 to form a hollow housing or first portion of the extension 28.

The extension 28 has a second rod-shaped or plate-shaped portion 35 having a front part in the interior of the aforementioned housing and being welded for instance to the member 31. The second portion 35 may be constituted by a single plate of corresponding width or by a plurality of rods spaced transversely from each other. The rod- or plate-shaped portion 35 projects with its free end portion 36 into the hollow end portion 18 of the sole plate 7. The end portion 36 traverses thereby an opening 37 formed in a reinforcement 38 in the interior 39 of the end portion 18 of the sole plate 7. The reinforcement 37 has an abutment face 40 located in a vertical plane with faces 41 partly defining vertical openings 42 in the walls of the sole plate 7. The end portion 36 of the member 35 is provided with a vertical opening 43 which, when the extension 28 is connected to the front of the sole plate 7, is aligned with the vertical openings 42 in the front portion of the sole plate. In order to connect the extension 28 to the front end portion of the sole plate 7, a key 44 is driven from above through the vertically aligned openings 42 and 43. Thereby the face 45 of the key will abut against the faces 40 and 41, whereas the opposite face 46 of the key, which is slightly inclined to the face 45 thereof, will abut against the rear face of the opening 43 to thereby press the rear wall 32 of the first portion of the extension 28 against the front face 47 of the end portion 18 of the sole plate. The extension 28 is thereby rigidly connected to the front portion of the sole plate 7. Since the end portion 36 of the second portion 35 of the extension 28 is centrally guided in the opening 37, any turning moment acting on the front tip of the extension 28 will be taken up by the abutment of the wall portion 32 against the front face 47 as well as by the centralizing of the end of the portion 36 in the opening 37.

The advantageous characteristics of the mine roof support according to the present invention are schematically illustrated in FIG. 6 for two mine galleries having seams of different height A and B. The mine support is constructed for the seam height A in such a manner that the pivot point 13 between the free end 12 of the rear shield 8 and the cap 9 is located within the

safety zone of 10° relative to the front end 27 of the sole plate 7.

The use of the same mine roof support in a mine gallery with a seam height B would result in placing the pivot point 13 relative to the front end 27 of the sole plate outside of the safety zone of 10°. In this case it would be necessary in order to prevent tilting of the mine roof support 6 about the front end 27 of the sole plate to move either the pivot point 13 and therewith the front edge 20 of the cap 9 rearwardly away from the face of the mine gallery, or to use a sole plate 7 which has a greater length than that shown in FIG. 6. In both cases considerable disadvantages would result since in the first case, the mine roof would not be properly supported, whereas in the second case a considerable expenditure for providing a new and longer sole plate would result.

According to the present invention it is however only necessary to rigidly connect the extension 28 to the sole plate, projecting forwardly therefrom, so that the pivot point 13 will now be located within the safety zone of 10° as considered now with regard to the forwardly extended end 27a of the sole plate.

It will be understood that each of the elements described above, or two or more together, may also find a useful application in other types of mine roof supports differing from the types described above.

While the invention has been illustrated and described as embodied in a mine roof support provided with an extension adapted to be rigidly but releasably connected to the front end of the sole plate, it is not intended to be limited to the details shown since various modifications and structural changes may be made without departing in any way from the spirit of the present invention.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can by applying current knowledge readily adapt it for various applications without omitting features that, from the standpoint of prior art fairly constitute essential characteristics of the generic or specific aspects of this invention and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalence of the following claims.

What is claimed as new and desired to be protected by Letters Patent is set forth in the appended:

1. A mobile mine roof support for use in mine galleries of greatly different height, comprising elongated sole plate means arranged to rest on the floor of a mine gallery and having a front end directed to the face of the mine gallery and a rear end; a rear shield member having one end in the region of said rear end of said sole plate means and extending from said one end upwardly and forwardly towards the mine face; an elongated roof supporting cap member attached to the other end of said rear shield member pivotable about a pivot axis substantially parallel to said sole plate means, said cap member having a front end projecting forwardly beyond said front end of said sole plate means and adapted to be arranged closely adjacent to the mine face; extensible and collapsible prop means pivotally attached at opposite ends, respectively, to a portion of said sole plate means intermediate the ends of the same and to one of said member for pressing said cap member against the mine roof; means for pivotally and forwardly and rearwardly shiftable connecting said one end of said rear shield member to said rear end of

said sole plate means so that regardless of the extension of said prop means, said front end of said cap member can be maintained closely adjacent to the mine face; elongated conveyor means extending transverse to said sole plate means and located between said front end of said sole plate means and the face of the mine gallery; moving means extending between and connected to said conveyor means and said sole plate means for moving said mine roof support and said conveyor means relative to each other toward and away from the mine face; and rigid extension means releasably connectable to said front end of said sole plate means to form, when connected, a rigid forward extension of the latter in engagement with the floor of the mine gallery to prevent tipping of the mine roof support under the pressure of the roof of the mine gallery on said cap member.

2. A mobile mine roof support as defined in claim 1, wherein said prop means is attached at one of said ends to said rear shield member and wherein said cap member is pivotally attached intermediate its ends to said other end of said rear shield member.

3. A mobile mine roof support as defined in claim 2, wherein the front end of the connected extension means is located closely adjacent to a vertical plane passing through said pivot axis.

4. A mobile mine roof support as defined in claim 1, wherein said means for connecting said one end of said rear shield member to said rear end of said sole plate comprise linkage means pivotally attached at opposite ends to said one end of said rear shield member and said rear end of said sole plate means.

5. A mobile mine support as defined in claim 1, and including guide means on said elongated conveyor means extending in the direction of the elongation thereof, and a mining apparatus guided by said guide means for movement along the mine face.

6. A mobile mine roof support for use in mine galleries of greatly differing height, comprising elongated sole plate means arranged to rest on the floor of a mine gallery and having a front end directed to the face of the mine gallery, a rear end, and provided with a hollow space extending rearwardly from said front end; a rear shield member having one end in the region of said rear end of said sole plate means and extending from said one end upwardly and forwardly towards the mine face; means for pivotally and shiftably connecting said one end of the rear shield member to said rear end of said sole plate means; an elongated roof supporting cap member attached to the other end of said rear shield member pivotable about a pivot axis substantially parallel to said sole plate means; extensible and collapsible prop means pivotally attached at opposite ends, respectively, to a portion of said sole plate means intermediate the ends of the same and to one of said members for

pressing said cap member against said mine roof; elongated conveyor means extending transverse to said sole plate means and located between said front end of said sole plate means and the face of the mine gallery; moving means extending between and connected to said conveyor means and said sole plate means for moving said conveyor means and said mine roof support relative to each other toward and away from said mine face; and rigid extension means releasably connectable to said front end of said sole plate means to form, when connected, a rigid forward extension of the latter in engagement with the floor of the mine gallery to prevent tipping of the mine roof support under the pressure of the roof of the mine gallery on said cap member, said extension means having a width substantially equal to the width of said sole plate means and having a first portion extending forwardly from said front end of said sole plate means and tapering in a direction away from said front end, and a second portion extending into said hollow space and being fixedly connectable therein to said sole plate means.

7. A mobile mine roof support as defined in claim 6, and including self-locking key means for connecting said second portion of said extension to said sole plate means.

8. A mobile mine roof support as defined in claim 7, wherein said hollow space is defined by a pair of opposite walls which are formed with aligned openings, and wherein said second portion of said extension means is formed with an opening alignable with said openings in said walls, said key means extending through said openings in said walls and that in said second portion for attaching said extension means to said front end of said sole plate means.

9. A mobile mine roof support as defined in claim 8, wherein said openings in said walls and said second portion are alignable in vertical direction.

10. A mobile mine roof support as defined in claim 9, and including reinforcing means in said hollow space adjacent at least one of said openings in said walls.

11. A mobile mine roof support as defined in claim 6, wherein said front end of said sole plate means has a front face inclined to the vertical and wherein said first portion of the extension has a rear face inclined corresponding to the inclination of said front face and abutting against the latter.

12. A mobile mine roof support as defined in claim 6, wherein said first portion of said extension means is formed as an elongated hollow, substantially closed, housing having a rear end provided with an opening, and wherein said second portion comprises at least one elongated member having a front part located in and fixed to said housing and a rear part projecting through said opening into said hollow space.

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