Feb. 3, 1942. Y. KIDA 2,272,013

METHOD OF MINING

Filed Sept. 21, 1939

Fig.1.

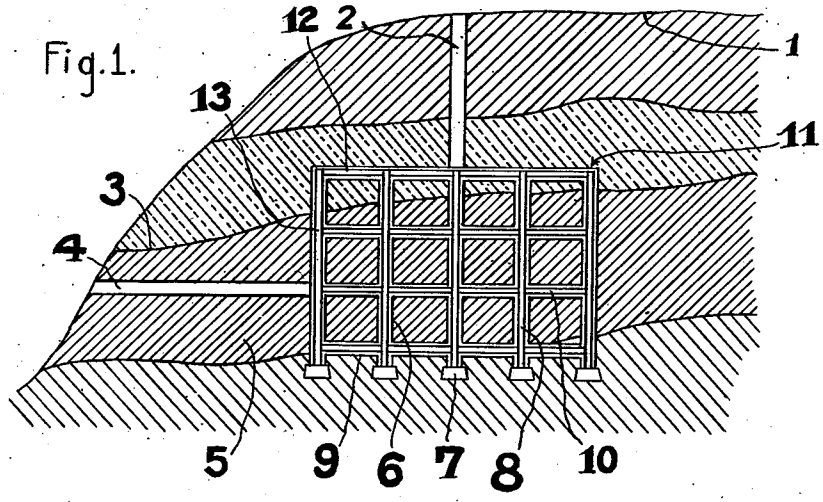
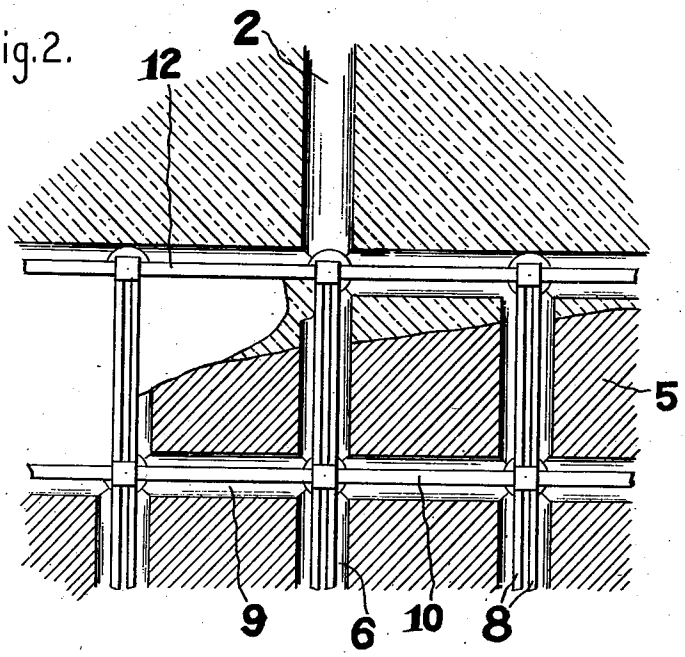


Fig.2.



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METHOD OF MINING

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2 Claims. (Cl. 262—1)

This invention relates to a method of mining, and has for its object to work the deposit so as to extract the mineral completely in most economical manner.

In the heretofore practised method of mining, it is usually necessary to sacrifice a considerable proportion of the mineral which is left in the shape of pillars to support the surface or overlying strata to avoid injury to valuable structures or to prevent the fall of the roof or side walls. Consequently, such method can not be recognized as an ideal method from an economical standpoint of view. This invention aims to work the ore deposit so as to extract the mineral completely, and according to this invention the method consists in sinking shafts in the ore deposit at suitable intervals, erecting pillars or timber supports in said shafts, mounting horizontal beams connecting said pillars so as to thus erect a framework, and if necessary making a ceiling, and then extracting the mineral within said framework completely.

In the accompanying drawing:

Figure 1 is a vertical sectional view illustrating the method of mining according to this invention, and

Figure 2 shows in detail a portion of Figure 1 in an enlarged scale.

In carrying out the invention, from the surface 1 a main shaft 2 is sunk, or from the inclined surface 3 a main haulage road 4 is provided. Through said shaft 2 and road 4, shafts 6 are sunk in the deposit 5 in suitable depth and at suitable intervals. Providing foundations 7 if necessary, there are erected pillars or timber supports 8 in said shafts 6, and drifts 9 at suitable positions. Through said drifts 9 horizontal beams 10 are mounted to connect supports 8 and, extracting the mineral in said shafts 6 and the drifts 9, there is erected a framework 11 within the deposit 5. Then, if necessary, a ceiling 12 and lining side walls 13 are provided to prevent the fall of the roof and the side walls. Then the deposit within said framework is worked so as to extract the mineral completely. When desired the above-mentioned method may be repeated throughout the whole area of the mine so as to extract the mineral completely.

The pillars or timber supports 8 in the shaft 2 or 6 may conveniently be utilized for the guide posts for the elevators, and the horizontal beams 10 can conveniently be used as rails for conveyors.

From the foregoing, it will be seen that, according to the method of this invention, by measuring the hardness of the ore deposit and determining the depth and intervals of the shafts the working of the deposit can be safely proceeded without any danger of the fall of the roof or side walls, and that the mineral can be extracted completely throughout the mine, so that the present invention possesses a technical progress from an economical standpoint of view.

What I claim is:

1. A method of mining comprising sinking shafts in the ore deposit at suitable intervals, erecting pillars or timber supports in said shafts, mounting horizontal beams connecting said pillars so as to thus erect a framework, and then extracting the mineral within said framework completely.

2. A method of mining comprising sinking shafts in the ore deposit at suitable intervals, erecting pillars or timber supports in said shafts, mounting horizontal beams connecting said pillars so as to thus erect a framework, providing a ceiling to prevent the fall of the roof, and then extracting the mineral within said framework completely.

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