T. A. CLARK.

METHOD OF CHANNELING AND SEVERING BY BLASTING.

APPLICATION FILED SEPT. 16, 1915.

1,195,781. Patented Aug. 22, 1916.

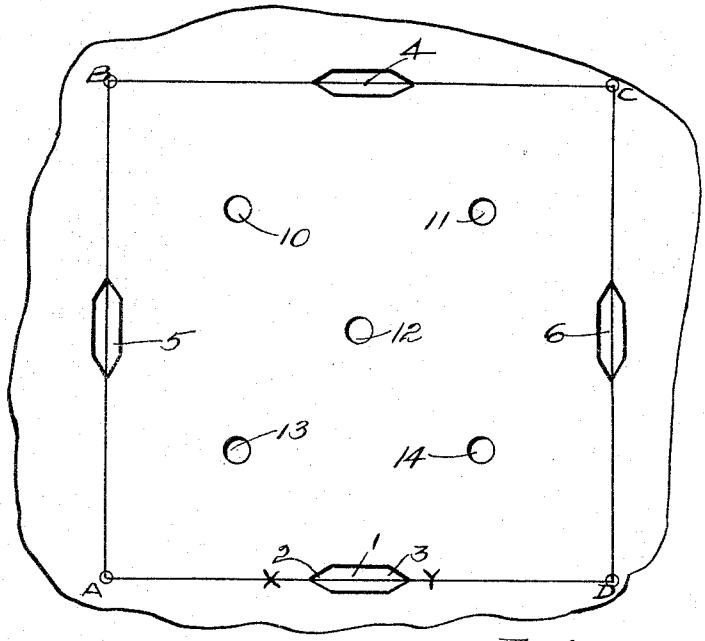


FIG. 1.

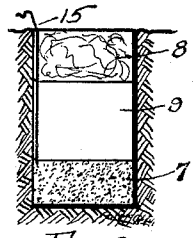


FIG. 2.

WITNESSES;
Robert McGill
H. F. Baker

INVENTOR
Tere A. Clark

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

TERE A. CLARK, OF CHICAGO, ILLINOIS.

METHOD OF CHANNELING AND SEVERING BY BLASTING.

1,195,781. Specification of Letters Patent. Patented Aug. 22, 1916.

Application filed September 16, 1915. Serial No. 51,110.

To all whom it may concern:

Be it known that I, TERE A. CLARK, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Method of Channeling and Severing by Blasting, of which the following is the specification.

My invention consists in the method of forming holes in the face or breast of the material where the tunnel, shaft or quarry is located; said holes to be vertical in the case of shaft and quarry excavation and horizontal in the case of tunnel excavation; said holes to be so formed and placed that they will locate the approximate outline of the tunnel, shaft or quarry when the blast is made, retaining in place the material forming the walls of the shafts, tunnels or quarries, and in this way adding greatly to the strength of the work and the safety of the workmen, besides saving the necessity of handling the excess of material which is occasioned by the present method of blasting. I attain this object by the method shown in the accompanying drawing.

Figure 1 is a view of the face of the material showing the drill holes, some of which are to be blasted. Fig. 2 is a sectional view along the line X—Y of Fig. 1, showing the preferred method of charging one of the holes located along the desired outline.

In my improved method of blasting, a series of holes A, B, C, D are drilled at various places around the contour of that portion of the shaft or tunnel which is to be removed, and a number of intermediate holes 3, 4, 5, 6 are drilled adjacent the roof, sides, and floor of the tunnel, or peripherally of the shaft, to receive the explosive. Each of these latter holes shall be of suitable depth and size, with oppositely located grooves as shown, for directing the line of cleavage. They shall be charged with a suitable quantity of powder, 7, and proper tamping, 8, (Fig. 2), or other suitable explosive in such manner as to form an equalizing air-chamber, 9, and to be fired separately or together by the fuse, 15, or electrically, in order to accomplish the purpose set forth. Holes 10, 11, 12, 13 and 14, suitably placed, show ordinary blast-holes and may be used to break up the body of the rock or material, subsequent to the blasts made under my said invention. I do not claim the shape of the holes 3, 4, 5, 6 as new, but simply the method of tunneling, shaft-sinking and quarrying, by using such holes along the outline to direct the line of cleavage, in combination with the (preferably round) holes not to be charged, which limit the effect and force of the blasts made within the space intended.

Claim:

The method of channeling and severing material which consists in forming a plurality of holes along the contour of the object to be severed to limit the cleavage, forming additional holes intermediate to said aforementioned holes to direct the cleavage and exerting an expansive force in said additional holes to sever the object.

TERE A. CLARK.

Witness:
S. B. MCCONNICO.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."