

# HOW TO TREAT ROCK



A visual exploration of rock treatment  
methods and their effect on architecture









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April 2017  
**UNIT 21**

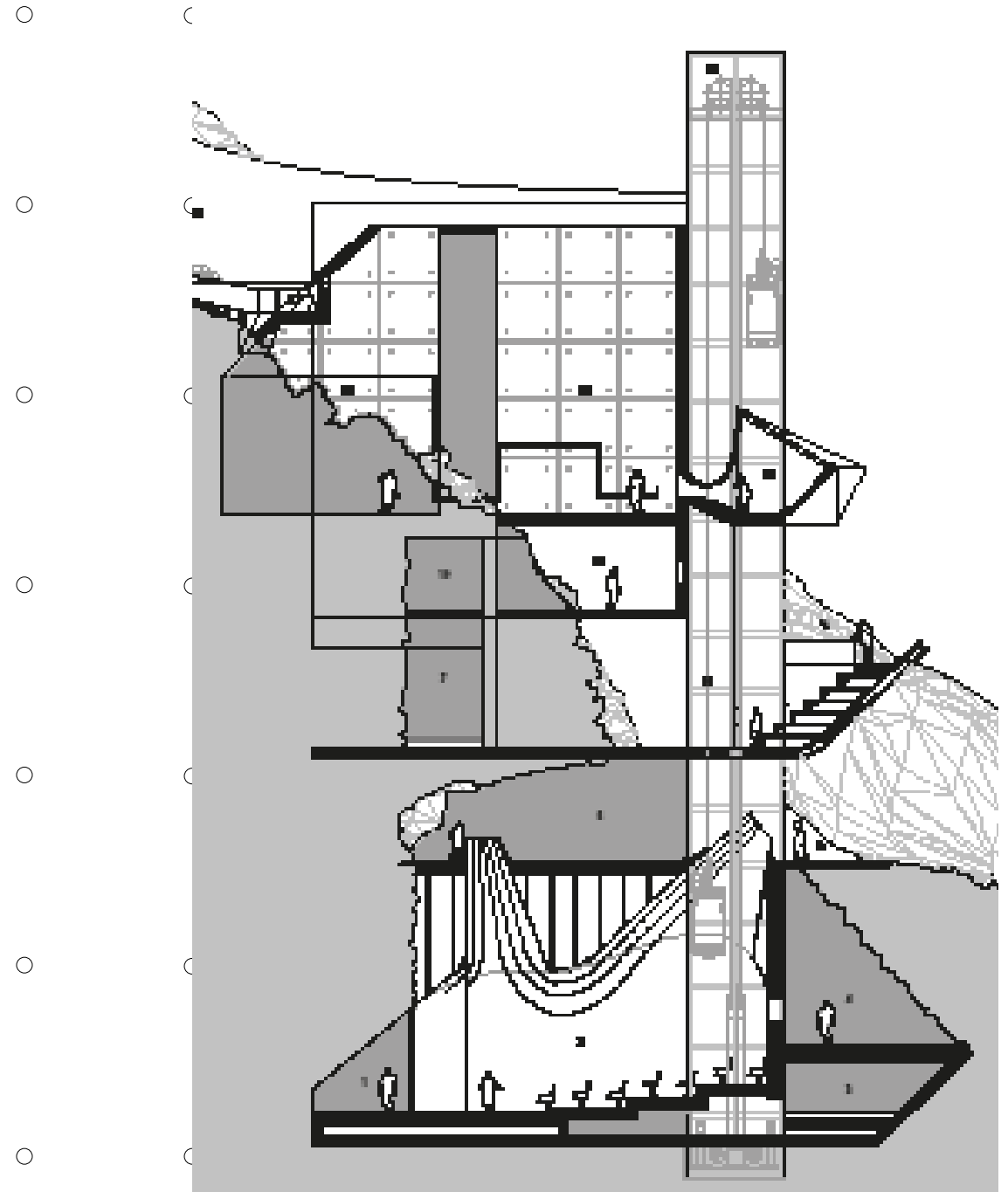
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# SECTION













## KEY

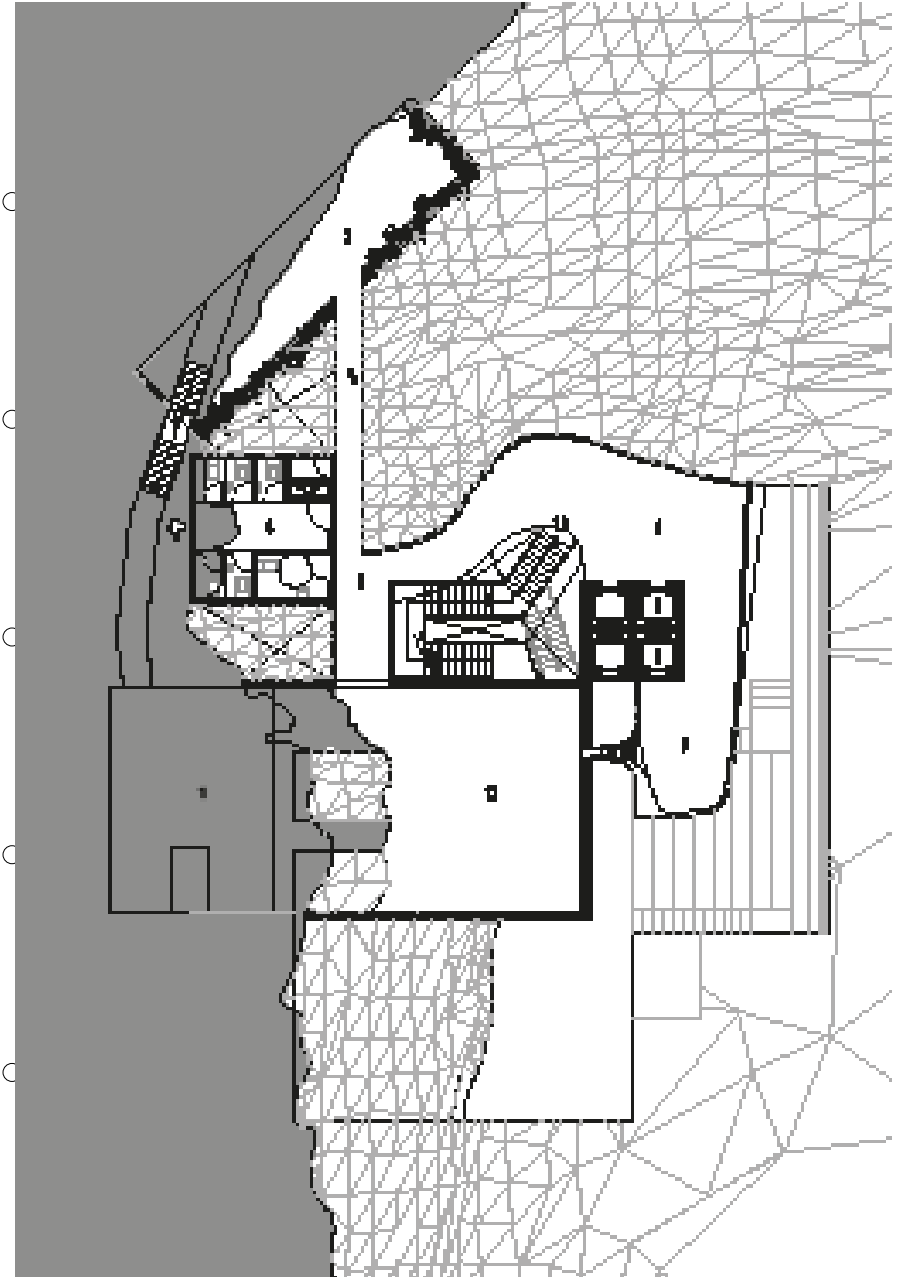
-  Transport links
-  Commune boundaries
-  Topography identification
-  Alkoholförbud radius
-  Alkoholförbud secondary radius
-  Alkoholförbud locations
-  Systembolaget shop locations
-  Threshold conditions in urban environment - study



# PLAN

## KEY

-  Transport links
-  Commune boundaries
-  Topography identification
-  Alkoholförbud radius
-  Alkoholförbud secondary radius
-  Alkoholförbud locations
-  Systembolaget shop locations
-  Threshold locations visited
-  Rock
-  Clay
-  Tunnels
-  Transitional: stone, sand, gravel



## DRILLING

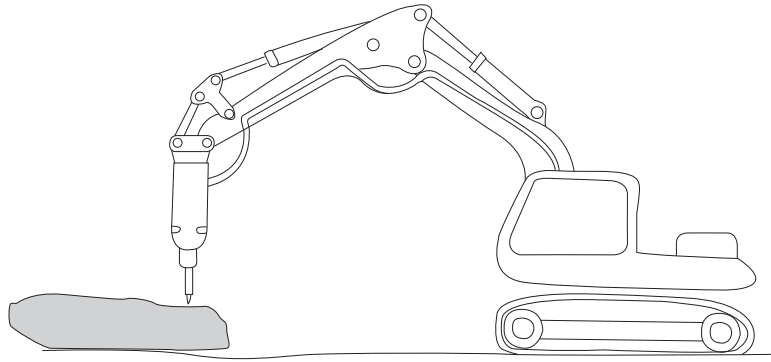


Fig.1.01

Machine drilling may be used as a method of splitting rock on it's own, or as an initial stage for any other method of handling rock.

## DRILLING

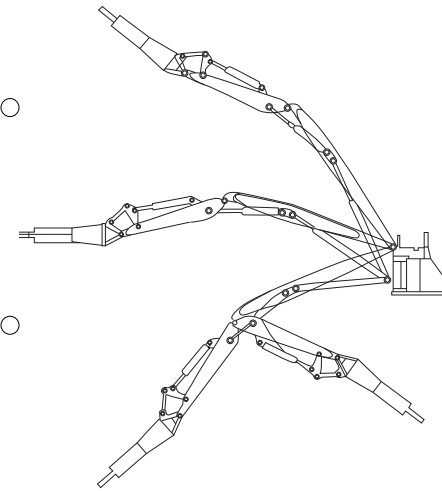


Fig.1.01  
Smaller stones can be split into pieces

Fig.1.02  
Machine Drilling may be performed at various angles

Fig.1.03  
Larger stones may be prepared for blasting

Fig.1.02

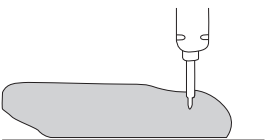
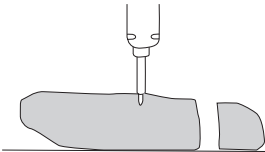
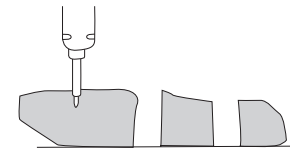


Fig.1.03

## BLASTING

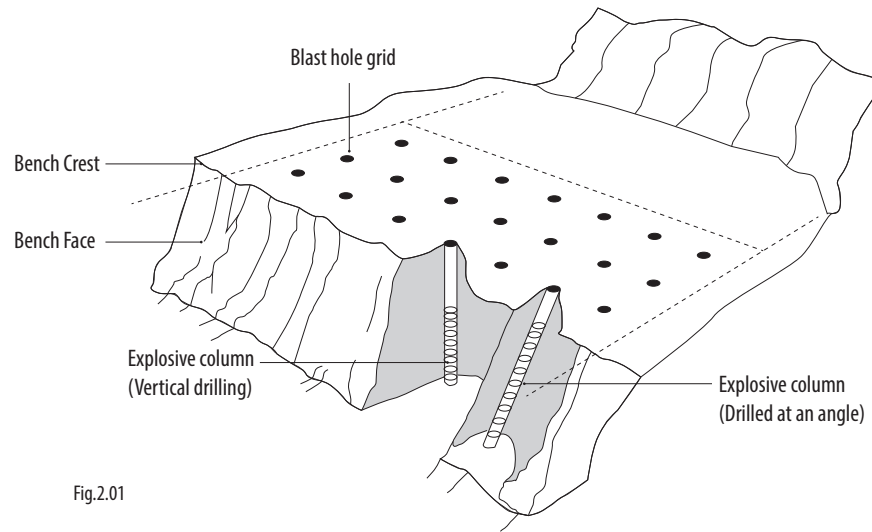


Fig.2.01

Fig.2.01  
Grid of blast holes.

## BLADE SAWING

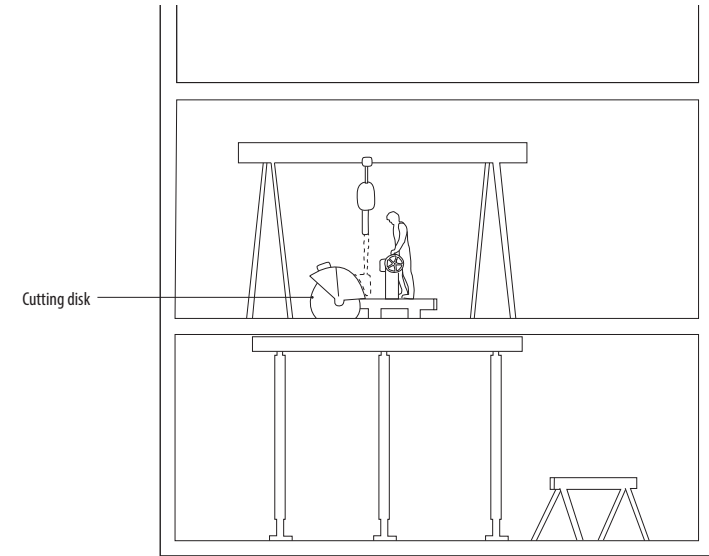


Fig.3.01

Fig.3.01  
Blade Sawing is particularly useful for cutting into the rock in places which are otherwise inaccessible to larger equipment.

## WIRE SAWING

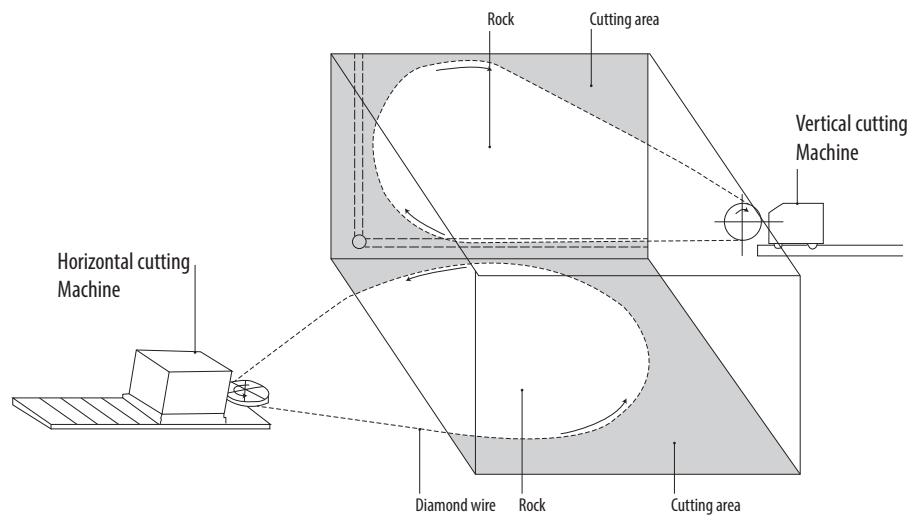


Fig.4.01

Fig.4.01  
Diamond wires can cut in vertical or horizontal planes through rock.

## WIRE SAWING

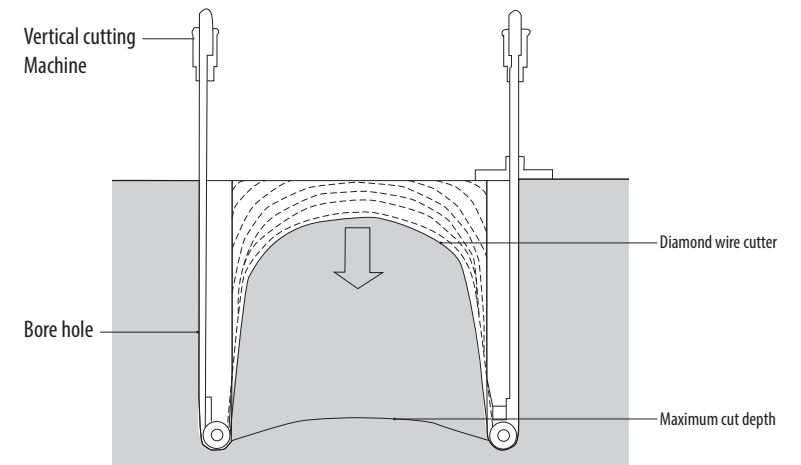


Fig.4.02

Fig.4.02  
Diamond wire sawing is used for removal of large quantities of rock.

## WEDGES & SHIMS

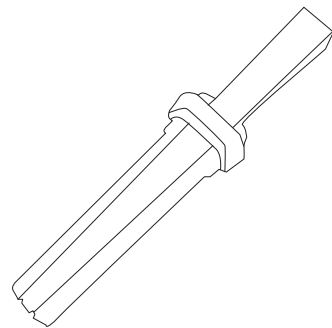
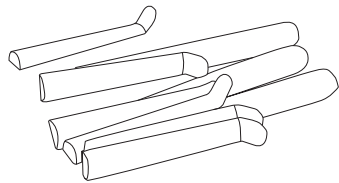
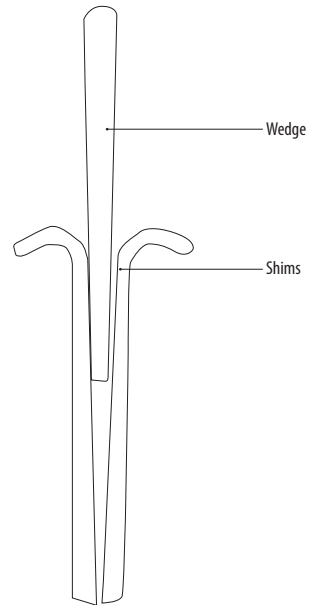


Fig.5.01



Manual method of treating rock is used in areas inaccessible to larger machinery. Finer cuts and surfaces can be achieved.

## WEDGES & SHIMS

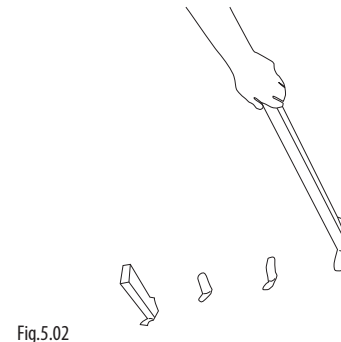


Fig.5.02

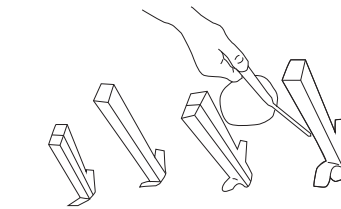


Fig.5.03

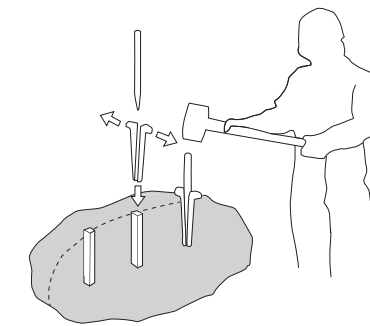


Fig.5.04

Fig.5.01  
Wedges and shims

Fig.5.02  
Placing the wedge and shims in a line

Fig.5.03  
Oiling the wedge and shims to reduce friction and aid movement

Fig.5.04  
Hammering the wedges to split the rock.



# STONEPUSHING TOOL

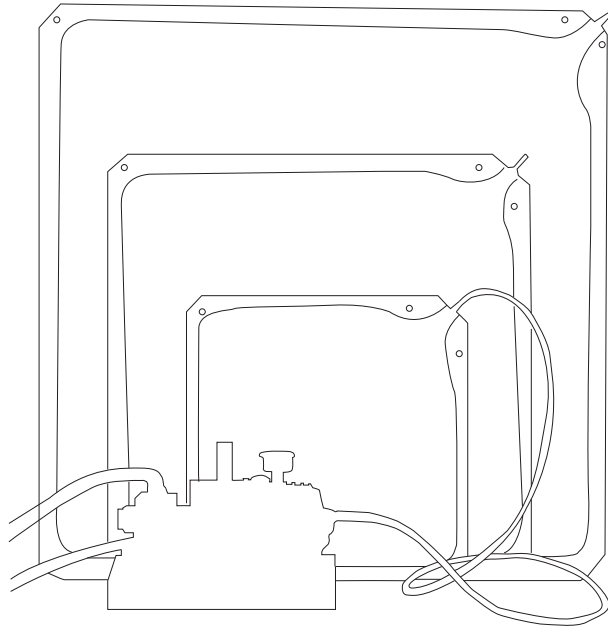


Fig.6.01

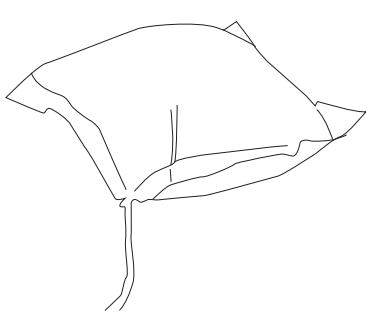


Fig.6.02

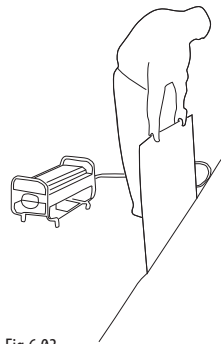


Fig.6.03

# STONEPUSHING TOOL

Where rock only has to be moved by a certain distance (to create an opening), stone pushing sheets are used.

Fig.6.01  
Various sizes of stone pushing sheets are available.

Fig.6.02  
Stone pushing sheets are inflated with air, forcing rock apart.

Fig.6.03  
Stone pushing sheets are slotted into a fissure in the rock.

SURFACE FINISHING

SURFACE FINISHING

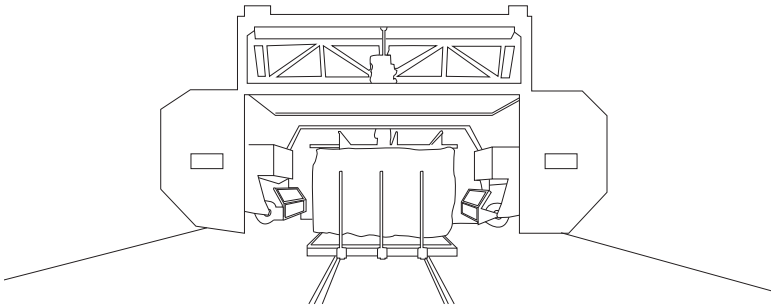


Fig.7.01

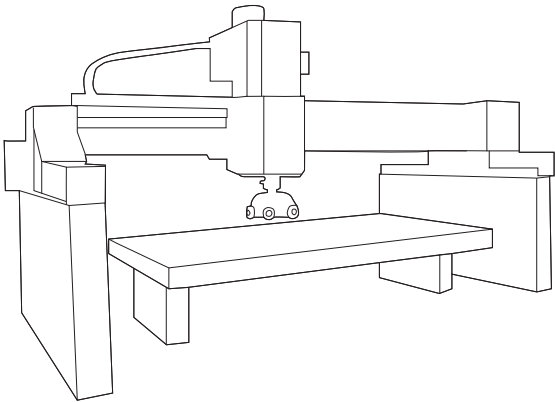


Fig.7.02

Rock slicer and polisher are tools used for cutting stone to specified dimensions and for achieving a desired stone finish. These processes can be effective in producing thin stone panelling.

Fig.7.01  
Rock slicer  
Fig.7.02  
Rock polisher

## RULES OF CUTTING

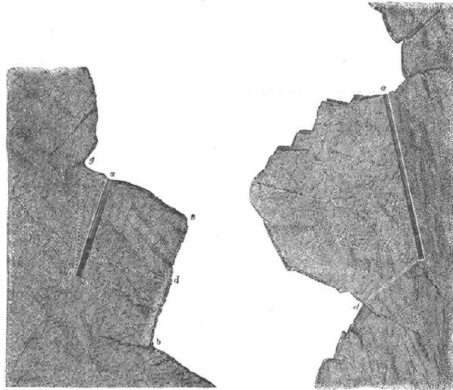


Fig.8.01

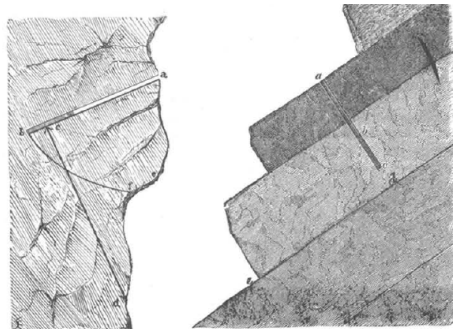


Fig.8.02

Fig.8.01  
Rock is cut at less than  $45^\circ$   
Drinker, H.S (1983) p. 120

Fig.8.02  
Rock cut at greater than  $45^\circ$  provides a good  
fixing.  
Drinker, H.S (1983) p. 121

## CUT CHARACTER

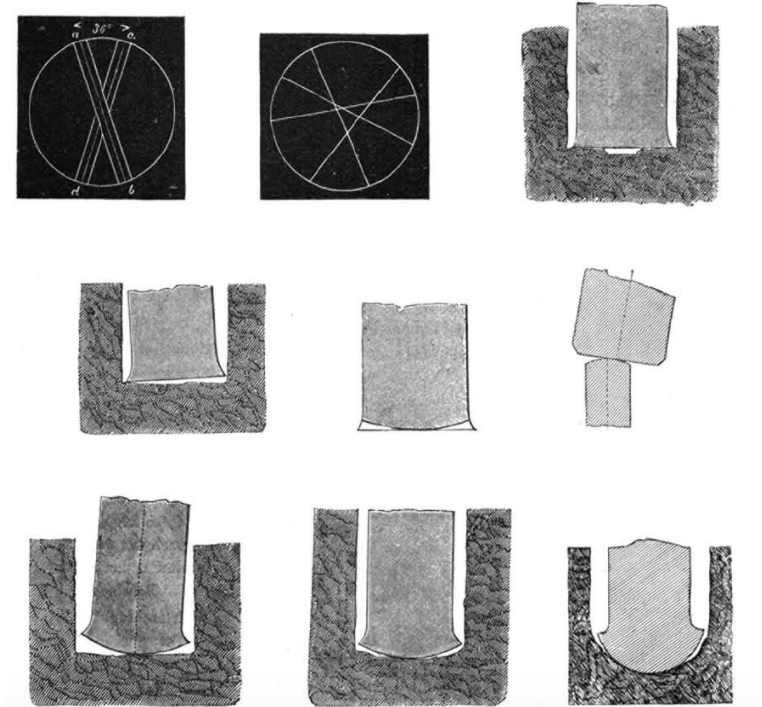


Fig.9.01

Image Reference:  
Drinker, H.S. (1983) Tunneling, Explosive  
Compounds, and Rock Drills. New York, J. Wiley,  
1878.

Fig.9.01  
Different tool ends provide a different character  
of finish.  
Drinker, H.S (1983) p. 115

# TUNNELLING

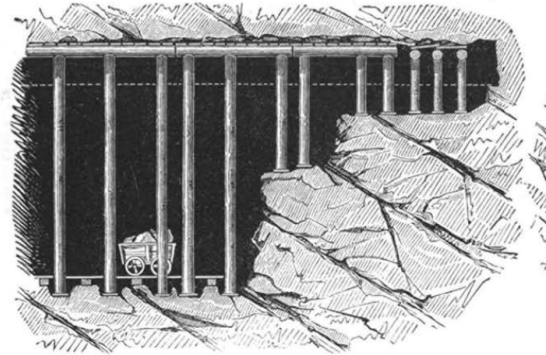


Fig.10.01

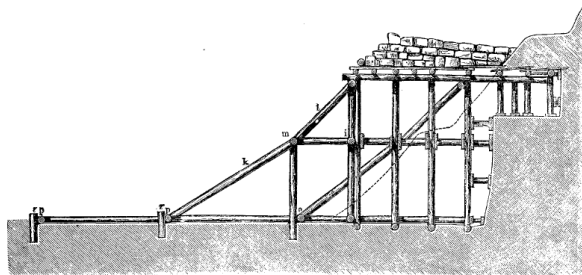


Fig.10.02

Fig.10.01  
Tunnelling scaffold  
Drinker, H.S (1983) p. 37

Fig.10.02  
Rock face support scaffold  
Drinker, H.S (1983) p. 796

# TUNNELLING

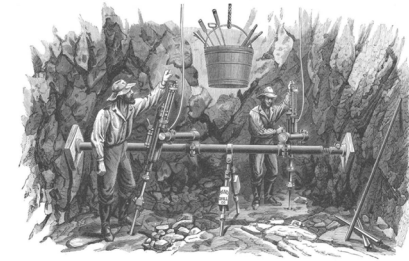


Fig.10.03



Fig.10.04

Image Reference:  
Drinker, H.S. (1983) Tunneling, Explosive  
Compounds, and Rock Drills. New York, J. Wiley,  
1878.

Fig.10.03  
19th Century Traditional Tunnelling  
Drinker, H.S (1983) p. 120

Fig.10.04  
Manual Traditional Tunnelling  
Drinker, H.S (1983) p. 235