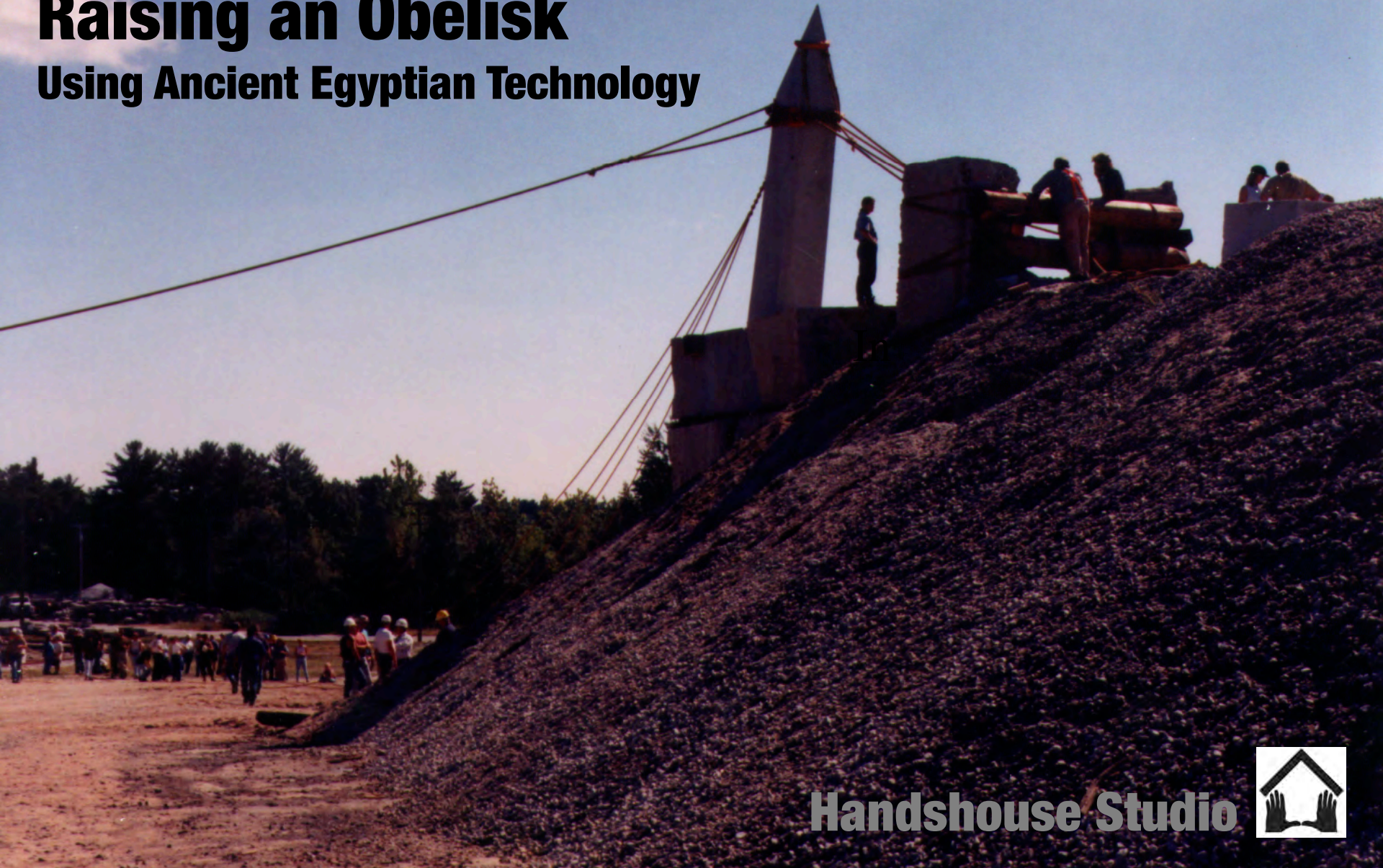


Raising an Obelisk

Using Ancient Egyptian Technology



Handhouse Studio



Several theories for erecting obelisk

Englebach and Chevrier

“Building In Egypt”

Dieter Arnold

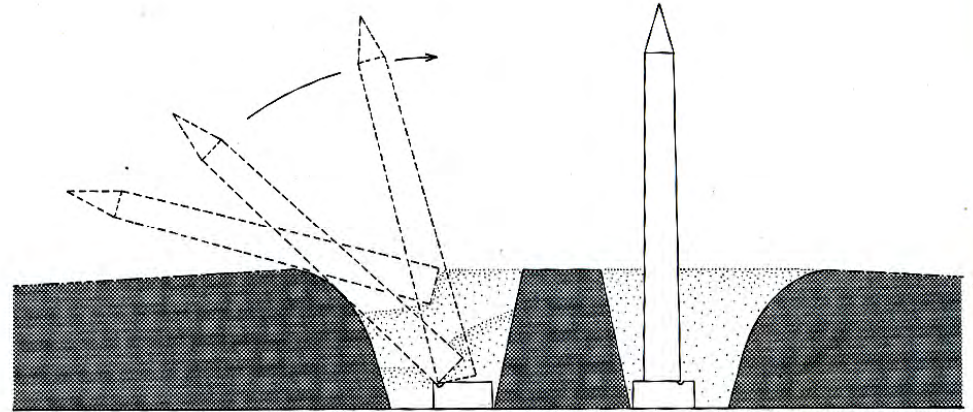


Fig. 3.11 Erecting an obelisk from a relatively low brick ramp with the help of ropes.

“Building In Egypt”

Dieter Arnold

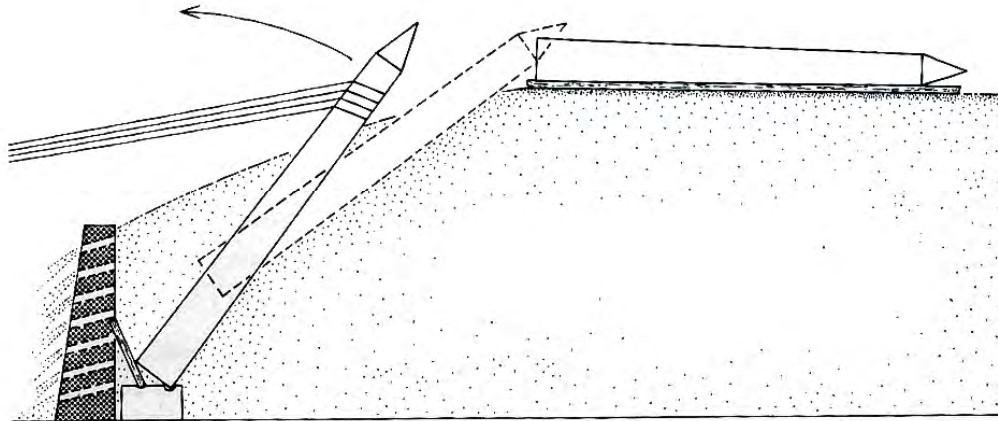


Fig. 3.10 An obelisk descending from the sand construction ramp onto its pedestal, according to Engelbach and Chevrier.

Auguste Choisy

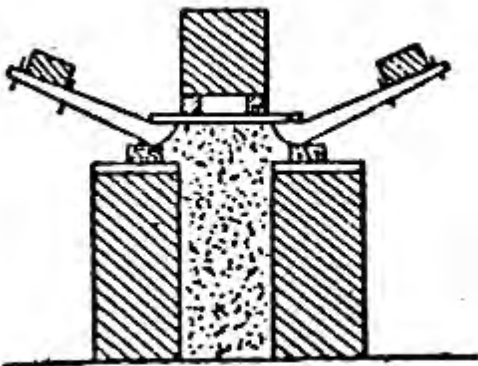


FIG. 34.—CHOISY'S SUGGESTION FOR RAISING OBELISKS.

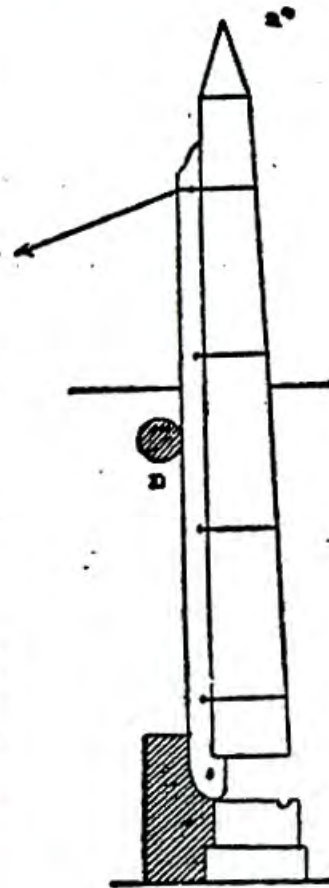


FIG. 36.

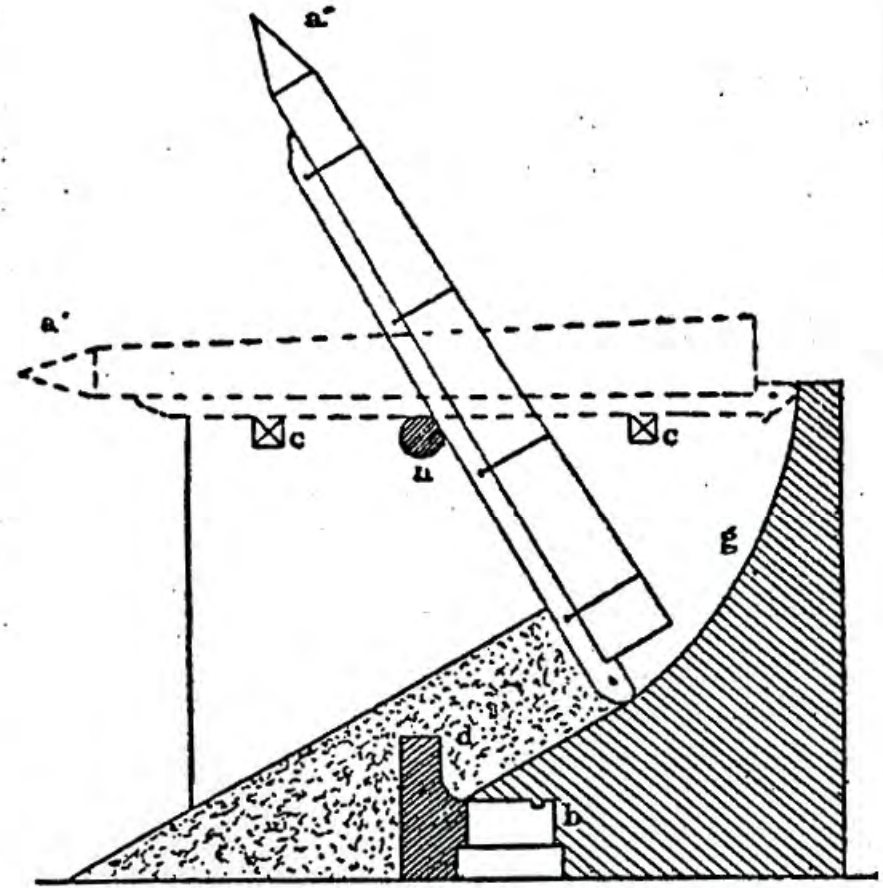


FIG. 35.

CHOISY'S THEORY ON THE ERECTION OF OBELISKS.

“The Problem of the Obelisk”, R. Engelbach, 1923

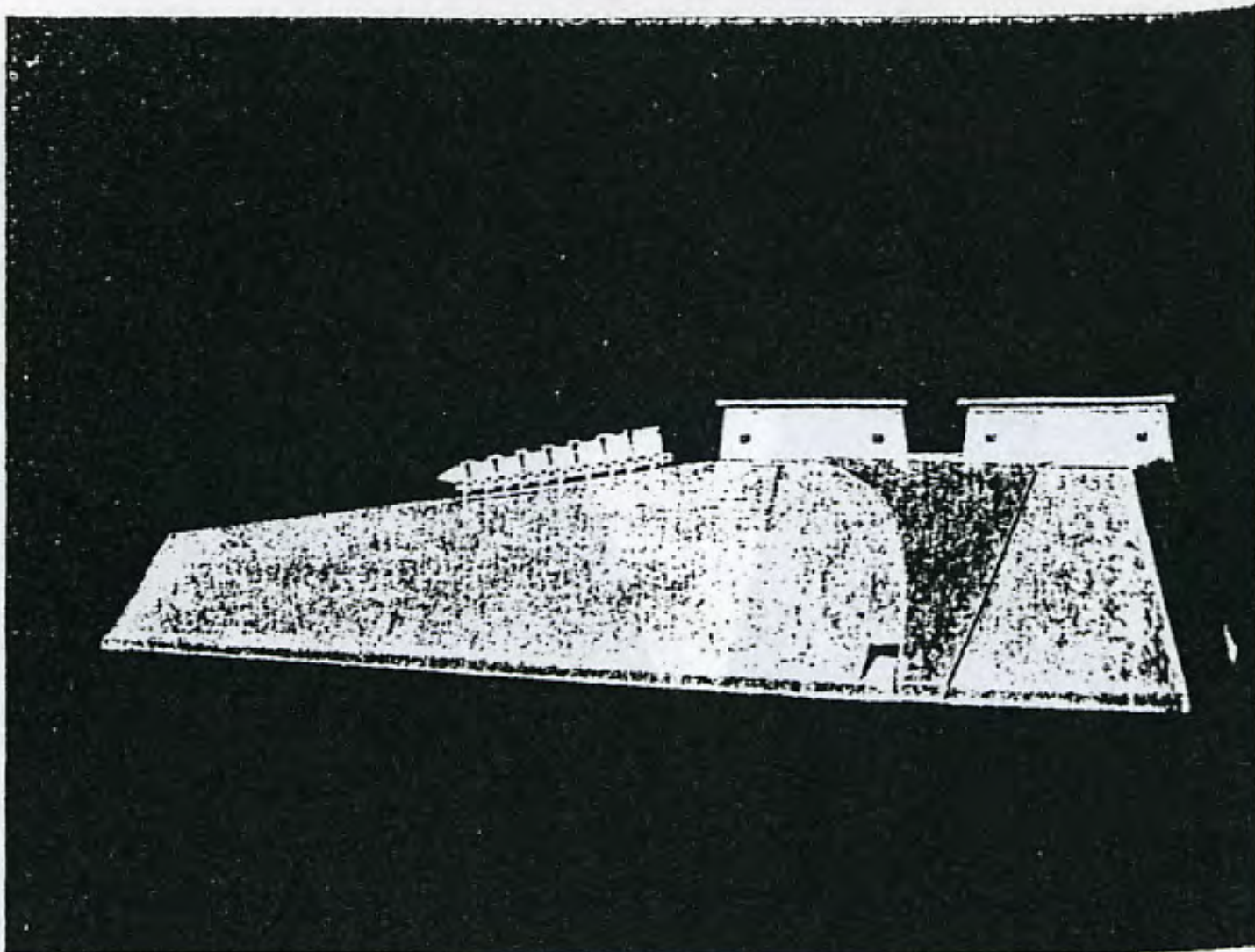


FIG. 27.—SECTIONAL MODEL OF AN EMBANKMENT, TO SHOW METHOD OF
ERECTING OBELISKS.

70]

(Page 70.)

Model of erecting obelisks - "The Problem of the Obelisk", R. Englebach, 1923

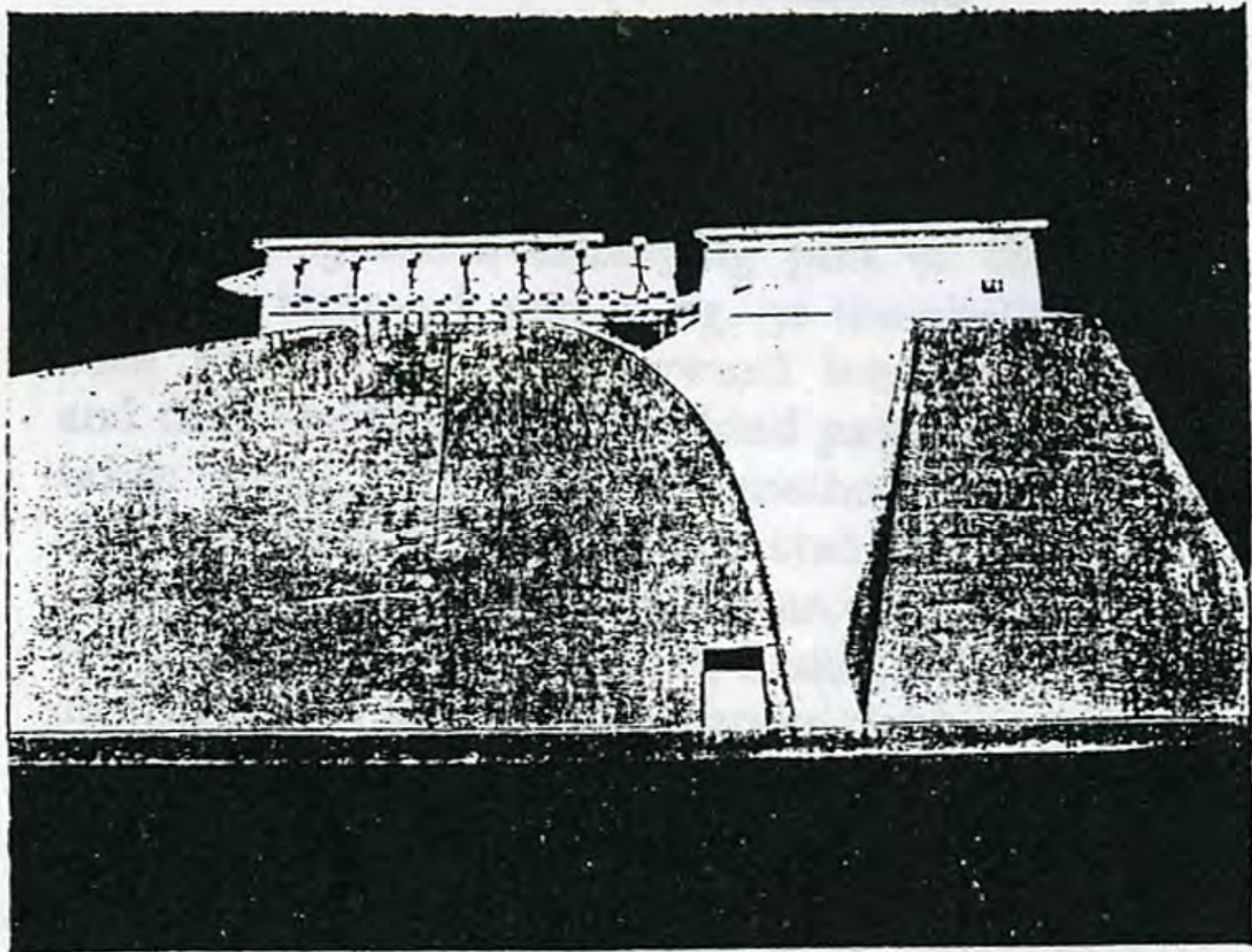


FIG. 28.—OBELISK AT THE TOP OF THE SLOPE. OVERHANGING THE SAND-FUNNEL.

(Page 70.)

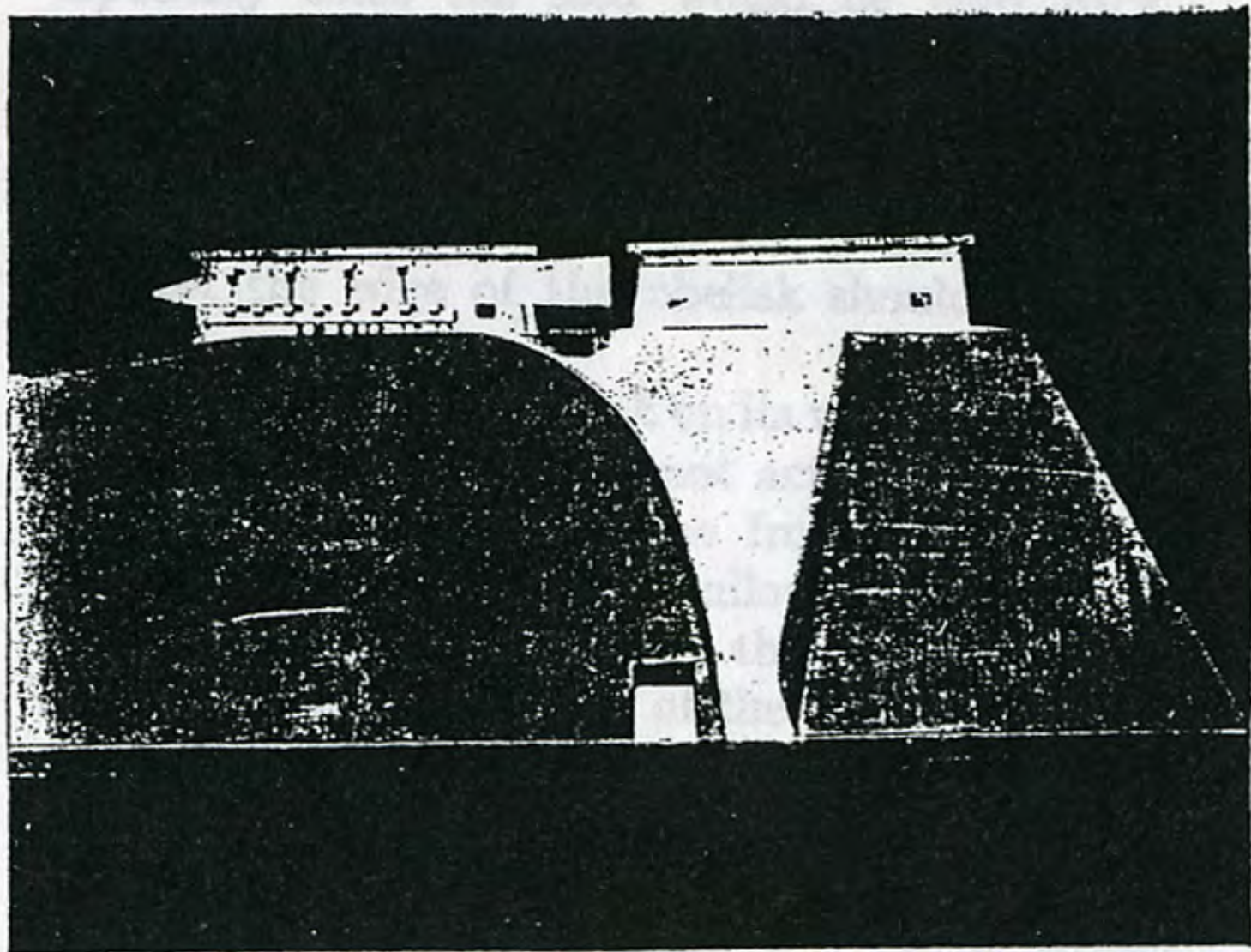


FIG. 29.—SLED HALF REMOVED.
(Page 71.)

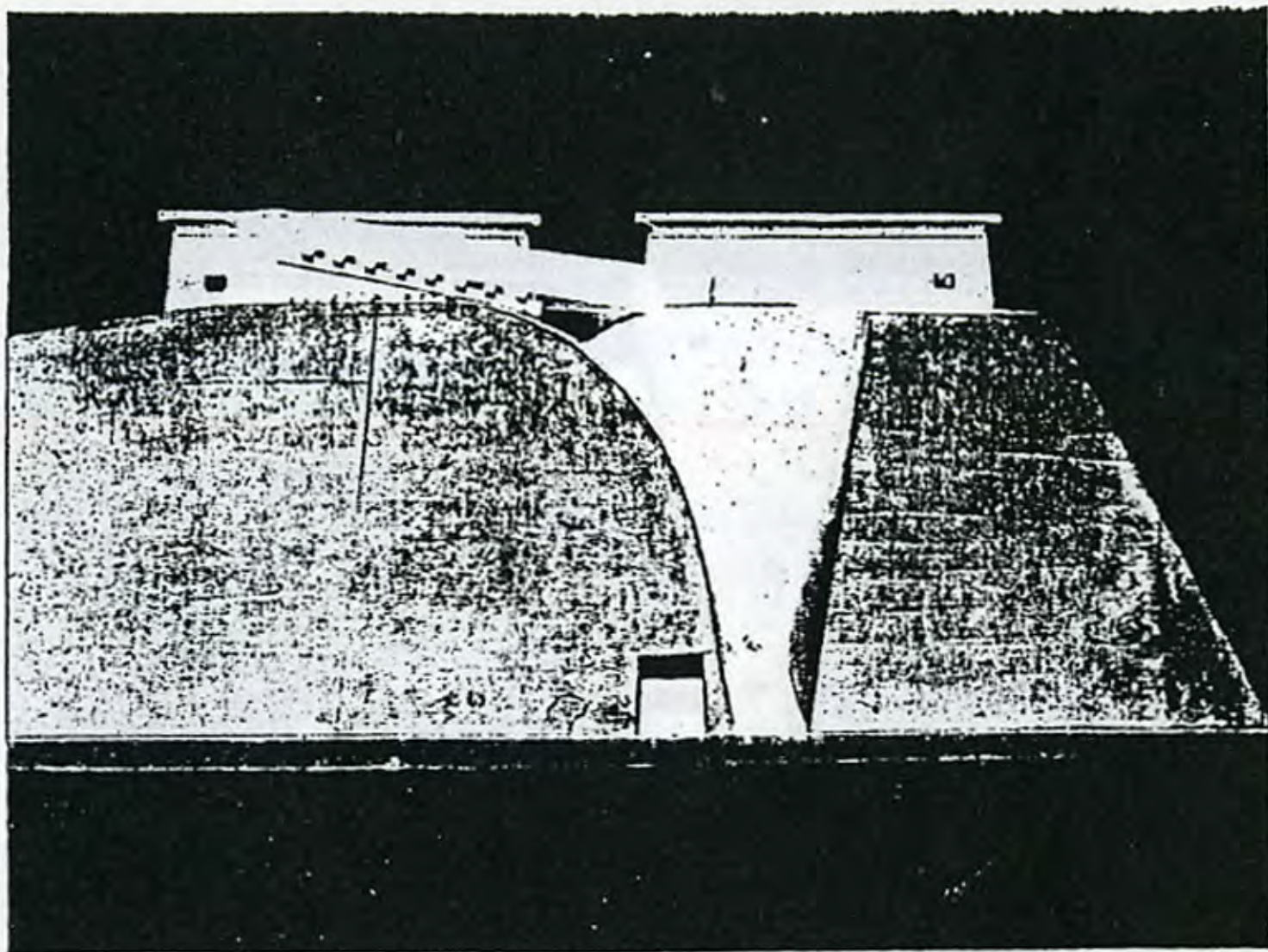


FIG. 30.—OBELISK ENGAGING IN THE SAND; ALL THE LASHINGS
ARE RELEASED.

(Page 71.)

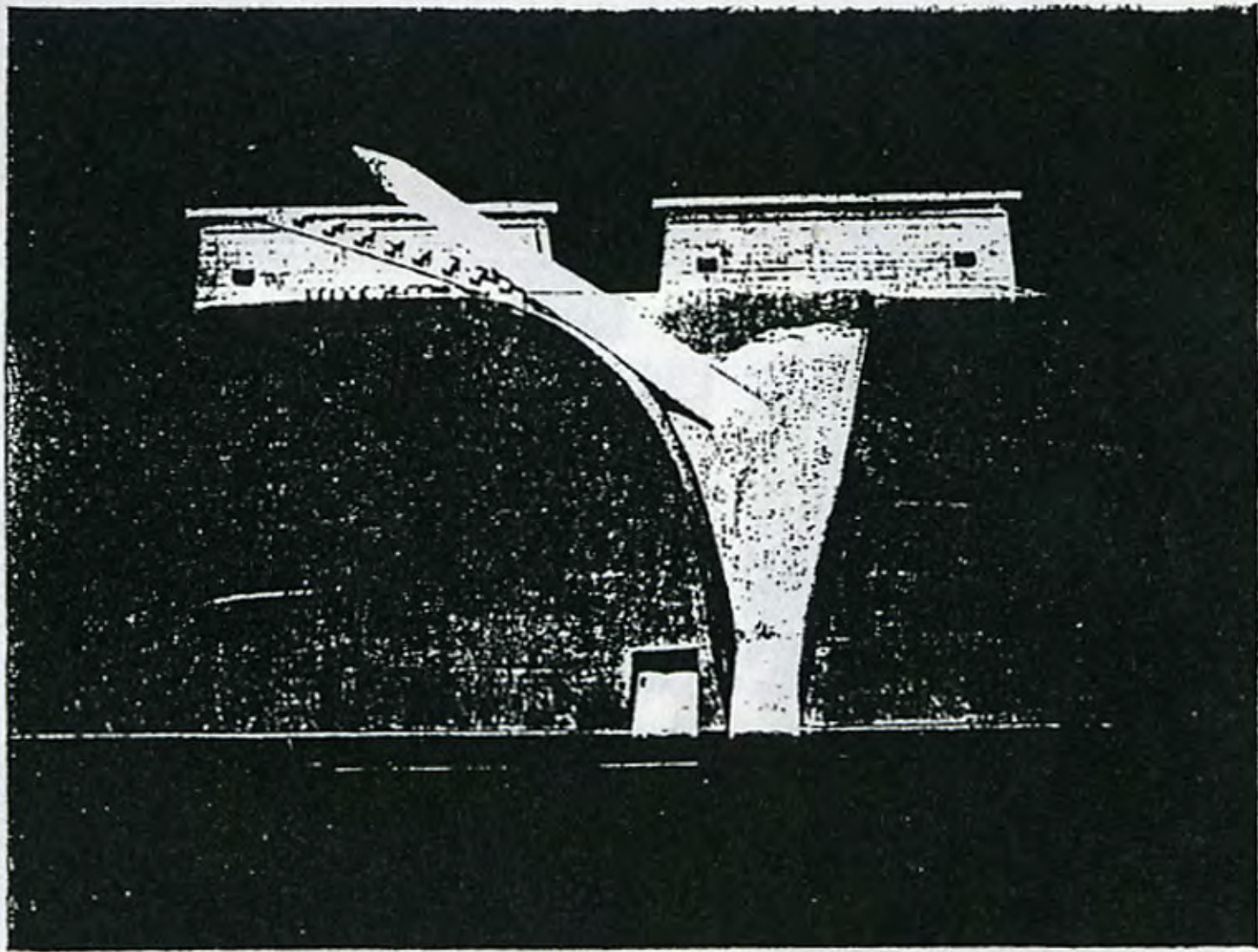


FIG. 31.—OBELISK HALF-WAY DOWN THE FUNNEL.
(Page 71.)

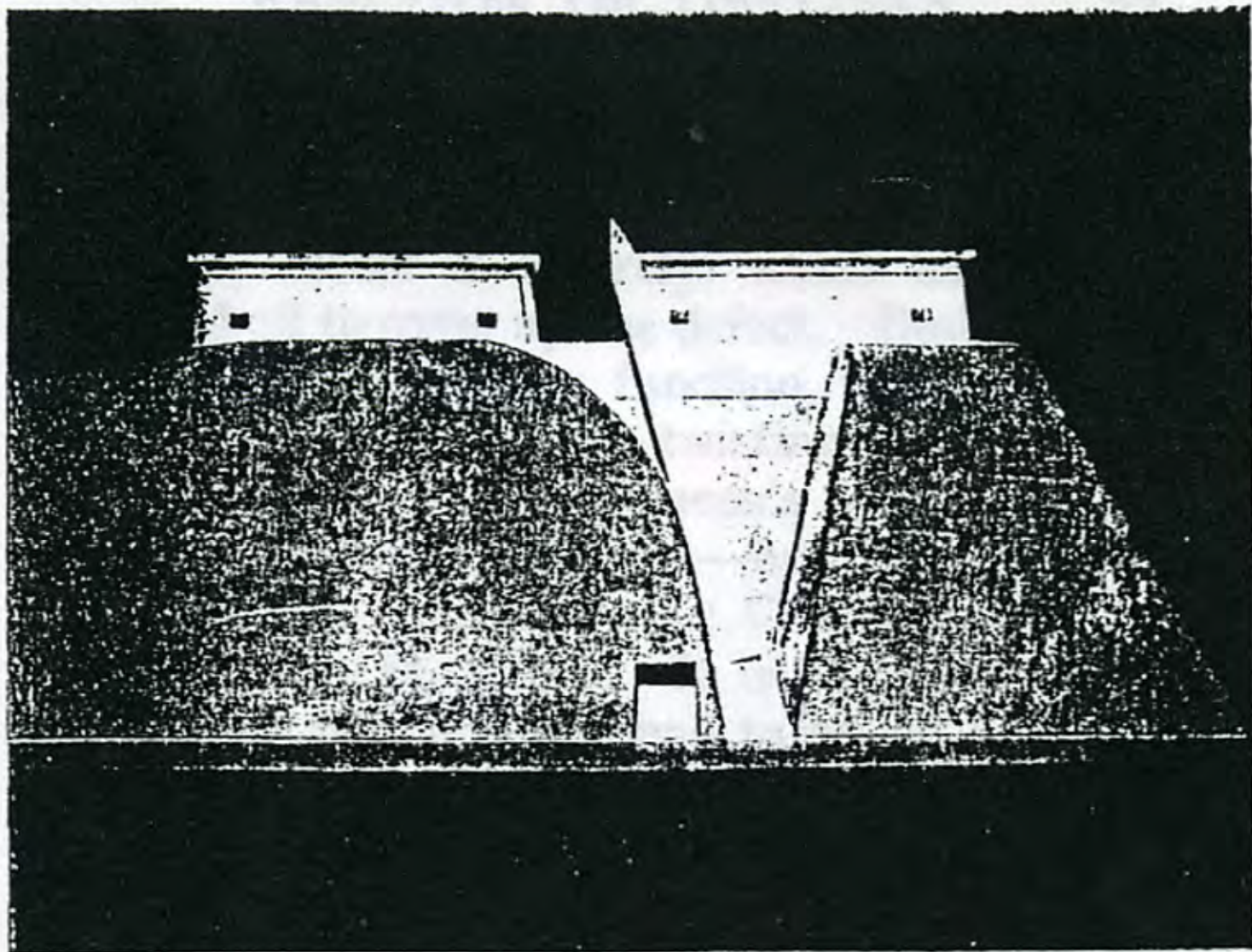


FIG. 32.—OBELISK AT REST AT THE BOTTOM OF THE FUNNEL, ITS EDGE ENGAGING IN THE NOTCH OF THE PEDESTAL.

(Page 71.)

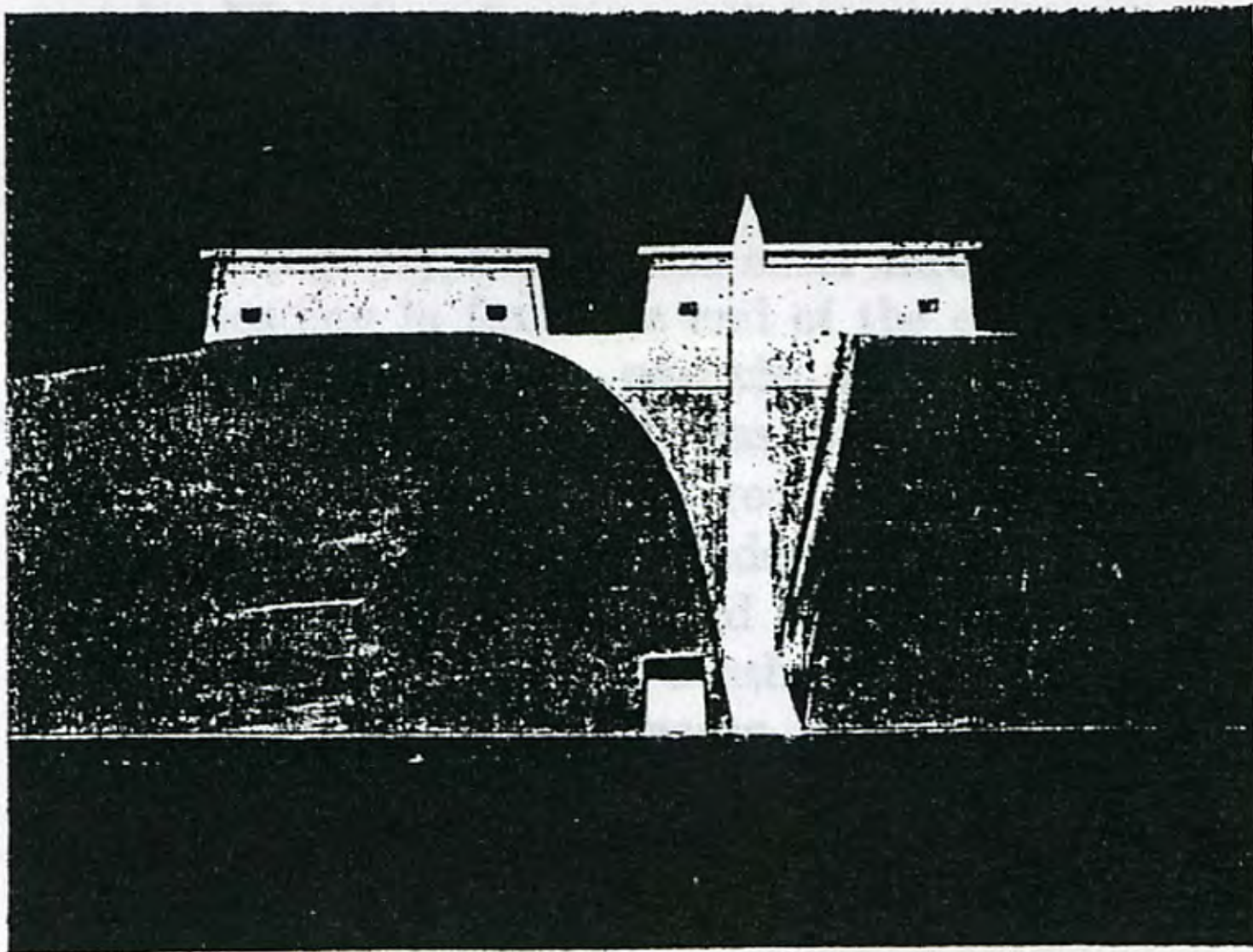
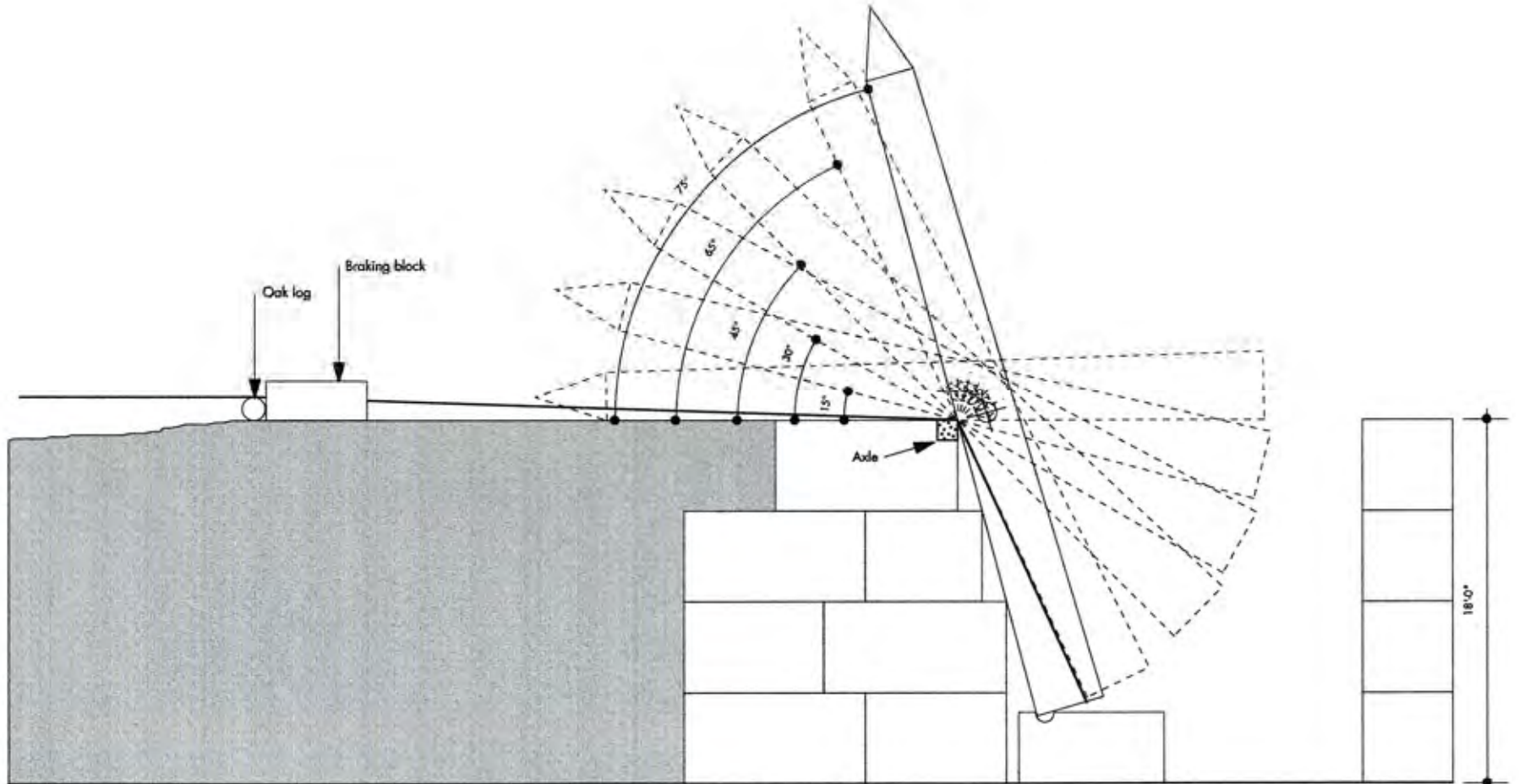


FIG. 33.—OBELISK AFTER IT HAS BEEN PULLED UPRIGHT.
(Page 73.)

The Handhouse Studio Center of Gravity, Guided Rotation, Sand Flow Method of Raising an Obelisk Using Ancient Egyptian Technologies

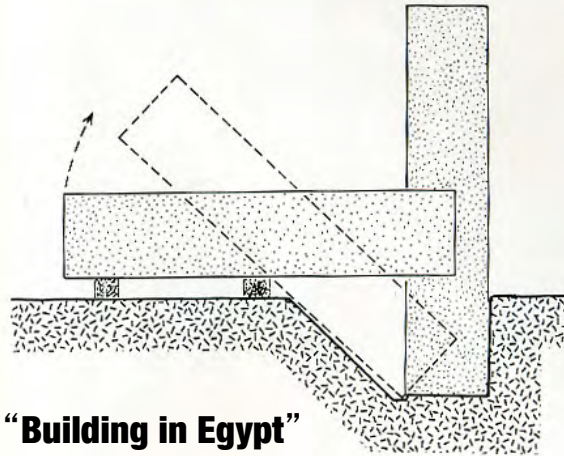


**Testing 6 foot obelisk model :
“Center of Gravity, Guided Rotation,
Sand Flow Method”**





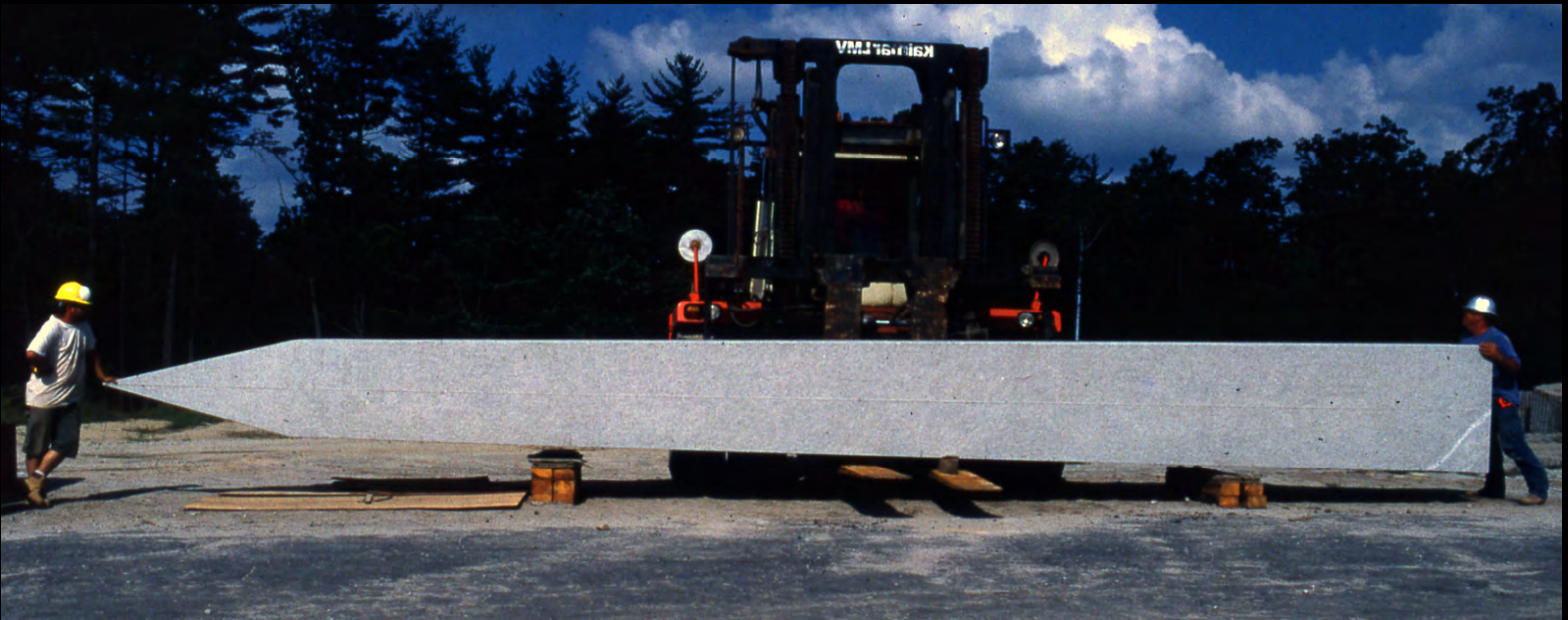
Fig. 3.9 Erecting granite pillars in temples of the Fourth Dynasty.



“Building in Egypt”
Dieter Arnold, 1991



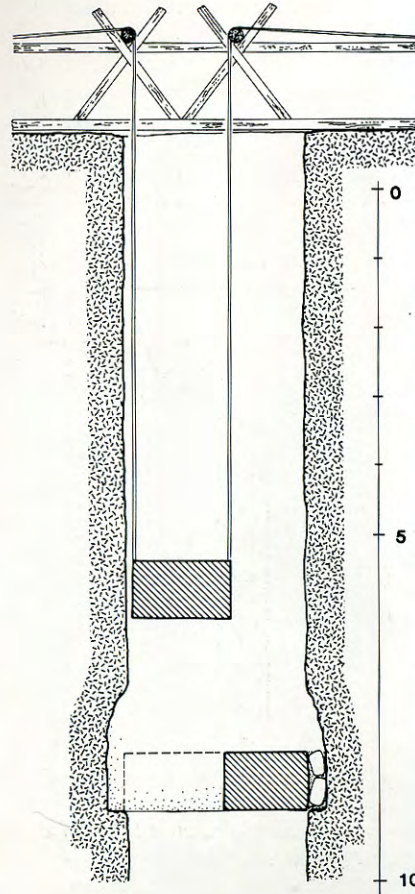
Center of Gravity



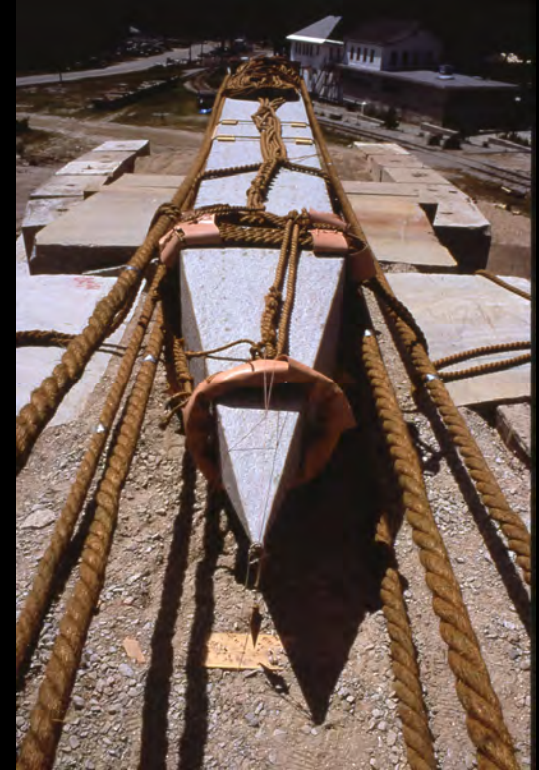


Guided Rotation

Fig. 3.21 Lowering ceiling blocks, suspended from three ropes, into the shaft of the Ka-tomb of Senwosret I at Lisht.



“Building in Egypt”
Dieter Arnold, 1991





Sand Flow Method



“Building in Egypt”
Dieter Arnold, 1991

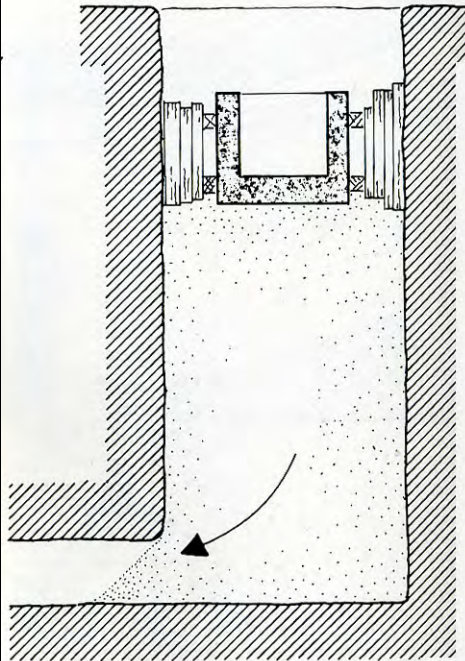


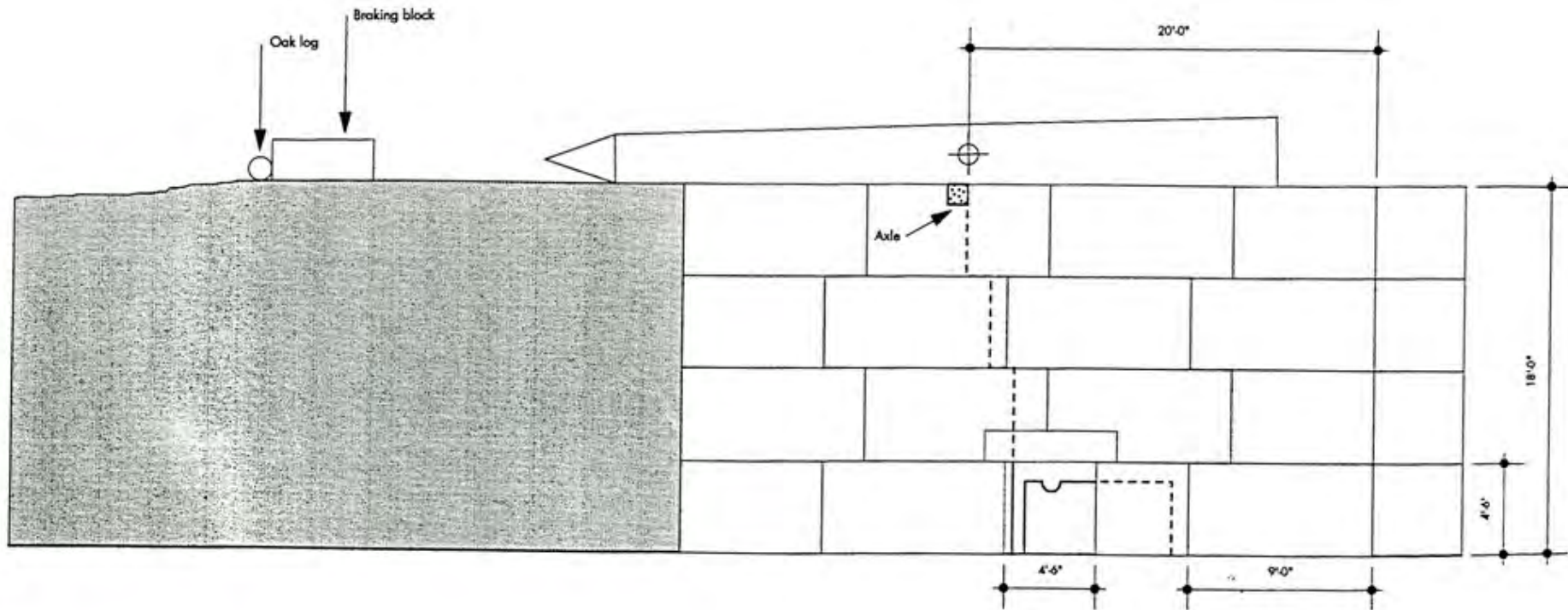
Fig. 3.25 Lowering heavy blocks of stone into sand-filled shafts by removing the sand from below the blocks.



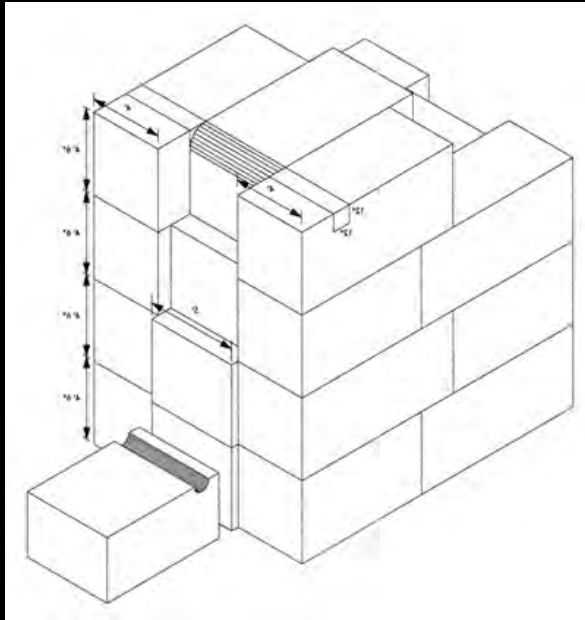
From the papyrus Anastasi I:

**Empty the space which has been filled with sand under
the monument of thy Lord which has been brought up
on the ground from the Red Mountain.**

Obelisk on earth ramp and stone bearing wall.
Obelisk center of gravity on wooden pivot block.
Butt of obelisk resting on sand filled chamber.
Pedestal stone with turning groove at base of chamber.



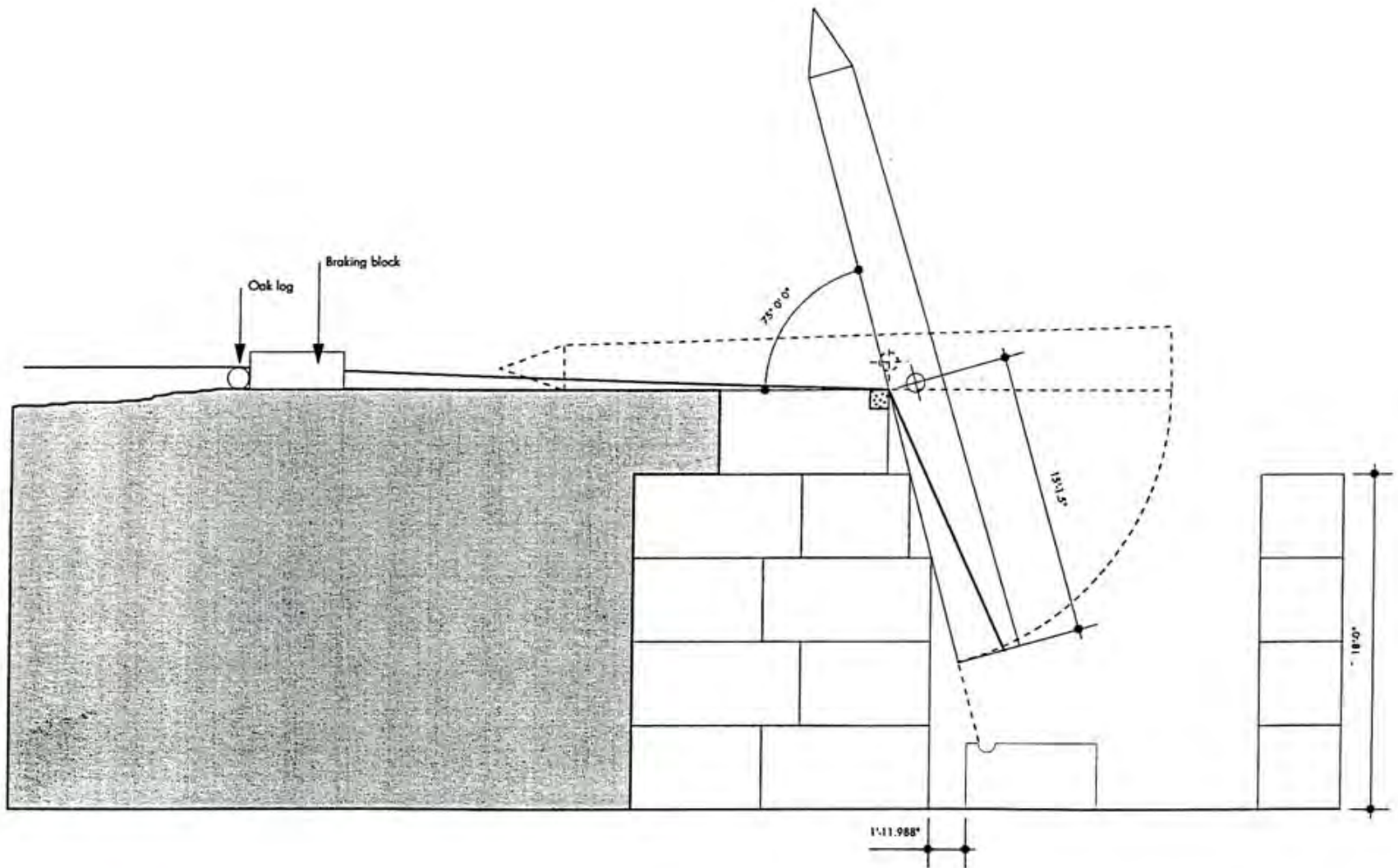
Constructing the bearing wall and pivot block. Placing pedestal stone



Sand box with side and rear openings



Obelisk rotates around wooden pivot block to 75 degree bearing wall face aligns obelisk with turning groove.



Full scale Obelisk - a 25 ton granite obelisk ready for raising.



**Sand is removed symmetrically from side portals -
causing obelisk rotation.
Removing sand lowers obelisk towards pedestal stone.**



Sand flows forming angle of repose



Sand flow



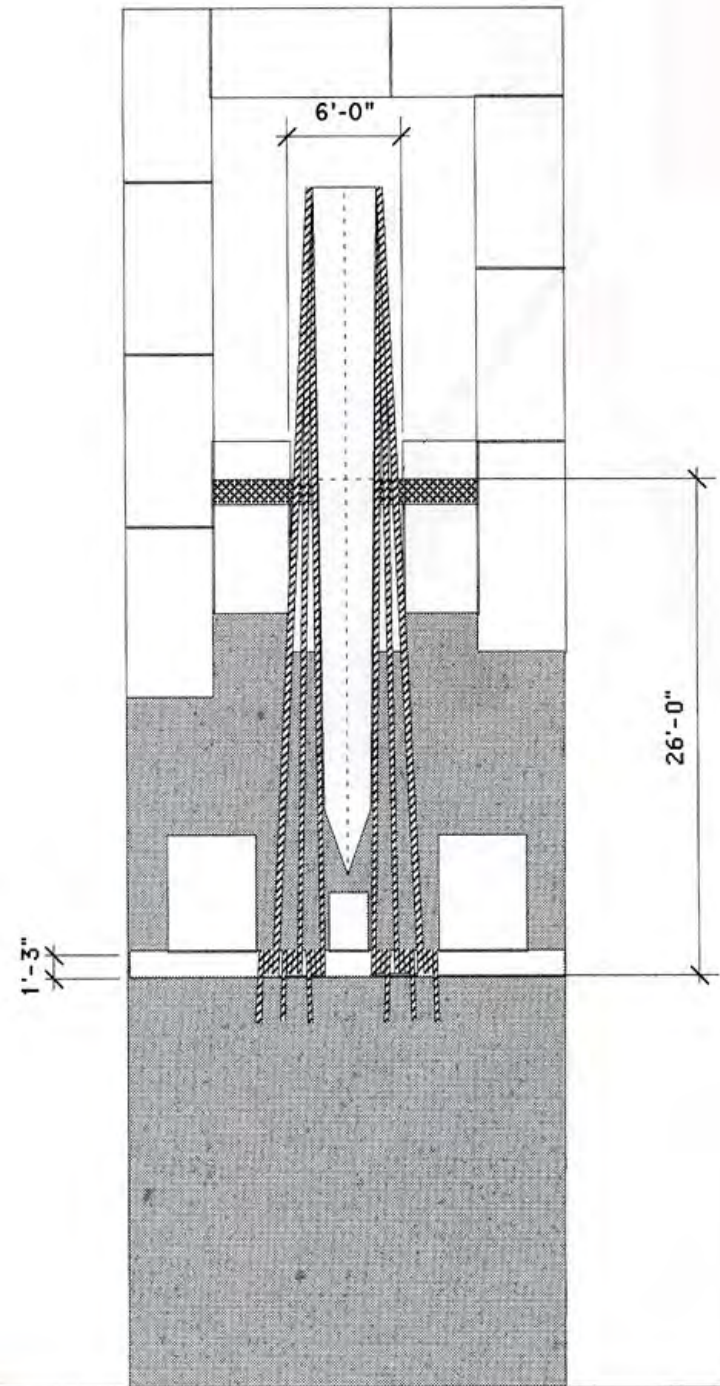






**Sand removed by hand
with hoes and baskets.**





Guided rotation using 3" ropes and break blocks.





Three ropes guide the obelisk during rotation to control alignment and resist forward movement.

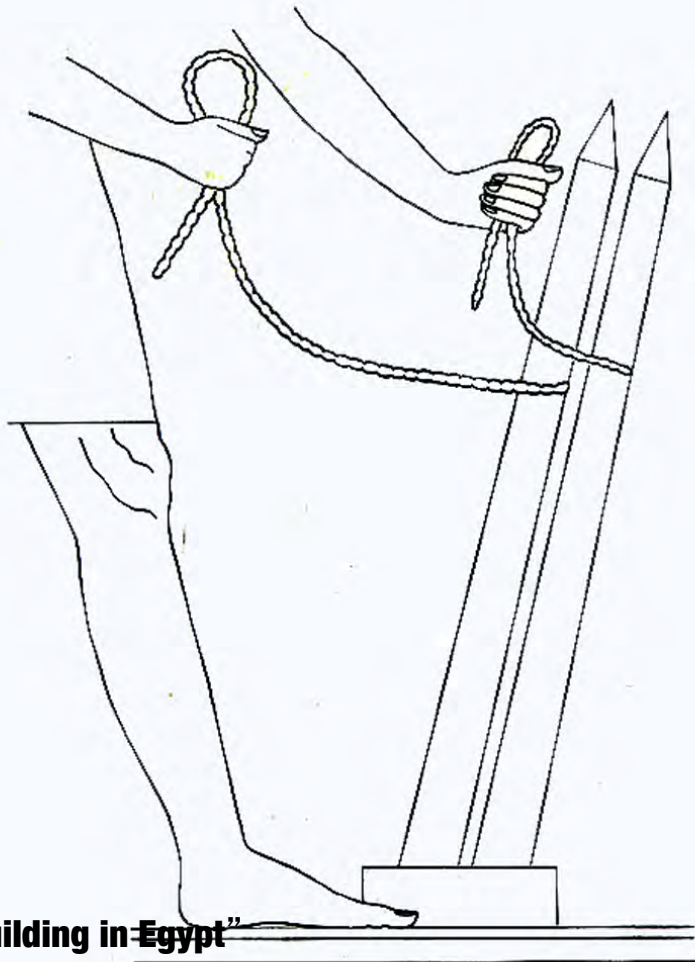


Monitoring the amount of rope stretch and obelisk alignment .



Obelisk on pedestal stone, resting at 75 degrees against the bearing wall - ready for final raising -

Fig. 3.14 Representation of the (symbolic) erection of an obelisk with ropes by Ptolemaios XII Neos Dionysos.



“Building in Egypt”
Dieter Arnold, 1991

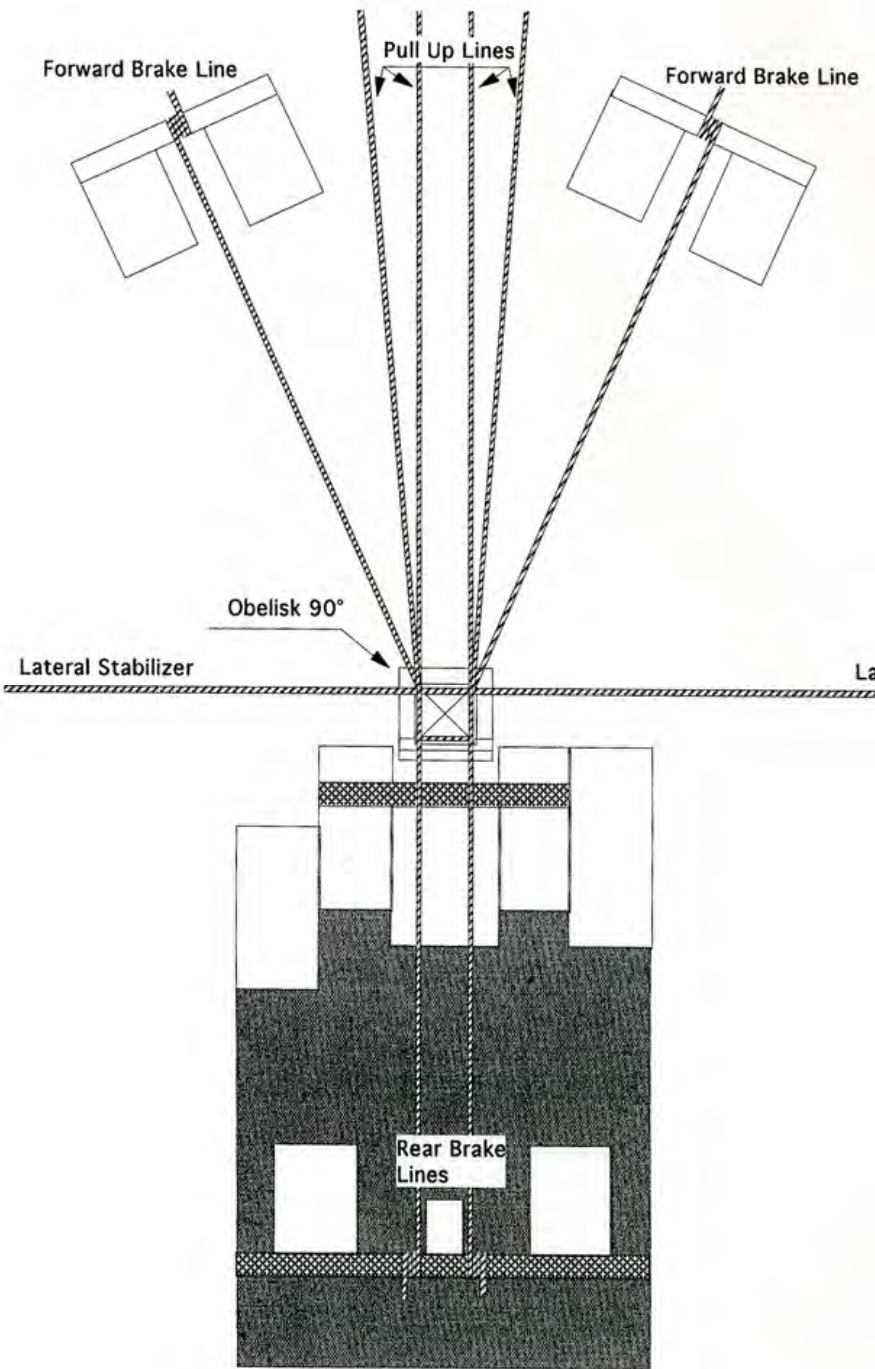




Obelisk engaged in turning groove on pedestal stone.

Cleaning sand from pedestal stone.





Harness and ropes configuration for hold back, lateral stabilization and forward pulling.



The final pull - Raising the obelisk from 75 to 90 degrees.



Obelisk raised



