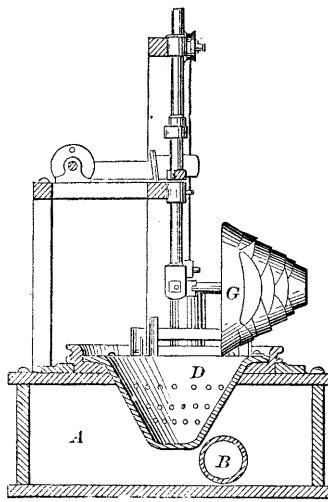


Fig. 2433,

**Hat-hard-  
en-ing Ma-  
chine.**

*Hard-  
ening* or *bason-  
ing*; a prelim-  
inary felting  
operation which  
converts the fi-  
bers into a fab-  
ric dense and  
t e n a c i o u s  
enough to ena-  
ble it to be han-  
dled and put  
through the  
felting process.  
In cones from  
the forming-ma-  
chine, it is usu-  
ally done by an  
auxiliary cone  
moved over that  
on which the  
body was



*Hat-Fulling Machine.*

formed. Other bodies are steamed and rolled up in cloths (*basoning-cloths*). Flat bats are hardened between a table and a flat platen having short, quick reciprocating motion. See Emmon's patent, April 19, 1853.