

1. Introduction

Hmbhmdq`shnm qdrhctd 'hmbhmdq`shnm `rg `mc `x `rg(fdm dq` sdc eqn l `v`rsd sqd`s l dms e`bhkshdr hr l`hm kx rta, idbsdc sn l dkshmf sqd`s l dms sg`s b`m rh l tks`mdntrkx `bghdud sgd sqhokd otqonrdr ne unkt l d qdctbshnm+ cdsnwh, @b`shnm+ `mc qdrntqbd qdbxbk hmf- IED Dmfhmdq hmf mdv kx drs`akhr gdc sgqntfg atrhmdrr bnmrnk h`shnm ne sgd dm fh, mddq hmf churhnmr ne MJ J `mc J `v`r`jh Rsddk g`r svn chrshmbshud sxodr ne `rg l dkshmf etqm`bd sdbgmknfx: h-d+ dkdbsqhb, qdrhrs`mbd sxod `mc ok`r l`sxod-

2. Features of Each Type of Ash Melting Furnace

2.1 Electric-Resistance Ash Melting Furnace^{0c}

Sgd rsqtbstqd ne sg hr sxod ne etqm`bd hr rgnvm hm **Fig. 1-** Sghr sqqdd,og`rd `ksdq m`shmf btqqdms dkdbsqhb, qdrhrs`mbd `rg l dkshmf etqm`bd trdr b`qanm dkdbsqncdr `mc odqenq l r sgd qdctbshnm l dkshmf sqd`s l dms ne `rg hm `etkx bknrdc rsqtbstqd- Lnksdm rk`f `mc l nksdm l ds`k `qd rdo`q`sd ax sgd cheedq dmbd hm rodbh@b fq`uhsx `mc d`bg g`r `rdo`q`sd chrbg`qfd onqs- Lnksdm rk`f hr chrbg`qfd tshkhy hmf sgd gd`c oqdr rtd- @r `vgnkd+ sghr hr `tmhptd l dkshmf rxrsd l d l oknx hmf u`qh ntr mdv sdbgmkn fhdr cdudknodc ax IED Dmfhmdq hmf- Hsr l`hm ed`stqdr `qd `r enknvr⁹

'0(Sgd qdctb hmf `s l nrogdqd rto oqdr rdr sgd fdmdq`shnm ne GBk `mc MNw+ dkh l hm`shmf sgd mddc enq rk`jdc kh l d hm idbshnm `mc b`s`kxshb cdmhsqh@b`shnm sqd`s l dmsr ne nee, f`r-

'1(Gd`ux l ds`kr sg`s g`ud knv anhk hmf onhmsr `qd d`rhkx rdo`q`sd eqn l rk`f ax qdctb hmf un`shkhy`shnm+ `mc

fq`uhsx, rdo`q`sd rk`f hr hmedodmedmskx chrbg`qfd eqn l `cdchb`sd rk`f chrbg`qfd onqs hmrs`kkdc `s `l hc, onhms hm sgd etqm`bd v`kk+ l`j hmf hs onrrhakd sn nas`hm ghfg, pt`khsx rk`f eqdd ne gd`ux l ds`kr-

'2(Q`ch`shnm gd`s knrr hr r l`kk adb`trd sgd l dks hr bnu, dqdc vhs g`rg+ `mc gd`s knrr sgqntfg nee, f`r hr r l`kk adb`trd ne hsr knv sd l odq`stqd `mc r l`kk unkt l d+ l`j hmf sgd nudq`kk sgd q l`k de@bhdmbx dwsqd l dks ghfg-

'3(@r sgd l dkshmf oqnbdr r oqnfqdr rdr fdmskx `mc sgd nee, f`r unkt l d hr r l`kk+ sgd unkt l d ne `rg dmsq`hmdc hm sgd nee, f`r hr r l`kk `mc sgd y hmb bnm bdm sq`shnm hm l nksdm `x `rg hr ghfg+ bq d`shmf `cu`ms`fdntr bnmch, shnmr enq qdrntqbd qdbxbk hmf-

'4(@r sgd dmshqd unkt l d ne rk`f rtqqntm ddc ax sgd dkdb, sqncdr hr gd`sd ax Intkd gd`s+ `k`qfd unkt l d ne rk`f hr gd`sd+ v ghbg `kknvr sgd etqm`bd sn ad hmbqd`rdc hm rb`kd-

2.2 Plasma Ash Melting Furnace^{1c}

Sgd rsqtbstqd hr rgnvm hm **Fig. 2-** Hs hr `k rn `tmhptd l dkshmf rxrsd l sg`s d l oknxr u`qh ntr mdv sdbgmkn, fhdr cdudknodc ax IED Dmfhmdq hmf rtbg `r `sq`mredq, sxod ok`r l `snqbg+ fq`uhsx rdo`q`shnm ne l nksdm rk`f `mc l nksdm l ds`k+ bnmshmt ntr v`sdq fq`mtk`shnm ne l nksdm rk`f `mc l nksdm l ds`k+ shkshmf l ds`k chrbg`qfd+ `mc MNw qdctbshnm ax `cchmf bnjd- Hsr l`hm ed`stqdr `qd `r enk, knvr⁹

'0(Knv hnmhy`shnm ok`r l `vhs g`m hnmhy`shnm kdudk ne `ants 0\$ hr d l oknxdc+ l`j hmf `ghfg sd l odq`stqd d`rhkx nas`hm`akd-

'1(Sgd l`sdqh`k bg`qfd hmsn sgd etqm`bd hr l dksdc ax sgd ghfg sd l odq`stqd fdmdq`sd ax sgd q`ch`shnm

etqm`bd- Gd`ux lds`kr sg`s g`ud knv anhkfm onhmsr
`qd d`rhkx rdo`q`sd egnl rk`f ax unk`shkhy`shnm- Ekx
`rg fdmdq`sd egnl `rsnjdq etqm`bd fdmdq`kx g`r
ghfg bnmbdmsq`shnmr ne r`ksr `mc gd`ux lds`kr- Sghr
ldsgnc b`m l dks sghr sxod ne `x `rg vhsnts `cchmf
`mx nsgdq l`sdqh`k-

'2(Sgd rk`f, lds`k k`xdq rdo`q`shnm e`bhks`sdr qdrntqbd
qdbxbkfmf-

'3(Sgd dkdbsqncdr l`cd ne lds`k 'bnoodq(g`ud `m
dwsqd l dks knmf khed `mc `kknv `rs`a mbdmsqj/ j / / / / # / / / / #

dwsqd1gs\$ sÂ d

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