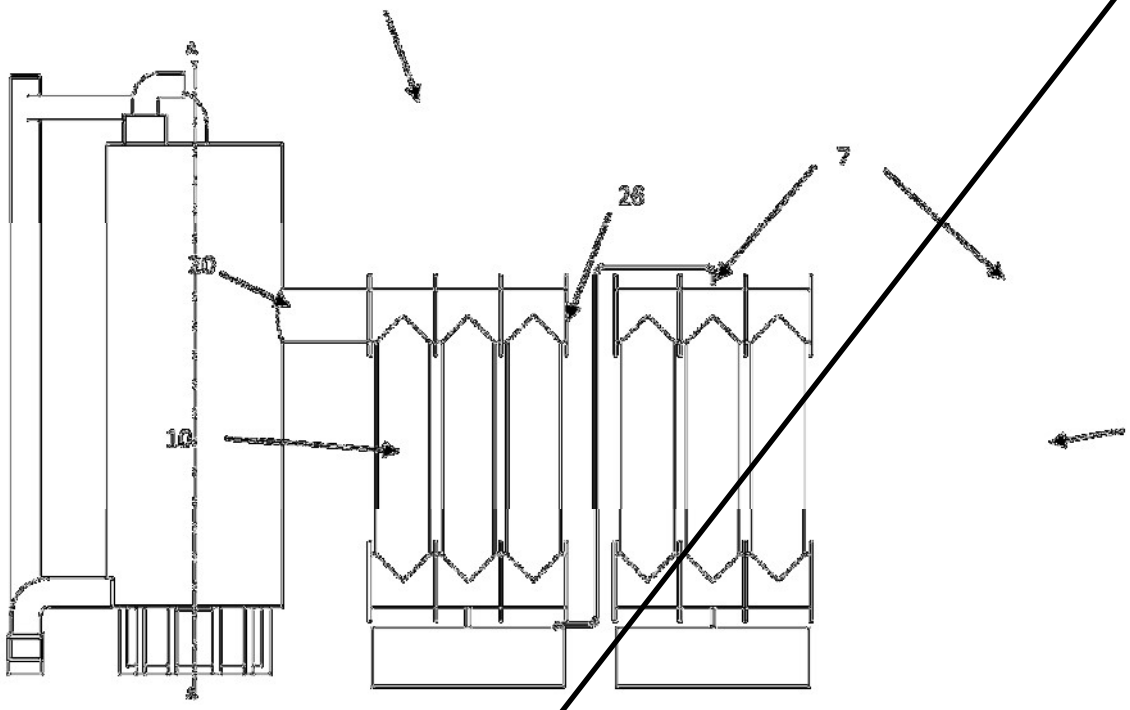


FIGURE 1

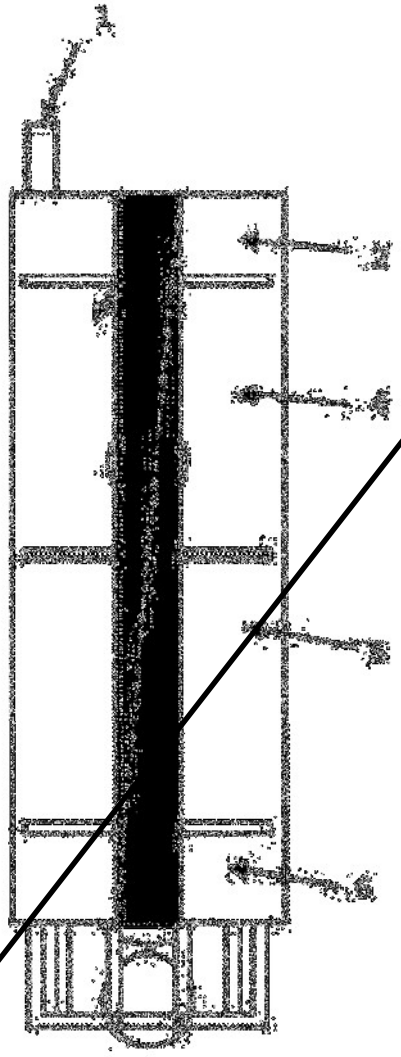


FIGURE 2

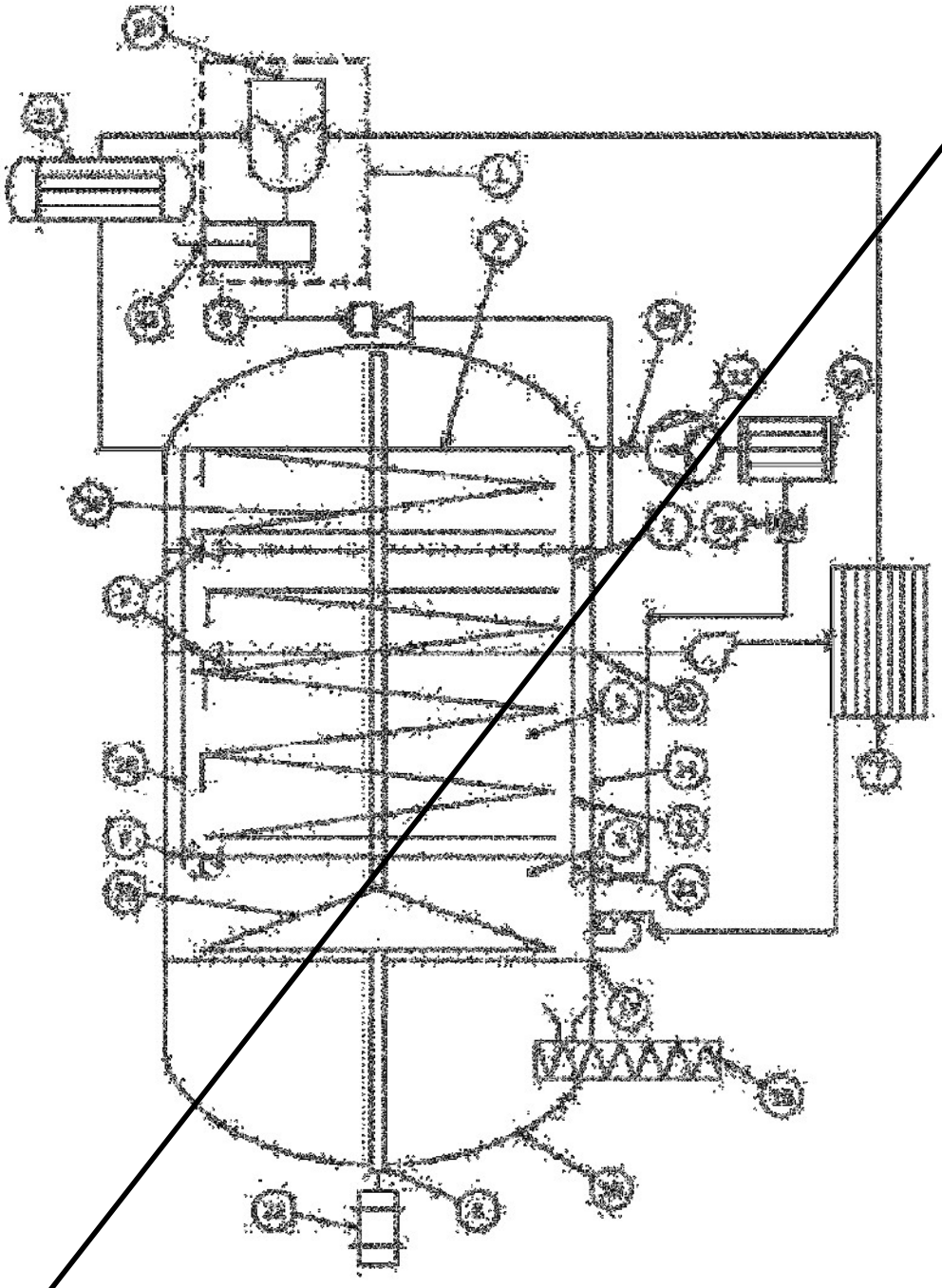


FIGURE 3

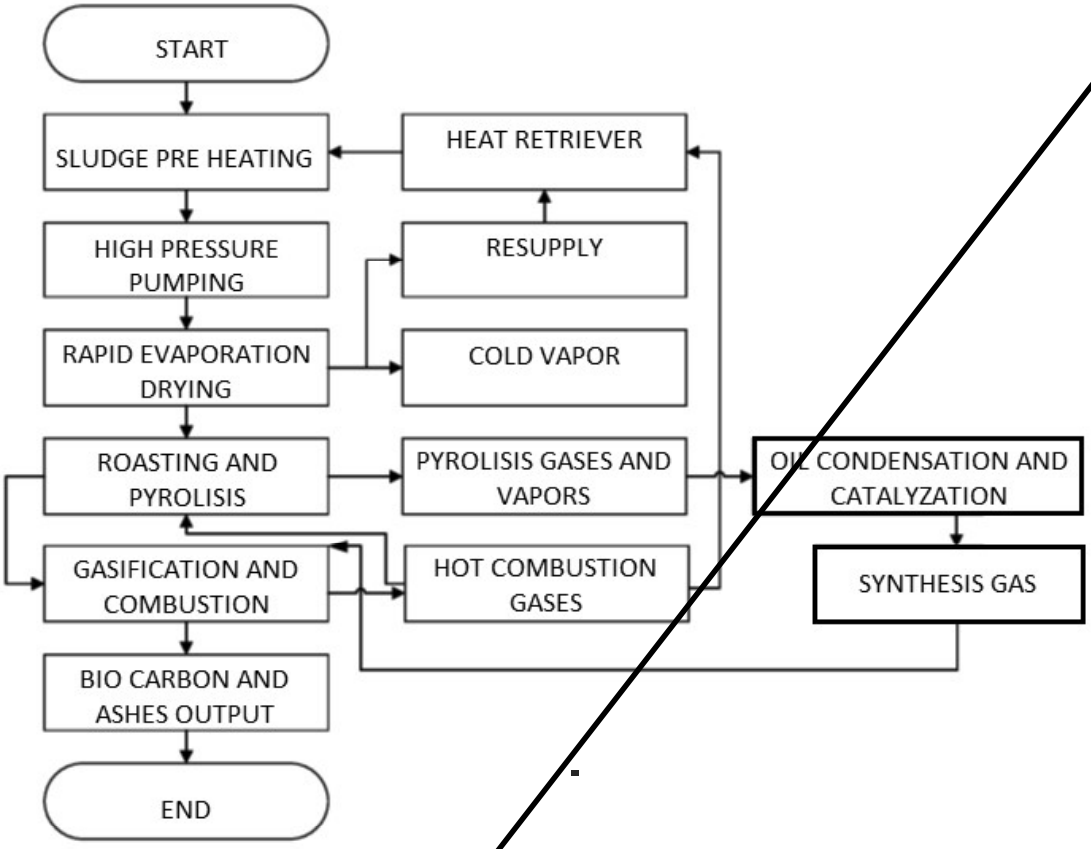

START
SLUDGE PRE HEATING
HEAT RETRIEVER
HIGH PRESSURE PUMPING
RESUPPLY
RAPID EVAPORATION DRYING
COLD VAPOR
ROASTING AND PYROLISIS
PYROLISIS GASES AND VAPORS
OIL CONDENSATION AND CATALYZATION
GASIFICATION AND COMBUSTION
HOT COMBUSTION GASES
SYNTHESIS GAS
BIO CARBON AND ASHES OUTPUT
END

FIGURE 4

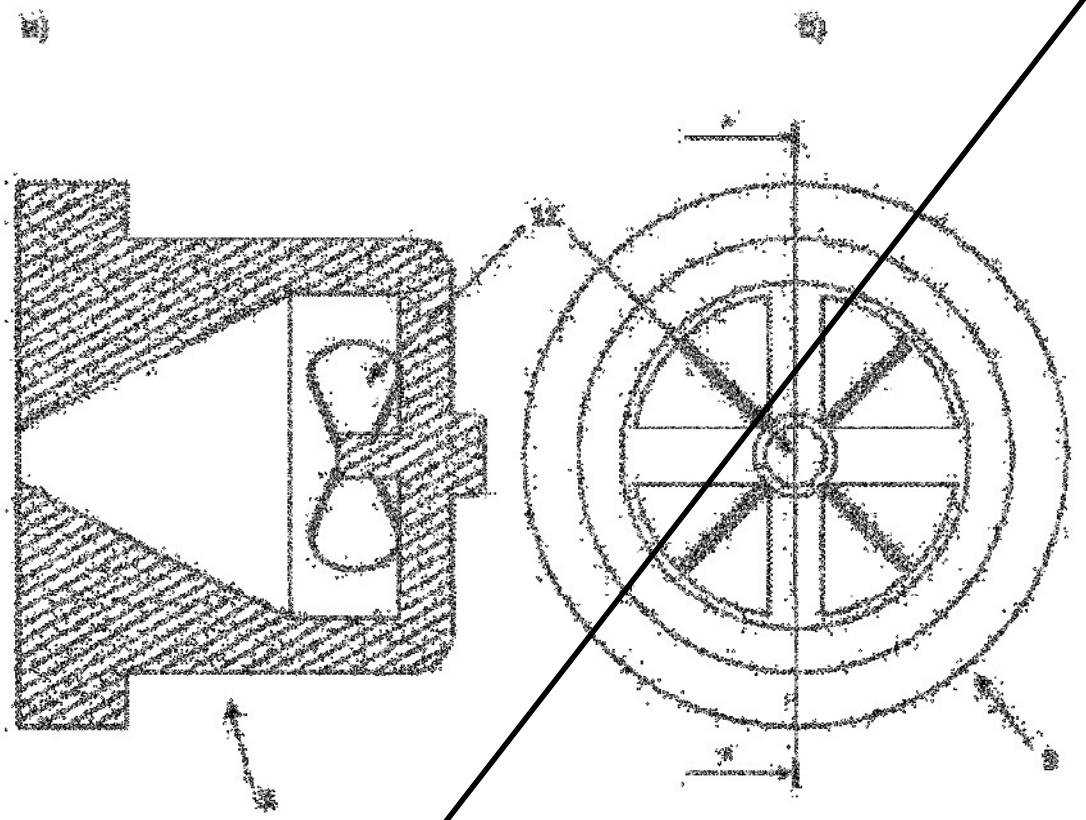


FIGURE 5

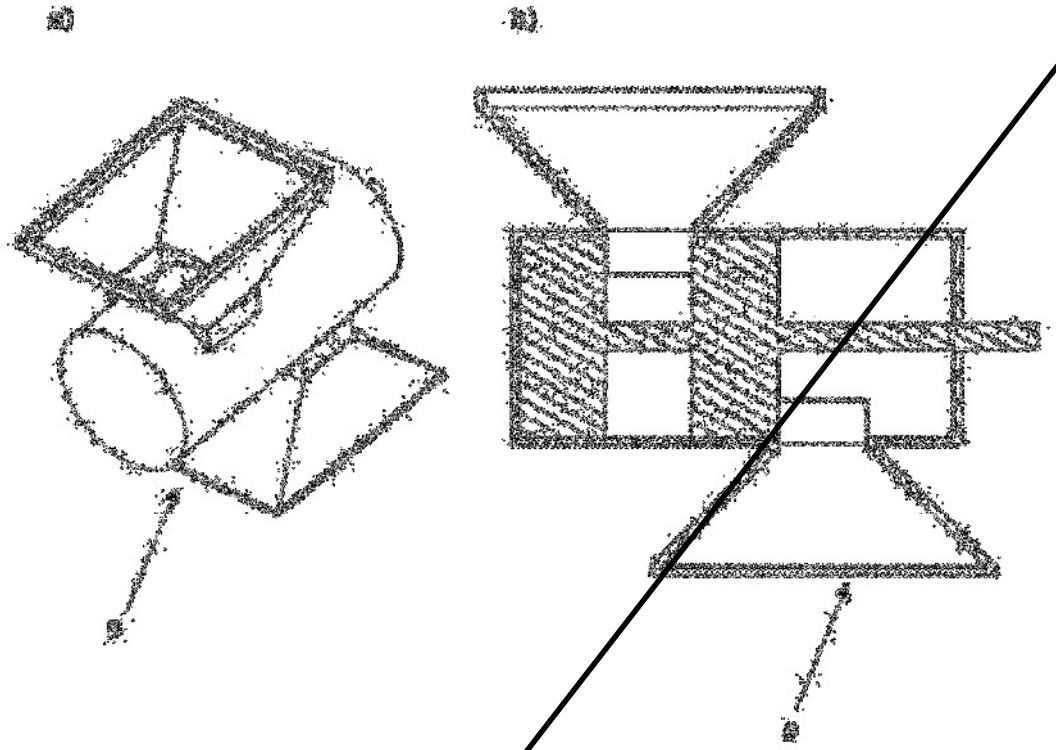


FIGURE 6

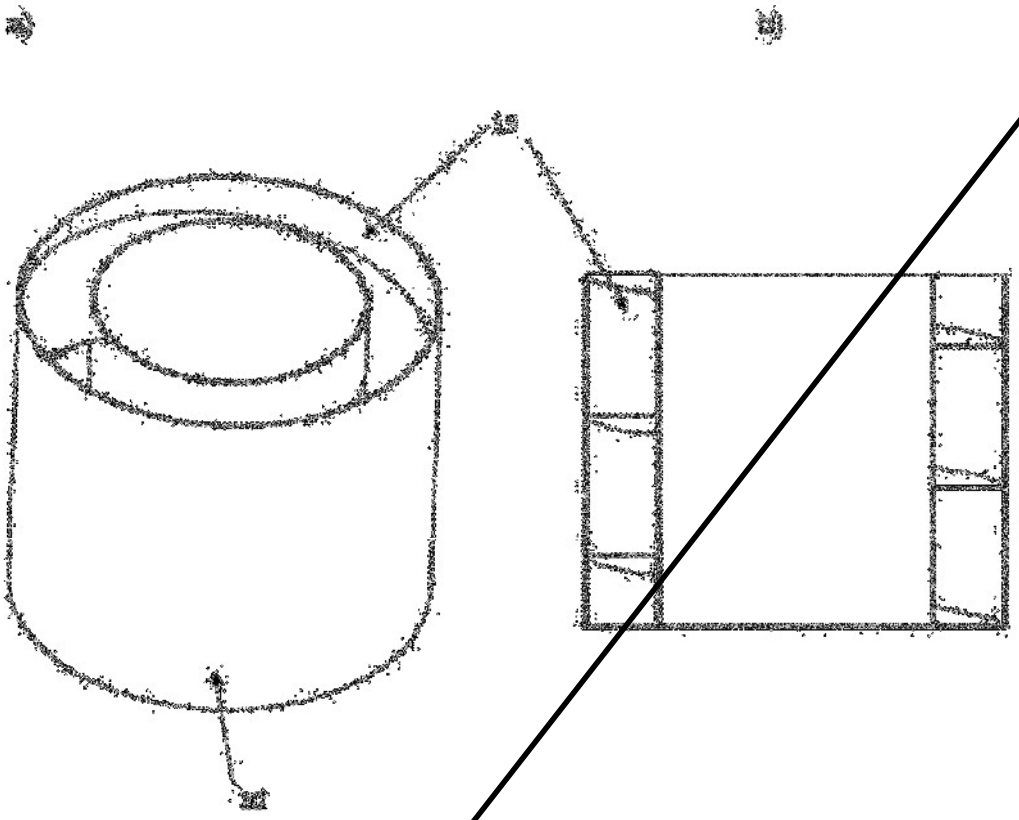


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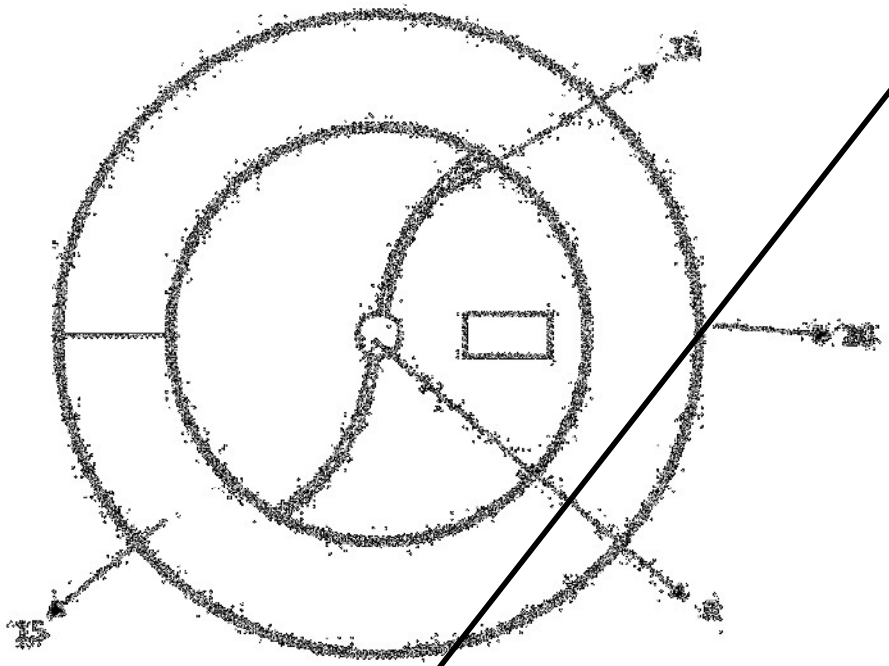


FIGURE 8

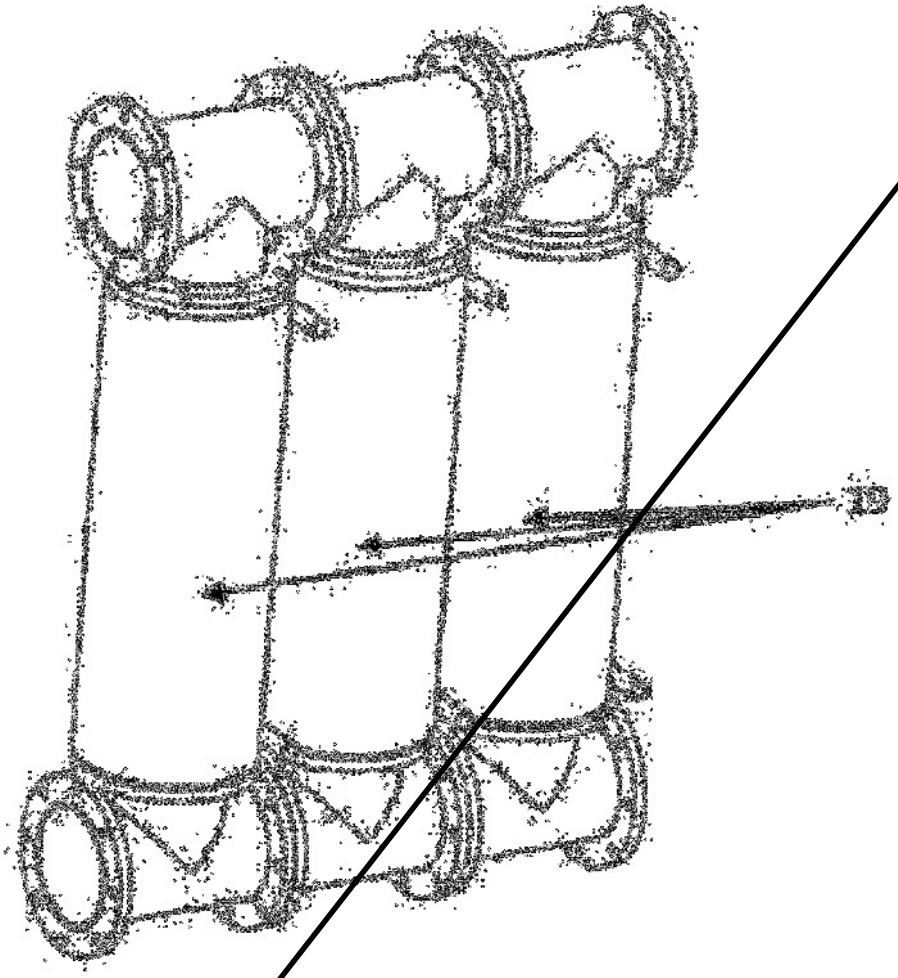


FIGURE 9

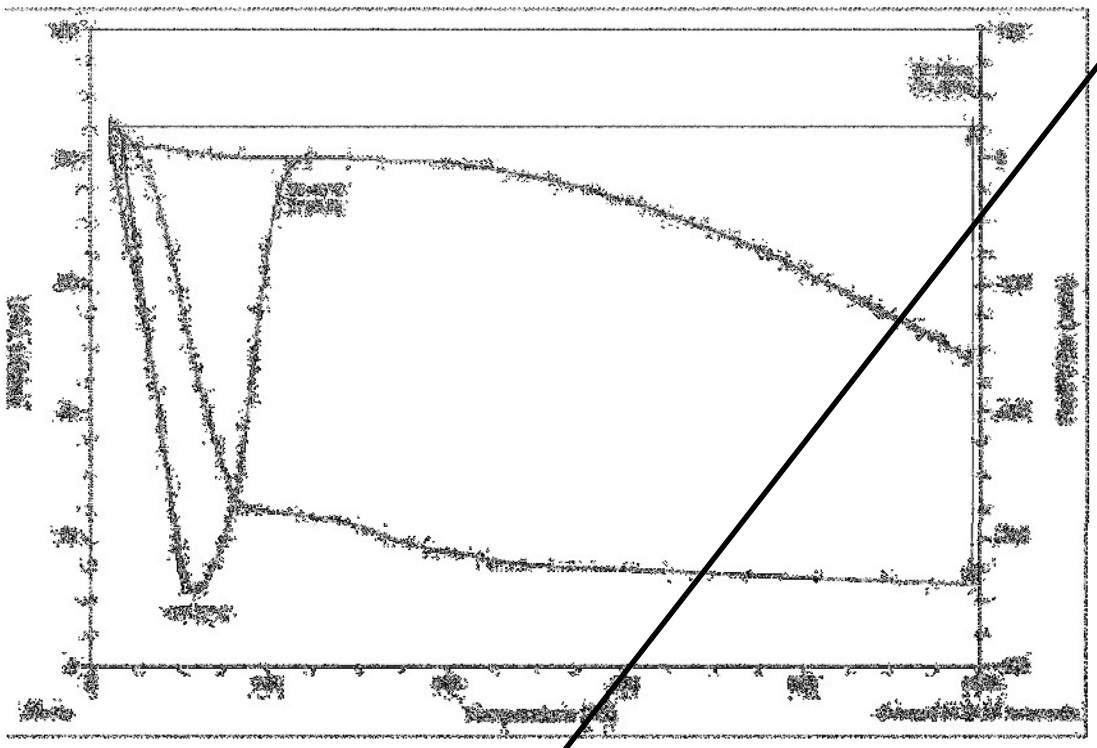


FIGURE 10

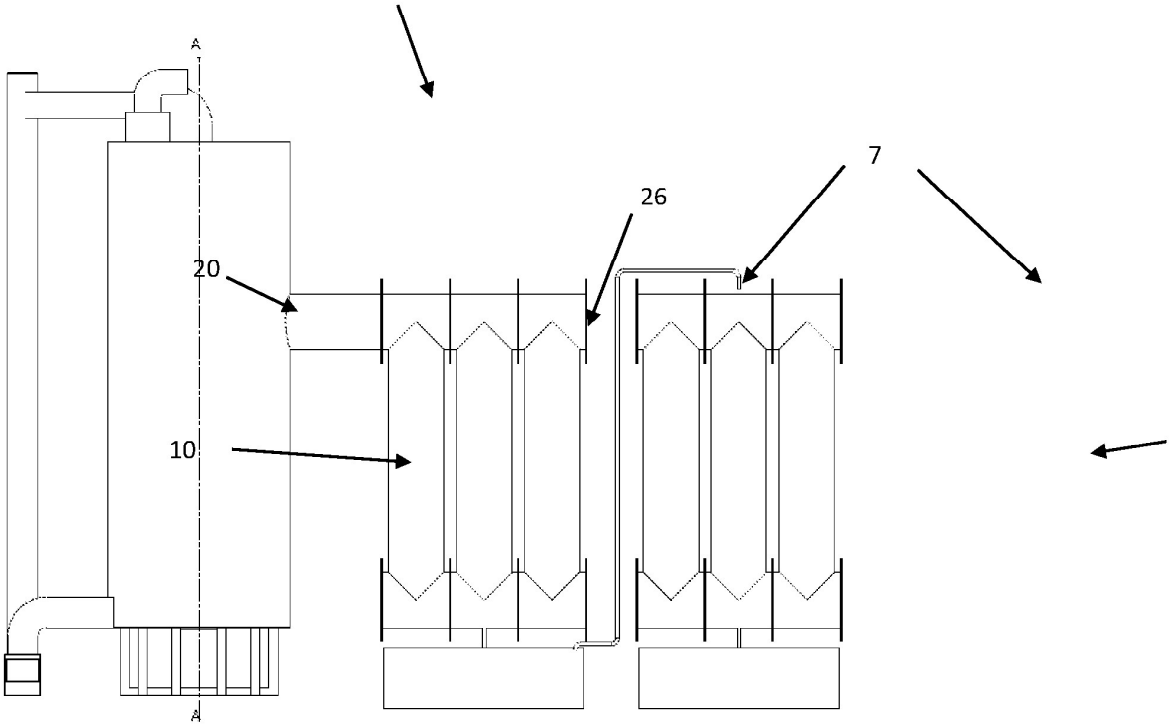


FIGURE 1

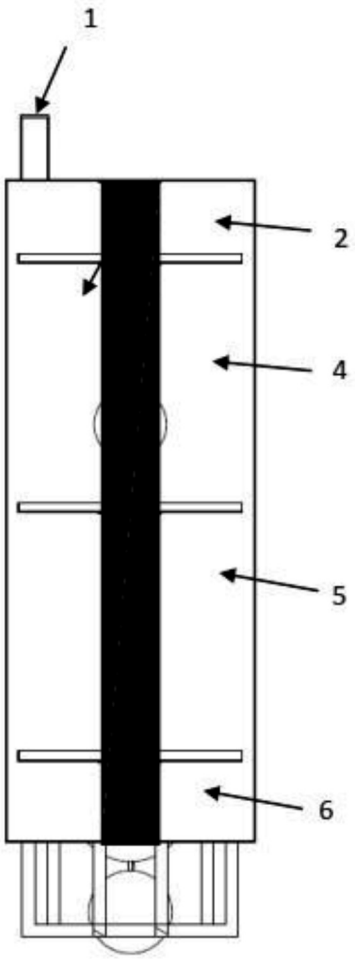


FIGURE 2

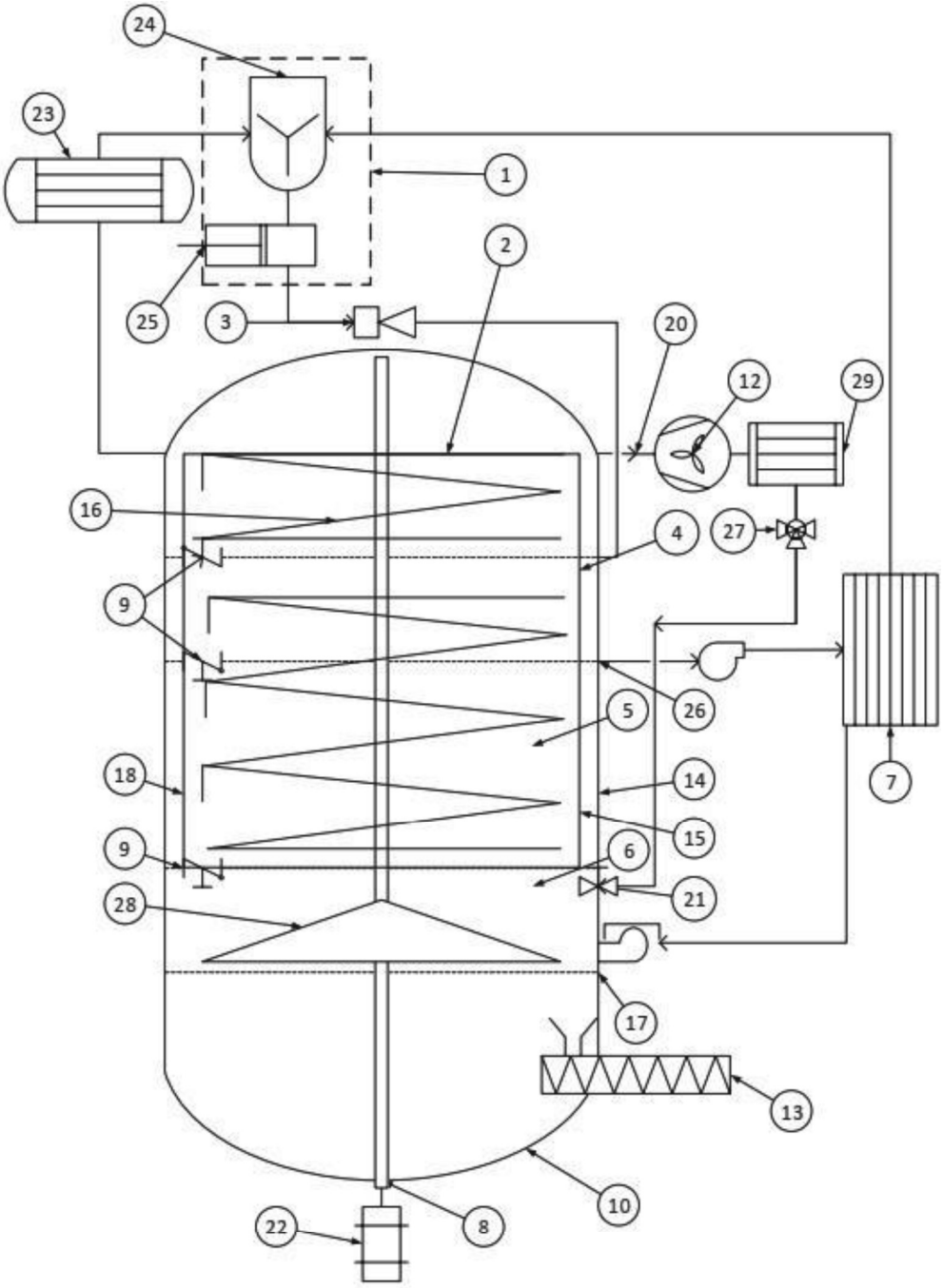


FIGURE 3

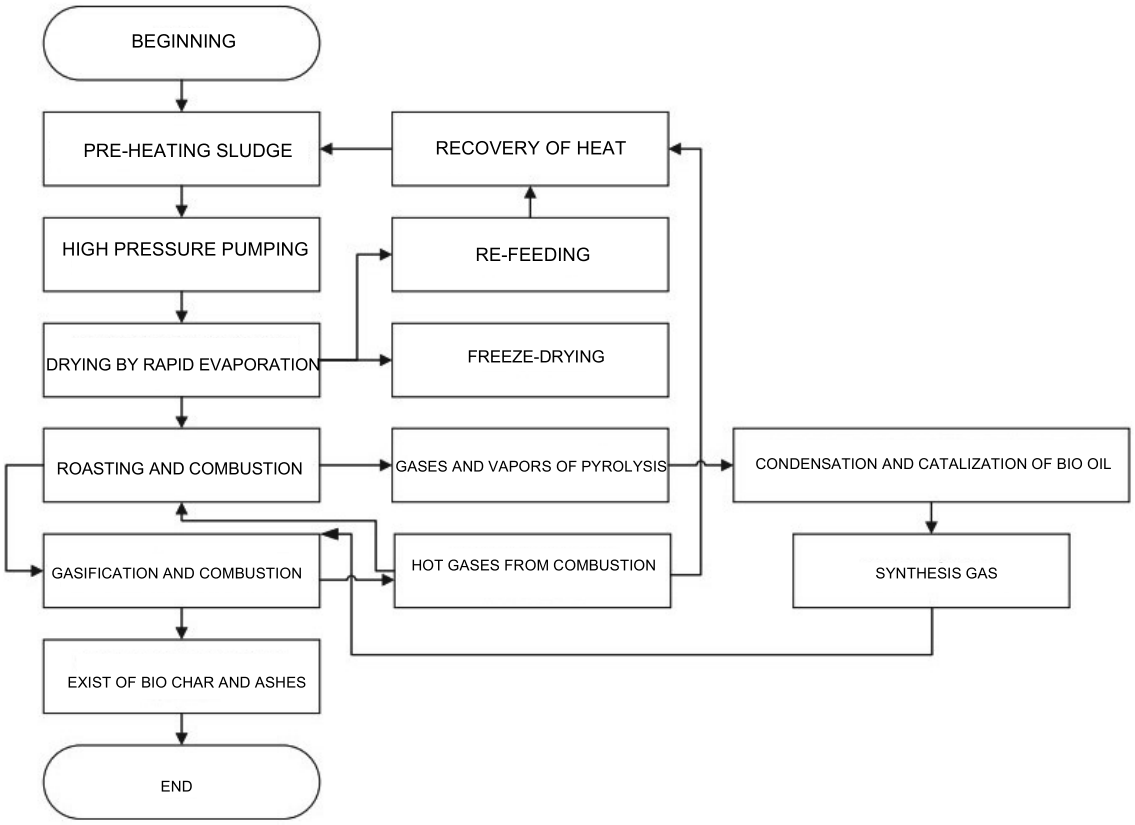

BEGINNING
PRE-HEATING SLUDGE
RECOVERY OF HEAT
HIGH PRESSURE PUMPING
RE-FEEDING
DRYING BY RAPID EVAPORATION
FREEZE-DRYING
ROASTING AND COMBUSTION
GASES AND VAPORS OF PYROLYSIS
CONDENSATION AND CATALIZATION OF BIO OIL
GASIFICATION AND COMBUSTION
HOT GASES FROM COMBUSTION
SYNTHESIS GAS
EXIST OF BIO CHAR AND ASHES
END

FIGURE 4

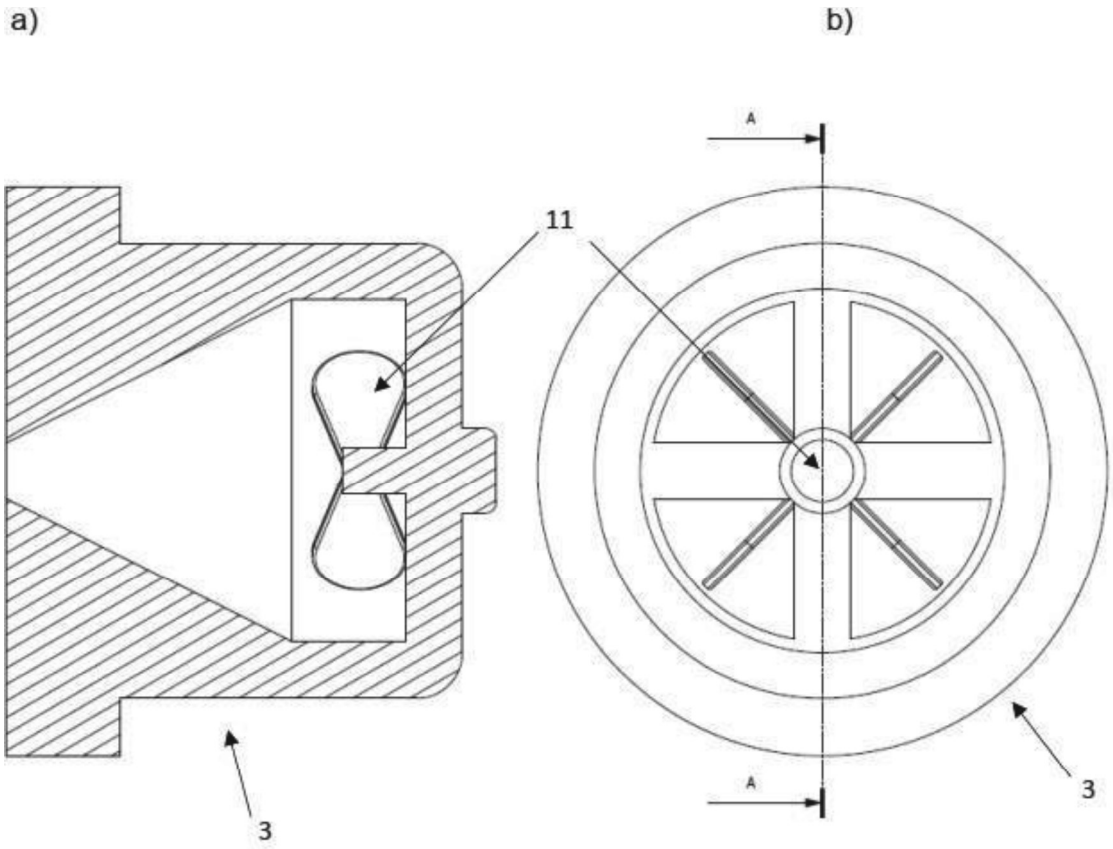


FIGURE 5

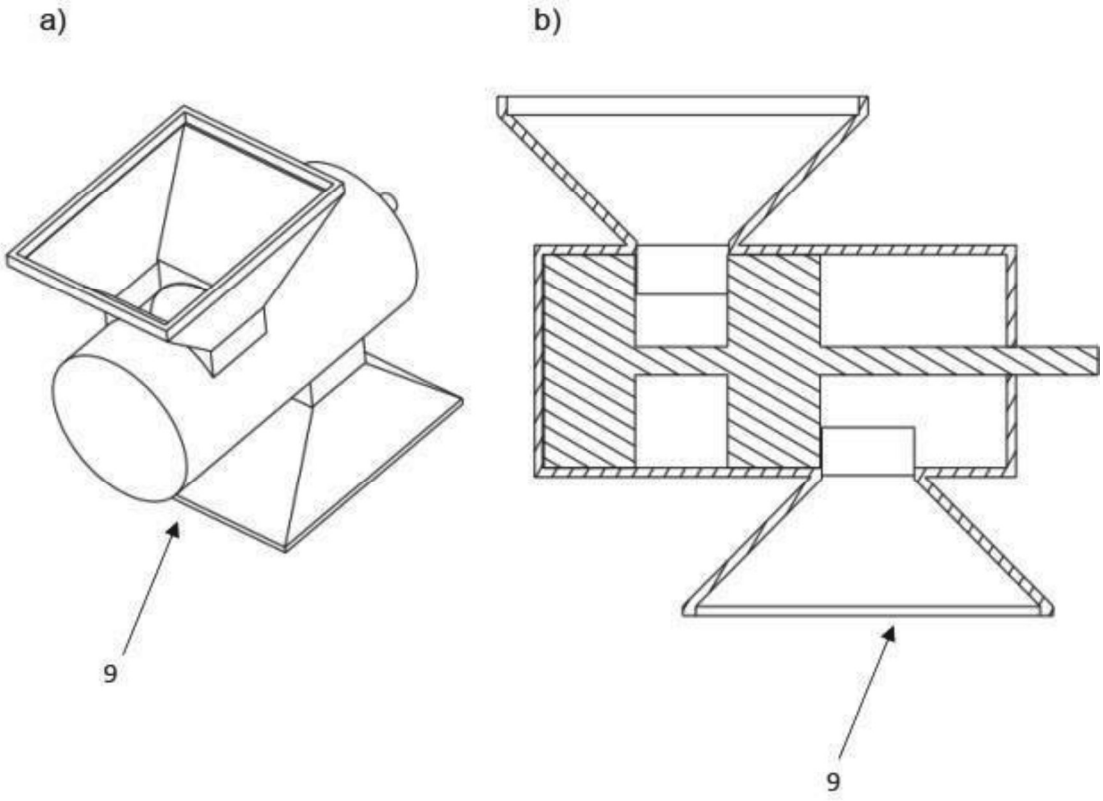


FIGURE 6

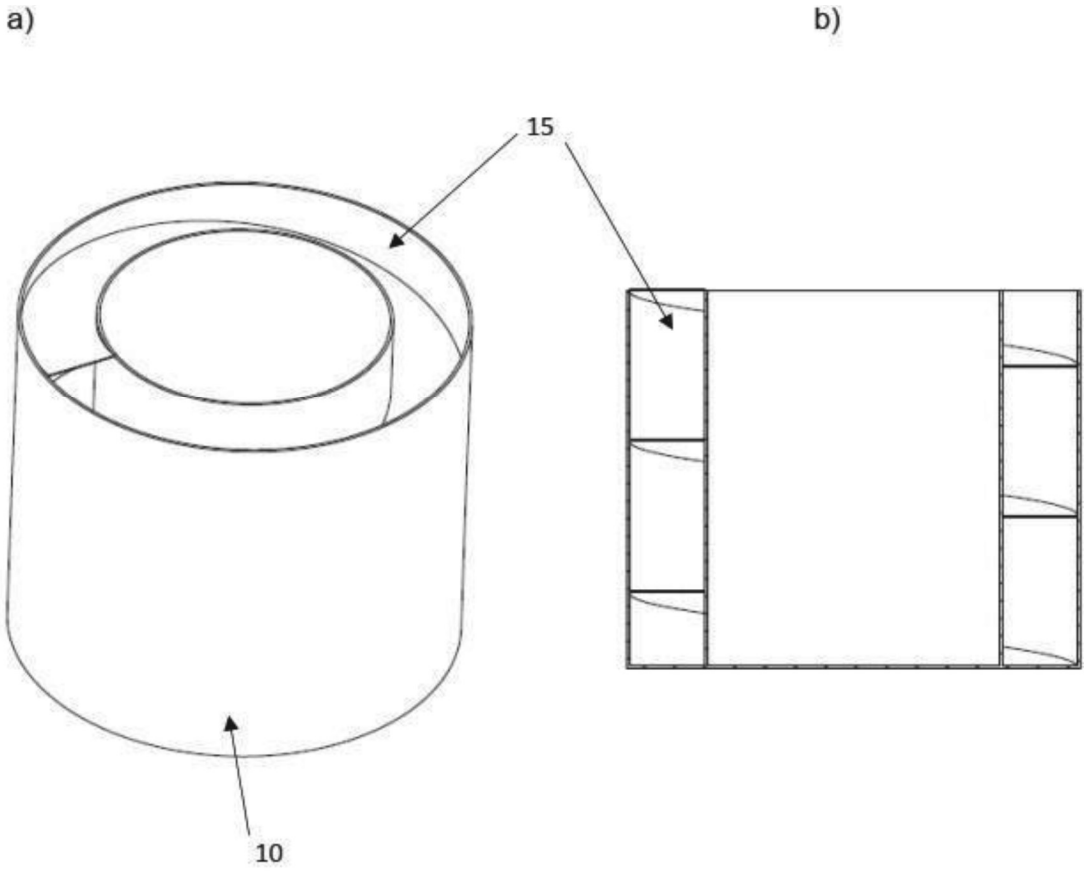


FIGURE 7

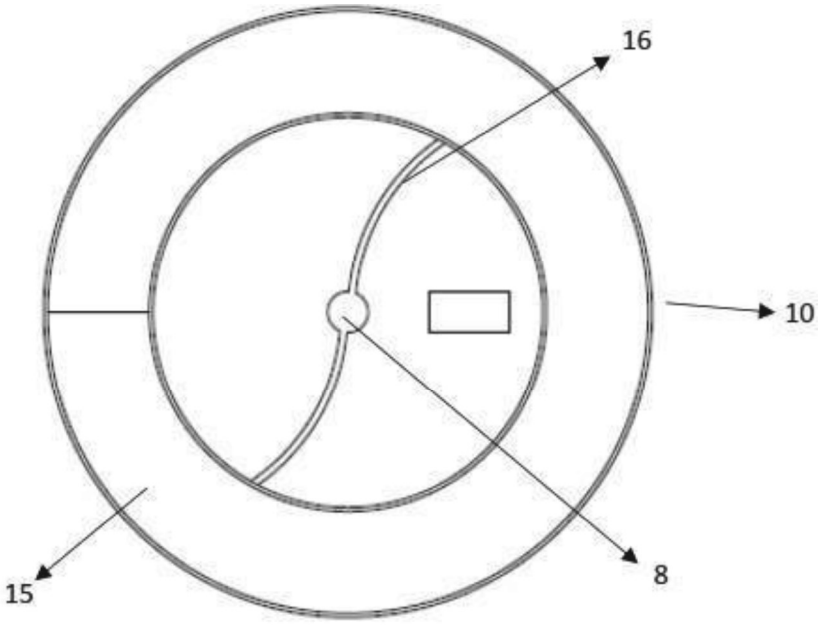


FIGURE 8

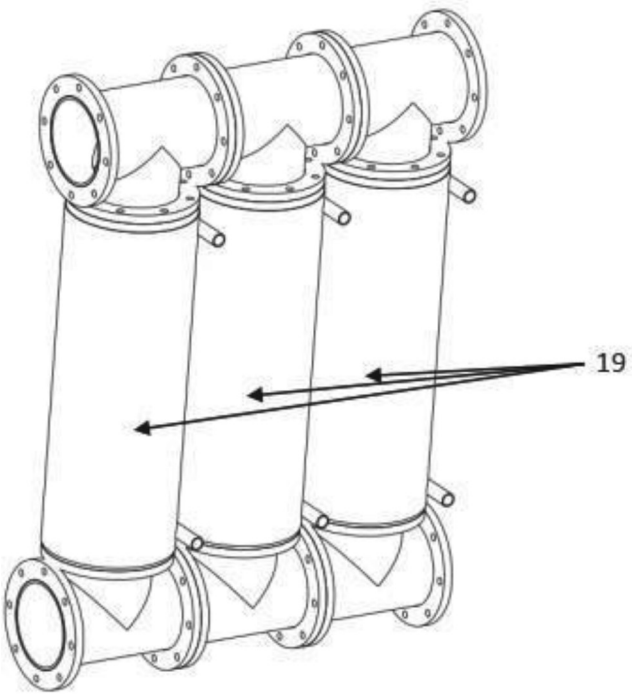


FIGURE 9

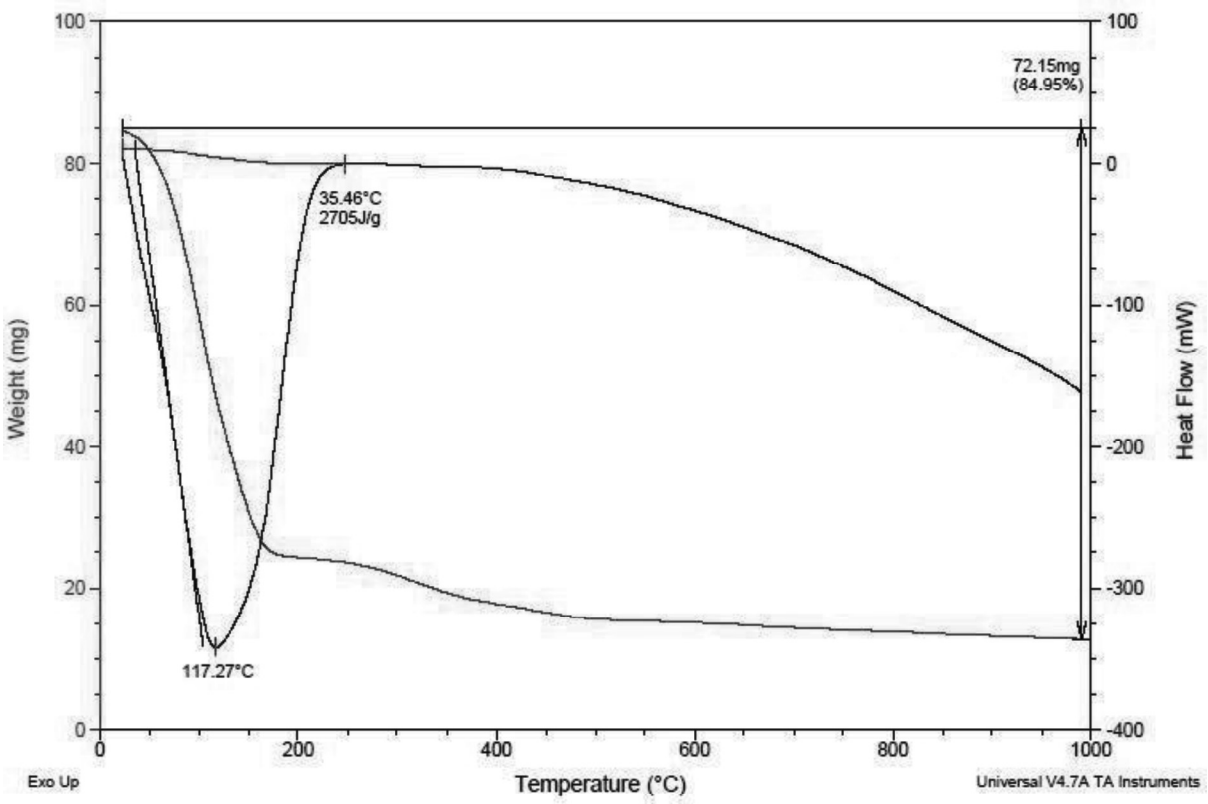

72.15mg
(84.95%)
35.46°C
2705J/g
117.27°C
Weight (mg)
Heat Flow (mW)
Temperature (°C)
Exo Up
Universal V4.7A TA Instruments
100
80
60
40
20
0
-100
-200
-300
-400
200
400
600
800
1000

FIGURE 10