

|      |  |      |   |
|------|--|------|---|
| 2.1  | <b>SUPERHEATING AND PRESSURE RELEASE</b> | 24.2 | ...Heat recovery or regeneration                      |
| 2.2  | ..With extruder                          | 24.3 | ....Thermocompression                                 |
| 2.3  | ..Multistage                             | 25.1 | ..Rotatable agitator or coil                          |
| 3    | <b>SPRAY TYPE</b>                        | 25.2 | ...Vertical axis agitator                             |
| 4.01 | ..Gaseous current                        | 26.1 | ..Heated tube   |
| 4.02 | ..Combustion product gas                 | 26.2 | ...Inclined   |
| 4.03 | ..Antibridging                           | 27.1 | ...Vertical   |
| 4.04 | ..Countercurrent                         | 27.2 | ....Detached separator                                |
| 4.05 | ..Intermediate gas outlet or inlet       | 27.3 | ....Multieffect in one casing                         |
| 4.06 | ..Bottom sprayer                         | 27.4 | ....Downflow  |
| 4.07 | ..Horizontal sprayer                     | 27.5 | ....Floating calandria                                |
| 4.08 | ..Impinging jets                         | 28.1 | ..Heating elements                                    |
| 4.09 | ..Multistaging                           | 28.2 | ...Baffled  |
| 4.1  | ..Heat recovery                          | 28.3 | ...Spur tubes   |
| 4.2  | ..Spinning sprayer                       | 28.4 | ...Coils  |
| 4.3  | ..Rotary drum with sprayer               | 28.5 | ...Tubular inserts                                    |
| 4.4  | ..Steam drying or atomizing              | 28.6 | ...Plate-type evaporator                              |
| 5    | <b>FILM TYPE</b>                         | 29   | .Directly heated                                      |
| 6.1  | ..Centrifugal                            | 30   | .Samplers   |
| 6.2  | ..Wiped film                             | 31   | .Liquid traps or separators                           |
| 6.3  | ...Horizontally                          | 32   | <b>OPEN PANS</b>                                      |
| 7    | ..Moving-film support                    | 33   | ..With rakes  |
| 8    | ..Gaseous current                        | 34   | ..Tiltable, removable, or portable                    |
| 9.1  | ...Rotary drum or disk                   | 35   | ..Interposed liquid receptacle                        |
| 9.2  | ....Treated material inside drum         | 36   | ..Steam and furnace heated                            |
| 10   | ....Exterior surface                     | 37   | ..Steam heated  |
| 11.1 | ..Rotary drum or disk                    | 38   | ..Furnace heated                                      |
| 11.2 | ..Internal film                          | 39   | ..Liquid tubes in flue                                |
| 11.3 | ..Rotary disk                            | 40   | ..Flues in pan  |
| 12   | ..Inclosing chamber                      | 41   | ..With dampers  |
| 13.1 | ..Moving film                            | 42   | <b>STRAINERS OR SKIMMERS</b>                          |
| 13.2 | ..Contacting tube                        | 43.1 | <b>FLUID FEED OR DISCHARGE DEVICES</b>                |
| 13.3 | ...Outside of tube                       | 43.2 | ..With alternating operating means                    |
| 13.4 | ..With gas wiping                        | 44   | ..Automatic   |
| 14   | ..Climbing                               | 45   | <b>APPARATUS FOR GRAINING AND SEPARATING CRYSTALS</b> |
| 15   | ..Zigzag                                 | 46   | <b>PRELIMINARY HEATERS AND HEAT ECONOMIZERS</b>       |
| 16.1 | <b>GASEOUS BLAST OR CURRENT</b>          | 47.1 | <b>PROCESSES</b>                                      |
| 16.2 | ..Submerged combustion                   | 47.2 | ..Involving urea                                      |
| 16.3 | ..Steam injection                        | 47.3 | ..Involving waste liquid                              |
| 17.1 | <b>MULTIPLE EFFECTS</b>                  | 48.1 | ..Spraying  |
| 17.2 | ..Parallel fluid flow                    | 48.2 | ..Producing liquid product                            |
| 17.3 | ..Variant multistaging                   | 49   | ..Film  |
| 17.4 | ..Contiguous evaporators                 | 1.1  | <b>MISCELLANEOUS</b>                                  |
| 18   | ..Superimposed                           |      |   |
| 19   | ..Combined closed and open               |      |   |
| 20.1 | ..Variable or counterflow                |      |   |
| 20.2 | ..With effect switching means            |      |   |
| 21   | <b>COMBINED CLOSED AND OPEN PANS</b>     |      |   |
| 22   | <b>CLOSED EVAPORATING CHAMBERS</b>       |      |   |
| 23   | ..Indirectly heated                      | 900  | <b>USING VIBRATORY FORCE</b>                          |
| 24.1 | ..Regenerative                           | 901  | <b>PROMOTING CIRCULATION</b>                          |
|      |  | 902  | <b>USING NATURAL HEAT</b>                             |
|      |  |      | <b><u>CROSS-REFERENCE ART COLLECTIONS</u></b>         |

|     |                        |        |                 |
|-----|------------------------|--------|-----------------|
| 903 | .Solar                 | DIG 37 | PORTED          |
| 904 | ..Floating solar still | DIG 38 | SEED            |
| 905 | SEWAGE TREATMENT       | DIG 39 | POWER PLANT     |
| 906 | WICK                   | DIG 40 | PUMPS           |
|     |                        | DIG 41 | REMOVABLE UNITS |
|     |                        | DIG 42 | SEALS           |

**FOREIGN ART COLLECTIONS**

FOR 000 CLASS-RELATED FOREIGN DOCUMENTS

**DIGESTS**

|        |  |
|--------|--|
| DIG 1  | ELECTRIC HEAT                              |
| DIG 2  | ENTRAINMENT                                |
| DIG 3  | FLUIDIZED BED                              |
| DIG 4  | FOAM                                       |
| DIG 5  | FREEZING                                   |
| DIG 6  | INFRARED                                   |
| DIG 7  | MAGNETIC COUPLING                          |
| DIG 8  | MULTIEFFECT OR MULTISTAGE                  |
| DIG 9  | TWO LIQUIDS DRIED SIMULTANEOUSLY           |
| DIG 10 | ORGANIC                                    |
| DIG 11 | BIOLOGICALS                                |
| DIG 12 | RADIOACTIVE                                |
| DIG 13 | SCALE                                      |
| DIG 14 | SOAP                                       |
| DIG 15 | SPECIAL MATERIAL                           |
| DIG 16 | VACUUM                                     |
| DIG 17 | TWO LIQUIDS                                |
| DIG 18 | ACCUMULATOR                                |
| DIG 19 | ACID                                       |
| DIG 20 | ADDITIVE                                   |
| DIG 21 | COATING                                    |
| DIG 22 | CONDENSATE FLASHING                        |
| DIG 23 | COOLING                                    |
| DIG 24 | CRITICAL                                   |
| DIG 25 | DECANT, PRESS, CENTRIFUGE                  |
| DIG 26 | ELECTRIC FIELD                             |
| DIG 27 | MICROPORES                                 |
| DIG 28 | POROUS MEMBER                              |
| DIG 29 | PEBBLE BED                                 |
| DIG 30 | DESUPER HEATING                            |
| DIG 31 | DEAERATION                                 |
| DIG 32 | INDIRECT HEAT EXCHANGE                     |
| DIG 33 | TWO LIQUIDS, ONE A HEAT CARRIER            |
| DIG 34 | CAUSTIC                                    |
| DIG 35 | VIEWPORTS, PEEPSIGHTS, AND<br>SIGHTGLASSES |
| DIG 36 | RABBLED HEARTH                             |