

**EUROPEAN PATENT APPLICATION**

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**Fly ash agglomerator, flue equipped with this agglomerator and process for removing suspended charged particles of mixed size from a volume of gas.**

A fly ash agglomerator for improving the efficiency of electrostatic precipitators. Contaminated gas is passed through a charger (10) or (25) wherein suspended particles become electrically charged, and thence past a plurality of parallel plates aligned with the flow direction. An AC voltage source applied to the plates subjects the charged particles to a high voltage AC field, which causes the larger-sized particles to sweep past the smaller-sized particles. The smaller particles adhere to the larger particles, thereby increasing the mean particle size. The gas stream is then passed through a collector to remove the particles from the gas stream (20) or (40).

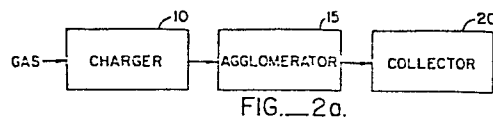


FIG. 2a.

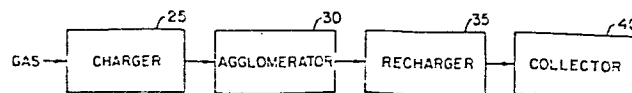


FIG. 2b.



European Patent  
Office

# EUROPEAN SEARCH REPORT

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EP 79 30 0240

| DOCUMENTS CONSIDERED TO BE RELEVANT                        |                                                                               |                        | CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------|-------------------------------------------------------------------------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Category                                                   | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim      |                                                                                                                                                                                                                                                                                                                                                                            |
|                                                            | DE - A - 2 329 344 (HAUPT UND PUSCH GmbH)<br>* Claim 1 *                      | 1,2                    | B 03 C 3/01<br>3/12<br>3/88<br>C 21 B 7/00                                                                                                                                                                                                                                                                                                                                 |
| A                                                          | DE - A - 1 102 109 (G. RONGE et al.)<br>* Claims 1,2 *                        | 1                      |                                                                                                                                                                                                                                                                                                                                                                            |
| A                                                          | US - A - 3 717 977 (W. FREEMAN et al.)<br>* Abstract; claim 1 *               | 1                      |                                                                                                                                                                                                                                                                                                                                                                            |
| PA                                                         | US - A - 4 154 585 (J. MELCHER et al.)<br>* Claim 1 *                         | 1                      | TECHNICAL FIELDS SEARCHED (Int. Cl. 3)<br>B 03 C 3/01<br>3/12<br>3/38<br>3/88                                                                                                                                                                                                                                                                                              |
| A                                                          | FR - A - 2 167 504 (NIPPON KOGYO CO. LTD.)<br>* Claim 1 *                     | 1                      |                                                                                                                                                                                                                                                                                                                                                                            |
|                                                            |                                                                               |                        | CATEGORY OF CITED DOCUMENTS<br>X: particularly relevant<br>A: technological background<br>O: non-written disclosure<br>P: intermediate document<br>T: theory or principle underlying the invention<br>E: conflicting application<br>D: document cited in the application<br>L: citation for other reasons<br>&: member of the same patent family<br>corresponding document |
| The present search report has been drawn up for all claims |                                                                               |                        |                                                                                                                                                                                                                                                                                                                                                                            |
| Place of search                                            | Date of completion of the search                                              | Examiner               |                                                                                                                                                                                                                                                                                                                                                                            |
| The Hague                                                  | 31-01-1980                                                                    | VITZTHUM VON ECKSTAEDT |                                                                                                                                                                                                                                                                                                                                                                            |