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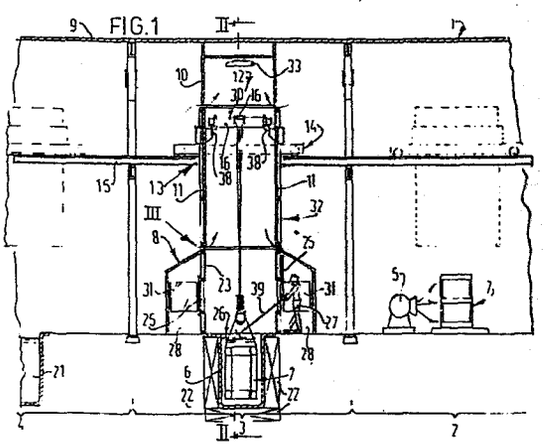
(54) **Exhaust hood for a dipping plant.**

(57) An exhaust hood for a dipping plant, wherein a displaceable hood part (11), carried by a carriage (12) of a lifting tool (13), adjoins a stationary part of the device in a way, that a closed hood is formed above the dipping bath, when the carriage of the lifting means is above that bath.

FIG.1



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Exhaust hood for a dipping plant

The invention relates to an exhaust hood as defined in the preamble of claim 1.

Such a hood is known from FR-A-2311600 and FR-A-2490112.

When such an exhaust hood is used, in particular, in a zinc-plating plant, the known exhaust hood removes much air from the zinc-plating plant in order to drain gases set free during the zinc-plating process as much as possible. Therefore the capacity of the air removing means connected with the hood has to be correspondingly high. This is particularly inconvenient when the air to be removed has to be filtered.

The invention provides an exhaust hood improved in this respect, which is characterized as defined in claim 1. A further development of the exhaust hood embodying the invention is descriped in claims 2 to 4.

The invention will be described hereinafter with reference to a drawing.

This drawing schematically shows in

the figs. 1 and 4 longitudinal sectional views of part of a zinc-plating hall having relatively different exhaust hoods embodying the invention,

Fig. 2 a sectional view taken on the line II-II in Fig. 1 and

Fig. 3 an enlarged sectional view of detail III in the Figs. 1 and 2.

A zinc-plating hall 1 as shown in the Figs. 1 and 2 comprises a zinc-plating line comprising in a conventional manner a degreasing bath, a plurality of pickling baths, a flux bath, a drying station 2, a zinc-plating station 3 and a delivery station 4, which is a cooling station. Fig. 1 only shows the latter three stations. At the drying station 2 are provided the required drying means, for example, ventilators 5, which dry the objects 7 preferably by hot air. At the zinc-plating station 3 the zinc-plating bath 6 is provided with heating elements 22. This bath is surrounded by a stationary lower hood element 8. Below the roof 9 of the hall 1 a stationary top hood element 10 is provided at the zinc-pla-

ting station 3. Between the lower and top hood elements 8 and 10 can be arranged a displaceable hood element 11 in which lifting means 12 of a lifting tool 13 are arranged.

The lifting tool 13 comprises a carriage 14 travelling on rails 15. To this carriage 14 is fastened the hood element 11, for example, by welding. The travelling crabs 30 of the lifting means 12 are movable along rails 38 of the carriage 14 arranged in the interior of the hood element 11. The travelling crabs 30 are provided with winches 16, lifting cables 17, pulleys 18, hooks 19 and a lifting frame 20 to which the objects are fastened. The delivery station 4 is provided with a cooling bath 21.

The lower hood element 8 has an inner jacket 23 and an outer jacket 24, between which a gallery is left, which is accessible through doors 29 to persons to scrape slags with the aid of a scraper 39 from the surface 26 of the zinc-plating bath 6 immediately before the zinc-plated objects 7 are lifted out of the zinc-plating bath.

The lower hood element 8 has, apart from transparant sash windows 25 further transparant windows 31 in the outer jacket so that from the cabin 34 suspended by means of rods 33 to the carriage the crane driver can observe the manipulations of the objects 7.

At the drying station 2 and the cooling station 4 the crane driver can look below the hood element 11.

The exhaust hood embodying the invention operates as follows:

The carriage 14 is driven with the hood element 11 towards the drying station. There the lifting frame 20 is lowered, the objects 7 are fastened thereto and lifted together with the lifting frame 20, so that the objects 7 are moved into the hood element 11. Subsequently the carriage 14 drives towards the zinc-plating station 3, where the displaceable hood element 11 completes an exhaust hood 32. The hood elements 8, 10 and 11 preferably adjoin one another with a small amount of play so that owing to the subatmospheric pressure produced by ventilators (not shown) in the exhaust hood 32 developed gases and/or vapours are prevented from getting out of the exhaust hood 32 into the zinc-plating hall 1. The lifting frame 20 is lowered with the objects 7 and the

objects 7 are dipped in the zinc-plating bath. The rising gases and/or vapours are conducted away through outlet channels 33 from the top of hood element 10 either directly or through filters into the open air. The hood elements 8, 19 and 11 are preferably in sealing relationship with one another by means of a sealing strip 35, which is formed as shown in Fig. 3 by an inflatable hose arranged between edges 36 and 37 of the hood elements 8 and 11, and 11 and 10 respectively.

When the zinc-plating process has terminated and practically no gases and/or vapours are any longer produced, the sash windows 25 are lifted for scraping slags. Then the zinc-plated objects 7 are lifted from the zinc-plating bath 6. The inflatable sealing strip, if any, is in the meantime exhausted. The objects 7 together with the hood element 11 are brought to the delivery station 4, where they are moved out of the hood element 11 and unhooked from the lifting frame 20. Finally the lifting tool is driven back to the drying station 2 for treating further objects 7.

In the variant of Fig. 4 the exhaust hood is an integral unit. Inside the hood 40 are arranged the lifting means 42. The exhaust hood 40 communicates through a hose 41 with an outlet channel 43 so that the exhaust hood 40 can move between the drying station 2 and the delivery station 4, for example, since it is arranged on a carriage 44. The objects 7 are then located at the drying station 2 in a cellar 45.

With these exhaust hoods 32 and 40 and by the method described above it is satisfactorily possible to zinc-plate objects 7 with baths arranged parallel side by side, the transport paths between them being short.

CLAIMS

1. An exhaust hood (32, 40) for a dipping plant, in particular a zinc-plating plant (1) comprising at least one displaceable hood part (11) carried by a carriage (14) of the lifting tool (13), in which lifting means (12) of the lifting tool (13) are arranged characterized in that the displaceable hood part adjoins a stationary part of the device.

2. An exhaust hood (32) as claimed in claim 1 characterized in that the exhaust hood (32) comprises a stationary lower hood element (8), a stationary top hood element (10) and a displaceable hood element (11) to be arranged between the former.

3. An exhaust hood (32) as claimed in claim 1 characterized in that at least one edge (36, 37) of a hood element is provided with a sealing strip (35).

4. An exhaust hood (32) as claimed in claim 3 characterized in that the sealing strip (35) is an inflatable hose.

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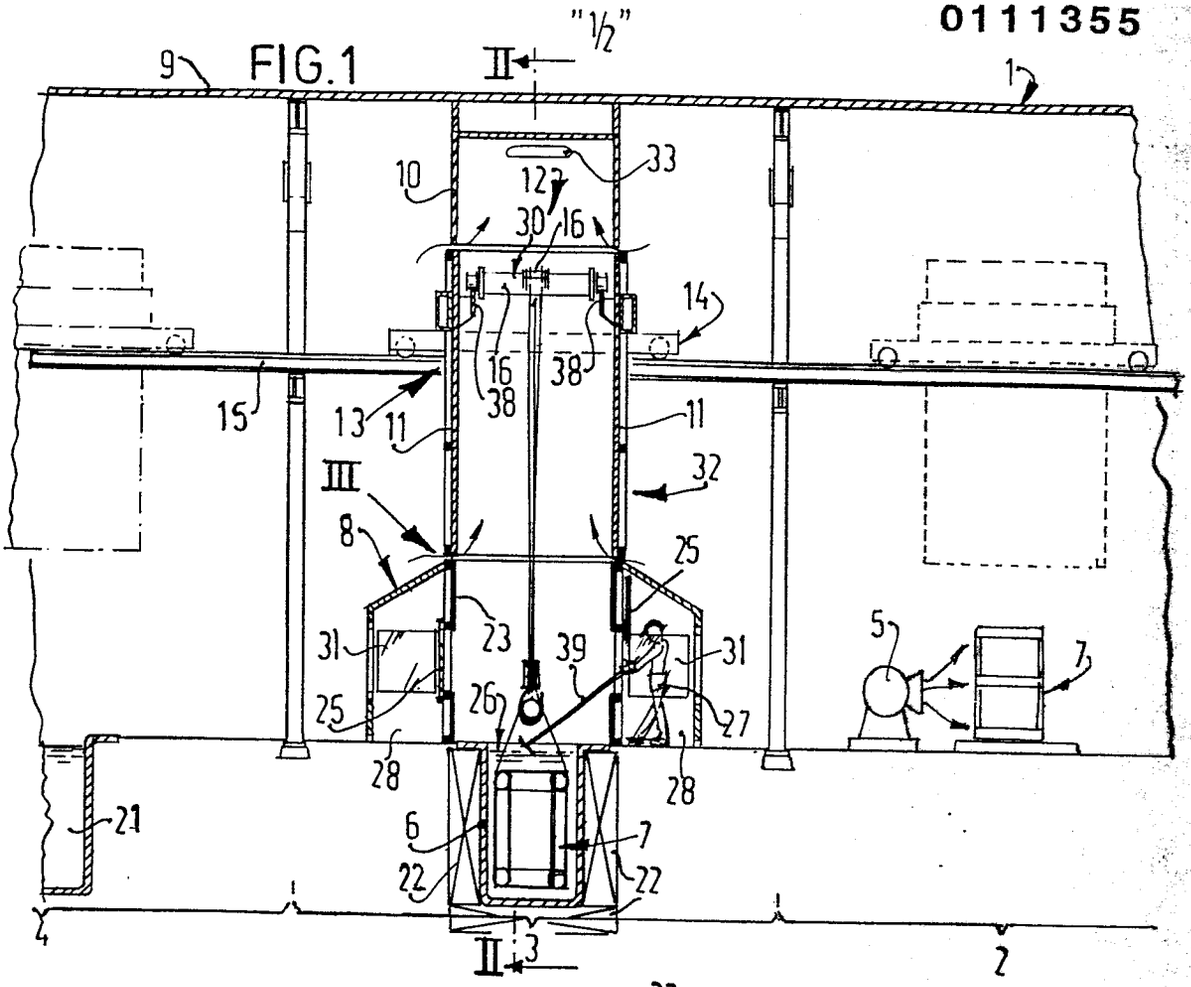
FIG.1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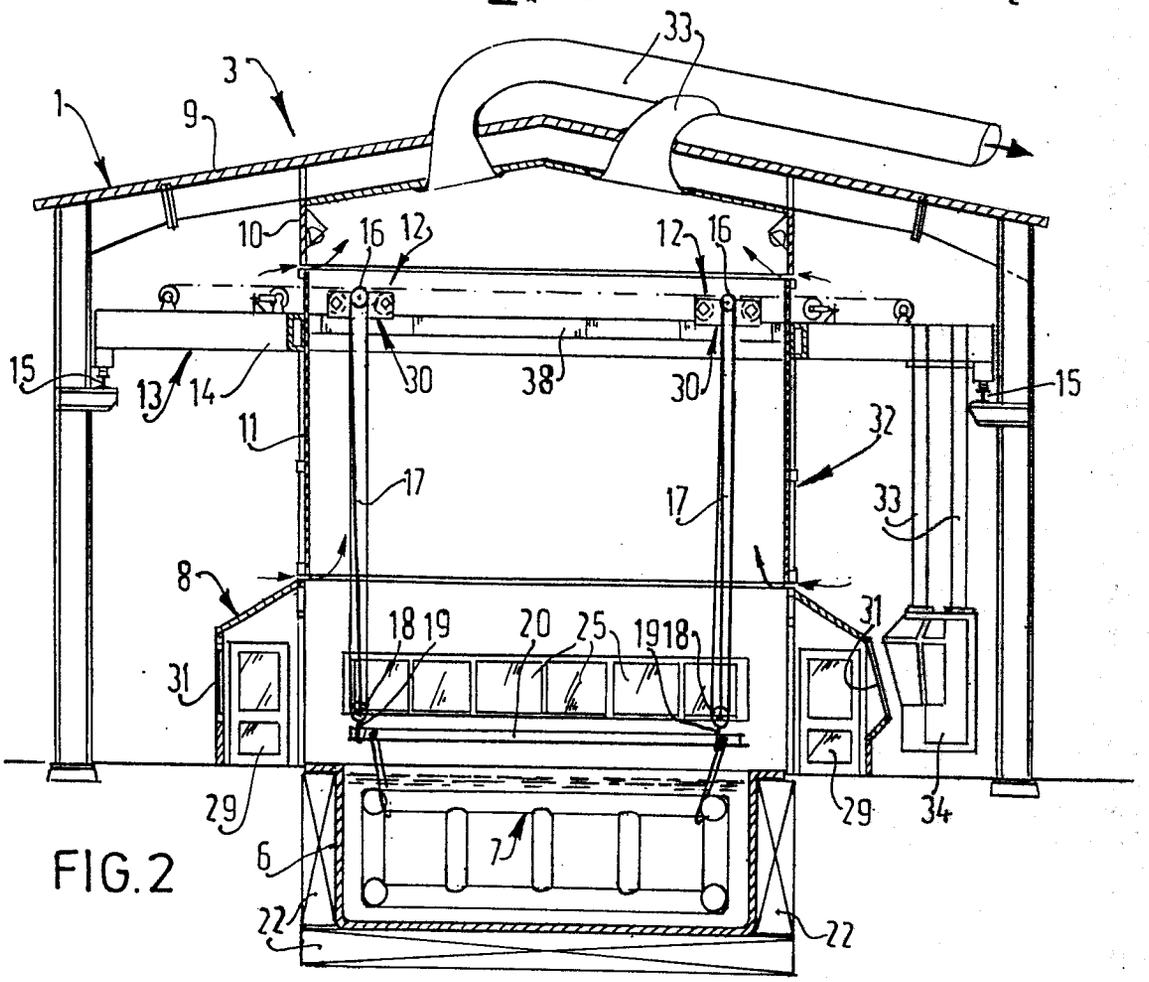
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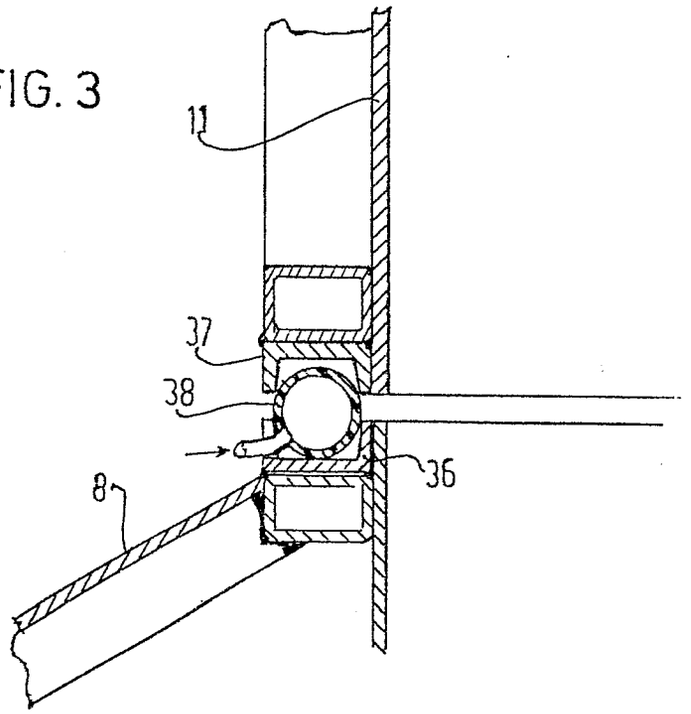
FIG.2

FIG. 3



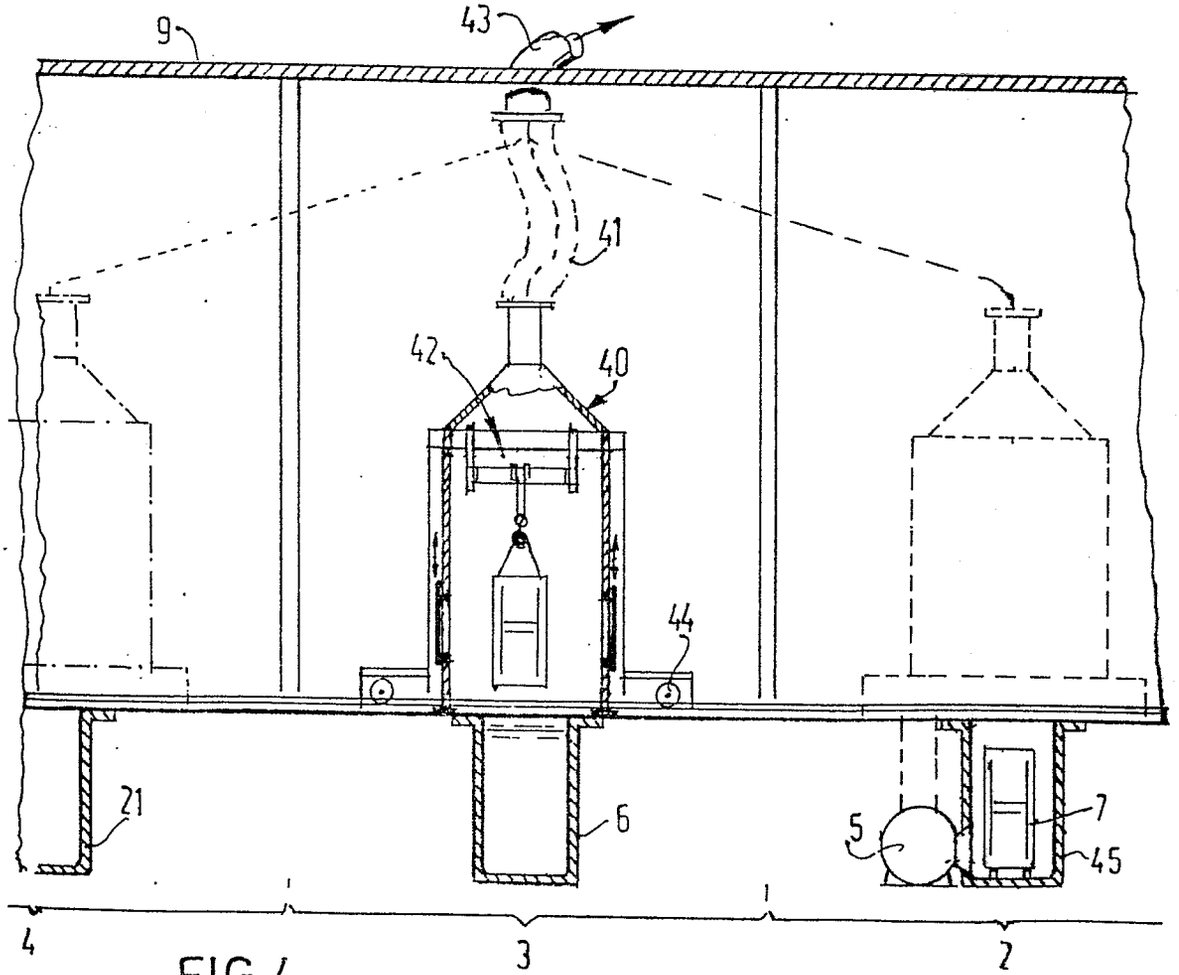


FIG. 4

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EUROPEAN SEARCH REPORT

0111355

Application number

EP 83 20 1653

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
D,X	FR-A-2 311 600 (THEVENARD) * Page 3, line 13 - page 4, line 5; figures 1,2 *	1	B 08 B 15/02
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TECHNICAL FIELDS SEARCHED (Int. Cl. ³)

B 08 B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	01-03-1984	CLAEYS H.C.M.

CATEGORY OF CITED DOCUMENTS

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