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(54) **A DEDUSTING HEAD FOR A TRANSFORMATION LINE OF A STRIP MATERIAL**

(57) A dedusting head (1) for a transformation line of a strip material (100), comprising a lower head body (10); an upper head body (50) associated with the lower head body (10) so as to form a passage (80) between said lower head body (10) and said upper head body (50), configured to allow said strip material (100) to slide in said passage (80) according to a predefined sliding plane (P) and a predefined sliding direction (S) belonging to said predefined sliding plane (P), said passage (80) defining a passage width (L) measured along the sliding plane (P) and orthogonally to the predefined sliding direction (S), and a passage height (A) measured in a direction orthogonal to the sliding plane (P); said lower head body (10) defining a lower body operating surface (11), and said upper head body (50) defining an upper body operating surface (51), wherein said lower body operating surface (11) and said upper body operating surface (51) face each other on opposite sides with respect to said sliding plane (P) and define said passage (80) therebetween; wherein at least one of said lower head body (10) and said upper head body (50) comprises at least one respective suction duct (12, 13, 52, 53) defining a rectilinear slit-shaped suction opening (14, 15, 54, 55) extending parallel to a longitudinal direction (DL) orthogonal to the predefined sliding direction (S) and parallel to the sliding plane (P), and at least one blowing duct (16, 56) defining a rectilinear slit-shaped blowing opening (17, 57) extending parallel to said longitudinal direction (DL); said suction opening (14, 15, 54, 55) and said blowing opening (17, 57) both being open in said operating surface (11, 51) of said at least one of said lower head body (10) and said upper head body (50) and facing said passage (80), said at least one suction duct (12, 13, 52, 53) being connectable to suction means to generate an air suction flow from said passage (80) to said at least one suction duct (12, 13, 52, 53) through said suction opening (14, 15, 54, 55), and said at least one blowing duct (16, 56) being connectable to blowing means to generate an air blowing flow from said at least one blowing duct (16, 56) to said passage (80) through said blowing opening (17, 57); suction cross-section varying means (1841, 1942, 5881, 5982) for modifying the value of the cross-section area of said suction opening (14, 15, 54, 55); blowing cross-section varying means (20, 60) for modifying the value of the cross-section area of said blowing opening (17, 57).

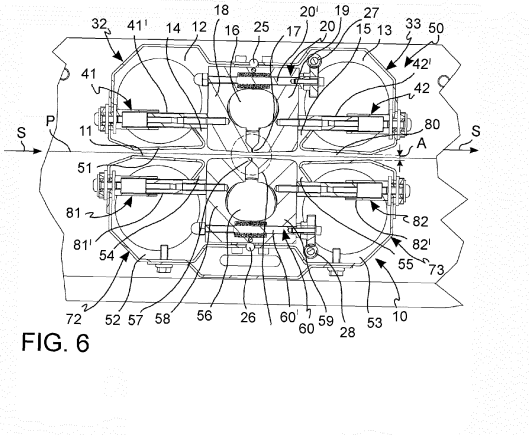

FIG. 6

EP 4 186 601 A1

Description

Field of the invention

[0001] The present invention relates to a dedusting head for a strip material transformation machine, for example for a rotogravure printing machine, adapted to remove dust and processing residues from the surfaces of the strip material, for example paper or film made of plastic material, capable of being easily adapted to various types, thicknesses and processing of said strip material.

Background art

[0002] In the field of strip material processing, such as for example in the field of paper transformation or processing, the strip material, initially collected on a reel upstream of an industrial line, is passed along a plurality of processing stations arranged in sequence with one another along said line, up to an outlet for the processed product, downstream of the line.

[0003] For example, printing stations, generally rotogravure printing stations, and cutting and/or pleating and/or embossing stations, etc., can be mentioned among the processing stations.

[0004] Many of these stations generate particles of material and/or dust, tending to separate from the strip material and contaminate the working environment, the machines and the devices forming the production line, but also the strip material itself, during the processing.

[0005] It should be noted that in the case of a transformation line for a strip material, the latter slides between the various stations, thus becoming electrostatically charged.

[0006] In the case of rotogravure printing, the strip material itself and the ink are subjected to strong electromagnetic fields to conveniently charge them in order to improve the transfer of the ink to the sheet material and thus improve the print quality.

[0007] This results in the risk of weak residual charges remaining in the particles and dust from the processing and/or on the strip material, leading to a concrete risk of accumulation of dust at some zones along the strip material transformation line.

[0008] The presence of strong electromagnetic fields at the aforesaid printing units, in conjunction with the accumulation of dust, significantly increases the risk of fire and explosion.

[0009] Therefore, the need is felt to accurately and completely remove the particles and dust generated when processing the strip material along the transformation line.

[0010] For this purpose, a dedusting head for a transformation line of strip material, for example paper in a strip form, is known, having a lower head body and an upper head body facing each other, between which the strip material is free to slide according to a predefined sliding direction.

[0011] The lower head body and the upper head body comprise at least one suction duct and at least one blowing duct, in which each of such suction and blowing ducts has a respective side slit transverse to the predefined sliding direction of the strip material and parallel to a face of the strip material and adapted to face a face of said strip material.

[0012] Each of such transverse slits is adapted to generate an air blade flow extending transversely to the sliding direction of the strip material. Such an air blade flow can be a suction or blowing air blade flow, according to whether it is associated with the suction or blowing duct.

[0013] The concurrence of the suction and blowing action aims to improve the action of removing dust from the strip material being processed.

[0014] The lower head body and the upper head body are arranged at a preset mutual distance, assessed orthogonally to the sliding direction of the strip material and orthogonally to the faces of the strip material.

[0015] This type of dedusting head has some application limits.

[0016] Indeed, such a type of known dedusting head allows obtaining the maximum dedusting efficiency only with a specific type of strip material and a specific type of processing, for which it was specifically sized and designed. The dedusting efficiency indeed depends on the combination of many mutually correlated size factors.

[0017] In particular, each dedusting head of this known type is specifically designed for a predefined strip material, having predefined thickness, material, physical features, surface type, and for a predefined processing characterized by predetermined sliding speeds of the strip material and by the type of processing itself, such as printing, bending, cutting, etc.

[0018] This results in the disadvantage of a variety of different dedusting heads requiring mounting in different points of the strip material transformation line, in which each head is specifically designed and manufactured.

[0019] It is apparent that this type of known dedusting head significantly impacts the overall cost of the strip material transformation line.

[0020] Therefore, the need is felt to provide a dedusting head being easy to configure for use with different types of strip materials and different processing and therefore interchangeable and universal.

Summary of the invention

[0021] It is the object of the present invention to devise and provide a dedusting head for an industrial strip material transformation line, for example for a paper transformation line, which allows meeting the aforesaid requirements and at least partially obviating the drawbacks complained hereinabove with reference to the prior art.

[0022] In particular, it is the task of the present invention to provide a dedusting head for an industrial transformation line which allows an easy configuration to adapt it to different types of strip materials and different

processing and therefore which is interchangeable and universal.

[0023] It is another object of the present invention to provide a dedusting head which allows decreasing the overall cost of an industrial strip material transformation line, for example a paper transformation line.

[0024] It is a further object of the present invention to provide a dedusting head which allows finely adjusting the dedusting efficacy thereof in order to optimize the results even once it has been mounted on the transformation line.

[0025] It is another object of the present invention to provide a dedusting head which allows modifying the configuration of the strip material transformation line, thus avoiding the head itself from being replaced as it is easily adjustable and re-adaptable to the new use.

[0026] These and further objects and advantages are achieved by a dedusting head according to independent claim 1.

[0027] Further objects, solutions and advantages are present in the embodiments described below and claimed in the dependent claims.

Brief description of the drawings

[0028] The invention will be disclosed below by the description of some embodiments thereof, given by way of a non-limiting example, with reference to the accompanying drawings, in which:

- Figure 1 shows an angled isometric view of a dedusting head according to the invention;
- Figure 2 shows an enlargement of detail II of the head in Figure 1;
- Figure 3 shows an enlargement of detail III of the head in Figure 1;
- Figure 4 show an orthogonal top view of the head in Figure 1;
- Figure 5 shows a sectional view along cross-section plane V in Figure 4;
- Figure 6 shows an enlarged part of Figure 5;
- Figure 7 shows an enlarged detail of the view shown in Figure 6;
- Figure 8 shows an enlarged part of the view in Figure 6;
- Figure 9 shows another enlarged detail of Figure 6;
- Figure 10 shows a further enlarged detail of Figure 6;
- Figure 11 shows another enlarged detail of Figure 6.

Description of preferred embodiments

[0029] With reference to the drawings, a dedusting head according to the invention for a strip material transformation line, for example for a paper transformation line, is indicated as a whole by reference numeral 1.

[0030] The dedusting head 1 for a transformation line of a strip material 100 comprises a lower head body 10 and an upper head body 50 associated with the lower head body 10 so as to form a passage 80 between said lower head body 10 and said upper head body 50.

[0031] Passage 80 is configured to allow said strip material 100 to slide in said passage 80 according to a predefined sliding plane P and a predefined sliding direction S belonging to said predefined sliding plane P.

[0032] Passage 80 defines a passage width L measured along the sliding plane P and orthogonally to the predefined sliding direction S, and a passage height A measured in the direction orthogonal to the sliding plane P.

[0033] The lower head body 10 defines a lower body operating surface 11 and the upper head body 50 defines an upper body operating surface 51, in which the lower body operating surface 11 and the upper body operating surface 51 face each other on opposite sides with respect to said sliding plane P and define passage 80 therebetween.

[0034] At least one of said lower head body 10 and said upper head body 50 comprises at least one respective suction duct 12, 13, 52, 53 defining a rectilinear slit-shaped suction opening 14, 15, 54, 55 extending parallel to a longitudinal direction DL orthogonal to the predefined sliding direction S and parallel to the sliding plane P, and at least one blowing duct 16, 56 defining a rectilinear slit-shaped blowing opening 17, 57 extending parallel to said longitudinal direction (DL).

[0035] The suction opening 14, 15, 54, 55 and the blowing opening 17, 57 are both open in said operating surface 11, 51 of said at least one of said lower head body 10 and said upper head body 50 and facing said passage 80.

[0036] The at least one suction duct 12, 13, 52, 53 is connectable to suction means to generate an air suction flow from said passage 80 to said at least one suction duct 12, 13, 52, 53 through said suction opening 14, 15, 54, 55.

[0037] The at least one blowing duct 16, 56 is connectable to blowing means to generate an air blowing flow from said at least one blowing duct 16, 56 to said passage 80 through said blowing opening 17, 57.

[0038] The dedusting head 1 comprises suction cross-section varying means 41, 42, 81, 82 for modifying the value of the cross-section area of said suction opening 14, 15, 54, 55.

[0039] Moreover, the dedusting head 1 comprises blowing cross-section varying means 20, 60 for modifying the value of the cross-section area of said blowing opening 17, 57. According to an embodiment, the suction opening 14, 15, 54, 55 extends over the entire passage width L.

[0040] According to an embodiment, the blowing opening 17, 57 extends over the entire passage width L.

[0041] According to an embodiment, the suction cross-section varying means 41, 42, 81, 82 are configured to modify the width of said rectilinear slit of said suction opening 14, 15, 54, 55 according to said predefined sliding direction S.

[0042] According to an embodiment, the blowing cross-section varying means 41, 42, 81, 82 are configured to modify the width of said rectilinear slit of said blowing opening 17, 57 according to said predefined sliding direction S.

[0043] According to an embodiment, said at least one blowing duct 16, 56 is substantially tubular in shape and rectilinear, with axis parallel to said longitudinal direction DL, in which said slit-shaped blowing opening 17, 57 is open along a side wall of said tubular blowing duct 16, 56.

[0044] According to an embodiment, the side wall of said tubular blowing duct 16, 56 comprises two rigid half-walls 18, 19, 58, 59 movably restrained to each other, in which such two rigid half-walls define a first longitudinal side 17', 57' of said blowing opening and a second longitudinal side 17'', 57'' of said blowing opening, respectively.

[0045] According to an embodiment, the aforesaid blowing opening cross-section varying means 20, 60 are interposed between said two rigid half-walls and configured to adjust the distance between said first longitudinal side 17', 57' of said blowing opening and said second longitudinal side 17", 57" of said blowing opening, measured parallel to the predefined sliding direction S.

[0046] According to an embodiment, the blowing opening cross-section varying means 20, 60 comprise at least one screw drive 20', 60' acting along a direction parallel to said sliding direction S.

[0047] Preferably, the two rigid half-walls 18, 19, 58, 59 are pivotally restrained to each other about a hinge axis 25, 26 arranged along a direction parallel to the longitudinal direction DL, in a position diametrically opposite to said slit-shaped blowing opening 17, 57.

[0048] According to an embodiment, the dedusting head 1 comprises a plurality of said at least one screw drive 20', 60', each having a screw axis parallel to the predefined sliding direction S and distributed along said longitudinal direction DL.

[0049] The blowing opening cross-section varying means 20, 60 comprise a synchronizing bar 27, 28 rotating about a rotation axis preferably parallel to the longitudinal direction DL and associated with said screw drives 20', 60' of said plurality so that a rotation of said synchronizing bar 27, 28 corresponds to a corresponding rotation of all the screw drives 20', 60' associated with said synchronizing bar 27, 28.

[0050] According to an embodiment, the synchronizing bar 27, 28 is associated with the screw drives 20', 60' by means of a gear wheel-worm screw gear.

[0051] According to an embodiment, the synchronizing bar 27, 28 ends, at an end thereof, with an operating knob 29 which is operable by an operator.

[0052] According to an embodiment, the synchronizing bar 27, 28 can be operated by means of a rotary motor.

[0053] According to an embodiment, said suction cross-section varying means 41, 42, 81, 82 are configured to modify the width of said rectilinear slit of said suction opening 14, 15, 54, 55 according to said predefined sliding direction S.

[0054] According to an embodiment, the at least one suction duct 12, 13, 52, 53 is substantially tubular in shape and rectilinear, with axis parallel to said longitudinal direction DL, in which said slit-shaped suction opening 14, 15, 54, 55 is arranged along a side wall 32, 33, 72, 73 of said tubular suction duct 14, 15, 54, 55.

[0055] According to an embodiment, said side wall 32, 33, 72, 73 of said tubular suction duct 14, 15, 54, 55 comprises a fixed wall portion 34 defining a first longitudinal side 34' of said suction opening, and a movable wall portion 35 defining a second longitudinal side 35' of said suction opening.

[0056] According to an embodiment, the suction opening cross-section varying means 41, 42, 81, 82 are interposed between said fixed wall portion 34 and said movable wall portion 35 and configured to adjust the distance between said first longitudinal side 34' of said suction opening and said second longitudinal side 35' of said suction opening, measured parallel to the predefined sliding direction S.

[0057] According to an embodiment, the side wall 32, 33, 72, 73 of said tubular suction duct comprises an elastically deformable intermediate wall portion 36 interposed between said fixed wall portion 34 and said movable wall portion 35 so that by acting on the suction opening cross-section varying means 41, 42, 81, 82, said elastically deformable intermediate portion is deformed to modify the width of said rectilinear slit of said suction opening 14, 15, 54, 55.

[0058] According to an embodiment, the suction opening cross-section varying means 41, 42, 81, 82 comprise at least one linear screw drive 41', 42', 81', 82' acting along a direction parallel to said predefined sliding direction S.

[0059] According to an embodiment, the at least one linear drive device comprises an internally threaded support engaged with one of said fixed wall portion and said movable wall portion, and an externally threaded element which is screwable into said support parallel to the predefined sliding direction S and engaged with the other of said fixed wall portion and said movable wall portion.

[0060] According to an embodiment, the fixed wall portion 34 of said side wall of said tubular suction duct 12, 13, 52, 53 is formed by one of said two rigid half-walls 18, 19, 58, 59 of said side wall of said tubular blowing duct 16, 56, in which the first longitudinal side 34' of the suction opening 14, 15, 54, 55 belongs to one of said two rigid half-walls 18, 19, 58, 59 of said side wall of said tubular blowing duct 16, 56 so that said rectilinear slit 14, 15, 54, 55 of said suction opening is formed between the movable wall portion 35 of said side wall of tubular suction duct and said rigid half-wall 34 of said side wall of said tubular blowing duct 16, 56.

[0061] According to an embodiment, the semi-height A1 measured between the lower body operating surface 11 according to a direction orthogonal to the sliding plane P, or the upper body operating surface 51 and the sliding

plane P, increases proceeding from the blowing opening 17, 57 towards the suction opening 14, 15, 54, 55 and from the outside towards the suction opening 14, 15, 54, 55.

[0062] According to an embodiment, the movable wall portion 35 comprises an outer surface of movable wall facing the sliding plane P, belonging to said lower body operating surface 11 or to said upper body operating surface 51, in which the semi-height A1 increases linearly from the outside of the head towards the suction opening 14, 15, 54, 55.

[0063] According to an embodiment, the two rigid half-walls 18, 19, 58, 59 of said tubular blowing duct 16, 56 comprise a respective outer surface of rigid half-wall facing the sliding plane P, belonging to said lower body operating surface 11 or to said upper body operating surface 51, in which the semi-height A1 increases linearly from the blowing opening 17, 57 towards the suction opening 14, 15, 54, 55.

[0064] According to an embodiment, the dedusting head comprises means for adjusting the relative position between the fixed wall portion 34 and the movable wall portion 35, preferably according to a direction orthogonal to the sliding plane P.

[0065] As shown in Figure 11, for example, the movable wall portion 35 is connected to the at least one linear screw drive 41', 42', 81', 82', which is fastened to one of the two rigid half-walls 18, 19, 58, 59, by means of a slot 35'' elongated according to a direction orthogonal to the sliding plane P.

[0066] In order to adjust the height, it is sufficient to loosen the linear drive, manually move the movable wall portion and tighten the linear drive again.

[0067] According to an embodiment, the at least one of said lower head body 10 and said upper head body 50 comprises two of said at least one suction duct 12, 13, 52, 53 defining two respective suction openings 14 and 15 or 54 and 55, and one blowing duct 16 or 56 of said at least one blowing duct 16, 56 defining a blowing opening 17 or 57, and the blowing opening 17 or 57 is interposed between said two suction openings 14 and 15 or 54 and 55 according to the predefined sliding direction S.

[0068] According to an embodiment, the rectilinear slits of said two suction openings 14, 15, 54, 55 and said rectilinear slit of said blowing opening 17, 57 are parallel to one another and extend according to a longitudinal direction DL orthogonal to the predefined sliding direction S and parallel to the sliding plane P.

[0069] According to an embodiment, each of said at least one of said lower head body 10 and said upper head body 50 comprises two of said at least one suction duct 12, 13 or 52, 53 defining two respective suction openings 14 and 15 or 54 and 55 and one blowing duct 16 or 56 of said at least one blowing duct 16, 56 defining a blowing opening 17 or 57.

[0070] The blowing opening 17 or 57 is preferably interposed between said two suction openings 14 and 15 or 54 and 55 according to the sliding direction S. The rectilinear slits of said two suction openings 14, 15, 54, 55 and said rectilinear slit of said blowing opening 17, 57 are parallel to one another and extend according to a longitudinal direction DL orthogonal to the predefined sliding direction and parallel to the sliding plane P.

[0071] Each rectilinear slit of said two suction openings 14, 15 or 54, 55 and said rectilinear slit of said blowing opening 17 or 57 of one of said lower head body 10 and upper head body 50 is parallel to and faces a respective one of said two suction openings 14, 15 or 54, 55.

[0072] Said rectilinear slit of said blowing opening 17 or 57 of the other of said lower head body 10 and upper head body 50.

[0073] According to an embodiment, the dedusting head 1 comprises means for adjusting said passage height A.

[0074] For example, as shown in Figure 1, such means for adjusting the passage height A can comprise pneumatic or hydraulic drives 5 connected to, and interposed between, said lower head body 10 and said upper head body 50.

[0075] Those skilled in the art may make changes and adaptations to the above-described embodiments of the device or may replace elements with others which are functionally equivalent, in order to meet contingent needs, without departing from the scope of the following claims. Each of the features described as belonging to a possible embodiment can be achieved irrespective of the other embodiments described.

[0076] The figures are not necessarily to scale.

[0077] All the features described herein can be combined in any combination, except for the combinations in which at least some of such features mutually exclude.

Claims

1. A dedusting head (1) for a transformation line for a strip material (100), comprising:

- a lower head body (10);
- an upper head body (50) associated with the lower head body (10) so as to form a passage (80) between said lower head body (10) and said upper head body (50), configured to allow said strip material (100) to slide in said passage (80) according to a predefined sliding plane (P) and a predefined sliding direction (S) belonging to said predefined sliding plane (P), said passage (80) defining a passage width (L) measured along the sliding plane (P) and orthogonally to the predefined sliding direction (S), and a passage height (A) measured in a direction orthogonal to the sliding plane (P);
- said lower head body (10) defining a lower body operating surface (11) and said upper head body (50) defining an upper body operating surface

(51), wherein said lower body operating surface (11) and said upper body operating surface (51) face each other on opposite sides with respect to said sliding plane (P) and define said passage (80) therebetween;
- wherein at least one of said lower head body (10) and said upper head body (50) comprises at least one respective suction duct (12, 13, 52, 53) defining a rectilinear slit-shaped suction opening (14, 15, 54, 55)

extending parallel to a longitudinal direction (DL) orthogonal to the predefined sliding direction (S) and parallel to the sliding plane (P), and at least one blowing duct (16, 56) defining a rectilinear slit-shaped blowing opening (17, 57) extending parallel to said longitudinal direction (DL);
said suction opening (14, 15, 54, 55) and said blowing opening (17, 57) both being open in said operating surface (11, 51) of said at least one of said lower head body (10) and said upper head body (50) and facing said passage (80),

- said at least one suction duct (12, 13, 52, 53) being connectable to suction means to generate an air suction flow from said passage (80) to said at least one suction duct (12, 13, 52, 53) through said suction opening (14, 15, 54, 55), and said at least one blowing duct (16, 56) being connectable to blowing means to generate an air blowing flow from said at least one blowing duct (16, 56) to said passage (80) through said blowing opening (17, 57);

said dedusting head (1) being **characterized in that** it comprises:

- suction cross-section varying means (41, 42, 81, 82) for modifying the value of the cross-section area of said suction opening (14, 15, 54, 55);
- blowing cross-section varying means (20, 60) for modifying the value of the cross-section area of said blowing opening (17, 57).

2. A dedusting head (1) according to at least one preceding claim, wherein said blowing cross-section varying means (41, 42, 81, 82) are configured to modify the width of said rectilinear slit of said blowing opening (17, 57) according to said predefined sliding direction (S), and/or wherein said at least one blowing duct (16, 56) is substantially tubular in shape and rectilinear, with axis parallel to said longitudinal direction (DL), wherein said slit-shaped blowing opening (17, 57) is arranged along a side wall of said tubular blowing duct (16, 56).

3. A dedusting head (1) according to claim 2, wherein said side wall of said tubular blowing duct (16, 56) comprises two rigid half-walls (18, 19, 58, 59) movably restrained to each other, wherein said two rigid half-walls define a first longitudinal side (17', 57') of said blowing opening and a second longitudinal side (17'', 57'') of said blowing opening, respectively.

4. A dedusting head (1) according to claim 3, wherein said blowing opening cross-section varying means (20, 60) are interposed between said two rigid half-walls and configured to adjust the distance between said first longitudinal side (17', 57') of said blowing opening and said second longitudinal side (17'', 57'') of said blowing opening, measured parallel to the predefined sliding direction (S).

5. A dedusting head (1) according to claim 4, wherein said blowing opening cross-section varying means (20, 60) comprise at least one screw drive (20', 60') acting along a direction parallel to said sliding direction (S);
wherein the two rigid half-walls (18, 19, 58, 59) are pivotally restrained to each other about a hinge axis (25, 26) arranged along a direction parallel to the longitudinal direction (DL), in a position diametrically opposite to said slit-shaped blowing opening (17, 57).

6. A dedusting head (1) according to claim 1, wherein said suction cross-section varying means (41, 42, 81, 82) are configured to modify the width of said rectilinear slit of said suction opening (14, 15, 54, 55) according to said predefined sliding direction (S), and/or
wherein said at least one suction duct (12, 13, 52, 53) is substantially tubular in shape and rectilinear, with axis parallel to said longitudinal direction (DL), wherein said slit-shaped suction opening (14, 15, 54, 55) is arranged along a side wall (32, 33, 72, 73) of said tubular suction duct (14, 15, 54, 55).

7. A dedusting head (1) according to claim 6, wherein said side wall (32, 33, 72, 73) of said tubular suction duct (14, 15, 54, 55) comprises a fixed wall portion (34) defining a first longitudinal side (34') of said suction opening and a movable wall portion (35) defining a second longitudinal side (35') of said suction opening,
and wherein said suction opening cross-section varying means (41, 42, 81, 82) are interposed between said fixed wall portion (34) and said movable wall portion (35) and configured to adjust the distance between said first longitudinal side (34') of said suction opening and said second longitudinal side (35') of said suction opening, measured parallel to the predefined sliding direction (S).

8. A dedusting head (1) according to claim 7, wherein said side wall (32, 33, 72, 73) of said tubular suction duct comprises an elastically deformable intermediate wall portion (36) interposed between said fixed wall portion (34) and said movable wall portion (35) so that by acting on the suction opening cross-section varying means (41, 42, 81, 82), said elastically deformable intermediate portion is deformed to modify the width of said rectilinear slit of said suction opening (14, 15, 54, 55).

9. A dedusting head (1) according to claim 7, wherein said at least one linear drive device comprises an internally threaded support engaged with one of said fixed wall portion and said movable wall portion, and an externally threaded element which is screwable into said support parallel to the predefined sliding direction (S) and engaged with the other of said fixed wall portion and said movable wall portion.

10. A dedusting head (1) according to claims 4 and 7, wherein said fixed wall portion (34) of said side wall of said tubular suction duct (12, 13, 52, 53) is formed by one of said two rigid half-walls (18, 19, 58, 59) of said side wall of said tubular blowing duct (16, 56),

    wherein said first longitudinal side (34') of said suction opening (14, 15, 54, 55) belongs to one of said two rigid half-walls (18, 19, 58, 59) of said side wall of said tubular blowing duct (16, 56), so that said rectilinear slit (14, 15, 54, 55) of said suction opening is formed between the movable wall portion (35) of said side wall of tubular suction duct and said rigid half-wall (34) of said side wall of said tubular blowing duct (16, 56).

11. A dedusting head (1) according to claim 1, wherein the semi-height (A1) measured between the lower body operating surface (11) according to a direction orthogonal to the sliding plane (P), or the upper body operating surface (51), and the sliding plane (P) increases by proceeding from the blowing opening (17, 57) towards the suction opening (14, 15, 54, 55) and from the outside towards the suction opening (14, 15, 54, 55),
    and/or wherein the movable wall portion (35) comprises an outer surface of movable wall facing the sliding plane (P), belonging to said lower body operating surface (11) or to said upper body operating surface (51), wherein the semi-height (A1) increases linearly from the outside of the head towards the suction opening (14, 15, 54, 55).

12. A dedusting head (1) according to claim 11, wherein the two rigid half-walls (18, 19, 58, 59) of said tubular blowing duct (16, 56) comprise a respective outer surface of rigid half-wall facing the sliding plane (P), belonging to said lower body operating surface (11) or to said upper body operating surface (51), wherein the semi-height (A1) increases linearly from the blowing opening (17, 57) towards the suction opening (14, 15, 54, 55).

13. A dedusting head (1) according to claim 7, comprising means for adjusting the relative position between said fixed wall portion (34) and said movable wall portion (35).

14. A dedusting head (1) according to at least one preceding claim, wherein said at least one of said lower head body (10) and said upper head body (50) comprises two of said at least one suction duct (12, 13, 52, 53) defining two respective suction openings (14 and 15 or 54 and 55) and one blowing duct (16 or 56) of said at least one blowing duct (16, 56) defining a blowing opening (17 or 57), wherein said blowing opening (17 or 57) is interposed between said two suction openings (14 and 15 or 54 and 55) according to the predefined sliding direction (S).

15. A dedusting head (1) according to claim 14, wherein said rectilinear slits of said two suction openings (14, 15, 54, 55) and said rectilinear slit of said blowing opening (17, 57) are parallel to one another and extend according to a longitudinal direction (DL) orthogonal to the predefined sliding direction (S) and parallel to the sliding plane (P).

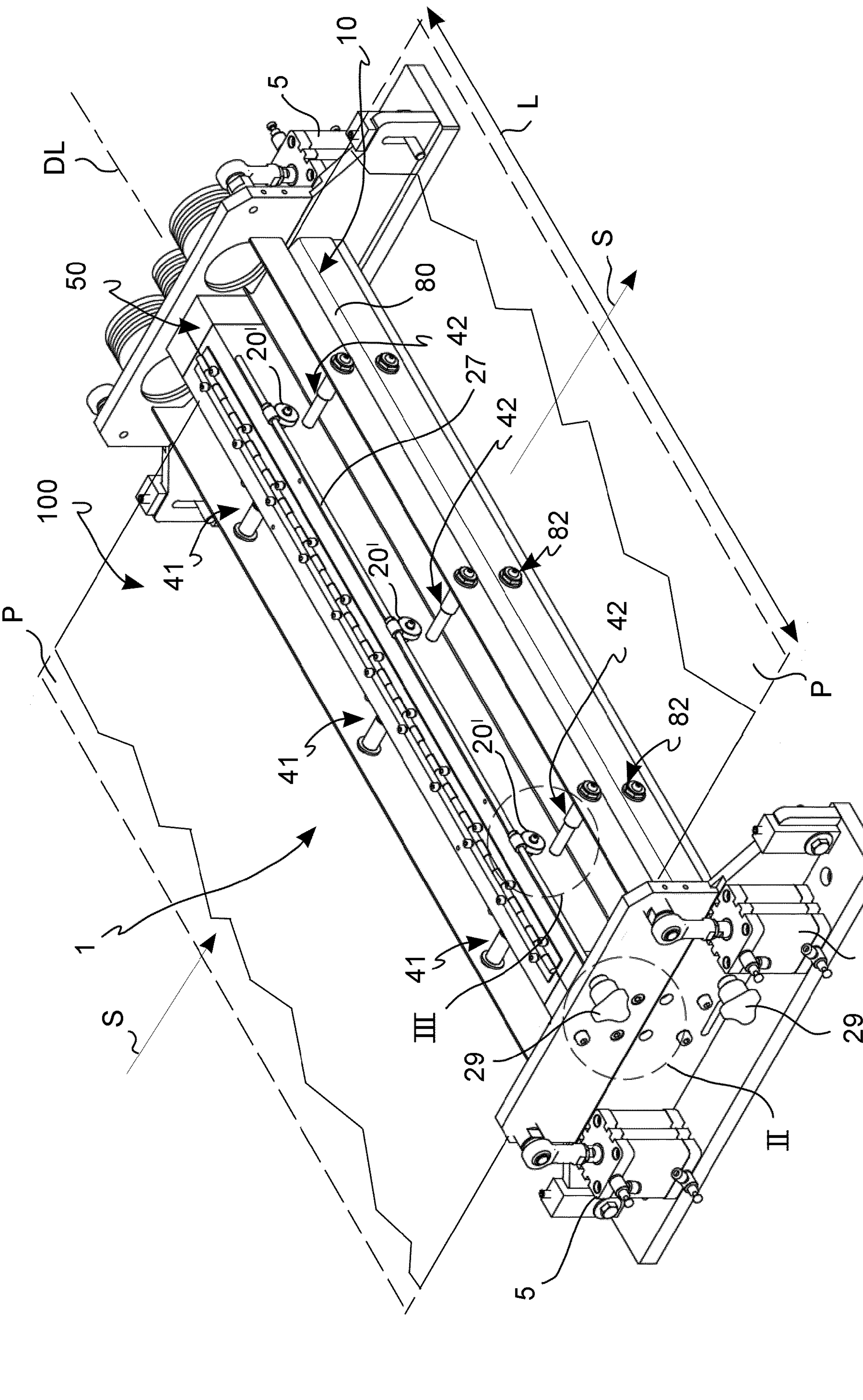

FIG. 1

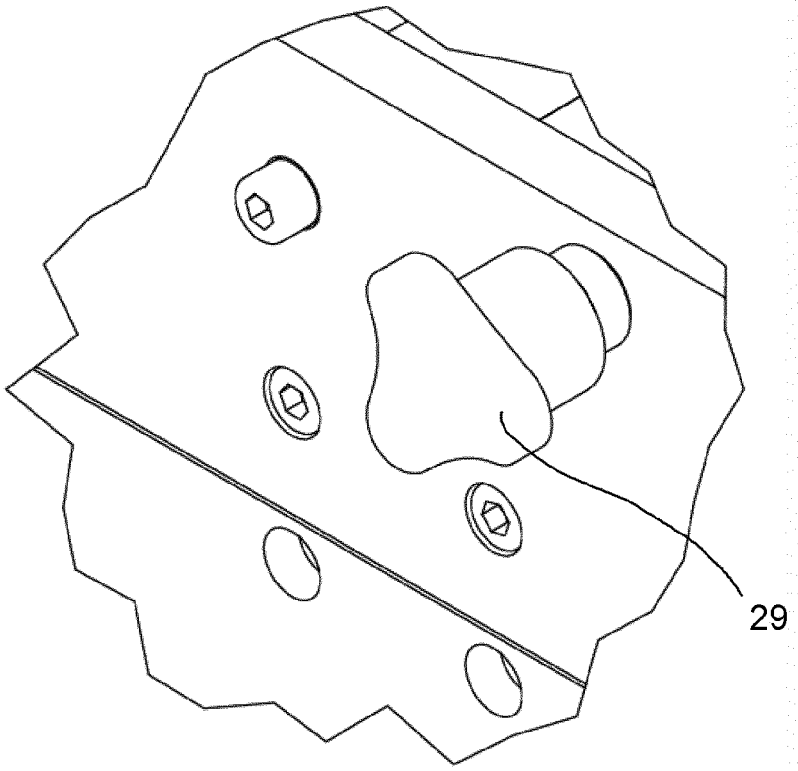

FIG. 2

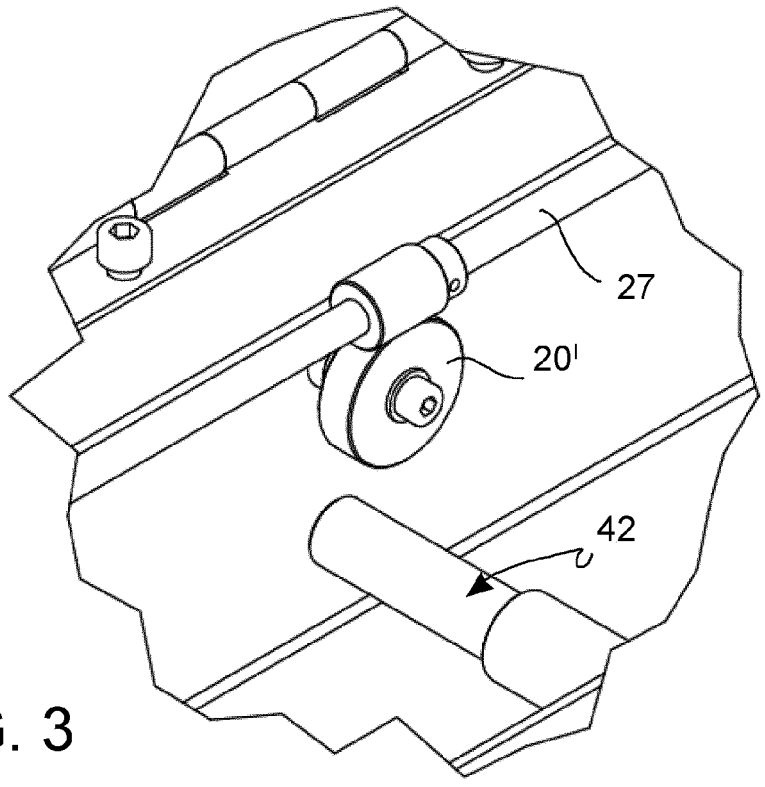

FIG. 3

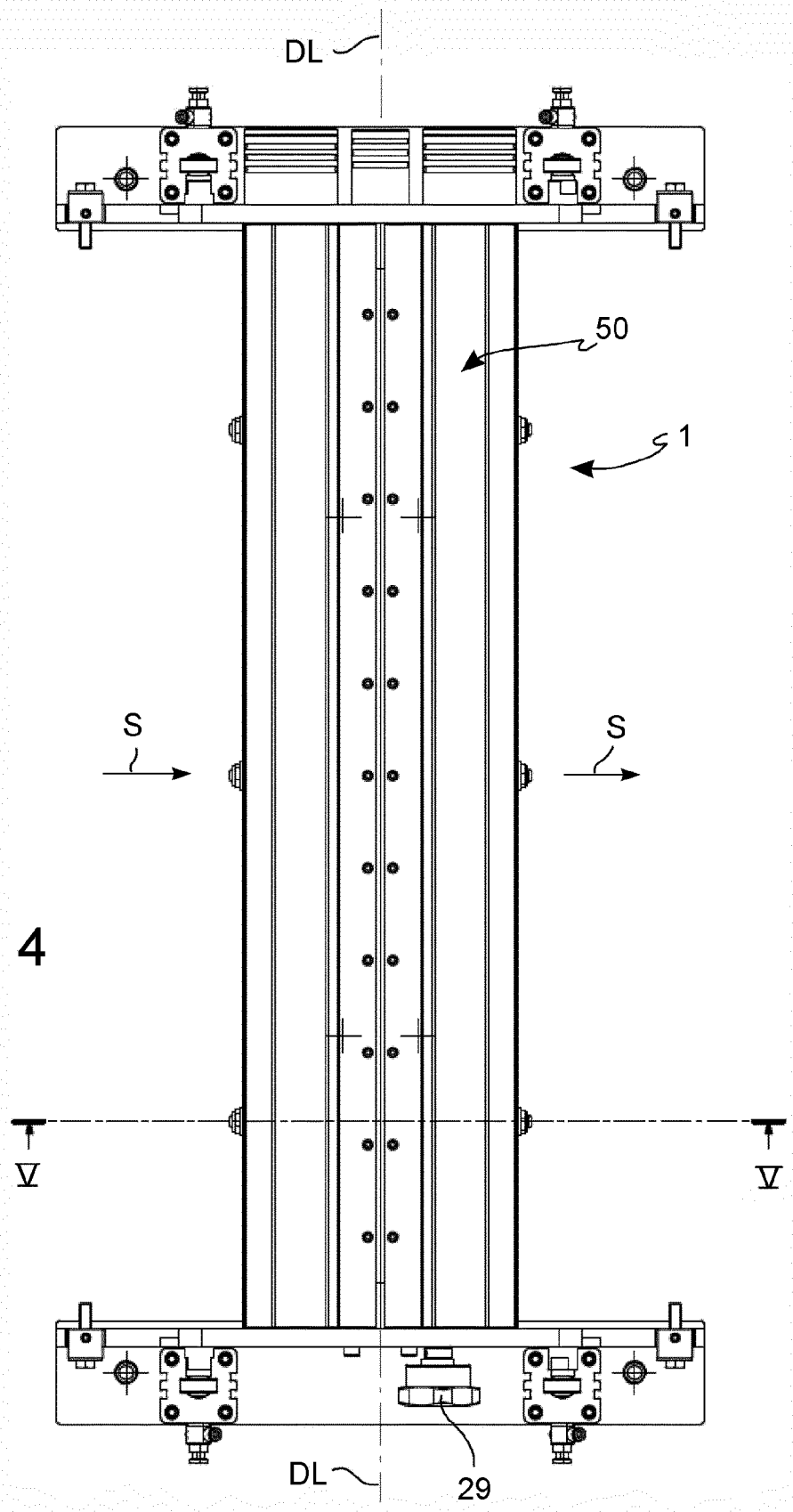

FIG. 4

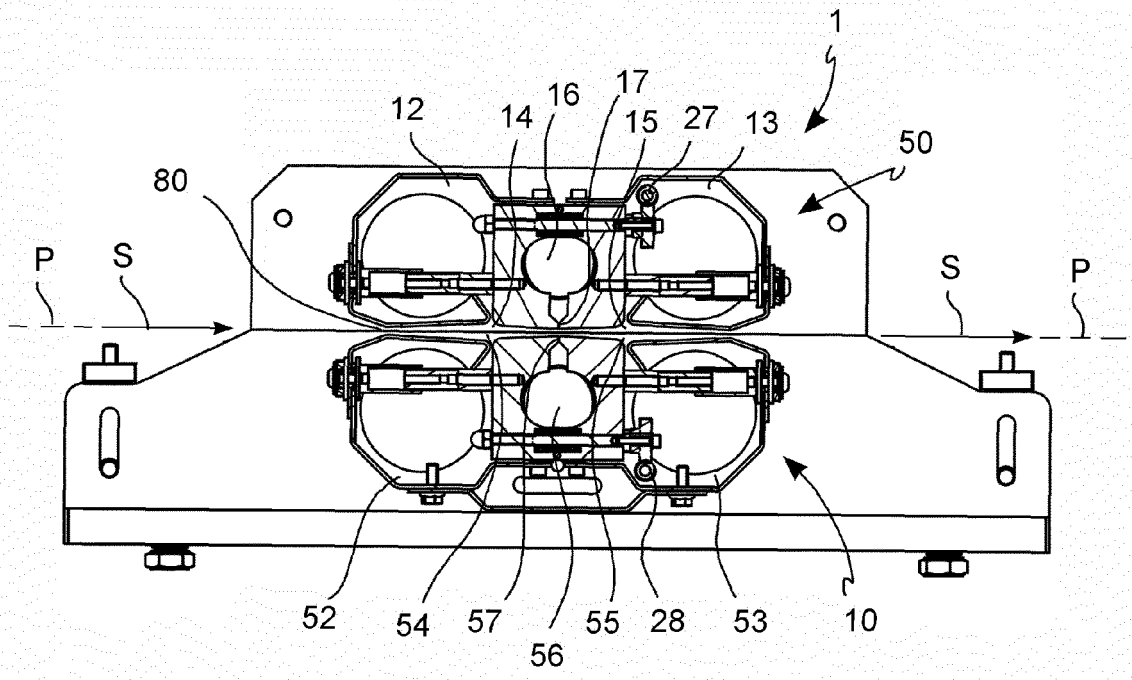

FIG. 5

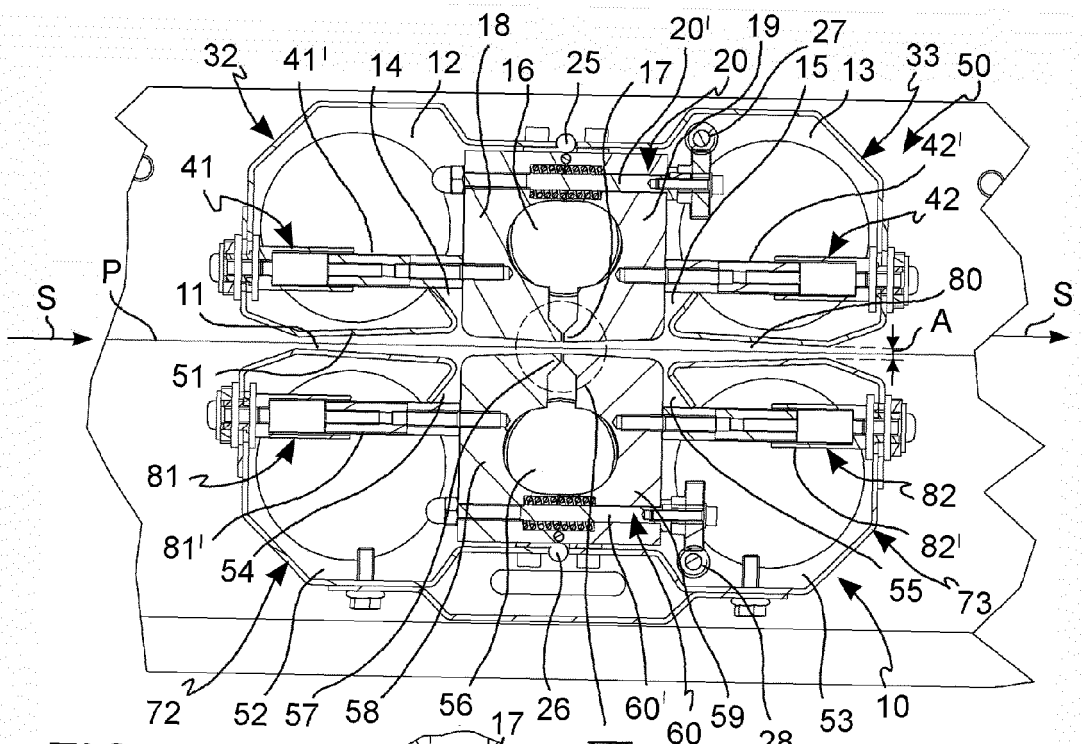

FIG. 6

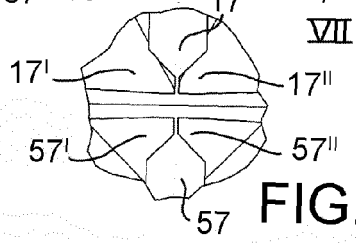

FIG. 7

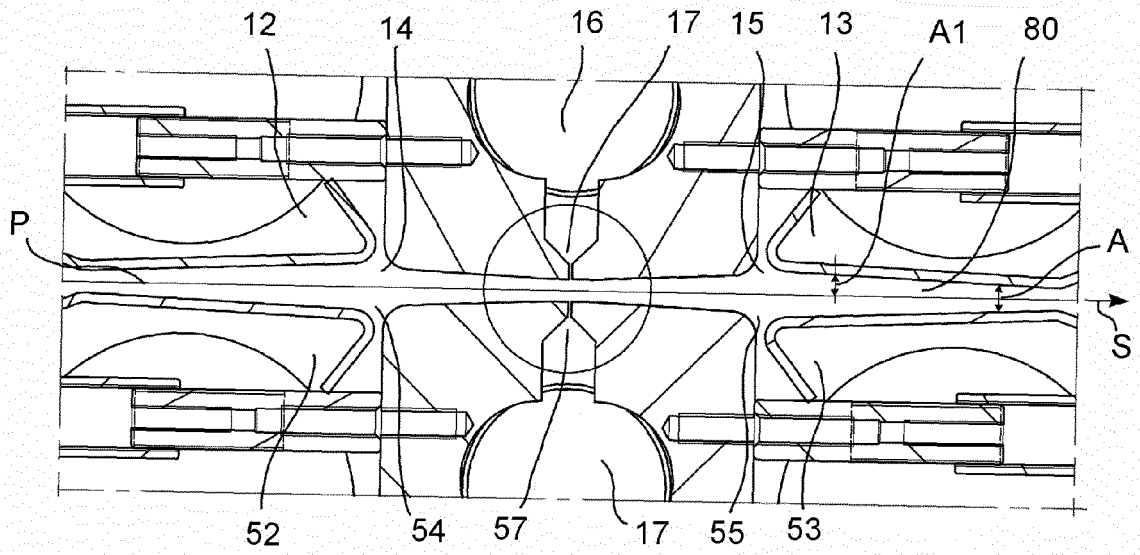

FIG. 8

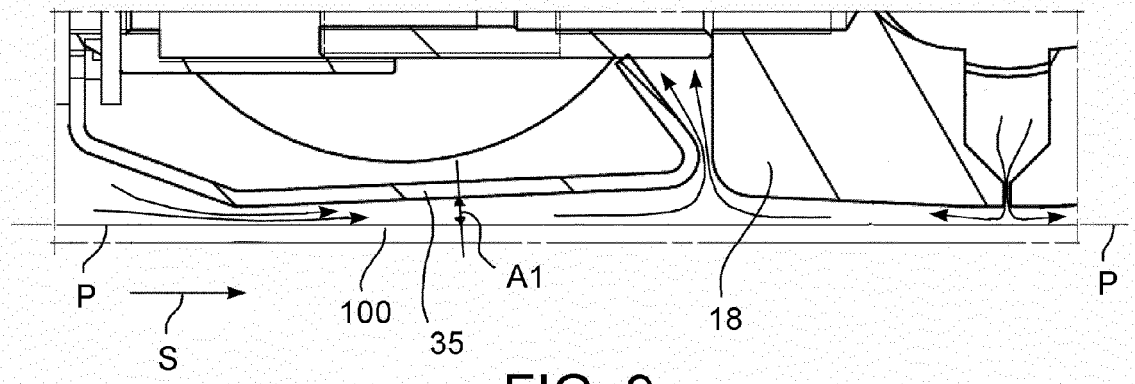

FIG. 9

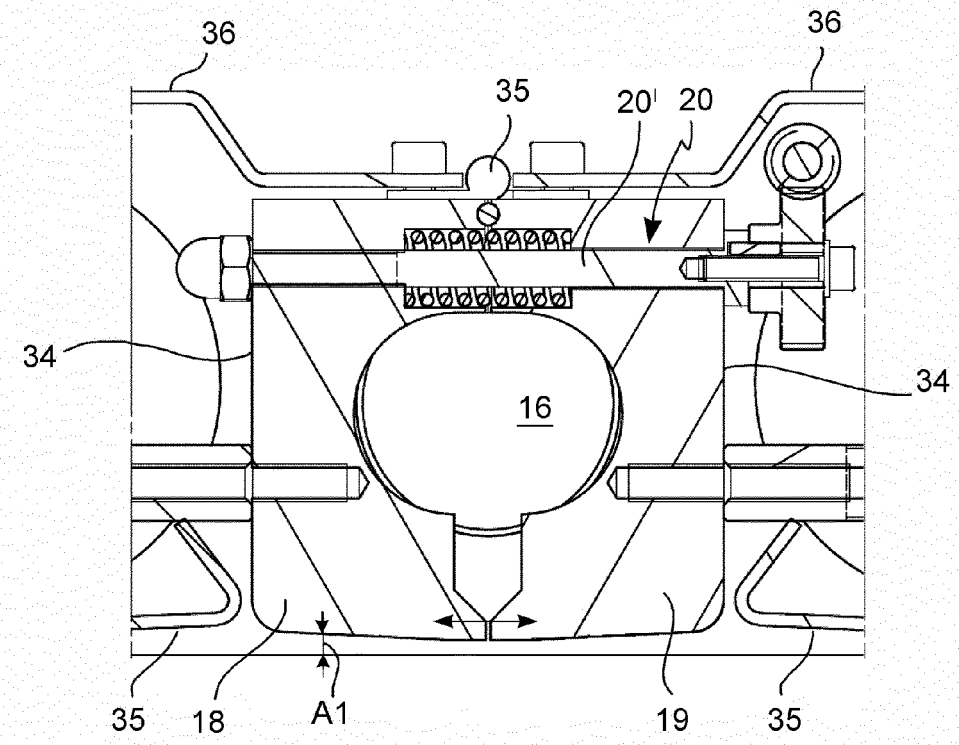

FIG. 10

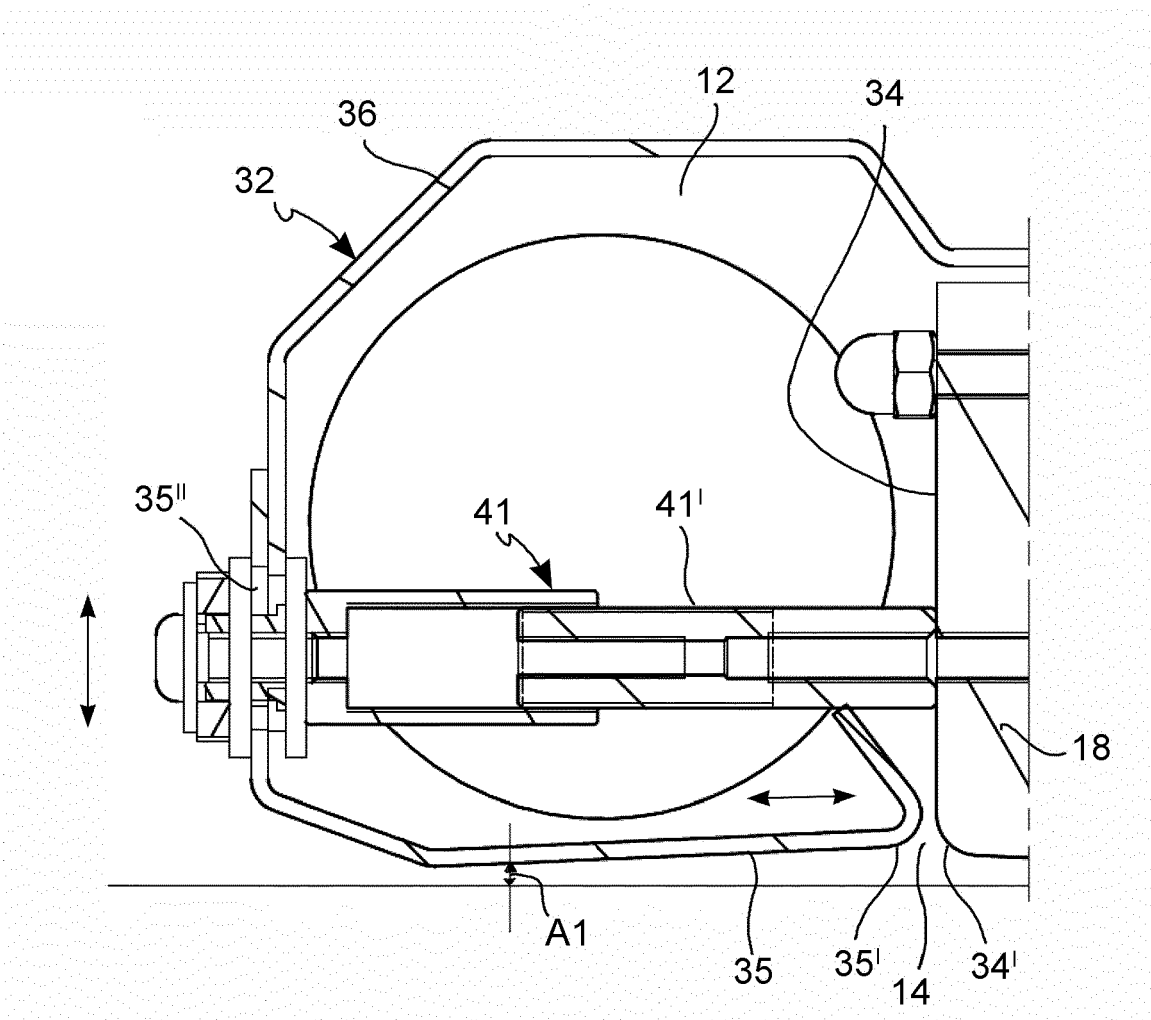

FIG. 11

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EUROPEAN SEARCH REPORT

Application Number
EP 22 20 8222

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 6 148 831 A (LINDSTROM JAN [FI] ET AL) 21 November 2000 (2000-11-21) * abstract; figures * * column 2, line 5 - column 7, line 39 *	1-15	INV. B08B5/02 B08B5/04
A	EP 0 578 030 A2 (BASF AG [DE]) 12 January 1994 (1994-01-12) * the whole document *	1-15	

TECHNICAL FIELDS SEARCHED (IPC)

B08B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	12 April 2023	Plontz, Nicolas

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12-04-2023

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