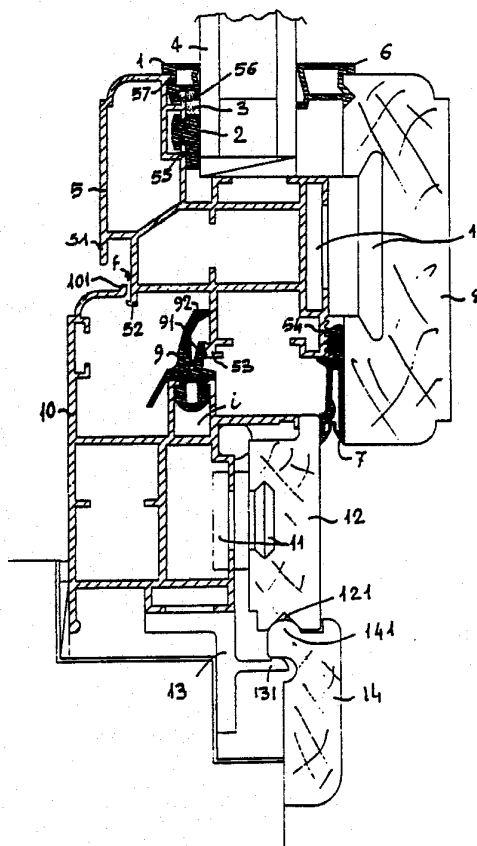




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(54) Title: WINDOW, DOOR OR LIKE CLOSURES (57) Abstract A window or door and other glass closures in metallic profiles and respective profiles and frames of the type involving at least a door profile (5) for a waterproof abutment against a glass (4), characterized by the fact that for said glass abutment (4) said profile (5) provides: internal hooking means (55-56) for receiving an internal sealing profile (2) abutting against the glass (4) to realize a recess for receiving an injection of intermediate sealing waterproof material (3); external hooking means (56-57) for an external sealing profile (1) abutting against the glass (4) to cover said intermediate sealing waterproof material (3).		



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1

WINDOW, DOOR OR LIKE CLOSURES

2

3

4 The invention regards a window or door and other glass closures. The
5 frames and profiles to realize said windows and doors of glass closures
6 are further object of the invention.

7 This solution is conveniently applicable in the manufacturing of
8 frames which profiles are realized in aluminium having internal
9 surfaces covered with wood.

10

11 In the prior art frames in aluminium covered with wood are known.

12 The assemblage techniques provide to connect the two profiles by
13 means of two opposite longitudinal undercut grooves one in the
14 aluminum profile and one in the wood profile, the connection being
15 made by use of:

- 16 - an intermediate plastic binder material or
- 17 - a number of sliding sockets inserted from the respective head of the
18 profiles;
- 19 - a number of rotatable key sockets in order that in one oriented
20 position their transverse insertion is possible and with successive
21 rotation of 90° they realize the respective lockage of the opposed
22 profiles one against the other, aluminum and wood profiles
23 respectively.

24

25 This invention is directed particularly to this last solution.

26 Key rotational hookup means of the above-mentioned type is
27 disclosed in the Italian Industrial Utility Model Application No.
28 6O447B/88 in the name of EUREKA srl concerning a " Dovetail fitting

1 with rotating pivot for hooking and coupling elements in wood and
2 elements in aluminium or other material".

3 In this solution the connection system between the aluminium
4 profiles and wood profiles is made by interposition of an intermediate
5 profile that is inserted on dovetail grooves in the wood profile in one
6 side while in the other side it presents a groove substantially "C"
7 shaped.

8 The connection is realized by key sockets of the type involving in
9 one side a broadened discoidal flange to be inserted into the head of the
10 respective profile and sliding it along the groove of the aluminium
11 profile whereas the other side has a similar flange but with
12 shrinkage on an orthogonal guideline for forming a hooking key by
13 means of an intermediate key neck, in order that said head can be
14 inserted orthogonally on the "C" shaped groove of the plastic profile
15 of the wood part and then rotated of 90° for the respective hooking or
16 lockage.

17 The drawbacks of this solution consist in the fact that we are obliged
18 to use an intermediate profile which cost affects in the complex of
19 the frame.

20

21 In the prior art to seal a metallic profile of a frame of a glass with
22 sealing products materials as stuccoes or silicon materials is further
23 known .

24 It is also known that this sealing is placed externally subjected to
25 environmental degradation.

26 Water infiltrations cannot be avoided also because the product
27 hardens, and cracks where the water passes.

28 Furthermore the cracks have an unaesthetic aspect.

1 On the other hand, the use of sole sealing gives results not reliable
2 against the water infiltrations.

3

4 In the prior art the problem of sealing particularly between door and
5 fixed abutment loom is further known.

6 An hermetic waterproof realizes condense and rusting inside the
7 profiles.

8 In order to obviate to these drawbacks, aeration openings that make
9 possible a certain circulation of air have produced in the profiles and
10 between the waterproof seals.

11 But these openings have the drawback to facilitate water
12 infiltrations.

13

14 Scope of the present invention is to obviate to said drawbacks.

15 This and other scopes are reached with the present invention as
16 claimed, by means of a window or door and other glass closures in
17 metallic profiles and respective profiles and frames of the type
18 involving at least a door profile for a waterproof abutment against a
19 glass, characterized by the fact that for said glass abutment said
20 profile provides:

21 - internal hooking means for receiving an internal sealing profile
22 abutting against the glass to realize a recess for receiving an
23 injection of intermediate sealing waterproof material;

24 - external hooking means for an external sealing profile abutting
25 against the glass to cover said intermediate sealing waterproof
26 material.

27 With this solution waterproof is realized for a very long time and
28 cracking of the sealing waterproof material is not visible being
29 covered by said external sealing profile.

1 Advantageously said movable door profile provides an edge turned up
2 toward the external side with rear spout that forms a fissure with
3 loop with a fixed profile edge "L" folded as a spout.

4 With this solution allowing aeration inside the profiles ensemble,
5 condense is avoided.

6 Advantageously the respective key locking rotational devices to
7 connect metal profiles with wood profiles is realized by a "C" groove
8 in both the profiles, avoiding intermediate profiles.

9 Advantageously the internal of the cog groove of the wood profile is
10 coated with a strengthener material for example with a plastic
11 material profile or an aluminium one having the same shape.

12 In such a way we obtain the dual advantage to maintain straight the
13 wood profile and to reinforce its cog zone distributing the lockage
14 force in a more extended area.

15

16 The invention can be better understood with the joined description
17 and drawings supplied for example only, in which:

18 Figure 1 represents a schematic view in section of a profiled
19 ensemble according to the invention.

20 Figure 1A represents a schematic view in transverse section of the
21 connection system of an aluminium profile to a wood profile.

22 Figure 2 represents a schematic view of the profiles ensemble of
23 Figure 1A, detached with a connection socket to be inserted rotated by
24 90° in respect to the position of the previous Figure (hooking
25 position) in order that it can be inserted transversely.

26 Figure 3 represents a plant view of a hookup socket.

27

1 Figures 1A to 3 disclose a method and lockage device for connection
2 of two profiles (93, 91) particularly for frames by means of rotational
3 key sockets (92) of the type involving:

4 - a discoidal head broaded (924) in respect to a neck that bears it
5 (923), in order to be inserted longitudinally within a corresponding
6 groove "C" shaped (931) of a first metallic profile in one side (93),
7 - a discoidal broaded counterhead to hookup (921) in respect to a neck
8 that bears it (922), tapered (r) on opposite sides for forming
9 substantially a hooking key for orthogonal rotation, by the opposite
10 side and to be inserted orthogonally in rotation axis direction on the
11 second profile;

12 - centrally connected by said rotation key neck (922), wherein:
13 - the groove of the second profile (911) is also of the type "C" shaped
14 with internal draft tilted planes for sliding in undercut (s), being
15 eliminated intermediate profiles for this connection .

16 Said tilted undercut plane (s) terminates with annular peaking "p"
17 and this will facilitate the wood profile engagement with the
18 aluminium profile, as well as the hooking socket in rotation even if
19 there is not exact coincidence in the respective profiles to be joined,
20 for example for absence of linearity of the wood profile in respect to
21 the aluminium profile.

22 The aluminium profile (93) is associated to another aluminium
23 profile (94) but it is evident that these profiles can be in different
24 number and of any desired form and this obviously even for the
25 directly interested profile (93) with the scope to realize some window
26 and door frames of the desired characteristics.

27 The neck key in the hooking socket is square shaped but could
28 obviously be even otherwise polygonal.

29

1 The montage with particular reference to Figure 2 is made by first
2 inserting the connection sockets (92) with the discoidal head (924)
3 within the "C" shaped groove (931) of the aluminium profile (93)
4 and then the respective wood profile (91) is inserted by means of
5 orthogonal insertion of the head (921-r) of the hookup socket (92)
6 within the corresponding groove (911) and then we will carryout a
7 rotation of 90° of the socket (92). In such a way the wedge form of the
8 widening flange shaped (921) will force the wood profile (91) to
9 clamp stopping the aluminium profile.

10 The disassembly can be made in inverse way. And so the wood coating
11 profiles of the frame can be changed in any moment.

12 The number of the used sockets in a determined length can obviously
13 be different depending on the specific exigencies.

14 The hookup socket presents a strict neck (923) of diameter "n" for
15 cogging in the groove (931), said shrinkage being not necessary for
16 cogging the wood profile (91) because this is obtained by means of
17 the broadened key flange on two opposite sides (921) for a width (D) >
18 (d) being (d) the restricted amplitude of entry to the groove of the
19 wood profile.

20

21 Figure 1 discloses an ensemble of profiles for window and door
22 frames comprising:

23 - at least a metallic profile of movable door (5) for a waterproof
24 abutment against a glass (4) that provides:

25 - internal means (55-56) to allow in glass abutment (4)
26 clamping of an internal sealing profile (2);

27 - a containing means (56) for receiving a waterproof (3)
28 between said profile (5), said internal sealing (2) and said glass (4);

1 - external means (56-57) for allowing in glass abutment (4) the
2 clamping of an external sealing profile (1) to cover said waterproof
3 sealing material (3).

4 - said movable door profile (5) provides also an edge turned up
5 toward the external side with rear spout (52) that forms a fissure with
6 loop (f) with a fixed profile edge (10), L folded as a spout (101);

7 - a back intermediate profiling (53) in adjacent alignment with an
8 embedding seat (i) of said fixed profile (10) for an internal sealing
9 profile (9) with double lip (91-92), being the extreme abutment (91-
10 53) realized with protruding dent (53);

11 - an internal forehead abutment (54) for respective sealing (7) of a
12 coating wood lathe (8) clamped by means of rotational intermediate
13 key means (11).

14 Said internal sealing (7) extending in abutment even on the edge of a
15 corresponding abutment profile in wood (12).

16 Said wood profile on movable door (8) involving on the opposite
17 internal abutment glass respective closure sealing (6) of the
18 abutment to the other side of the glass panel (4).

19 Said fixed profile (10) involving similarly rotational key means (11)
20 to connect the wood lathe (12).

21 Said wood lathe (12) comprising a back "V" shaped groove (121) that
22 cooperates with a toothed wing (131) of a back square (13) and
23 determines an elastic cog seat for a longitudinal cog catch (141) of a
24 wood strap (14).

25 Advantageously the cog of the external profile of glass sealing (1) is
26 produced by means of a hookup system substantially "G" shaped (57-
27 56).

28 Advantageously said fissure f is protected by a recess (51) that
29 prevents furthermore the water to enter in tangential sense.

1 CLAIMS

2 1 A window or door and other glass closures in metallic profiles and
3 respective profiles and frames of the type involving at least a door
4 profile (5) for a waterproof abutment against a glass (4),
5 characterized by the fact that for said glass abutment (4) said profile
6 (5) provides:

7 - internal hooking means (55-56) for receiving an internal sealing
8 profile (2) abutting against the glass (4) to realize a recess for
9 receiving an injection of intermediate sealing waterproof material
10 (3);

11 - external hooking means (56-57) for an external sealing profile (1)
12 abutting against the glass (4) to cover said intermediate sealing
13 waterproof material (3).

14

15 2 A window or door and other glass closures in metallic profiles and
16 respective profiles according to claim 1, characterized by the fact
17 that said movable door profile (5) provides an edge turned up toward
18 the external side with rear spout (52) that forms a fissure with loop
19 (f) with a fixed profile edge (10) "L" folded as a spout (101).

20

21 3 A window or door and other glass closures in metallic profiles and
22 respective profiles according to claim 1, characterized by the fact
23 that said movable door profile (5) provides an intermediate back
24 profile (53) in adjacent alignment with an embedding seat (i) of said
25 fixed profile (10) for an internal profile sealing (9) with double lip
26 (91-92), being the extreme abutment (91-53) realized with protruding
27 dent (53).

28

1 4. A window or door and other glass closures in metallic profiles and
2 respective profiles according to claim 1, characterized by the fact
3 that it includes at least a movable door profile (5) associated with at
4 least a profile in fixed abutment (10) which involves hooking
5 rotational key means (11, 92) of a covering wood lathe (12).

6

7 5 A window or door and other glass closures in metallic profiles and
8 respective profiles according to claim 1, characterized by the fact
9 that said covering wood lathe (12) includes a back "V" shaped groove
10 (121) and cooperates with a toothed wing (131) of a back square (13)
11 and determines an elastic cog seat for a catch of longitudinal cog
12 (141) of a butt strap of wood (14).

13

14 6 A window or door and other glass closures in metallic profiles and
15 respective profiles according to claim 1, characterized by the fact
16 that said movable door profile (5) presents an intermediate back
17 profiling edge (53) in adjacent alignment with an embedding seat (i)
18 of a fixed abutment profile (10) for an internal profile sealing (9)
19 with double lip (91-92), being the extreme abutment (91-53) realized
20 with protruding dent (53).

21

22 7 A window or door and other glass closures in metallic profiles and
23 respective profiles according to claim 1, characterized by the fact
24 that said movable door profile (5) presents an internal forehead
25 abutment (54) for respective sealing (7) of a coating wood lathe (8)
26 clamped by rotational intermediate key means (11) that extends in
27 abutment on an adjacent coverage wood lathe of a fixed abutment
28 loom (12).

29

1 8 A window or door and other glass closures in metallic profiles and
2 respective profiles according to claim 1, characterized by the fact
3 that said movable door profile (5) presents an internal forehead
4 abutment (54) for cogging a coating wood lathe (8) clamped by means
5 of rotational intermediate locking key means (11), the coating wood
6 lathe (8) being provided on the opposite internal abutment glass with
7 a respective sealing profile (6).

8

9 9 Ensemble of profiles according to claim 1, characterized by the fact
10 that the cog of the external profile of glass waterproof (1) is
11 produced by means of a substantially "G" shaped hookup system (57-
12 56).

13

14 10 A window or door and other glass closures in metallic profiles and
15 respective profiles according to claims 1 and 2, characterized by the
16 fact that said fissure (f) is protected by a recess (51).

17

18 11 A window or door and other glass closures in metallic profiles and
19 respective profiles and frames having a lockage device for
20 connection of two profiles (3, 1) particularly for frames by means of
21 rotational key sockets (92, 11) according to claim 1 of the type
22 involving:

23 - a discoidal head broadened (924) in respect to a neck that bears it
24 (923), in order to be inserted longitudinally within a corresponding
25 groove "C" shaped (931) of a first metallic profile by a side (93),

26 - a discoidal broadened counterhead to hookup (921) in respect to a neck
27 that bears it (922), tapered (r) on opposite sides for forming
28 substantially a hooking key for orthogonal rotation, by the opposite

1 side and to be inserted orthogonally to the rotation axis on a second
2 profile;

3 - centrally necks rotation key connection (922), characterized by the
4 fact that:

5 - the groove of the second profile (911) is also of the type "C" shaped
6 with internal draft tilted planes for slippage in undercut (s), being
7 eliminated intermediate profiles for this connection.

8

9 12 A window or door and other glass closures in metallic profiles and
10 respective profiles according to claim 1, characterized by the fact
11 that:

12 - said groove of the wood profile (911) and respective key hooking
13 head (921r) of the respective hooking sockets (92) are provided with
14 tilted planes of undercut slippage "s"

15 - said tilted plane terminates with medium annular peaking "p"

16

17 13 A window or door and other glass closures in metallic profiles and
18 respective profiles according to previous claims characterized by the
19 fact that said groove of the wood profile (911) and respective key
20 hooking head (921r) of the respective hooking sockets (92) are coated
21 in the internal surface "s" a profile of analog shape having function
22 of strengthener and apportionner of effort in lockage on a more
23 extended area.

24

25 14 A window or door and other glass closures in metallic profiles and
26 respective profiles as claimed in any of the previous claims,
27 characterized in that it comprises:

- 1 - at least an aluminium profile as frame structure of the window or
2 door (93-94) said profile (93) having a groove for at least a first entry
3 dovetail stroke (931) or however with undercuts with tilted plane (s);
4 - at least a coating wood profile (91) of the profile/s the of aluminium
5 (93) having, opposite to the first, a "C" shaped groove (931);
6 - means as rotational key sockets for hooking with at least a rotation
7 of 90° (2) involving for hooking the two profiles and close them in
8 parallel adjacency, involving:
9 - to the side of the profile in aluminium (93) a neck (923) equal to the
10 opening of the "C" shaped groove (931) and a discoidal flange (924)
11 for being inserted longitudinally by the head of the profile within
12 said groove (931);
13 - to the opposite side for the cog of the wood profile (911), a broad key
14 head on a diametral axis (921) sufficiently large (D) to pass
15 transversely in the opening (d) of the groove of the profile (911),
16 and having a polygonal shaping under it for key holding (922).

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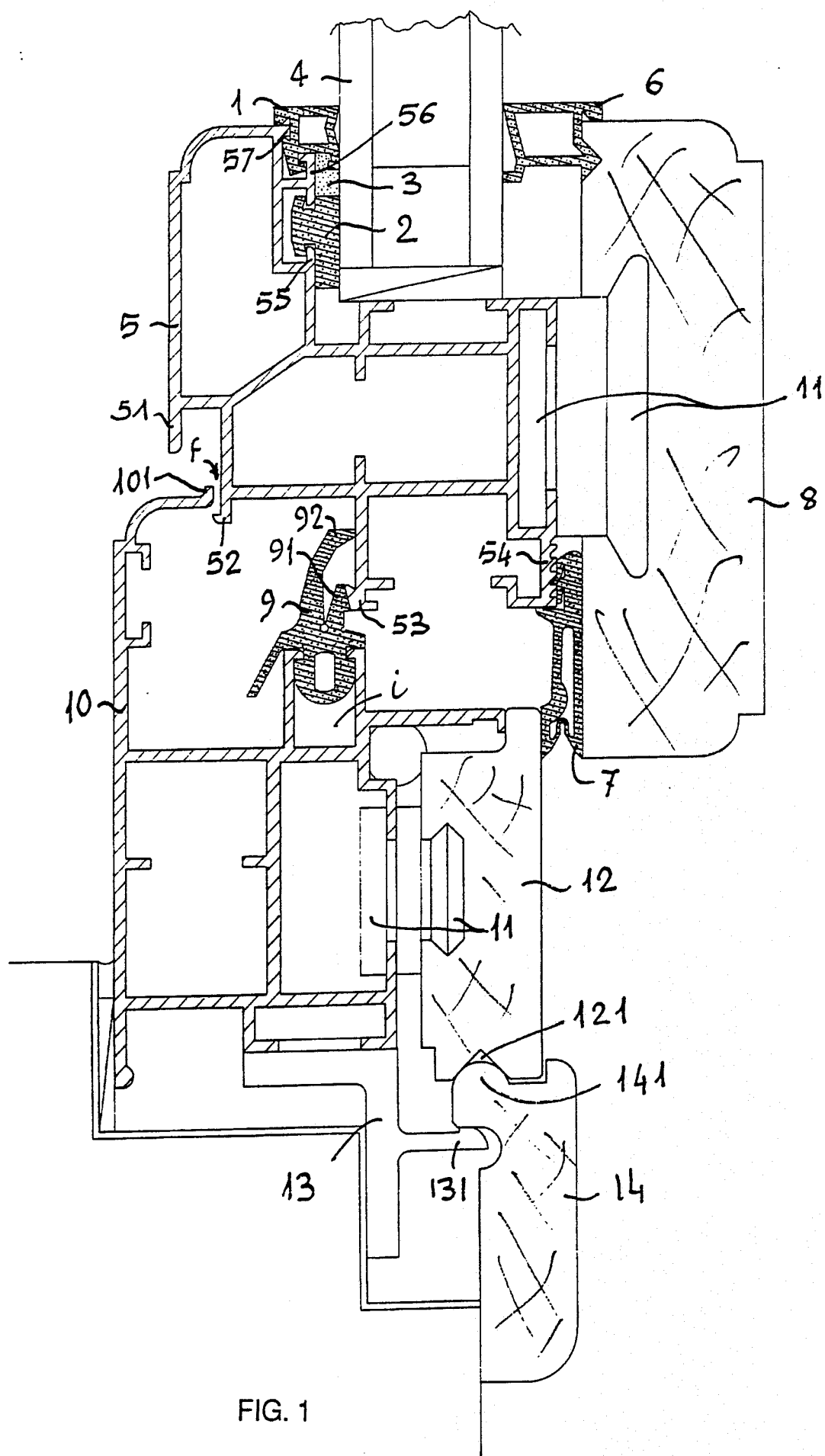


FIG. 1

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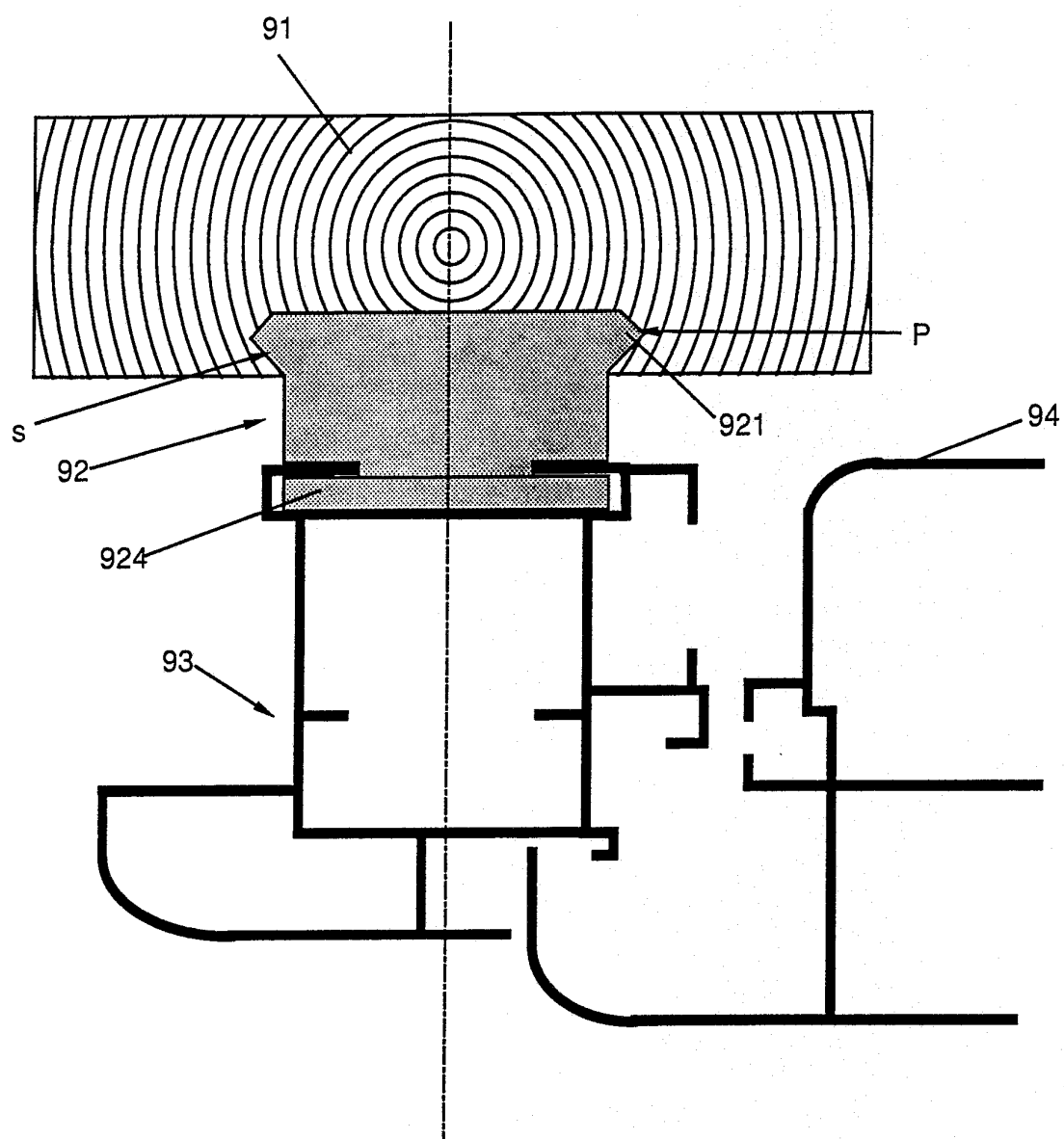


FIG. 1A

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