

COMMONWEALTH OF AUSTRALIA

PATENTS ACT 1952-1973

APPLICATION FOR A PATENT

I MARIO CIUCANI

of Via S. Girolamo, 63023 Fermo (Ascoli Piceno), ITALY

hereby apply for the grant of a Patent for an invention entitled:

METHOD FOR MAKING FOOTWEAR AND MACHINE FOR CARRYING OUT THIS
METHOD

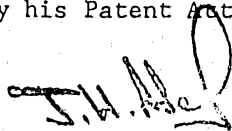
which is described in the accompanying complete specification. This
Application is a Convention Application and is based on the
Application numbered: 3547 A/89 for a Patent or similar protection
made in Italy on 10 July 1989.

My address for service is:

GRIFFITH HACK & CO
71 YORK STREET
SYDNEY NSW 2000

DATED this 10th day of July 1990

MARIO CIUCANI
By his Patent Attorney



GRIFFITH HACK & CO

TO: THE COMMISSIONER OF PATENTS
COMMONWEALTH OF AUSTRALIA

5015941 10/07/90

1638A/SMcL

PATENTS ACT 1952 (AS AMENDED)

DECLARATION IN SUPPORT OF AN APPLICATION FOR A PATENT

(Name of applicant) In support of an Application made by:
MARIO CIUCANI

(Title) for a patent for an invention entitled:
METHOD FOR MAKING FOOTWEAR AND MACHINE FOR CARRYING OUT THIS METHOD

(Full name of signatory) 1. MARIO CIUCANI

(Address of signatory) of Via S. Girolamo, 63023 Merano (Ascoli Piceno) Italy

do solemnly and sincerely declare as follows:

1. I am authorised by the above mentioned applicant for the patent to make this Declaration on its behalf.

(Insert details of inventor's) 2. The name and address of each actual inventor of the invention is as follows:
Mario Ciucani of Via S. Girolamo, 63023 Merano
(Ascoli Piceno)

(Insert details of assignment, etc.) and the fact(s) upon which the applicant is entitled to make this application are as follows:
Mario Ciucani is the applicant and the inventor of the application

(Delete paragraphs 3 and 4 for Non-Convention application) 3. The basic application(s) as defined by Section 141 of the Act was(were) made as follows:
Country Italy on .. 10. July. 1989
in the name(s) .. Mario CIUCANI
and in on
in the name(s)
and in on
in the name(s)

4. The basic application(s) referred to in the preceding paragraph of this Declaration was(were) the first application(s) made in a Convention country in respect of the invention the subject of this application.

(Place and date of signing) Declared at Bologna this 27th day of June 1990

Signed: 

Position:



AU9058880

(12) PATENT ABRIDGMENT (11) Document No. AU-B-58880/90
(19) AUSTRALIAN PATENT OFFICE (10) Acceptance No. 632595

(54) Title
METHOD FOR MAKING FOOTWEAR AND MACHINE FOR CARRYING OUT THIS METHOD

International Patent Classification(s)
(51)⁵ A43D 113/00 A43B 003/14

(21) Application No. : 58880/90

(22) Application Date : 10.07.90

(30) Priority Data

(31) Number (32) Date (33) Country
3547 /89 10.07.89 IT ITALY

(43) Publication Date : 10.01.91

(44) Publication Date of Accepted Application : 07.01.93

(71) Applicant(s)
MARIO CIUCANI

(72) Inventor(s)
MARIO CIUCANI

(74) Attorney or Agent
GRIFFITH HACK & CO. , GPO Box 4164, SYDNEY NSW 2001

(56) Prior Art Documents
AU 525341 43588/79 A43B 3/14 9/16 A43D 65/00
US 2387813
US 2383529

(57) Claim

4. A machine for stitching a sole to an upper/ready-made sole assembly, said machine being characterised in that it comprises:

a stitching station where a guide fork is located, said fork having two prongs, namely a lower prong and an upper prong, projecting in a horizontal position outwardly and oriented parallel to one another;

two slots made in said two prongs designed to allow the passage of vertical curved opposite-facing, upper and lower needles, said needles operating in said station and being arranged to be driven by said machine in a semi-circular trajectory and with horizontal movements in opposite directions, in order to effect said stitching;

a striker which slides along the inside part of said upper/ready-made sole assembly in correspondence with said station and supported by support means which is arranged to oscillate between an upward direction and a downward direction to and from a working position, in which the striker is positioned against the guide fork, with a shoe between them, and an idle position in which

.../2

said striker is not in contact with said fork;

said support means being able to rotate in opposite directions in a horizontal plane to permit the shoe to be rotated during said stitching.

1. A method using the stitching machine of claim 4 for manufacturing footwear having an upper, a ready-made sole joined to said upper, thus making up an upper/ready-made sole assembly joined by stitching to a sole, with said stitching running along the border of said sole, said method including the following stages:

obtaining an upper, a ready-made sole and a sole, said sole having an external and continuous border;

joining said upper to said ready-made sole, with the aid of a last inserted into said upper;

final stitching between the upper/ ready-made sole assembly and said sole made along the border of said sole;

extraction of the last from the upper/ready-made sole assembly after the joining of the upper to the ready-made sole;

a temporary joining of the upper/ready-made sole assembly to the sole after the last has been extracted and before the final stitching between the upper/ready-made sole assembly and said sole; and

positioning a striker inside said upper during said final stitching, this striker being designed to remain positioned in an area of the shoe where the stitching is performed even when the shoe is rotated or moved.

632595

COMMONWEALTH OF AUSTRALIA

PATENTS ACT 1952

Form 10

COMPLETE SPECIFICATION

FOR OFFICE USE

Short Title:

Int. Cl:

Application Number;
Lodged:

Complete Specification-Lodged:

Accepted:

Lapsed:

Published:

Priority:

Related Art:

TO BE COMPLETED BY APPLICANT

Name of Applicant: MARIO CIUCANI

Address of Applicant: Via S. Girolamo, 63023 Fermo (Ascoli
Piceno), ITALY

Actual Inventor: Mario CIUCANI

Address for Service: GRIFFITH HACK & CO
71 YORK STREET
SYDNEY NSW 2000

Complete Specification for the invention entitled:

METHOD FOR MAKING FOOTWEAR AND MACHINE FOR
CARRYING OUT THIS METHOD

The following statement is a full description of this
invention, including the best method of performing it
known to me:-

19697-D CLC/SMcL

1638A/SMcL

"METHOD FOR MAKING FOOTWEAR AND MACHINE FOR CARRYING
OUT THIS METHOD"

This invention concerns the technological sector
5 relative to the manufacture of machines and tools for
making footwear.

It is well-known that to make the said footwear,
for example the type commonly called "moccasin", there
is an initial joining by means of gluing or a temporary
10 stitching, between an external part, called upper, and a
ready-made sole, after which the final joining takes
place by means of thick stitching all along the
perimeter of the sole.

Finally the part of the shoe called the vamp, and
15 other parts which complete and embellish the shoe are
stitched to the upper.

The invention described below, concerns in
particular a method and a machine for carrying out the
final stitching between the upper/ready-made sole
20 assembly and the sole.

A known machine is capable of carrying out the said
stitching by means of suitable devices which move a pair
of opposite facing needles which operate in
correspondence with a guide fork facing the operator and
25 situated in such a manner that its parallel prongs are
in a horizontal position.

On the said prongs there are slots through which
the needles pass following a circular trajectory in a
vertical plane.

30 The edges of the upper, with the ready-made sole
and the sole fixed to it, are inserted into the space
between the two prongs. The length of the stitch is

determined by the horizontal movement of the group of needles, which can take place owing to the slots on the prongs, while the skill of the operator alone must ensure that the correct line of stitching is maintained.

5 In one particular model of moccasin, the said stitching is carried out along the edge of the upper joined to the ready-made sole thus forming a border which projects horizontally outwards, around the whole perimeter of the sole.

10 The first stage of methods for making this sort of shoe is to put the upper on a last and join the ready-made sole to the upper, with the aid of the said last.

The join, as already stated may be obtained by gluing or with a temporary stitching.

15 At this point, using the machine described above, the final stitching between the upper/ready-made sole assembly and the sole is carried out.

The stitching can be guided manually, after having extracted the last, if the stitching to be carried out
20 does not affect the whole edge of the sole in a continuous way but rather successive separate tracts, as for example in footwear of the sandal type.

To do the job in the best manner possible it is however necessary to provide the shoe with an internal
25 striker situated in the working area of the needles.

With this aim the top of an arm, of a suitable shape and fixed to the machine, is inserted inside the shoe, between the parts to be stitched.

This is made possible by the particular structure
30 of open-type shoes which permits the arm to be inserted from different positions.

When the shoe is of the closed type and the

stitching must be continuous along the whole perimeter of the sole, then use of the arm is not possible, because it would prevent rotation of the shoe, and the operation must be carried out with the last still inside
5 the upper.

On the other hand while inserting the last in the upper allows the best possible stitching to be obtained, it calls however for very wide unattractive borders along the perimeter of the sole.

10 This is a consequence of the fact that the last cannot be inserted between the prongs of the machine and neither can it be shaped in such a way as to be inserted between the upper and the ready-made sole where the latter are joined, since it must afterwards be extracted
15 from the upper.

So the last tends to move the border of the upper, folded onto the sole and the border of the sole away from the working area of the needles.

As a consequence, as already stated, the borders
20 around the perimeter of the sole and the upper have to be wide.

Another drawback is the slowness of operations due to use of the last, which does not simplify stitching operations.

25 The object of the invention is to propose a method for making footwear as described above which allows greater speed of operations and with narrower borders on the sole and the upper.

A further object of ^{a preferred embodiment of} the invention is to propose a
30 machine of the type mentioned above and improved in such a way as to permit the proposed method to be implemented.



According to one aspect of the present invention there is provided a method using the stitching machine of claim 4 for manufacturing footwear having an upper, a ready-made sole joined to said upper, thus making up an upper/ready-made sole assembly joined by stitching to a sole, with said stitching running along the border of said sole, said method including the following stages:

obtaining an upper, a ready-made sole and a sole, said sole having an external and continuous border;
10 joining said upper to said ready-made sole, with the aid of a last inserted into said upper;

final stitching between the upper/ ready-made sole assembly and said sole made along the border of said sole;

15 extraction of the last from the upper/ready-made sole assembly after the joining of the upper to the ready-made sole;

a temporary joining of the upper/ready-made sole assembly to the sole after the last has been extracted and before the final stitching between the upper/ready-made sole assembly and said sole; and

20 positioning a striker inside said upper during said final stitching, this striker being designed to remain positioned in an area of the shoe where the stitching is performed even when the shoe is rotated or moved.

25 According to another aspect of the present invention there is provided a machine for stitching a sole to an upper/ready-made sole assembly, said machine being characterised in that it comprises:

30 a stitching station where a guide fork is located, said fork having two prongs, namely a lower prong and an upper prong, projecting in a horizontal position outwardly and oriented parallel to one another;

35 two slots made in said two prongs designed to allow the passage of vertical curved opposite-facing, upper and lower needles, said needles operating in said station and being arranged to be driven by said machine



in a semi-circular trajectory and with horizontal movements in opposite directions, in order to effect said stitching;

5 a striker which slides along the inside part of said upper/ready-made sole assembly in correspondence with said station and supported by support means which is arranged to oscillate between an upward direction and a downward direction to and from a working position, in which the striker is positioned against the guide fork,
10 with a shoe between them, and an idle position in which said striker is not in contact with said fork;

said support means being able to rotate in opposite directions in a horizontal plane to permit the shoe to be rotated during said stitching.

15 The machine as described herein preferably allows the operator to do the stitching safely and more rapidly, obtaining all the while the best possible results irrespective of his or her level of skill.

A preferred embodiment of the present invention
20 will now be described by way of example only with reference to the accompanying drawings.

Fig. 1 shows the three main parts of a shoe;

Fig. 2 and 3 show an intermediate stage of the method and the completed shoe;

25 Fig. 4 and 5 are a partial perspective view of a sewing machine of the type described in the introduction, with additional devices, respectively in an idle and working position;

30 Fig. 6 and 7 show, from the same view as Fig. 5, two stages of the method for manufacturing the shoe, concerning the stitching of the upper and the sole;

Fig. 8 is a side and partially cutaway view of the additional and modified devices of the machine in Fig. 1;

35 Fig. 9 is a detailed enlarged view of the machine

concerned;

- Fig. 10a, 10b, 10c 10d is a schematic diagram of the series of operations for obtaining a stitch.

With reference to Figs. 1, 2 and 3, the method
5 proposed for manufacturing a shoe 50 envisages first obtaining an upper 51, a ready-made sole 52 and a sole 53.

The second stage of the method envisages joining
10 the lower border of the upper 51 to the corresponding surface of the external border of the ready-made sole 52.

The join, obtained by means of gluing or a temporary stitching, can be achieved with the aid of a last 54 (shown with a dotted line in Fig. 1) inserted
15 within the upper 51 and on the underside of which the ready-made sole 52 is placed.

Subsequently the last 54, if at all used, is extracted from the upper 51.

The next stage envisages the temporary joining of
20 the upper/ ready-made sole assembly 55 (shown in Fig. 2) and the sole 53, which join can be effected by gluing the surface of the ready-made sole to that of the sole.

The join of the upper/ready-made sole assembly 55 and the sole 53 is completed by means of strong
25 stitching obtained using a machine of the type described above.

In order to optimise the execution of the stitching and not to be forced to use very wide borders 56 along the perimeter of the shoe 50, the proposed method allows
30 for placing inside the shoe, whether it be of the closed type (moccasin) or the open type (sandal), a suitable mobile striker such that it is able to move along the

internal edge of the upper while maintaining its position in the stitching area, while at the same time its support does not hinder in any way the carrying out of the stitching.

5 In the final stage the shoe 50 is removed from the machine and undergoes successive finishing operations.

The machine which carries out the method described so far, indicated with the number 100 in the enclosed diagrams, comprises a basic frame 9, of a known type, in
10 which a stitching station indicated with the letter C is shown.

In the stitching station C there is a guide fork 1, with its open end towards the operator and oriented so that its parallel prongs 2a and 2b, respectively lower
15 and upper, are in horizontal planes.

The prongs 2a and 2b have two slots 3a, 3b which allow the passage of two curved vertical opposite-facing needles, 4a, 4b, working in the same station C.

The needles 4a, 4b, of a known type, are driven by
20 suitable devices, of a known type, contained in the machine 100, suitably synchronised and following a semi-circular trajectory in an ideal vertical plane.

The unit 40 formed by the needles 4a and 4b, is furthermore subject to the action of other devices, of a
25 known type and so not illustrated, included in the machine, which move them horizontally by a predetermined amount.

The horizontal movement of the needles 4a and 4b, effected alternately in opposite directions J1 and J2,
30 determines the length of the stitch, and is not hindered by the prongs 2a and 2b because the slots 3a and 3b are oblong in shape.

The machine 100 also has oscillating means which support the striker mentioned in the above description of the method, which are made up of an arm 10 comprising various elements which works in the manner described
5 below.

The end of a supporting body 13, having a substantially parallelepiped shape and a longitudinal groove 14, is hinged to the frame 9.

The support 13 can thus oscillate vertically about
10 the end fixed to the frame 9, in opposite directions respectively upwards A and downwards D, by means of a driving means 18 and 19 linked to the support 13 by means for connecting and adjusting the angle of the same support.

15 In particular, to the lower part of the support 13 are removably fixed the opposite prongs of a supporting fork 15.

These prongs are attached to the support 13 by fixing means 16, which can be screws or pins, which are
20 inserted in corresponding holes 17 made in a line along the lower lengthwise edge of the same support.

The opposite end of the fork 15 is hinged to the end of the shaft 18 of a hydraulic cylinder 19, supported by the frame 9 in an angled position.

25 Operation of the hydraulic cylinder 19 makes the support 13 oscillate in the above-mentioned directions A and D.

Above and below the support 13, are placed two plates 20 and 21 designed to be inserted partially and
30 in a complementary manner in the groove 14, sliding therefore, lengthwise with respect to the support, for the whole length of the latter, in opposite directions L

and V respectively away from and towards the end of the support 13 fixed to the frame 9.

The shanks of screws 22 pass through holes made in the plates 20 and 21, through the groove 14 and engage
5 with threaded nuts 23.

Tightening the screws 22 blocks the radial movement of the plates 20 and 21, with respect to the hinging axis of the of the support 13.

A cylindrical body 24 is inserted into
10 corresponding holes made in the plates 20 and 21 with its axis vertical, and is able to rotate about the same axis in opposite directions E and F.

Vertical movement of the body 24 is stopped by means of two shoulders 25 and 26 located against the
15 corresponding surfaces of the plates 20 and 21.

The upper head of the body 24 extends by a short amount and with a reduced diameter above the upper shoulder 26, so as to feature a pin 27.

The pin 27 is inserted in the hole made on the end
20 of a connecting-rod 28, and is fixed there by means of screws which engage with the upper shoulder 26.

As a consequence the connecting-rod can rotate together with the cylindrical body 24.

The free end of the connecting-rod 28 has on its
25 upper part a cavity 39, within which is inserted from above the base 8 of a shaped riser 30.

The riser 30 depends on the action of means 41 to regulate its height; these means are described later on.

The lower opening of the cavity 39 is closed by a
30 plug 31 through the centre of which a threaded shank 32 passes.

The threaded shank 32 is prevented from moving

vertically by support means 33 (of a known type) which fix it to the same plug 31, and it is inserted into the threaded hole of a block 34 located under the base of the riser 30.

5 By means of a revolving knob 35, fixed to the part of the threaded shank 32 which projects below the plug 31, it is possible to rotate the same shank.

Since the block 34 can not rotate owing to the action of the locking means 36, in this case consisting
10 of a grub screw inserted into a hole made in the connecting-rod radial to the cavity 39, as a consequence of the rotation of the threaded shank vertical movement of the same block is obtained, and thus of the riser 30, in opposite directions up S or down T.

15 A grub screw 37, inserted at the end of the connecting-rod, radially to the cavity 39, prevents vertical movement and rotation of the riser 30 with respect to the connecting-rod 28.

The top of the riser 30, which is made up of a
20 first angled section 11 followed by a second horizontal section 12, supports a disc 38 which can freely rotate on a vertical axis and has its edge towards the stitching station C.

The position of the disc 38 with respect to the
25 guide fork 1 is regulated using the movable parts of the arm 10.

In particular moving the cylindrical body 24 along the groove 14 allows the disc 38 to be moved nearer to or farther from the guide fork 1.

30 Moving the support fork 15 in correspondence with other pairs of holes 17, in combination with the other horizontal movements of the body 24, and vertical

movements of the riser 30, permits the inclination of the disc 38 to be regulated with respect to the guide fork 1.

Activation of the hydraulic cylinder 19 makes the arm 10 oscillate in the directions A and D thus transferring it from one to the other of two positions respectively working P (Fig. 5) and idle N (Fig. 4).

Figures 6 and 7 illustrate how the machine 100 works.

10 The shoe 50 is prepared for stitching by inserting the top part of the riser 30 inside the upper.

As already stated the sole 53 has already been joined in a temporary manner to the upper/ready-made sole assembly by gluing.

15 The riser 30 is inserted into the upper with the arm 10 in the idle position N shown in Fig. 4.

Then the hydraulic cylinder 19 makes the arm 10 oscillate until it reaches the working position in Fig. 6 with the border 56, consisting of the borders of the sole and the upper, inserted between the prongs 2a and 2b. The freely rotating disc 38 is inserted between the upper 51 and the ready-made sole 52, near their previously joined border, and moves against the guide fork 1, leaving the upper placed in between, as shown in
20 Fig. 10a.
25

Stitching is then carried out according to the stages illustrated in Figs. 10a, b, c and d.

The rotating disc 38 constitutes an internal striker with the function of guide for the shoe 50.

30 The disc is positioned closer to the stitching station C without however increasing the distance of the same from the border 56 of the shoe 50.

In this manner the border can be reduced to the minimum needed to carry out the stitching, thus avoiding negative repercussions on the total aesthetic effect of the shoe.

5 As illustrated in Fig. 7, the rotation the shoe 50 undergoes on the horizontal plane as stitching its sides proceeds, is not hindered in any way, since the arm 10 can follow, rotating around the axis of the rotating pin 24, the rotation of the shoe.

10 It should be noted here that the axis of rotation of the disc 38 coincides with the axis of rotation of the body 24, so that even when the arm rotates, the position of the disc 38 with respect to the guide fork 1 is substantially the same.

15 In this way the different angles of the connecting-rod 28 with respect to the longitudinal axis of the support 13 allow the disc always to be correctly positioned without the riser 30 hindering the movements of the shoe.

20 Obviously for the adjustment of the height of the riser 30 a different kind of device can be envisaged, designed however to operate in the cavity 39.

While the invention has been described in terms of what is presently considered to be the most practical
25 and preferred embodiments, it is to be understood that the invention has not to be limited to the disclosed embodiment. On the contrary, it is intended to cover various modifications and similar arrangements included within the spirit and scope of the appended claims, the
30 scope of which should be accorded the broadest interpretation so as to encompass all such modifications and similar structures.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A method using the stitching machine of claim 4 for manufacturing footwear having an upper, a ready-made sole joined to said upper, thus making up an upper/ready-made sole assembly joined by stitching to a sole, with
5 said stitching running along the border of said sole, said method including the following stages:

obtaining an upper, a ready-made sole and a sole, said sole having an external and continuous border;
10 joining said upper to said ready-made sole, with the aid of a last inserted into said upper;

final stitching between the upper/ ready-made sole assembly and said sole made along the border of said sole;

15 extraction of the last from the upper/ready-made sole assembly after the joining of the upper to the ready-made sole;

a temporary joining of the upper/ready-made sole assembly to the sole after the last has been extracted and before the final stitching between the upper/ready-made sole assembly and said sole; and
20

positioning a striker inside said upper during said final stitching, this striker being designed to remain positioned in an area of the shoe where the stitching is performed even when the shoe is rotated or moved.
25

2. A method according to claim 1, characterised in that said temporary joining between said upper and said ready-made sole is obtained by stitching.

30 3. A method according to claim 1, characterised in that said temporary joining between said upper and said ready-made sole is obtained by gluing.

4. A machine for stitching a sole to an upper/ready-made sole assembly, said machine being
35 characterised in that it comprises:

a stitching station where a guide fork is located, said fork having two prongs, namely a lower prong and an upper prong, projecting in a horizontal

position outwardly and oriented parallel to one another;

two slots made in said two prongs designed to allow the passage of vertical curved opposite-facing, upper and lower needles, said needles operating in said station and being arranged to be driven by said machine in a semi-circular trajectory and with horizontal movements in opposite directions, in order to effect said stitching;

a striker which slides along the inside part of said upper/ready-made sole assembly in correspondence with said station and supported by support means which is arranged to oscillate between an upward direction and a downward direction to and from a working position, in which the striker is positioned against the guide fork, with a shoe between them, and an idle position in which said striker is not in contact with said fork;

said support means being able to rotate in opposite directions in a horizontal plane to permit the shoe to be rotated during said stitching.

5. A machine according to claim 4, characterised in that said support means includes:

a support hinged to a frame of said machine and driven by drive means linked to said support by means for linking and adjustment of the angle of the support with respect to the frame;

a body which is slideable along said support in opposite lengthwise directions and rotatable about its own vertical axis in opposite directions, with means for stopping vertical movement of said body;

a connecting-rod radially fixed at one end to an upper head of said body so as to be able to oscillate, in conjunction with the same body;

a riser having its base inserted into a cavity made in a free end of said connecting-rod, said riser having a first angled section followed by a horizontal section;

adjusting means for adjusting the height of the riser, said adjusting means extending into said cavity;

and

said striker being rotatably supported by said second horizontal section.

5 6. A machine according to claim 5, characterised in that said drive means consist of a hydraulic cylinder, joined to the frame of said machine, and having a shaft hingedly connected with one end of the said means for linking and adjustment.

10 7. A machine according to claim 5, characterised in that said means for linking and adjustment of the angle of said support, comprises a support fork, having two parallel prongs fixed to lower lengthwise edges of said support by means of fixing means which engages with corresponding holes made along these latter lower
15 lengthwise edges.

8. A machine according to claim 5, characterised in that said adjusting means comprises:

20 a plug which closes said cavity from below and a threaded shank which is maintained coaxial with said cavity by means of support means;

the riser comprises a block, located in the cavity and having a threaded hole which engages with said threaded shank; and

25 the machines comprising locking means for preventing rotation of said block;

30 a knob fixed to the outside end of said threaded shank so as to permit rotation of said shank and the consequent vertical movement of said block, said block acting on the base of said riser, to move the riser either up or down.

35 9. A machine according to claim 5, characterised in that said body, is cylindrical and is arranged in a groove made lengthwise along said support and has opposite heads inserted into corresponding holes made on two plates fixed on upper and lower sides of the support, said plates forming said means for stopping vertical movement of said body with respect to the support.

10. A machine as claimed in claim 9 wherein the body

comprises upper and lower shoulders at upper and lower ends thereof, which shoulders abut external surfaces of the plate and prevent movement of the body perpendicular to the length of the support.

5 11. A machine as claimed in claim 5 wherein the upper shoulder comprises an upper end portion which is arranged to fit into a hole in the connecting rod to facilitate connection of the connecting rod to the upper shoulder.

10 12. A machine according to claim 7, characterised in that said fixing means comprises a pair of screws which engage with corresponding holes.

15 13. A machine as claimed in claim 5 wherein the striker comprises a disk at an upper end of the horizontal section, the disk being rotatable in a horizontal plane.

20 14. A machine according to claim 8, characterised in that said locking means which blocks the rotation of said block, comprises a grub screw located in a threaded hole in said connecting-rod, the threaded hole extending radially with respect to said cavity.

25 15. A machine according to claim 5, characterised in that said riser is prevented from rotating with respect to said connecting-rod by means of a grub screw located in a threaded hole in said connecting-rod, the threaded hole extending radially with respect to said cavity.

30 16. A machine for stitching a sole to an upper ready-made sole assembly, substantially as hereinbefore described with reference to any one embodiment shown in the accompanying drawings.

Dated this 16th day of October 1992

MARIO CIUCANI

By his Patent Attorney

GRIFFITH HACK & CO.

10

7

90

50000

Fig. 1

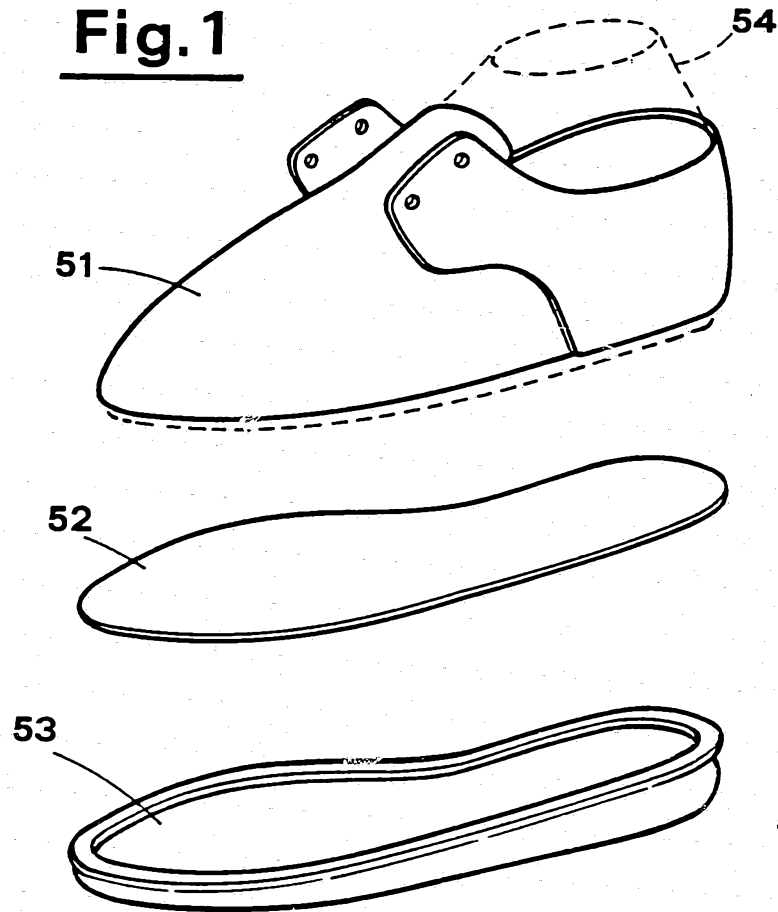


Fig. 2

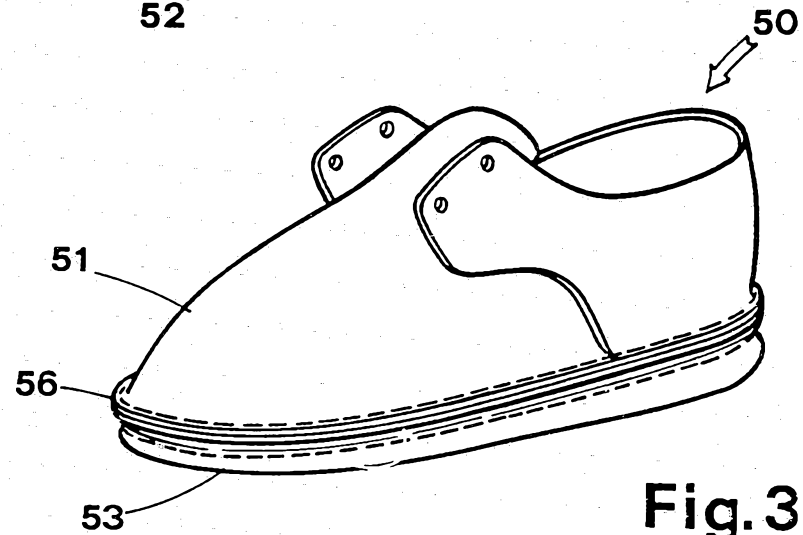
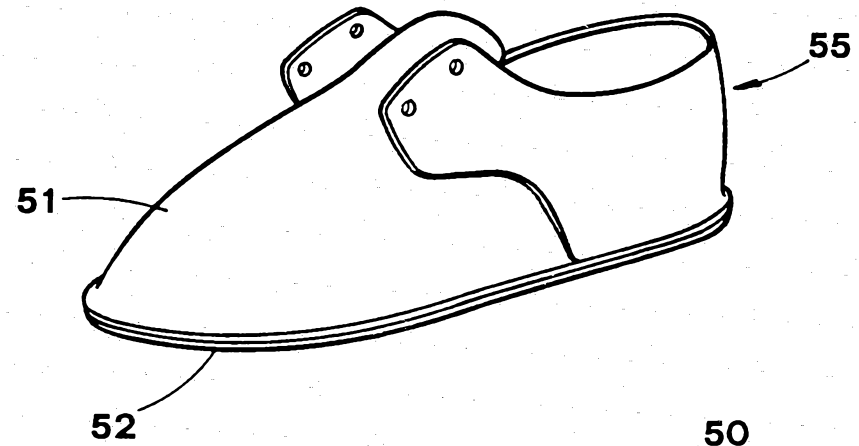


Fig. 3

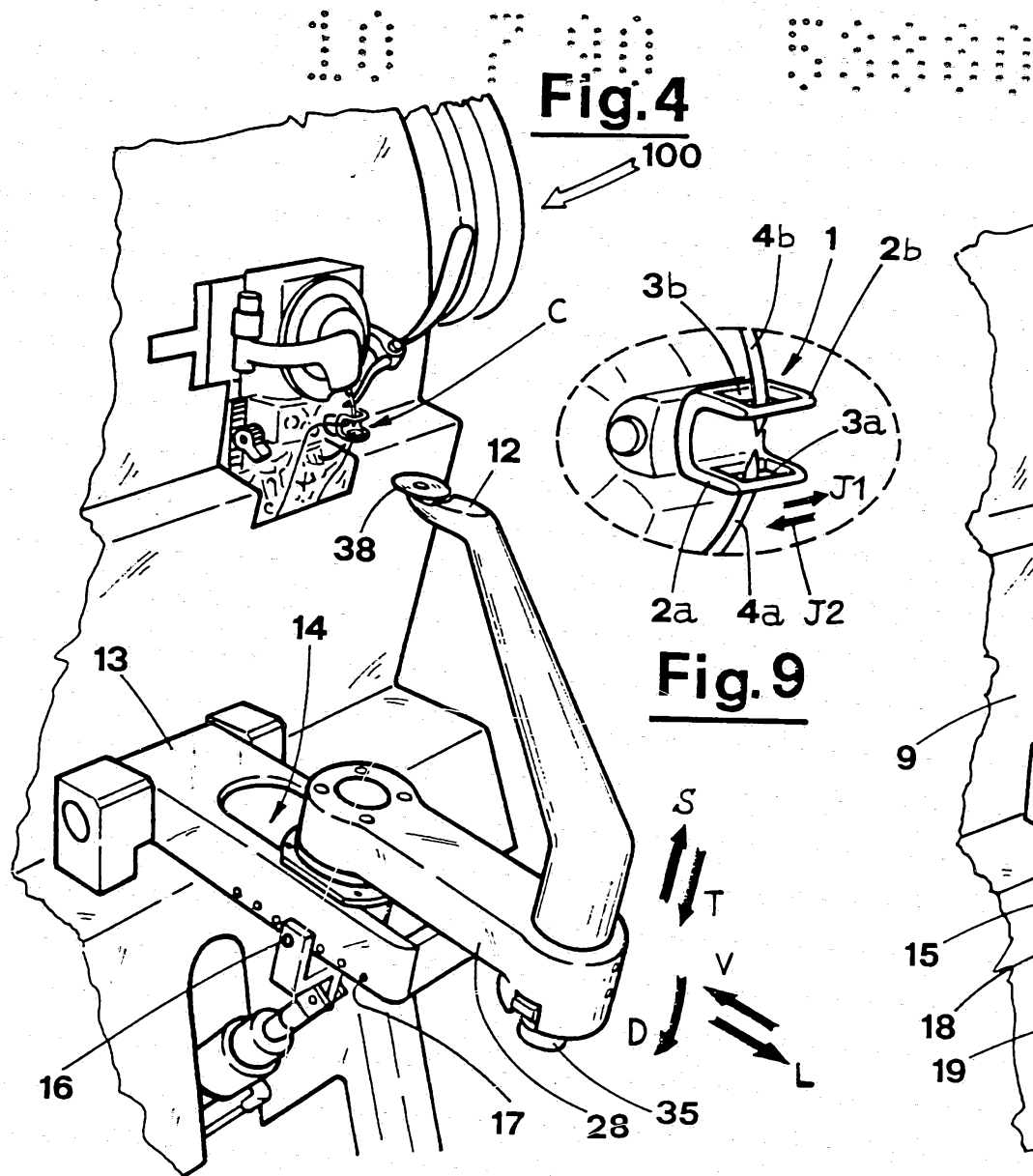
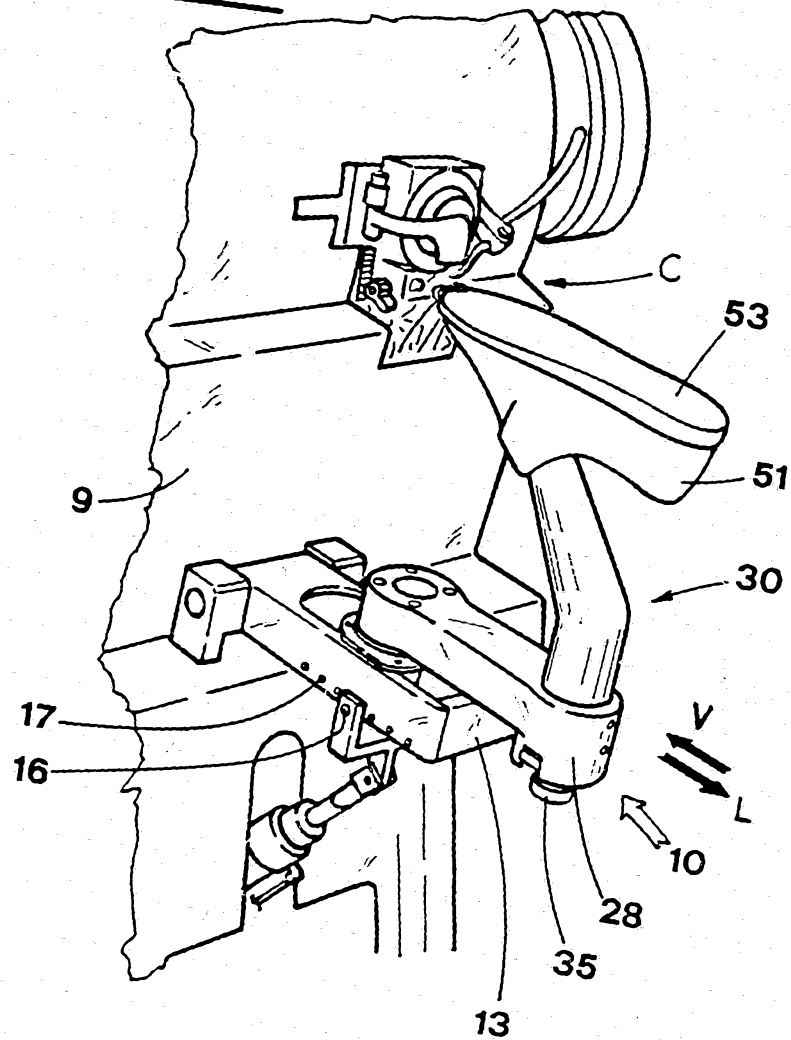


Fig. 5

58880/90

Fig. 6



100

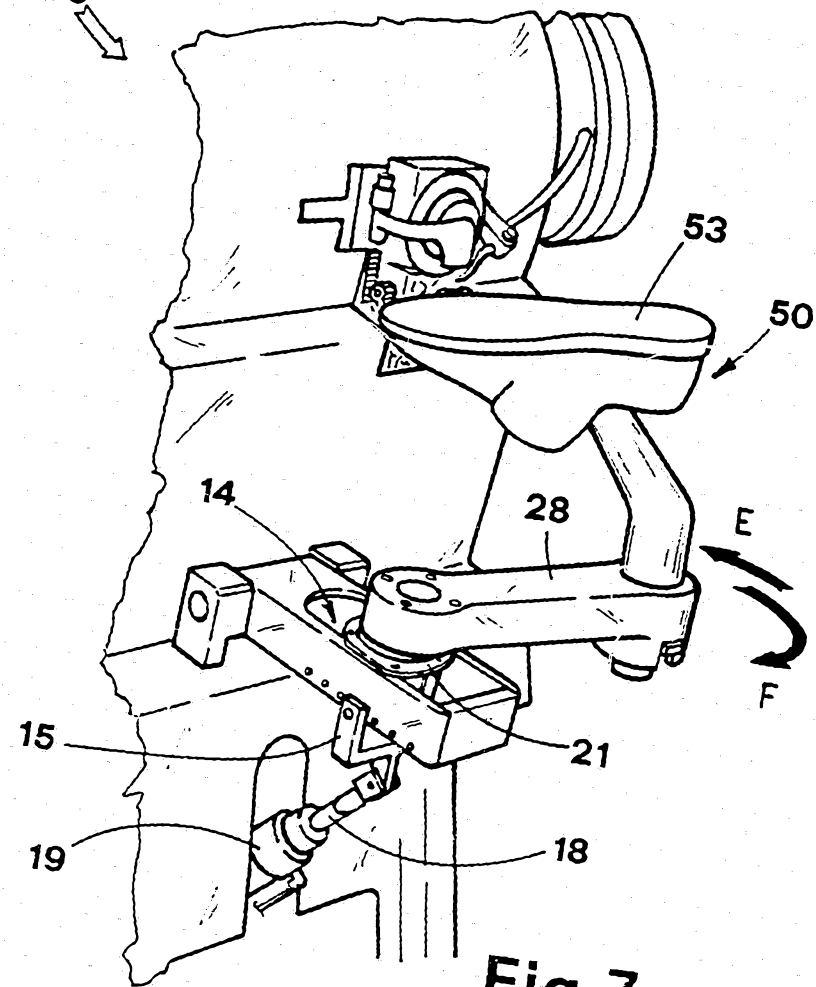


Fig. 7

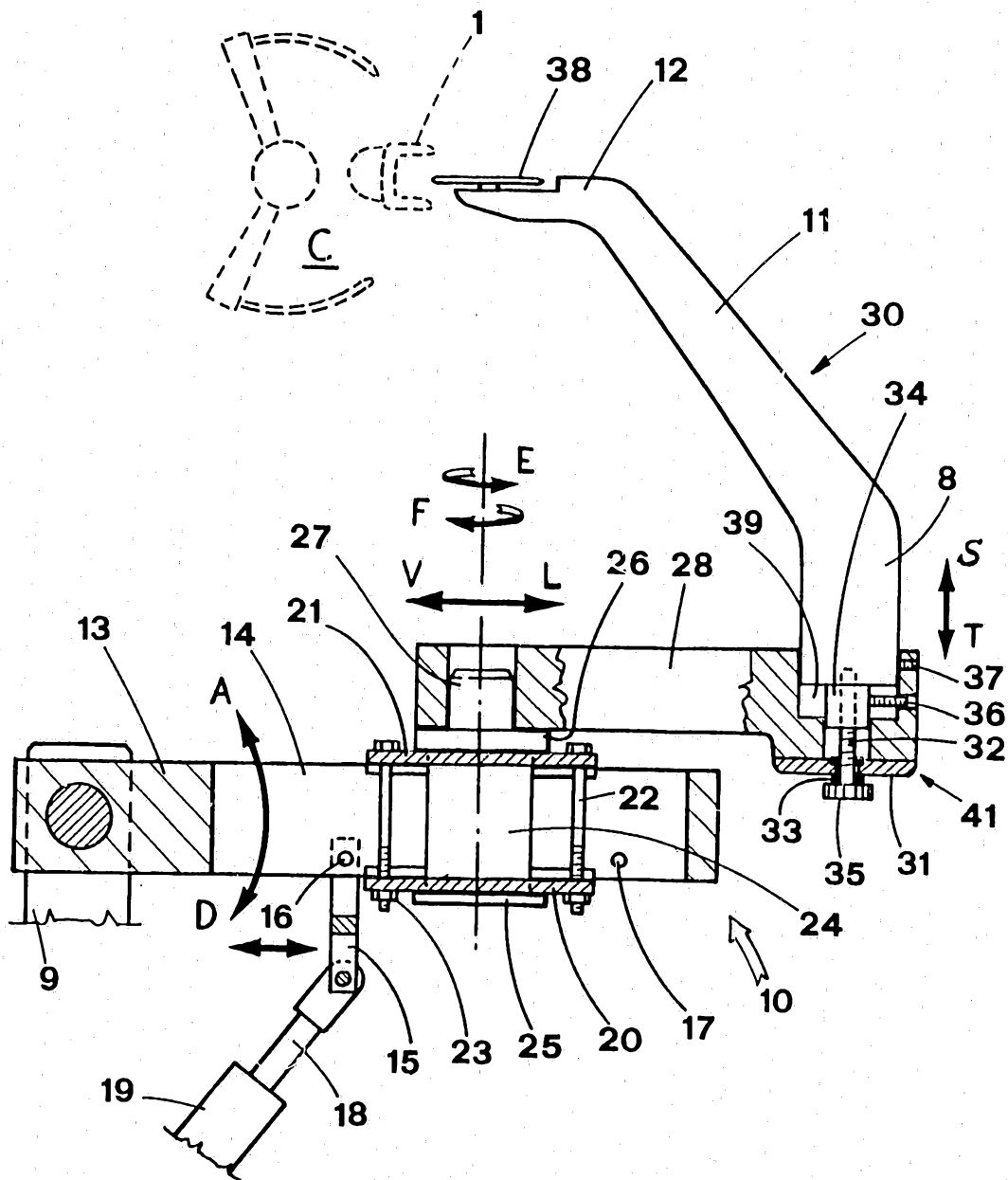


Fig. 8

