

[54] **PROFILE TRANSFERRING DEVICE**

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- [21] Appl. No.: **109,936**

**Related U.S. Application Data**

- [63] Continuation of Ser. No. 776,727, Nov. 18, 1968, Pat. No. 3,419,965, which is a continuation of Ser. No. 534,958, Feb. 25, 1966, abandoned, which is a continuation of Ser. No. 360,623, April 17, 1964, abandoned, which is a continuation of Ser. No. 184,172, April 2, 1962, abandoned.
- [52] U.S. Cl. .... **33/175**
- [51] Int. Cl. .... **G01b 5/20**
- [58] Field of Search ..... **33/175**

**References Cited**

**UNITED STATES PATENTS**

1,261,438	4/1918	Reinhardt.....	33/175
3,419,965	1/1969	Madden.....	33/175
2,759,271	8/1956	Von Duyke.....	33/175

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*Assistant Examiner*—Dennis A. Dearing  
*Attorney*—William Anthony Drucker

[57] **ABSTRACT**

A profile transferring device comprises a body composed of two portions each of which includes a pair of connected projecting walls, the body portions being disposed in superposed relationship with the free edges of the respective walls of each portion being spaced and defining an opening along each longitudinal side of the body, the walls of one portion being inclined towards the other portion, a pair of end pieces being disposed one at each end of the body and engaged with the body portions to retain the body portions in superposed relationship, one of said body portions including between its walls a longitudinal ridge which is a fixed integral part of said body portion, the apex of the ridge being positioned in the direction towards the other body portion beyond the plane containing the free edges of the walls of said other body portion, a plurality of resilient linear rods being disposed through the body and projecting at each end through the openings, said rods being in side by side relationship and abutting on said ridge apex and on said free edges of said other body portion so as to be flexed and frictionally held in said body.

**7 Claims, 10 Drawing Figures**

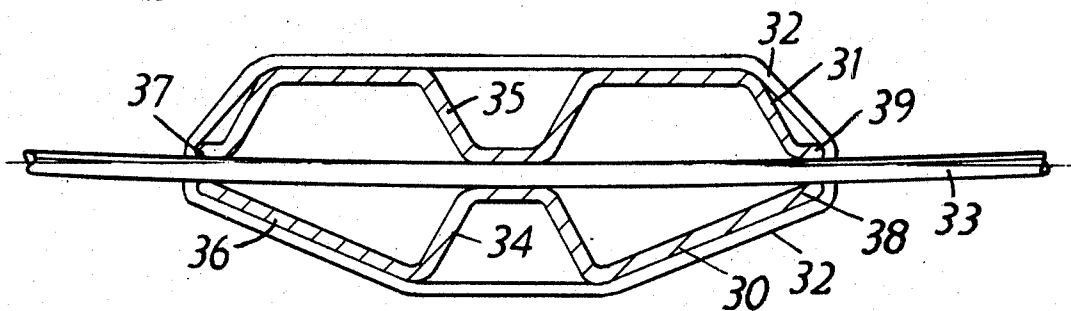


Fig. 1.

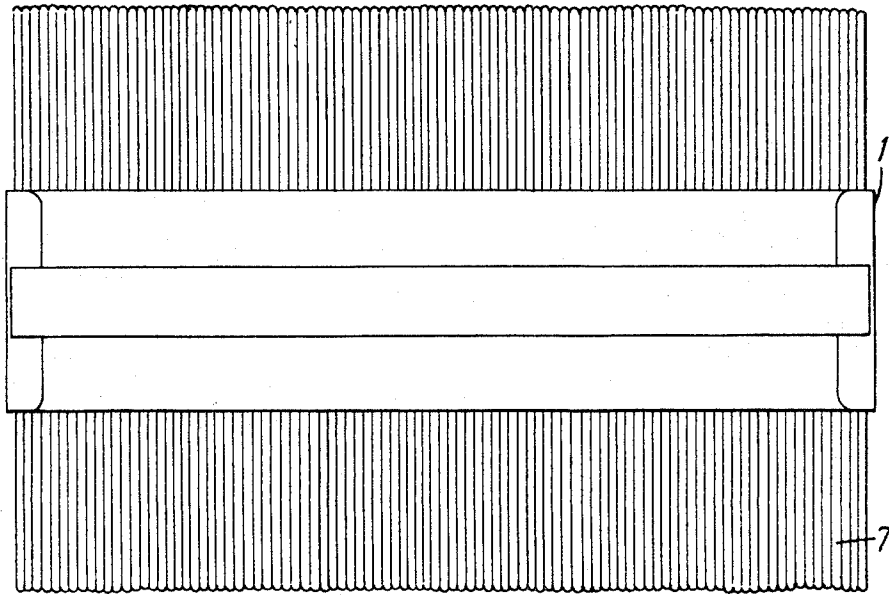


Fig. 2.

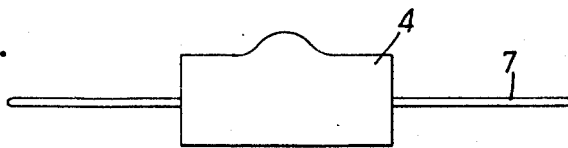


Fig. 3.

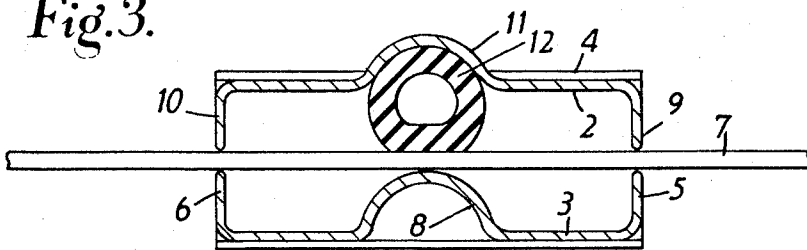
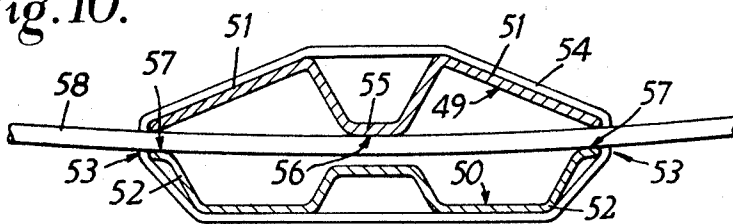


Fig. 10.



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Fig. 4.

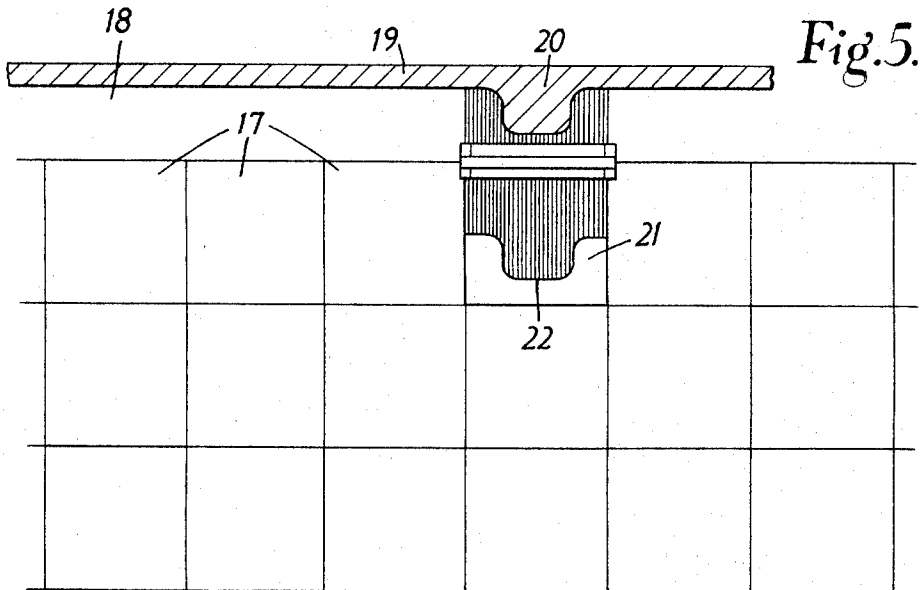
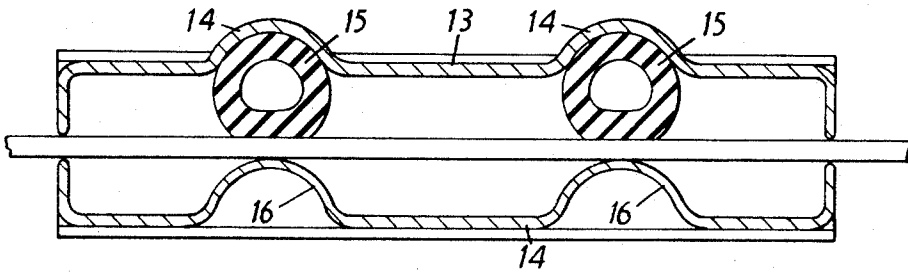


Fig. 5.

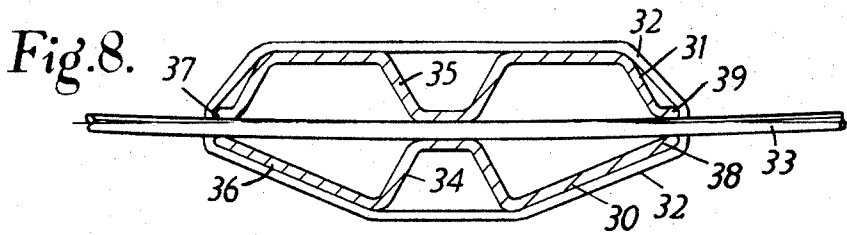
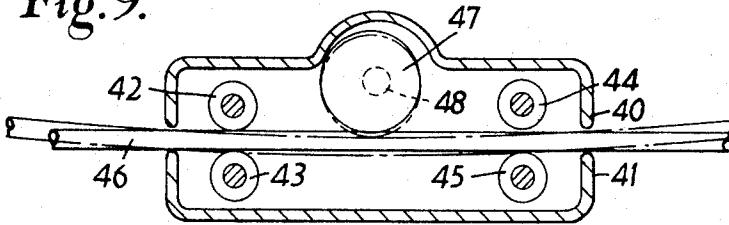


Fig. 9.



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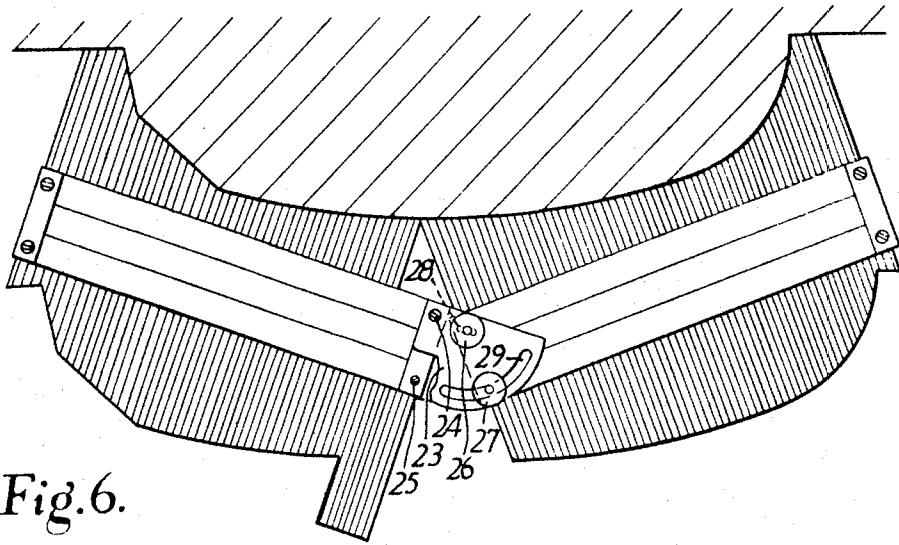
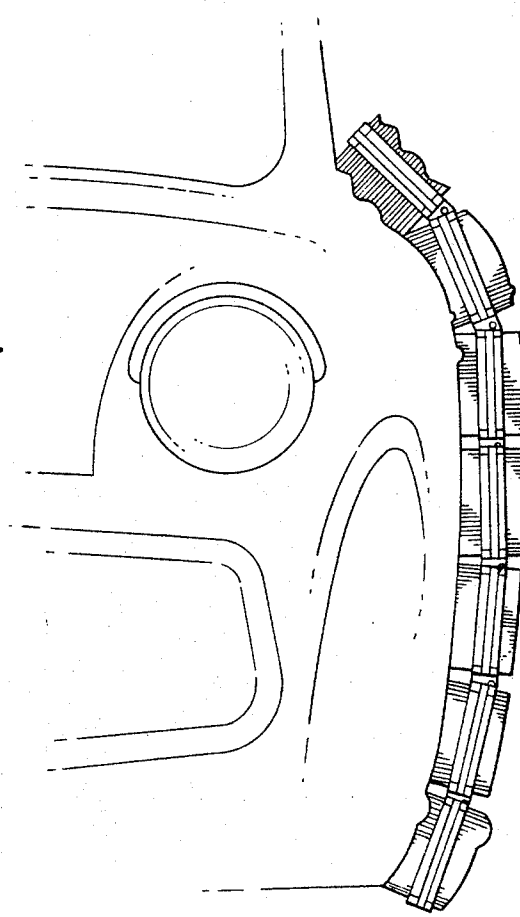


Fig. 6.

Fig. 7.



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### PROFILE TRANSFERRING DEVICE

This is a Continuation of my co-pending U.S. Pat. application No. 776727 filed 18th of Nov. 1968, now U.S. Pat. No. 3,419,965, which latter was a Continuation of my U.S. Pat. application, No. 534958 filed 25th Feb. 1966 and now abandoned, which latter was a Continuation of my U.S. Pat. application No. 360623 filed 17th Apr. 1964 and now abandoned, which latter was a Continuation of my U.S. Pat. application No. 184171 filed 2nd Apr. 1962, now abandoned, in which there was claimed under the International Convention the priority date 7th Apr. 1961 being the date of filing of my British Pat. application No. 12535/61.

This invention relates to devices for application to non-regular or complex profiles to enable the contour to be transferred elsewhere.

The main object of the invention is to provide a profile transferring device of simple and robust nature for use as a tradesman's tool.

A second object is to provide a further improvement whereby the profile acquired is made available, in reverse, at the other end of the device.

According to the present invention, a profile transferring device comprises broadly a body, a plurality of rods arranged in the body in side by side relationship in one plane and longitudinally slidable through said body between spaced guides and across a friction means engaged between the body and the rods, said friction means being disposed between the spaced guides. A bearing surface may be provided in said body opposite to said friction means, said rods being slidable between said bearing surface and said friction means.

The rods are set manually with their tips substantially aligned, and are then pushed against the profile until the whole of the contour has had at least one rod against it. The tips of the rods have then assumed the counterpart profile.

If the rods are long enough to project at both ends, and are of the same length, the tips remote from the profile automatically assume the corresponding contour.

If the length of the rods is the same as a floor tile or the like onto which the contour is to be transferred, then it will indicate not only the contour but also the position on the tile for cutting to form a perfect fit.

The bearing surface means may be constituted by ridging in the body and in a preferred form, the body has a first transversal ridge portion serving as a main seating, the frictional means being arranged to correspond therewith and urge the rods into engagement with the ridge.

The frictional means may be resiliently compressible or bendable element disposed within the body, e.g. in corresponding position to the bearing surface, and bearing on the series of rods. Two bearing surfaces, and two friction means may be arranged in parallel positions in the body. The friction means may be a rubber or like rod or tube disposed between the body and the rods so as to lie transversely to the rods in a compressed state.

The body may be two portions of sheet material one of which includes one or more ridges as bearing surfaces and the other of which has one or more recesses forming a seating for rubber or like rods or tubes forming friction means.

Where the profile is of greater length than one such device, means may be provided for coupling the body portions of two or a plurality of such devices end to end with the rods thereof in the same or parallel planes, and may include a pivot permitting movement of one device with respect to the or each other to which it is coupled about an axis perpendicular to the plane of the rods, and releasable means for locking the coupled devices against pivoting.

Some embodiments of profile transfer device, and their manner of use, are hereinafter described with reference to the accompanying drawings, wherein

FIG. 1 is a plan view of a first embodiment;

FIG. 2 is a corresponding end elevation;

FIG. 3 is a transverse section, to a larger scale, corresponding to FIG. 2;

FIG. 4 is a section of a second embodiment having two frictional means and seatings for the rods;

FIG. 5 illustrates a method of use of a single device;

FIG. 6 illustrates the use of a double device;

FIG. 7 illustrates the use of a multiple device;

FIG. 8 is a transverse section of a further embodiment in which the needles are held in a bent condition;

FIG. 9 is a transverse section of yet another embodiment with a releasable locking means;

FIG. 10 is a transverse section of a still further embodiment.

In FIGS. 1 to 3, the device comprises a body 1 with upper and lower sheet metal portions 2 and 3 secured by two end caps 4. The portion 3 is trough shaped and includes side walls 5, 6 as guides for the rods 7, and has a central hump portion 8 which serves as a bearing. The portion 2 has side walls 9, 10 serving, with the walls 5, 6 to provide two pairs of spaced guides, along each side of the body, between which the rods pass. The upper portion also has a central humped portion 11 aligned with the portion 8 and serving as a seating for a length 12 of rubber tubing which abuts frictionally on the rods 7. In FIG. 1 the rods are aligned in corresponding position; if either end is pushed up against a profile, e.g. moulded woodwork, the rods 7 slide through, under friction, and assume the counterpart of the profile being taken off. The other ends of the rods also assume the same profile.

In FIG. 4, the portion 13 is provided with humped portions 14 for two rubber tubes 15, and two humped portions 16 to receive longer rods 7a.

FIG. 5 shows a manner of use; assuming that a tiled floor, (or square of linoleum etc.) is being laid, the last row of "field" tiles 17 leaves a smaller gap 18 between it and the skirting 19. A tile must be specially cut for a contoured moulding 20. The length and width of the rods corresponds to the length and width of the tile. To transfer the profile, the tile 21 is laid symmetrically on the last field opposite the moulding. The device is pressed against the moulding, and the rear "edge" 22 of the rods indicates the shape to be cut out and the correct position for cutting it.

FIG. 6 shows a method of taking the profile of a larger article, and two devices are coupled by a bracket 23 mounted on one of them by means of two screws 24, 25 at one end. The other device is pivotably coupled to the bracket by knurled screws 26, 27 one of which is disposed in a slotted hole 28 in the bracket and the other of which can be moved along an arcuate slot 29 and tightened in the desired position. The rods of both devices are in the same plane, but inversion of one device would place the rods in spaced parallel planes.

In FIG. 7 is shown a larger number of devices coupled in series, as in FIG. 6, and utilized for taking off a relatively very long and non-regular profile of a motor vehicle body.

In FIG. 8 the devices are constituted by longitudinal frames 30, 31 retained in assembled condition by end plates 32. Rods 33 are seated slidable between center portions 34, 35 and pass between pairs of spaced guides constituted by edge portions 36, 37, and 38, 39 the rods being forced into a slightly bent shape so as to be frictionally held.

In FIG. 9 of the drawing, there is shown an embodiment of profile transferring device comprising a body constituted by longitudinal frames 40, 41. A plurality of rods 46 are arranged in the body in side by side relationship in one plane and are longitudinally slidable through said body between two pairs of spaced guides constituted by rollers 42, 43 and 44, 45 mounted within the body. The rods are slidable across a friction means which is engaged between the body and the rods, and which is disposed between the roller pairs. Said friction means comprise a cam roller 47 rotatable about an eccentric axis 48 such that rotation of said cam roller in a first direction causes it to engage and lock the rods by bending them, and rotation of said cam roller in a second direction causes it to disengage from said rods. The whole may be made of stainless steel for medical use.

In FIG. 10 the embodiment shown has a body composed of two portions 49 and 50 each of which includes a respective pair of connected projecting walls 51 and 52. The body portions 49 and 50 are disposed in superposed relationship with the free edges of respective walls 51 and 52 being spaced and

defining an opening 53 along each longitudinal side of the body. The walls 51 of body portion 49 are inclined towards the walls 52 of body portion 50. A pair of end pieces 54 are disposed one at each end of the body and are engaged with the body portions 49 and 50 to retain said portions in superposed relationship. The body portion 49 includes between its walls 51 a longitudinal depending ridge 55 which is a fixed integral part of the body portion 49. The apex 56 of the ridge 55 is positioned, in the direction towards the other body portion 50, beyond the plane containing the free edges 57 of the body portion 50. A plurality of resilient linear rods 58 are disposed through the body and project at each end through said openings, the rods being in side by side relationship. The rods abut on the ridge apex 56 and on the free edges 57 of the body portion 50, whereby said rods are flexed and frictionally held in the body.

These devices described are small enough and robust enough to permit their handling as a tool rather than as a piece of special equipment, and they can be applied by tradesmen and others in very many fields where a non-regular or complex contour has to be dealt with.

I claim:

1. A profile transferring device comprising: a body, composed of two portions, each of which includes a pair of connected walls, the body portions being disposed in superposed relationship, with the free edges of the respective walls of each portion being spaced and defining an opening along each longitudinal side of said body, the wall of one portion being inclined towards the other portion; one of said body portions including between said walls a bearing surface on a longitudinal ridge, which is a fixed integral part of said body portion, the bearing surface of said ridge being positioned, in the direction towards the other said body portion, beyond the plane containing the free edges of the walls of said body portion; a pair of end pieces, disposed one at each end of said body and engaged with said body portions to retain the portions in superposed relationship; and a plurality of resilient linear rods disposed through said body and projecting at each end through the said openings, said rods being in side by side relationship, and abutting on said ridge and on said free edges

of said other body portion, whereby said rods are bent and frictionally held in said body.

2. A profile transferring device as claimed in claim 1 in which said one body portion includes a pair of walls forming two planes converging at an obtuse angle and said integral longitudinal ridge formed at the convergence of said walls, said ridge projecting beyond the plane formed by the edges of said walls of said one body portion.

3. A profile transfer device as claimed in claim 1 in which said one body portion includes a pair of walls connected by a third wall in a plane approximately parallel to the longitudinal axes of the resilient rods.

4. A device according to claim 3 in which the third wall includes said longitudinal ridge, centrally located projecting in the direction of the free edges of said walls of said other body portion, said ridge projecting beyond the plane formed by the edges of said walls of said one body portion.

5. A profile transferring device comprising: a hollow body composed to two trough shaped frame portions formed from rigid sheet material, each of which includes a pair of connected converging walls, said body frame portions being disposed in superposed relationship, with the free edges of the respective walls of each portion being spaced and defining an opening along each longitudinal side of said body, the walls of one portion being inclined towards the other portion; one of said body portions including between said walls a longitudinal ridge, which is a fixed integral part of said body portion positioned towards the other body portion beyond the edges of either body portion; a pair of end plates screwed one at each end of said body and engaged with said body portions to retain the portions in assembled superposed condition; and a plurality of resilient linear metal rods disposed through said body and projecting at each end through said openings, said rods being slidable in side by side relationship, and frictionally held and bent between and against said ridge and said free edges of said other body portion.

6. A device as in claim 5 in which the rods are of stainless steel.

7. A device as in claim 1 in which the end pieces are secured by screws.

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