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Ernst Keller

Joining web for a mortise-type double cylinder lock

5 The invention relates to a joining web for a mortise-type double cylinder lock, which connects two cylinder housing parts to one another and has two limbs and a central part.

10 A web of this type is known, for example, from CH-A-626 679. The latter connects the two cylinder housing parts by engaging in each case with one limb in a recess of a cylinder pocket. The central part connects the two limbs and has a threaded bore to receive a sleeve screw. Double cylinder locks with a web permit cost-effective manufacture of the housing parts of sintered metal by pressing. However, the manufacture of the web requires a comparatively great manufacturing outlay. For example, the said web is welded from three pieces made of nickel chromium steel. The pieces have to be drawn, milled and bored. A plurality of comparatively complex operations are therefore required. In the event of attempted intrusions, attempts are often made to break the web by bending it back and forth in the centre.

25 The object of the present invention is now to provide a web of the type mentioned, which can be manufactured far more cost-effectively and still provides a high degree of security.

30 The object is achieved in a web of the type mentioned, in that it is manufactured from a plurality of parts which extend over the length of the web and are placed against one another. The web according to the invention is surprisingly even more sturdy than a solid web in the event of attempts to bend it. Presumably because of the fact that the parts which have been placed against one another can be displaced slightly relative to one another during bending. Any attempt to break the double cylinder lock by bending back and forth in the

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Joining web

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region of the web is even more difficult when a web according to the invention is used. A further advantage of the web according to the invention consists in the fact that it can be manufactured far more cost-effectively than a welded web since the individual parts are far less thick and can be manufactured very cost-effectively, for example as sheet-metal punched parts. A web which provides a high degree of security can be manufactured very cost-effectively, for example, from three essentially equal flat sheet-metal punched parts.

Exemplary embodiments of the invention are explained in greater detail below with reference to the drawings, in which:

Figure 1 shows a perspective illustration of a web according to the invention, the outer parts having been drawn apart;

Figure 2 shows a partial view of a mortise-type double cylinder lock, parts likewise having been drawn apart;

Figure 3 shows a view of a cylinder half;

Figure 4 shows a view of an extension disc; and

Figure 5 shows a section along the line V-V in Figure 2.

The web 7 shown in section in Figure 5 has a shell 8 made of two equal shell halves 8a. These shell halves 8a are preferably cast, for example from zinc, aluminium or a suitable plastic material. However, the semi-shells 8a can also be manufactured from another suitable material, for example from nickel chromium steel. On the inner side, the semi-shells 8a each have a depression 19 in which an inner part 12 is placed. The depressions 19 are designed in such a way that together they can receive the inner part 12, and the semi-shells 8a which are placed against one another in mirror image surround the said inner part on all sides with the exception of a top side 14a of a central part 14.

To receive transverse pins for connecting the web 7 to housing parts 1a and 1b of a cylinder housing 1, the semi-shells 8a and the inner part 12 each have four flush passage holes 17 and 16. Additionally, the central part

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14 has a threaded bore 15 to receive a sleeve screw which is not shown here, the said bore being flush with holes 11 in each case in a central part 10 of the semi-shells 8a. The central part 12 is punched out of a steel plate, 5 for example with a thickness of about 3 mm.

As shown in Figure 2, the web 7 engages with each limb in a recess 4 of a cylinder pocket 2 and, by means of the transverse pins 20 which engage at their ends in holes 3 of the housing parts 1a and 1b, is firmly connected therein to the said housing parts. The housing parts 1a and 1b can be extended by means of a disc 6, each of which likewise has a recess 5. The holes 16 and 17 are obviously positioned to correspond to the thickness of the discs 6. By means of the web 7, housing parts 15 1a and 1b can thus be connected selectively with or without discs 6. Additionally, the web 7 permits the customary installation in a security lock.

The two semi-shells 8a can also be plate-like flat sheet-metal punched parts (not shown here) which are 20 essentially of the same design as the central part 12, but which only require a smooth passage hole instead of the threaded bore 15. The central sheet-metal punched part can have additional passage holes in which cams of the other sheet-metal punched parts engage in order to 25 connect the parts to one another in the longitudinal direction. Such cams can likewise be manufactured simultaneously with the punching of the sheet-metal parts and thus in a very cost-effective manner.

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Patent Claims

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1. Joining web for a mortise-type double cylinder lock, which connects two cylinder housing parts (1a, 1b) to one another and has two limbs (9, 13) and a central part (10, 14), characterized in that it is manufactured from a plurality of parts (8a, 12) which extend over the length of the web and are placed against one another.
2. Web according to Claim 1, characterized in that it is manufactured from three parts (8a, 8a, 12), at least one part (12) being a punched sheet-metal part.
3. Web according to Claim 1 or 2, characterized in that two outer parts (8a, 8a) form a shell (8) in which an inner part (12) is placed.
4. Web according to Claim 3, characterized in that the inner part (12) is a punched part.
5. Web according to one of Claims 1 to 4, characterized in that at least one part (8) is a cast part.
6. Web according to one of Claims 3 to 5, characterized in that the shell (8) has two semi-shells (8a).
7. Web according to Claim 1 or 2, characterized in that it is manufactured from three punched parts.
8. Web according to one of Claims 1 to 6, characterized in that at least one part (8a) is manufactured from zinc, aluminium or plastic material.
9. Web according to Claim 3, characterized in that the shell (8) is manufactured from nickel chromium steel.
10. Web according to Claim 1, characterized in that only an inner part (12) has a threaded bore (15) for a sleeve screw.



Abstract

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The joining web has a plurality of parts which extend in the longitudinal direction of the web and are placed against one another. These parts can be sheet-metal punched parts or cast parts which can be manufactured in a very cost-effective manner. Two outer parts (8a) can form a shell (8) in which a punched inner part (12) made of steel is placed. These two parts (8a) can be manufactured cost-effectively as cast parts, for example from zinc, aluminium or plastic material, and the inner part (12) can be manufactured as a sheet-metal punched part. The invention permits a particularly cost-effective manufacture of the web and proves to be particularly sturdy in the event of attempts to bend it.

(Figure 1)

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Fig. 1

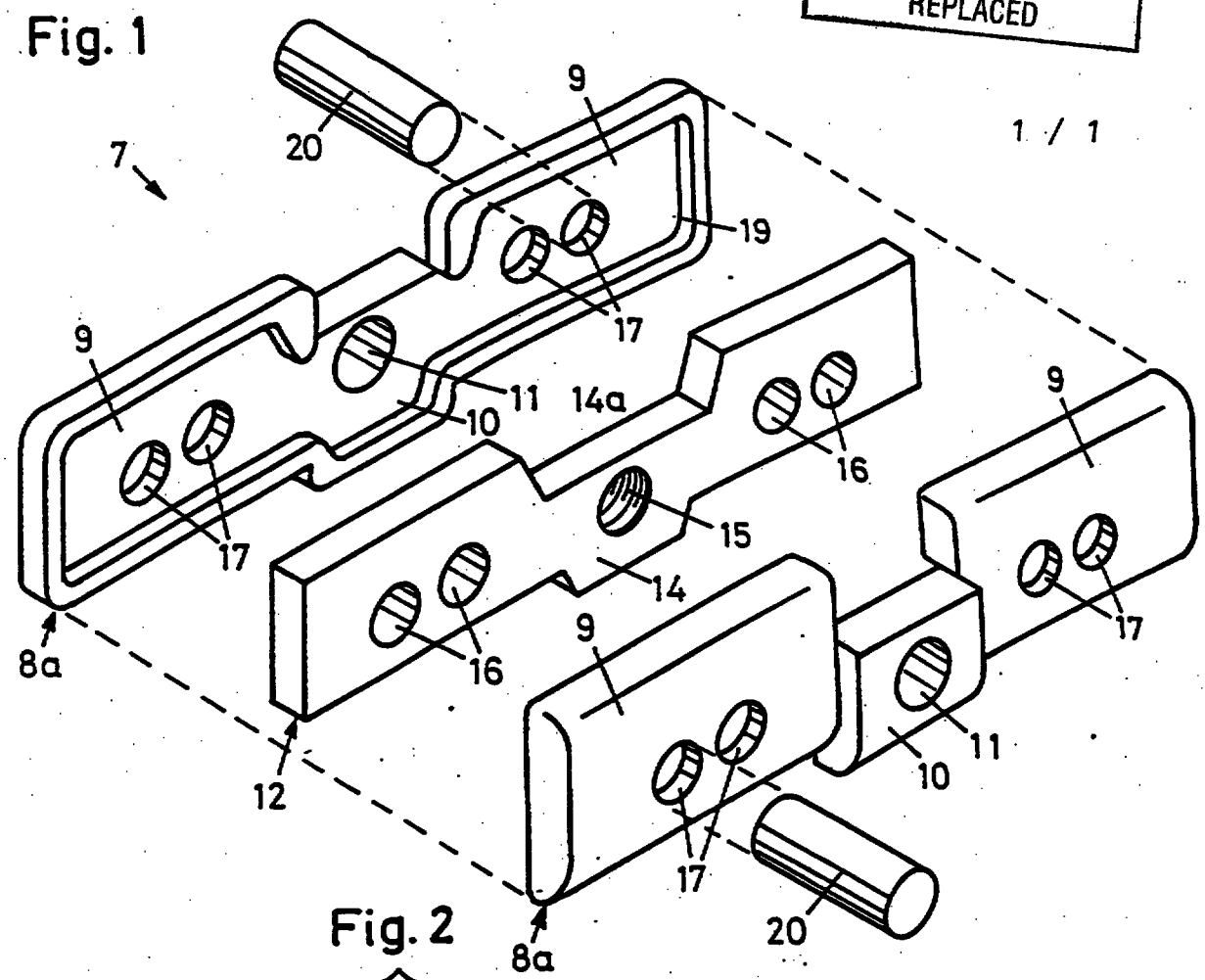


Fig. 2

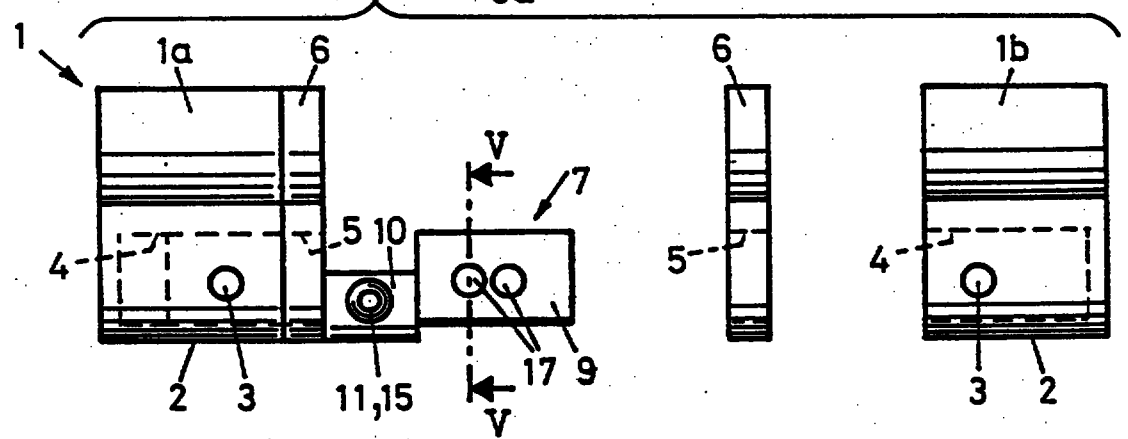


Fig. 3

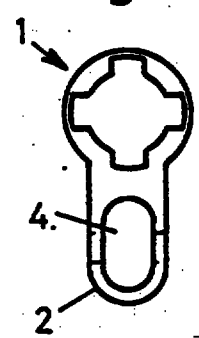


Fig. 4

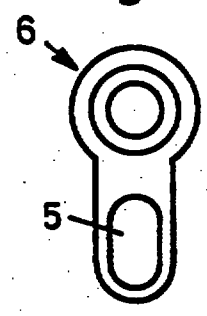
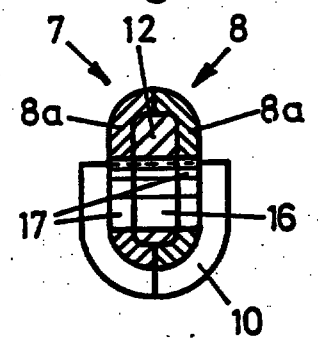
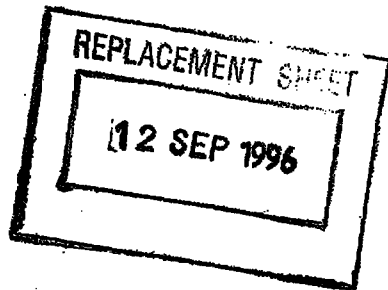


Fig. 5



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Joining web for a mortise-type double cylinder lock

The invention relates to a joining web for a mortise-type double cylinder lock, which connects two cylinder housing parts to one another and has two limbs and a central part.

A web of this type is known, for example, from CH-A-626 679. The latter connects the two cylinder housing parts by engaging in each case with one joining web in a recess of a cylinder pocket. The central part connects the two limbs and has a threaded bore to receive a sleeve screw. Double cylinder locks with a web permit cost-effective manufacture of the housing parts of sintered metal by pressing. However, the manufacture of the web requires a comparatively great manufacturing outlay. For example, the said web is welded from three pieces made of nickel chromium steel. The pieces have to be drawn, milled and bored. A plurality of comparatively complex operations are therefore required. In the event of attempted intrusions, attempts are often made to break the web by bending it back and forth in the centre.

The object of the present invention is now to provide a web of the type mentioned, which can be manufactured far more cost-effectively and still provides a high degree of security.

The object is achieved in a web of the type mentioned, in that it is manufactured from a plurality of parts which extend over the length of the web and are placed against one another. The web according to the invention is surprisingly even more sturdy than a solid web in the event of attempts to bend it. Presumably because of the fact that the parts which have been placed against one another can be displaced slightly relative to one another during bending. Any attempt to break the double cylinder lock by bending back and forth in the

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region of the web is even more difficult when a web according to the invention is used. A further advantage of the web according to the invention consists in the fact that it can be manufactured far more cost-effectively than a welded web since the individual parts are far less thick and can be manufactured very cost-effectively, for example as sheet-metal punched parts. A web which provides a high degree of security can be manufactured very cost-effectively, for example, from three essentially equal flat sheet-metal punched parts.

Exemplary embodiments of the invention are explained in greater detail below with reference to the drawings, in which:

Figure 1 shows a perspective illustration of a web according to the invention, the outer parts having been drawn apart;

Figure 2 shows a partial view of a mortise-type double cylinder lock, parts likewise having been drawn apart;

Figure 3 shows a view of a cylinder half;

Figure 4 shows a view of an extension disc; and

Figure 5 shows a section along the line V-V in Figure 2.

The web 7 shown in section in Figure 5 has a shell 8 made of two equal shell halves 8a. These shell halves 8a are preferably cast, for example from zinc, aluminium or a suitable plastic material. However, the semi-shells 8a can also be manufactured from another suitable material, for example from nickel chromium steel. On the inner side, the semi-shells 8a each have a depression 19 in which an inner part 12 is placed. The depressions 19 are designed in such a way that together they can receive the inner part 12, and the semi-shells 8a which are placed against one another in mirror image surround the said inner part on all sides with the exception of a top side 14a of a central part 14.

To receive transverse pins for connecting the web 7 to housing parts 1a and 1b of a cylinder housing 1, the semi-shells 8a and the inner part 12 each have four flush passage holes 17 and 16. Additionally, the central part

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14 has a threaded bore 15 to receive a sleeve screw which is not shown here, the said bore being flush with holes 11 in each case in a central part 10 of the semi-shells 8a. The central part 12 is punched out of a steel plate, for example with a thickness of about 3 mm.

As shown in Figure 2, the web 7 engages with each limb in a recess 4 of a cylinder pocket 2 and, by means of the transverse pins 20 which engage at their ends in holes 3 of the housing parts 1a and 1b, is firmly connected therein to the said housing parts. The housing parts 1a and 1b can be extended by means of a disc 6, each of which likewise has a recess 5. The holes 16 and 17 are obviously positioned to correspond to the thickness of the discs 6. By means of the web 7, housing parts 1a and 1b can thus be connected selectively with or without discs 6. Additionally, the web 7 permits the customary installation in a security lock.

The two semi-shells 8a can also be plate-like flat sheet-metal punched parts (not shown here) which are essentially of the same design as the central part 12, but which only require a smooth passage hole instead of the threaded bore 15. The central sheet-metal punched part can have additional passage holes in which cams of the other sheet-metal punched parts engage in order to connect the parts to one another in the longitudinal direction. Such cams can likewise be manufactured simultaneously with the punching of the sheet-metal parts and thus in a very cost-effective manner.

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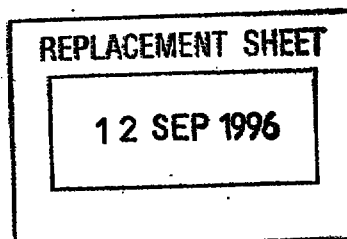




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Patent Claims

1. Joining web for a mortise-type double cylinder lock, which connects two cylinder housing parts (1a, 1b) to one another and has two limbs (9, 13) and a central part (10, 14), characterized in that it is manufactured from a plurality of parts (8a, 12) which extend over the length of the web and are placed against one another.
2. Web according to Claim 1, characterized in that it is manufactured from three parts (8a, 8a, 12), at least one part (12) being a punched sheet-metal part.
3. Web according to Claim 1 or 2, characterized in that two outer parts (8a, 8a) form a shell (8) in which an inner part (12) is placed.
4. Web according to Claim 3, characterized in that the inner part (12) is a punched part.
5. Web according to one of Claims 1 to 4, characterized in that at least one part (8) is a cast part.
6. Web according to one of Claims 3 to 5, characterized in that the shell (8) has two semi-shells (8a).
7. Web according to Claim 1 or 2, characterized in that it is manufactured from three punched parts.
8. Web according to one of Claims 1 to 6, characterized in that at least one part (8a) is manufactured from zinc, aluminium or plastic material.
9. Web according to Claim 3, characterized in that the shell (8) is manufactured from nickel chromium steel.
10. Web according to Claim 1, characterized in that only an inner part (12) has a threaded bore (15) for a sleeve screw.



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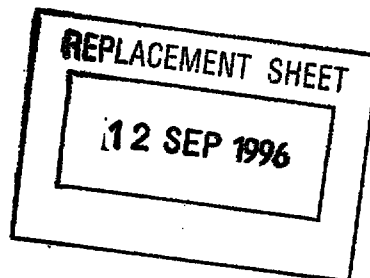
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JOINING WEB FOR A MORTISE-TYPE DOUBLE CYLINDER LOCK

Abstract

The joining web has a plurality of parts which extend in the longitudinal direction of the web and are placed against one another. These parts can be sheet-metal punched parts or cast parts which can be manufactured in a very cost-effective manner. Two outer parts (8a) can form a shell (8) in which a punched inner part (12) made of steel is placed. These two parts (8a) can be manufactured cost-effectively as cast parts, for example from zinc, aluminium or plastic material, and the inner part (12) can be manufactured as a sheet-metal punched part. The invention permits a particularly cost-effective manufacture of the web and proves to be particularly sturdy in the event of attempts to bend it.

(Figure 1)



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Fig. 1

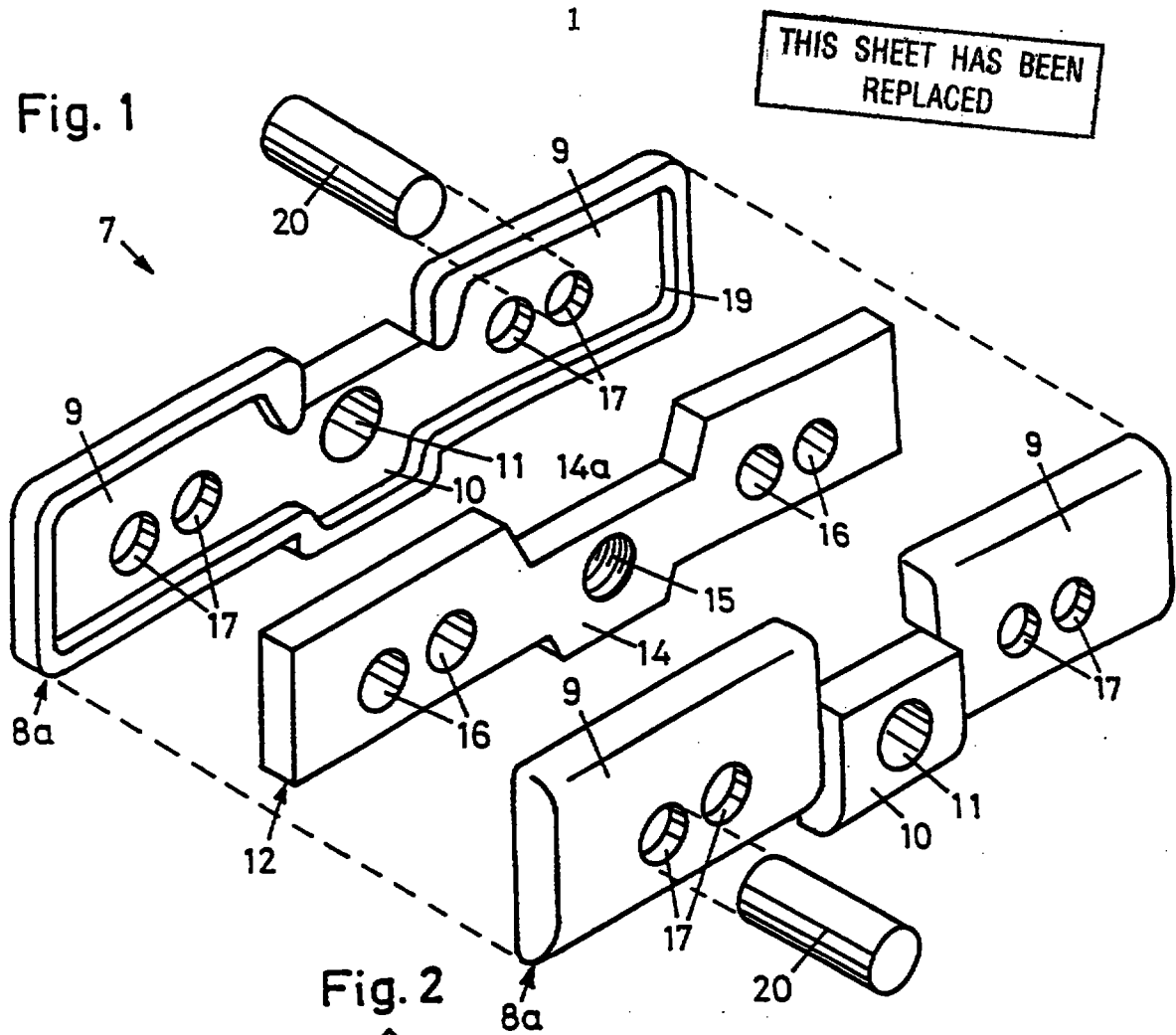


Fig. 2

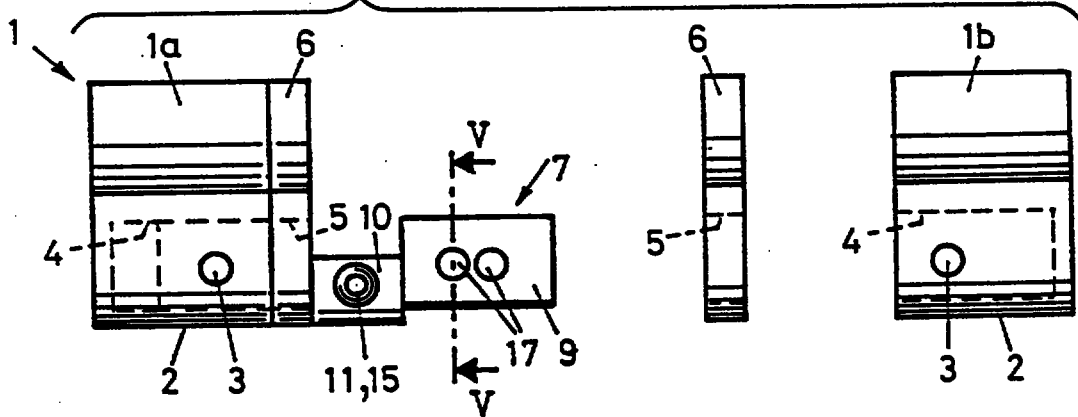


Fig. 3

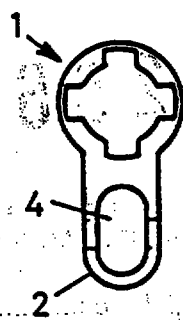


Fig. 4

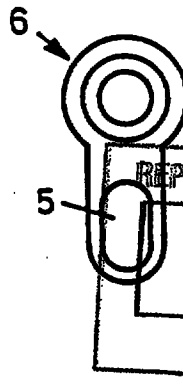
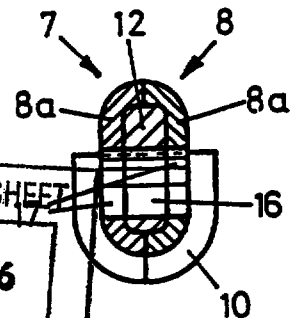


Fig. 5



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WEB FOR A BUILT-IN DOUBLE LOCK CYLINDER

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention relates to a web for a built-in double lock cylinder which connects two cylinder housing parts with each other and has two legs and a center part.

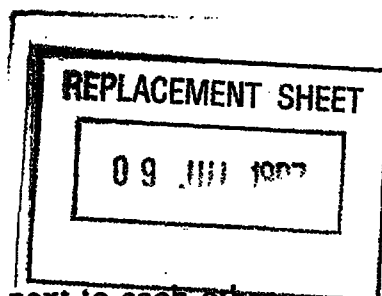
2. Prior Art

A web of this type is known, for example, from Swiss Patent Disclosure CH-A-626 679. It connects the two cylinder housing parts by engaging a cutout of a cylinder blind bore with respectively one leg. The center part connects the two legs and has a threaded bore for receiving a cuff screw. Double lock cylinders with a web allow cost-effective production of the housing parts from sinter metal in a pressing process. However, the production of the web requires a comparatively large manufacturing outlay. The said web is welded together from three pieces of chrome-nickel steel. The pieces have to be drawn, milled and drilled. Thus, several comparatively expensive work steps are required. It is often tried in the course of attempted burglaries to break the web in the center by bending back and forth.

OBJECT AND SUMMARY OF THE INVENTION

It now is the object of the present invention to provide a web of the type mentioned which can be produced considerably more cost-effectively, but still offers a high degree of security.

This object is attained in a web of the type mentioned, in that it is produced from a plurality of parts extending over the length of the web and placed against each other. In a surprising manner, during bending tests the web is even more stable than a solid web. This is presumably due to the



fact that during bending the parts placed next to each other can shift slightly in respect to each other. An attempt to break the double lock cylinder by bending it back and forth in the area of the web is even more difficult when a web in accordance with the invention is used. A further advantage of the web of the invention resides in that it can be produced considerably more cost-effectively than a welded web, because the individual parts are of considerably less thickness and can be produced very cost-effectively in the form of stamped sheet metal parts. It is for example possible to produce a web part very cost-effectively from three essentially similar flat stamped sheet metal pieces which offers a high degree of security.

BRIEF DESCRIPTION OF THE DRAWINGS

Exemplary embodiments of the invention will be explained in detail below by means of the drawings.

FIG. 1 is a perspective view of a web of the invention, wherein the outer parts have been drawn apart,

FIG. 2 is a partial view of a built-in double lock cylinder, wherein the parts are also drawn apart,

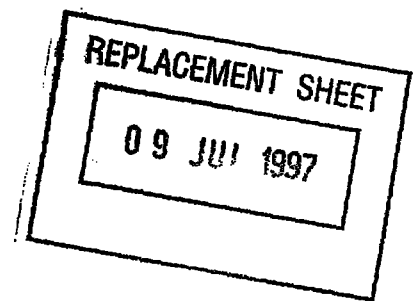
FIG. 3 is a front view of the cylinder half,

FIG. 4 is a front view of an extension disk, and

FIG. 5 is a section along the line V—V in FIG. 2.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT(S)

The web 7, shown in section in FIG. 5, has a shell 8 of two equal shell halves 8a. These shell halves 8a are preferably cast, for example of zinc, aluminum or a suitable plastic material. The half shells 8a, however, can also be manufactured from another suitable material, for example chrome nickel steel. The half shells 8a each have a recess 19 on their inside, into which an interior part 12 has been inserted. The recesses 19 are embodied in such a way that together they

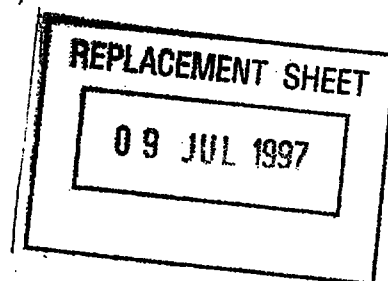


can receive the interior part 12, and the half shells 8a which are placed against each other when laterally reversed surround this interior part on all sides, with the exception of a top 14a.

To receive lateral pins for connecting the web 7 with the housing parts 1a and 1b of a cylinder housing 1, the half shells 8a and the interior part 12 have respectively four aligned through-holes 17 and 16 located respectively in side legs 9 of the half shells 8a and side legs 13 of interior part 12. In addition, the center part 14 of interior part 12 has a threaded bore 15 to receive a cuff screw, not shown here, this bore being aligned with holes 11 in respectively one center part 10 of the half shells 8a. The interior part 12 has been stamped from a piece of sheet steel of a thickness of approximately 3 mm.

As shown in FIG. 2, with each leg the web 7 engages a cutout 4 of a cylinder blind bore 2 and is fixedly connected therein with the housing parts 1a and 1b by means of the lateral pins 20, the ends of which engage holes 3 of the housing parts 1a and 1b. The housing parts 1a and 1b can be extended by means of disks 6 which also have respectively one cutout 5. The holes 16 and 17 are of course positioned in accordance with the thickness of the disks 6. Thus it is possible to connect selectively housing parts 1a and 1b with or without disks 6 with the web 7. The web 7 is conventionally installed into a safety lock with use of cuffscrews (not shown).

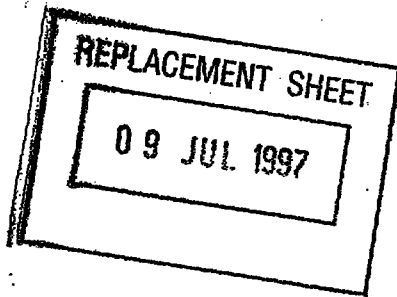
The two half shells 8a can also be plate-like flat sheet metal parts, not shown here, which are essentially embodied the same as the interior part 12, but which require only a smooth through-hole in place of the threaded bore 15. The center stamped sheet metal part 12 can have additional through-holes, which are engaged by cams or projections of the other stamped sheet metal parts in order to connect the parts in the longitudinal direction. The cams on the stamped sheet metal parts are produced simultaneously during stamping of the sheet metal parts and therefore are very cost-effective.



What is claimed:

1. A double lock cylinder having two cylinder housing parts, each part including a cylindrical case having at a bottom thereof, an extension which is provided with a cutout (4), the two cylinder housing parts being connected with a separately produced web, said web comprising two legs and a center part, each leg being inserted into the cutout, the web having a plurality of plate-like parts extending over the length of the web and in shiftable contact against each other, said web being made of three parts (8a, 8a, 12), two outer parts (8a, 8a) of the three parts abutting to form a shell (8), into which an interior part (12) has been inserted, wherein the shell (8) has two half shells (8a), each of the two half shells (8a) having a recess on an inner side receiving the interior part, and the interior part (12) of the plurality of plate-like parts has a threaded bore (15) for a cuff nut.
2. The double lock cylinder in accordance with claim 1, wherein the interior part (12) is a stamped part.
3. The double lock cylinder in accordance with claim 1, wherein at least one part of said plurality of plate like parts is a cast part.
4. The double lock cylinder in accordance with claim 1, wherein said web is produced from three stamped parts.
5. The double lock cylinder in accordance with claim 1, wherein at least one part (8a) of three parts is made of zinc, aluminum or a plastic material.
6. The double lock cylinder in accordance with claim 1, wherein the shell (8) is made of chrome nickel steel.

* * * * *



**WEB FOR A BUILT-IN DOUBLE LOCK
CYLINDER
ABSTRACT**

The invention is directed to a web which has a plurality of parts extending in the longitudinal direction of the web and placed against each other. These parts may be stamped sheet metal parts or cast parts, which can be produced in a very cost-effective manner. Two outer parts can form a shell, into which a stamped interior part of steel has been inserted. These two parts can be produced cost-effectively as cast parts, for example of zinc, aluminum or a plastic material, and the interior part (12) can be produced as a stamped sheet metal part. The invention permits a particularly cost-effective production of the web and in bending tests was shown to be particularly stable.

Figure 1.

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FIG. 1

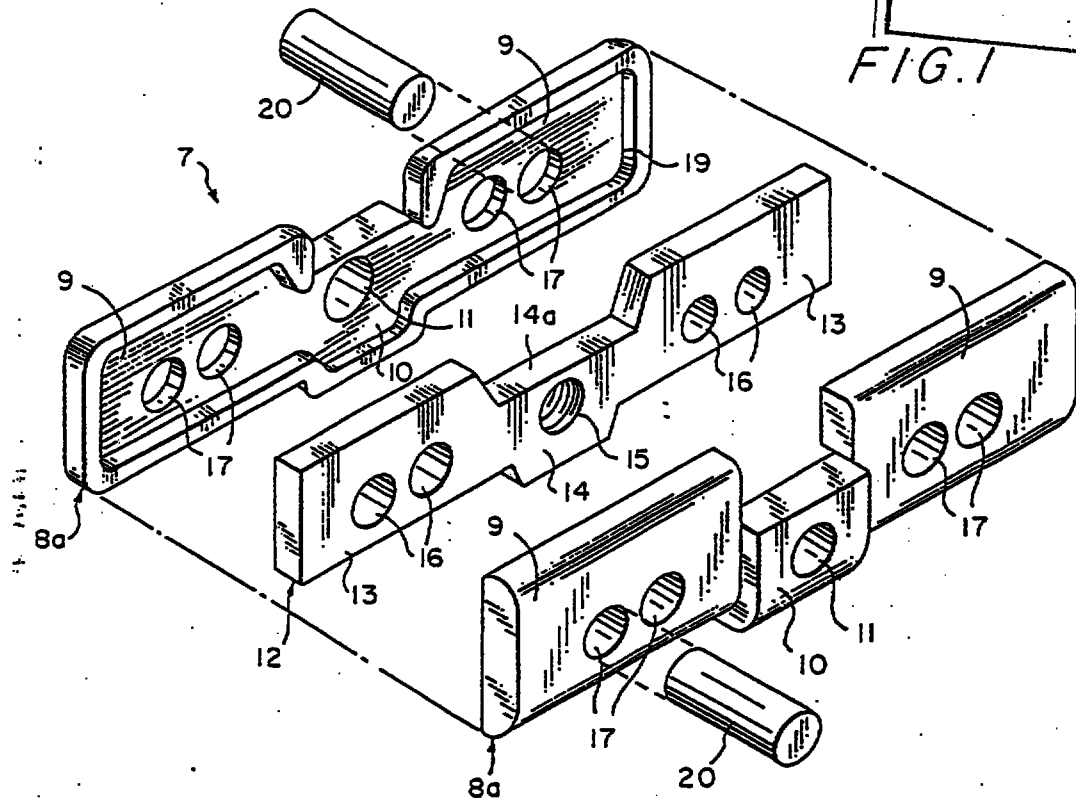


FIG. 2

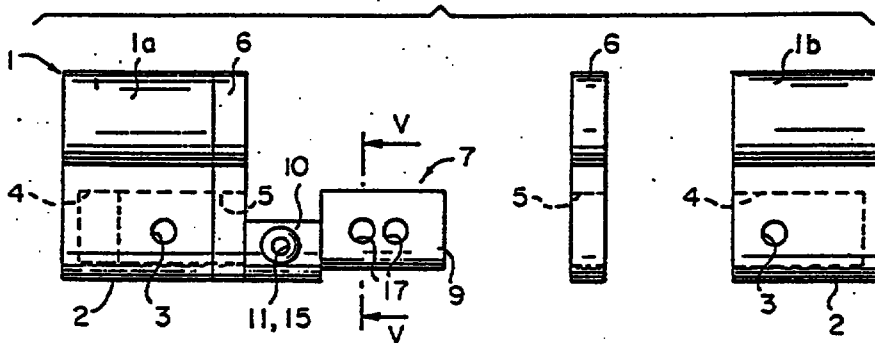


FIG. 3

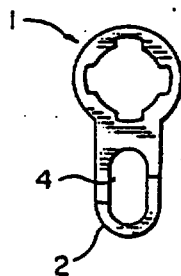


FIG. 4

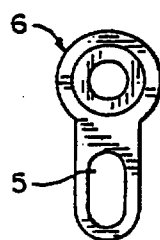


FIG. 5

