



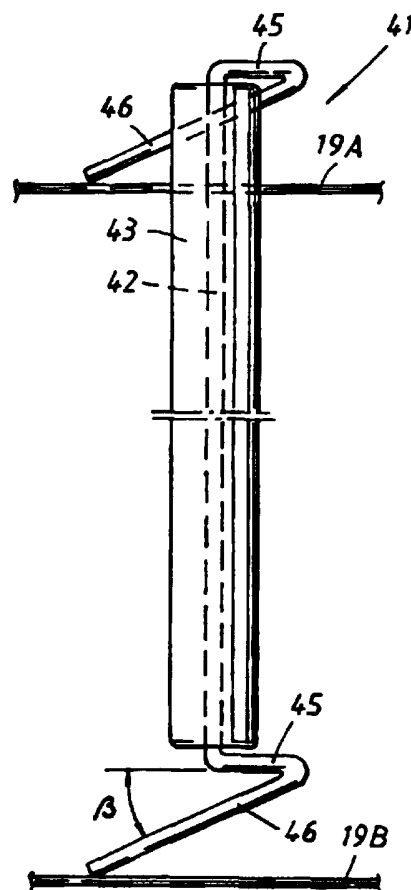
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : B65B 27/08 // B65D 25/28	A1	(11) International Publication Number: WO 96/28351 (43) International Publication Date: 19 September 1996 (19.09.96)
(21) International Application Number: PCT/SE96/00220 (22) International Filing Date: 20 February 1996 (20.02.96) (30) Priority Data: 95850056.3 14 March 1995 (14.03.95) EP (34) Countries for which the regional or international application was filed: AT et al. (71)(72) Applicant and Inventor: JÄRUND, Olle [SE/SE]; Badbergsgatan 3, S-450 71 Fjällbacka (SE). (74) Agent: H.W. BARNIESKE PATENTBYRÅ AB; P.O. Box 25, S-151 21 Södertälje (SE).	(81) Designated States: CA, JP, NO, PL, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> <i>With amended claims and statement.</i>	

(54) Title: A WASTE PAPER COLLECTING DEVICE EQUIPPED WITH A HANDLE

(57) Abstract

A device to be used by collecting and packing paper material comprises a receptacle having a mainly square-shaped bottom, back and front walls, and two side walls. Before storing waste paper material in the receptacle it is prepared to include a pair of string lengths (19A, 19B) running in parallel from the back wall across the front wall of the receptacle. When a suitable pile of paper material is collected inside the receptacle, the pile is tied together by using the string lengths. When tied the pile of paper material is lifted from the receptacle by means of a handle (41) having hooks (45, 46) introduced under the string lengths (19A, 19B). The handle (41) is made from a metal wire (42) surrounded by a hand friendly carrier means (43), from the ends of which the metal wire (42) protrudes in form of the angled hooks (44) at each side of the carrier means.



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A waste paper collecting device equipped with a handle

Technical Field

The present invention refers to a device to be used by collecting and packing together paper material like papers, journals, print-outs or the like for re-utilization.

5

Prior Art

Such a device is known from DE-A-27 38 468. The device described comprises a receptacle having a mainly square-shaped bottom and a back wall ended by two, opposite each other situated side walls. Holder means are arranged for keeping of a pair of string lengths in a position running mainly vertically along the inside of the back wall to the bottom of the receptacle and then mainly horizontally along the bottom to the front edge of the receptacle. The string lengths have end portions easily attainable at the top of the back wall and of the front edge respectively to be used when the receptacle is holding a pile of said paper material to be packed by tying the pile together with the respective one of the string lengths. Then the package of paper material so obtained can be lifted from the receptacle.

Similar devices are described in DE-U-90 06 050 and in DE-U-91 02 021.

Thus, devices of the type mentioned above have been known for a relatively long time. However, they have not come to be commonly used obviously due to the fact that the stacked paper material is not admitted to be easily handled for having a stable package which can be lifted from the receptacle. Thus, i.a. it has been established that it is rather troublesome to obtain a correct length of the string lengths when preparing the receptacle for collecting the paper material. It is also necessary to make use of separate tools like a pair of scissors to cut a string in suitable string lengths. The string stored on a spool or bobbin has a tendency of jamming when stored as proposed in the documents mentioned above.

Furthermore, after having built up a stack of paper material the use of the string lengths is obstructed as they

are kept hold of the holder means resulting in a loosely kept package, which if carried in the string lengths tied is prone to fall in pieces.

Another bundling device is known from US-A-4 681 032
5 describing the use of special designed ties for packing waste paper and the like together. To obtain strongly connected packages the ties are arranged in a crossway fashion and are clamped together with special fasteners. As the ties as well as the fasteners are consumable articles, the proposed device
10 is rather expensive in use.

Summary of the Invention

The object of the present invention is to obtain an economically sound method of collecting waste paper like
15 papers, journals, print-outs and the like, by providing of an improved device of the type described above using ordinary string types.

According to one aspect on the invention this is obtained by a device to be used by collecting and packing
20 together paper material like papers, journals, print-outs or the like for re-utilization, comprising a receptacle having a mainly square-shaped bottom and a back wall ended by two, opposite each other situated side walls, holder means are arranged for keeping of a pair of string lengths in a position
25 running mainly vertically along the inside of the back wall to the bottom of the receptacle and then mainly horizontally along the bottom to the front edge of the receptacle, said string lengths have end portions easily attainable at the top of the back wall and of the front edge respectively to be used
30 when the receptacle is holding a pile of said paper material to be packed by tieing the pile together with the string lengths for having a package of paper material which can be lifted from the receptacle, said device being characterized by handle for lifting the pile of paper material when tied
35 together with said string lengths, said handle being made from a metal wire surrounded by a hand friendly carrier means from the ends of which said metal wire protrudes in form of angled

hooks at each side of the carrier means, said hooks being used by their introduction under the string lengths after having tied the pile together for lifting the package of paper material from the receptacle.

5 By the device according to the invention having a handle to be used for fetching the pile of paper material out from the receptacle when the pile is tied together, the lifting operation is easily managed by one hand only. Thus, the other hand is free and can be used to exert a counteracting
10 force onto the receptacle during the lifting movement as the pile often lies tight against the walls of the receptacle. Then the carrying of the pile of paper material is possible by one hand grasping the hand friendly handle and the operator has a hand free for maneuvering doors and the like in his way to the
15 final storage room for collection of paper.

A suitable arrangement of the metal wire hooks involve a predetermined distance between the hooks protruding from the ends of the carrier means, which distance is made to correspond to the distance between the string lengths with
20 which the pile of paper material is tied together. By arranging each one of the hooks with a free end portion inclined with about 45 degrees to a plane being mainly parallel to the direction of the string lengths to be lifted, the introduction of the handle under the string lengths is
25 facilitated. The handling of the pile is made possible without exerting the operator's muscles.

A particularly preferred embodiment of the handle involves a carrier means having a cam shaped cross section with an arched flat bottom wall, from which flange like ribs
30 protrude in an upward direction. The metal wire forming the hooks follows between a pair of the ribs and is fixed between these ribs. Besides slimming the production of the handle the carrier means designed with an arched bottom wall and cam ribs is found most suitable to fit the palm of the operator's hand.

35 By having the receptacle of the device designed to include at least one knife means retained in a slit made in

anyone of the receptacle walls, it is possible to facilitate also the way of piling the collected paper material to be tied together with the string lengths then used in co-operation with the handle as discussed above.

5 The string used is stored on a spool or bobbin kept inside a separate box, e.g. connected to the back of the back wall of the receptacle. The string is easily cut up in suitable lengths by the knife means belonging to the receptacle.

10 By designing the knife means as an exchangeable element fitting a slit preferably made in the side walls of the receptacle, one obtains a children safe cut device by making the slit in form of a centrally located bottom groove, the knife means being reached through slit portions made in
15 the interior and exterior surfaces of the side walls. The width of the slit portions is somewhat smaller than the opening of the knife means introduced in the bottom groove.

 To make sure a safe and unjammed feeding of the string from the spool or bobbin stored in the box at the back
20 of the back wall, the present invention involves a special feeding device designed as an oblong aperture in the back wall through which the string can be pulled from the spool or bobbin to the suitable length before being cut by the knife means. The length of the aperture is matching the length of
25 the spool or bobbin, favourably such as being three fourths of the spool or bobbin length.

 Another favourable improvement according to the present invention for obtaining an easy and safe handling of the string lengths after being cut, is to be found in the
30 design of the holder means, which are in form of keyholes. By having a recess which is open at the top edge portion of the front and back walls of the receptacle for introduction of the string length and by widening of the recess to a wider circular hole at the bottom end makes it possible for a freely
35 movement of the string length at the front wall. Such a free movement is important for arranging the string lengths inside the receptacle after having cut the string in suitable lengths

to allow them to a freely adjustment when loading paper material in the receptacle.

Favourably the device according to the invention is delivered in form of a construction kit of some few components easy to join without any tools or adhesives. Thus, each component includes cooperating pegs and recesses connectable with corresponding means of another component.

Brief Description of the Drawings

The present invention will become apparent after considering the more detailed description given below with respect to some preferred embodiments given as examples only of the present invention shown in the drawings, where

Fig. 1 is a perspective view of a first embodiment of a combined bundling device and a waste paper receiving receptacle made of wood according to the present invention,

Fig. 2 is a perspective view of a second embodiment of a combined bundling device and a waste paper receiving receptacle made of plastic material according to the present invention,

Figs. 3 and 4 are detailed perspective views in an enlarged scale to show the design of the holder means arranged respectively in the front and back walls of the receptacle shown in Figs. 1 and 2,

Fig. 5 is a detailed side view in an enlarged scale of the knife means used at the bundling device of Figs. 1 and 2,

Fig. 6 is a perspective view of a knife means under production,

Fig. 7 is a top view of the handle for lifting the completed package of paper material from the receptacle,

Fig. 8 is a side view of the handle shown in Fig. 7,

Fig. 9 is a perspective view of a preferred embodiment of the handle,

Fig. 10 is a cross sectional view of the string bobbin box at

the back of the back wall of the receptacle shown in Figs. 1 and 2,

Fig. 11 is an exploded view of a construction kit for a complete combined bundling device and receptacle as shown in Fig. 1,

Figs. 12 and 13 are detailed cross section side views of favourable fastening means for joining separate components of the receptacle included in the construction kit according to Fig. 11, where Fig. 12 shows the details before joining and Fig. 13 shows the same details after being joined, and

Fig. 14 is an example of how to prepare a safe knot for tying the collected paper material.

15 Description of the Preferred Embodiments

The receptacle 10 of the device for collection of paper material according to the present invention can be made from different suitable materials like wood, as shown in Fig. 1, or plastic material as shown in Fig. 2. The receptacle 10 comprises a mainly square-shaped bottom 11, a back wall 12 arranged at one long side of the bottom 11, two side walls 13, and a front wall 14 at the long side opposite to the back wall 12. The front wall 14 is given a much less height compared to the height of the rest of the walls 12 and 13.

Due to the very small height of the front wall 14, the receptacle 10 is open not only upwards but also along most of the front portion. In such a way the user of the device obtains an easy and comfortable access to the inside of the receptacle 10.

To make it possible for the user to move the device, if wished, the side walls 13 are provided with a handle opening 15 close to the top of each one of the side walls 13.

With the aim of making the transport of the device to the user more simple and cost favourable, it is suitable to deliver the device in form of a construction kit comprising some few elements easy to join without tools and adhesives. Fig. 11 illustrates such a construction kit for a complete

combined bundling device and receptacle 10 as shown in Fig. 1. The kit includes four main parts, namely the bottom 11 with attached front wall 14, the back wall 12 and the two side walls 13. A favourable method of assembling the parts is to make use of force fitting elements like pegs 17 inserted into recesses 16. With such elements the receptacle 10 can be assembled by just squeezing the parts together without any tools.

With respect to a receptacle 10 made from plastic material, such as the one shown in Fig. 2, the pegs 17 and recesses 16 may be designed as shown in Figs. 12 and 13. Fig. 12 shows the end of the front wall 14 to be fastened to the side wall 13 and Fig. 13 shows the completed joint. In such a case the peg 17 has taken the shape of a hooked lock 18, while the cooperating recess 16 has a ridged part 24.

Furthermore, the construction kit involves a box 23 e.g. to be mounted at the back wall 12. In the case of a receptacle 10 made of wood or similar material, the box 23 may be attached to the back wall 12 by hanging hooks (not shown) cooperating with holes 25 made in the box front wall 27. Another method of attaching the box 23, suitable for a receptacle 10 made from plastic material and the like as shown in Fig. 2, is the use of lips 39 (Fig. 10) arranged on the wall 12 gripping the edges of the box 23. To make it possible to connect the box 23 also to the exterior of the side walls 13, similar lips 39 are arranged at each side of the opening 15.

The box 23 is used for loosely storing of a bobbin or spool 26 of a string 19. A favourable design of the box 23 is made clear by a cross sectional view shown in Fig. 10. Thus, the box front wall 27 is connected to the receptacle back wall 12. The bottom 28 of the box 23 is divided in two length sections inclined towards each other for keeping the bobbin or spool 26 centred within the box 23 independent on the length of the string 19 left on the bobbin or spool 26. Thus, the box is loaded with a bobbin or spool 26 having an elongated shape

just by dropping the bobbin or spool 26 inside the box 23 having a length corresponding to the one of the bobbin or spool 26. There are no fastening means in the box 23 but the bobbin or spool 26 just rests on the sections of the bottom 28.

The free end of the string 19 from the bobbin or spool 26 resting in the box 23 is passing through an oblong aperture 29 made in the back wall 12 of the receptacle 10. Thus, the string 19 can be pulled out from the bobbin or spool 26 through the aperture 29. If fixed to anyone of the side walls 13 the string 19 is passing through the opening 15, thus corresponding to the aperture 29 in the back wall 12.

To overcome the risk of having a string jam within the box 23 it has been found suitable to give the aperture 29 (or the opening 15) a length being approximately three fourths of the length of the bobbin or spool 26, which in turn is of about the same length as the box 23. The aperture 29 (or the opening 15 where appropriate) is centred with respect to the length of the box 23 as shown in Figs. 1 and 2.

To solve the problem of obtaining suitable string lengths 19A, 19B cut from the string 19 when pulled out from the aperture 29 (or opening 15), the receptacle 10 is equipped with at least one knife means 22. Such a knife means 22 is suitably arranged in the side walls 13 as shown in Figs. 1 and 2. Favourably the knife means 22 is arranged in a slit 30 made in the side wall(s) 13.

A preferable embodiment of the knife means 22 is shown under insertion in the side wall 13 in Fig. 5. In the side wall 13 to include the knife means 22 the slit 30 is made in form of a bottom groove 31 going from the front edge surface 13A of the side wall 13. The bottom groove 31 is given mainly the same dimensions as the exterior measures of the knife means 22. The knife means 22 is exchangeable introduced from the front edge surface 13A. The bottom groove 31 has side slit portions made in the respective interior and exterior surfaces 13B of the side wall 13. To make it more easy to force the knife means 22 out from the slit 30 there is a small

shoulder 38 on the exterior surfaces of the cover 32 which can be acted on manually.

As shown in Fig. 5 the knife means 22 includes a cover 32 of mainly U-shaped design. A knife blade 33 is carried between the stems 34 of the U-shaped cover 32. The width of the side slit portions made in the interior and exterior surfaces 13B of the side wall 13 are somewhat wider than the opening formed between the stems 34 of the U-shaped cover 32. By such a design a children safe knife means 22 is obtained.

Fig. 6 is a perspective view of the knife means 22 under production. The cover 32 is made from a plastic material suitably moulded in two halves 32A, 32B connected with each other by a thin hinge portion 50. The two halves 32A, 32B have a mirror-inverted design with respect to each other and are to be folded together around a metal knife blade 33 forming a sharp angle to the length axis of the opening formed between the stems 34 (Fig. 5) of the cover 32. The metal knife blade 33 is kept in place by support pins 51 projecting from the interior surface of one (32A) of the two halves and passing through corresponding openings 52 made in the knife blade 33.

By folding the two cover halves 32A, 32B together they are maintained in a fixed closed position by snap action generated by pegs 53 co-operating with holes 54. Though the pegs 53 and holes 54 are shown in separate halves 32A, 32B, both the halves may have co-operating pegs and holes.

If slits 30 are made in both the side walls 13 and only one of the slits 30 are to carry a knife means 22, the other slit may be covered by a dummy 36 as shown in Fig. 2. The dummy 36 takes the same exterior shape as the knife means 22 but is favourably made of solid material.

By use of the device according to the present invention the paper material, like old papers and journals and/or data print-outs, is stacked on the bottom 11 of the receptacle 10 as indicated by the pile 18 shown by dot dashed lines in Fig. 1.

Before starting to stack the paper material the

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receptacle 10 is prepared in the following way.

The string 19 introduced through the aperture 29 is provided with a special running knot 35 to be explained more in detail in connection with Fig. 14. Then the string 19 is pulled out from the bobbin or spool 26 to a suitable length. Such a suitable length is favourably given by three times the distance L between a cutting slit 30 and the furthest away situated holder means 20 as indicated in Fig. 2.

Thus, after having cut a suitable string length 19A or 19B from the string 19 by making use of the knife means 22, the string length 19A or 19B has a knot 35 at one end thereof and the opposite end 19" is free. Two string lengths 19A and 19B are cut and are arranged in parallel inside the receptacle 10. The one end of the string lengths having the knot 35 is fastened within a holder means 20 at the edge of the back wall 12 as shown in Fig. 3. The holder means 20 has got the shape of a key hole recess. To make the insertion of the string length 19A (or 19B) more easy the key hole end opening 20' is funnel-shaped. At the bottom end portion 20" the key hole 20 is made rather narrow for fixing the string length 19A (or 19B) in a reliable fashion. The portion 40 of the recess is made circular to be used as a retainer hole for holding of handle 41 as discussed below in connection with Figs. 7, 8 and 9.

The opposite ends of the string lengths 19A, 19B are arranged for freely movement in the holder means 21 as shown in Fig. 4. Also the holder means 21 have got the shape of a key hole with a funnel-shaped end opening 21" and a bottom end portion 21' having a circular shape, the diameter of which being larger than the one of the string 19.

Thus, before stacking of paper material the string lengths 19A and 19B are cut and positioned inside the receptacle 10 as shown in Figs. 1 and 2. Then the stacked collection of paper material 18 (Fig. 1) has obtained a level just under the handle openings 15 it is time for bundling the stack 18 by using the string lengths 19A, 19B. The ends 19" and 35 of the string lengths 19A, 19B are disengaged from the

holder means 20 and 21, the free end 19" being inserted in the knot 35 as described more in detail below in the discussion of Fig. 14.

To facilitate lifting out the pile of tiled paper material 18 from the receptacle 10 a handle 41 belongs to the device according to the invention. As shown in Figs. 7 and 8 the handle 41 is made from a metal wire 42 surrounded by a hand friendly carrier means 43. From the ends of the carrier means 43 the metal wire 42 protrudes in form of angled hooks 44 at each side of the carrier means 43. The hooks 44 are formed at a level below the carrier means 43 and each one of the hooks 44 comprises two parts 45, 46 of the metal wire 42. The first part 45 is connected at a right angle to the carrier means 43 and at the opposite end of the first part 45 it is connected to the second part 46 under an angle α of mainly 45 degrees with respect to the direction of the first part 45. The second part 46 also forms an angle β of mainly 45 degrees to a plane P being parallel to the direction of the string lengths 19A, 19B to be lifted.

A preferred design of the handle 41 is shown in Fig. 9. The carrier means 43 has a cam shaped cross section with an arched flat bottom wall 55 from which flange like ribs 56 are going in an upward direction. The metal wire 42 is fixed between a pair of said ribs 56 and protrude in form of angled hooks 44 at each side of the carrier means 43 similar to the construction as shown in Figs. 7 and 8. Besides being easy to manufacture the carrier means shown in Fig. 9 is extremely hand friendly.

When making use of the handle 41 the second part 46 of the hooks 44 is placed in the same plane P as, and is introduced below the string lengths 19A, 19B as indicated in Fig. 8 by the dashed lines. When hooking the string lengths 19A, 19B the pile of paper material 18 with ease can be lifted by the handle 41.

The handle 41 according to the invention has the advantage that the pile of paper material 18 can be lifted by one hand only, the other hand being used for keeping the

receptacle 10 in place. Furthermore it will not disarrange the string lengths 19A, 19B.

When not used, the handle 41 is kept by the retainer holes 40 of the holder means 20 of the back wall 12 as described above. Thus, the metal legs 45, 46 of the handle 41 are inserted in the retainer holes 40.

To obtain a safe and easy handling of the tiled pile of paper material 18 it is important to use suitable types of knots. In Figs. 14A - C a preferred method of making such suitable knots is shown. The knot 35 being prepared at the free end of the string 19 at the aperture 29 (Figs. 1 and 2) is favourably made in the following way. The string 19 is folded double as shown in Fig. 14A and then the loop *b* is once more folded in the direction of the arrow A to form a further loop *a*, into which the first loop *b* is introduced. By pulling the loop *b* when keeping the string ends *c* with a firm hand a safe knot 35 is obtained as shown in Fig. 14B.

When tiling the package of paper material the free end 19" (Figs. 1 or 2) of the string length 19A or 19B is introduced through the loop *b* of the knot 35 and a simple knot 37 is made as shown in Fig. 14C. By doing so, a slip safe joint is obtained.

Though having described and shown the invention in connection with a preferred embodiment thereof, it may well be modified in different ways without departing from the inventive idea. Therefore the invention must not be restricted to the embodiment shown on the drawings or described above but is only defined by the following claims.

C L A I M S

1. A device to be used by collecting and packing together paper material like papers, journals, print-outs or the like for re-utilization, comprising a receptacle (10) having a
5 mainly square-shaped bottom (11) and a back wall (12) ended by two, opposite each other situated side walls (13), holder means (20, 21) are arranged for keeping of a pair of string lengths (19A, 19B) in a position running mainly vertically along the inside of the back wall (12) to the bottom (11) of
10 the receptacle (10) and then mainly horizontally along the bottom (11) to the front edge of the receptacle (10), said string lengths (19A, 19B) have end portions (19', 35) easily attainable at the top of the back wall (12) and of the front edge respectively to be used when the receptacle (10) is
15 holding a pile (18) of said paper material to be packed by tying the pile together with the string lengths (19A, 19B) for having a package of paper material which can be lifted from the receptacle (10), said device being **characterized** by a handle (41) for lifting the pile (18) of paper material when
20 tied together with said string lengths (19A, 19B), said handle (41) being made from a metal wire (42) surrounded by a hand friendly carrier means (43) from the ends of which said metal wire (42) protrudes in form of angled hooks (44) at each side of the carrier means, said hooks (44) being used by their
25 introduction under the string lengths (19A, 19B) after having tied the pile together for lifting the package of paper material from the receptacle (10).
2. A device according to Claim 1, **characterized** in that said carrier means (43) has a cam shaped cross section with an
30 arched flat bottom wall (55), from which at least two flange like ribs (56) are going in an upward direction, and the metal wire (42) is fixed between a pair of said ribs (56).
3. A device according to Claim 1 or 2, **characterized** in that each one of the hooks (44) of said handle (41) comprises two
35 parts of the metal wire (42), a first part (45) connected with and forming a right angle (α) to the carrier means (43) and at the other end being connected to the second part (46) under an

angle (β) of mainly 45 degrees with respect to the direction of said first part (45) as well as to a plane (P) being parallel to the direction of the string lengths (19A, 19B) to be lifted.

5 4. A device according to any of the preceding Claims, **characterized** in that said holder means (20, 21) are in form of a keyhole shape having a recess (20', 20'', 21', 21'') being open at the top edge portion of the back and front walls (12, 14) for introduction of respective string lengths (19A, 19B) and each one of said recesses (20', 20'') made in the back wall
10 (12) has a wider retainer hole (40) just below the top end opening (20') of the recess for holding of the handle (41) when not used.

15 5. A device according to Claim 1, **characterized** by a box (23) at the exterior surface of one of the walls (12, 13, 14) loosely retaining a string bobbin (26) of oblong design, the length of which being mainly the same as the length of the box, the free end of the string (19) emanating from the bobbin is passed through an oblong aperture (15 or 29) in said wall
20 (12, 13, 14) into the receptacle (10), from where the string (19) can be pulled out from the bobbin (26) to a suitable string length (19A, 19B) being cut by means of knife means (22) and arranged between the holder means (20, 21).

25 6. A device according to Claim 5, **characterized** in that the oblong aperture (15; 29) is centred with respect to the box (23) in the wall (12, 13, 14) above the upper edge of the box, said aperture (15; 29) having a length of mainly three fourths of the inside length of the box (23).

30 7. A device according to Claim 5, **characterized** in that said oblong aperture (29) is made in the back wall (12) of the receptacle (10) centred to the attachment means for the box (23) at the exterior surface of the back wall.

35 8. A device according to anyone of the Claims 5 - 7, **characterized** in that the bottom (28) of the box (23) is divided in two length sections inclined towards each other for keeping the bobbin centred within the box (23) independent of the length of the string (19) left on the bobbin (26).

9. A device according to any of the preceding Claims, **characterized** in that said receptacle (10) is delivered in form of a construction kit of some few components (12 - 14, 23) easy to join without any tools or adhesives.

5 10. A device according to Claim 9, **characterized** in that said receptacle (10) components (12 - 14, 23) are made from plastic material or wood.

10 11. A device according to Claim 9, **characterized** in that each said component (12 - 14, 23) includes cooperating pegs (17) and recesses (16) for corresponding means of the component to be joined.

12. A device according to Claim 11, **characterized** in that each said peg (17) has the shape of a hooked lock (18) to cooperate with a ridge (24) in the recesses (16).

AMENDED CLAIMS

[received by the International Bureau on 19 August 1996 (19.08.96);
original claims 1-12 replaced
by new claims 1-11 (3 pages)].

1. A device to be used by collecting and packing together paper material like papers, journals, print-outs or the like for re-utilization, comprising a receptacle (10) having a
5 mainly square-shaped bottom (11) and a back wall (12) ended by two, opposite each other situated side walls (13), holder means (20, 21) are arranged for keeping of a pair of string lengths (19A, 19B) in a position running mainly vertically along the inside of the back wall (12) to the bottom (11) of
10 the receptacle (10) and then mainly horizontally along the bottom (11) to the front edge of the receptacle (10), said string lengths (19A, 19B) have end portions (19', 35) easily attainable at the top of the back wall (12) and of the front edge respectively to be used when the receptacle (10) is
15 holding a pile (18) of said paper material to be packed by tying the pile together with the string lengths (19A, 19B) for having a package of paper material which can be lifted from the receptacle (10), by a handle (41) when tied together with said string lengths (19A, 19B), said handle (41)
20 comprising a metal wire (42) surrounded by a hand friendly carrier means (43) from the ends of which said metal wire (42) protrudes in form of angled hooks (44) at each side of the carrier means, characterized in that each one of the hooks (44) of said handle (41) comprises two parts of the
25 metal wire (42), a first part (45) having one end connected with and forming a right angle (α) to the carrier means (43) and another end being connected to the second part (46) under an angle (β) of mainly 45 degrees with respect to the direction of said first part (45) as well as to a plane (P)
30 being parallel to the direction of the string lengths (19A, 19B) to be gripped by introduction under the string lengths.
2. A device according to Claim 1, characterized in that said carrier means (43) has a cam shaped cross section with an
35 arched flat bottom wall (55), from which at least two flange like ribs (56) are going in an upward direction, and the metal wire (42) is fixed between a pair of said ribs (56).

3. A device according to any of the preceding Claims, characterized in that said holder means (20, 21) are in form of a keyhole shape having a recess (20', 20'', 21', 21'') being open at the top edge portion of the back and front walls (12, 14) for introduction of respective string lengths (19A, 19B) and each one of said recesses (20', 20'') made in the back wall (12) has a wider retainer hole (40) just below the top end opening (20') of the recess for holding of the handle (41) when not used.

10

4. A device according to Claim 1, characterized by a box (23) at the exterior surface of one of the walls (12, 13, 14) loosely retaining a string bobbin (26) of oblong design, the length of which being mainly the same as the length of the box, the free end of the string (19) emanating from the bobbin is passed through an oblong aperture (15 or 29) in said wall (12, 13, 14) into the receptacle (10), from where the string (19) can be pulled out from the bobbin (26) to a suitable string length (19A, 19B) being cut by means of knife means (22) and arranged between the holder means (20, 21).

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5. A device according to Claim 4, characterized in that the oblong aperture (15; 29) is centred with respect to the box (23) in the wall (12, 13, 14) above the upper edge of the box, said aperture (15; 29) having a length of mainly three fourths of the inside length of the box (23).

25

6. A device according to Claim 4, characterized in that said oblong aperture (29) is made in the back wall (12) of the receptacle (10) centred to the attachment means for the box (23) at the exterior surface of the back wall.

30

7. A device according to anyone of the Claims 4 - 6, characterized in that the bottom (28) of the box (23) is divided in two length sections inclined towards each other for keeping the bobbin centred within the box (23) independent of the length of the string (19) left on the

35

bobbin (26).

5 8. A device according to any of the preceding Claims,
characterized in that said receptacle (10) is delivered in
form of a construction kit of some few components (12 - 14,
23) easy to join without any tools or adhesives.

10 9. A device according to Claim 8, characterized in that said
receptacle (10) components (12 - 14, 23) are made from
plastic material or wood.

15 10. A device according to Claim 8, characterized in that each
said component (12 - 14, 23) includes cooperating pegs (17)
and recesses (16) for corresponding means of the component to
be joined.

11. A device according to Claim 10, characterized in that
each said peg (17) has the shape of a hooked lock (18) to
cooperate with a ridge (24) in the recesses (16).

STATEMENT UNDER ARTICLE 19

The claims have been amended in relation to the originally filed claims in the following way, where the reference to lines refer to the originally filed claims:

On line 18, "said device being characterized" is deleted.

On line 19 "for lifting the pile (18) of paper material" is deleted.

On line 21 "being made from" has been amended to "comprising".

The part from "said hooks" on line 24 of claim 1 to the end of the claim is deleted and is replaced by originally filed claim 3 from "characterized in that" on line 33 to the end of claim 3, except from that the last word of claim 3 "lifted" has been replaced by "gripped by introduction under the string lengths".

Claim 3 is deleted.

All the other claims remain unchanged but renumbered.

Fig. 1

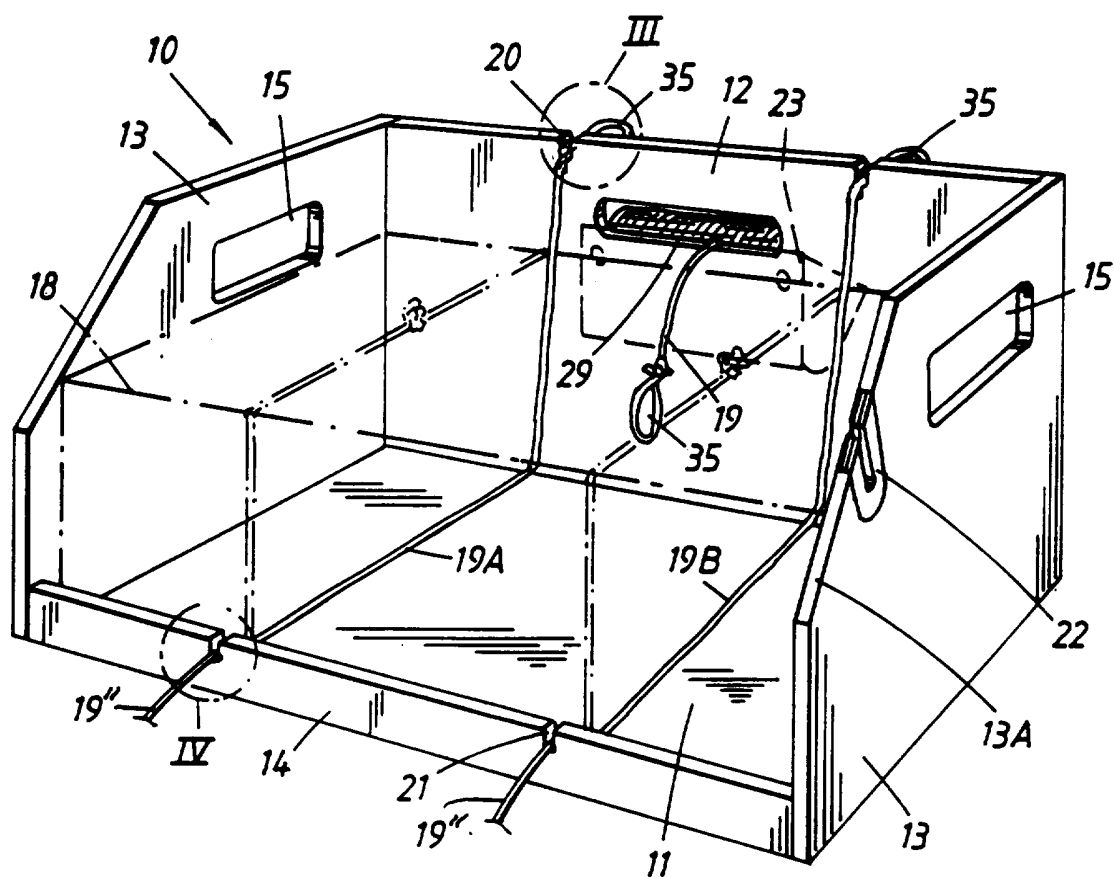


Fig. 3

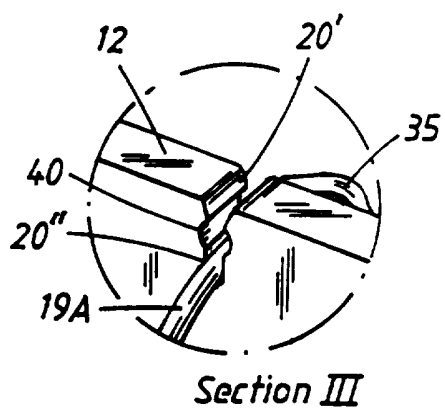


Fig. 4

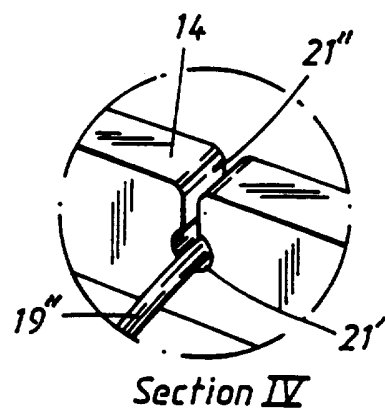


Fig. 2

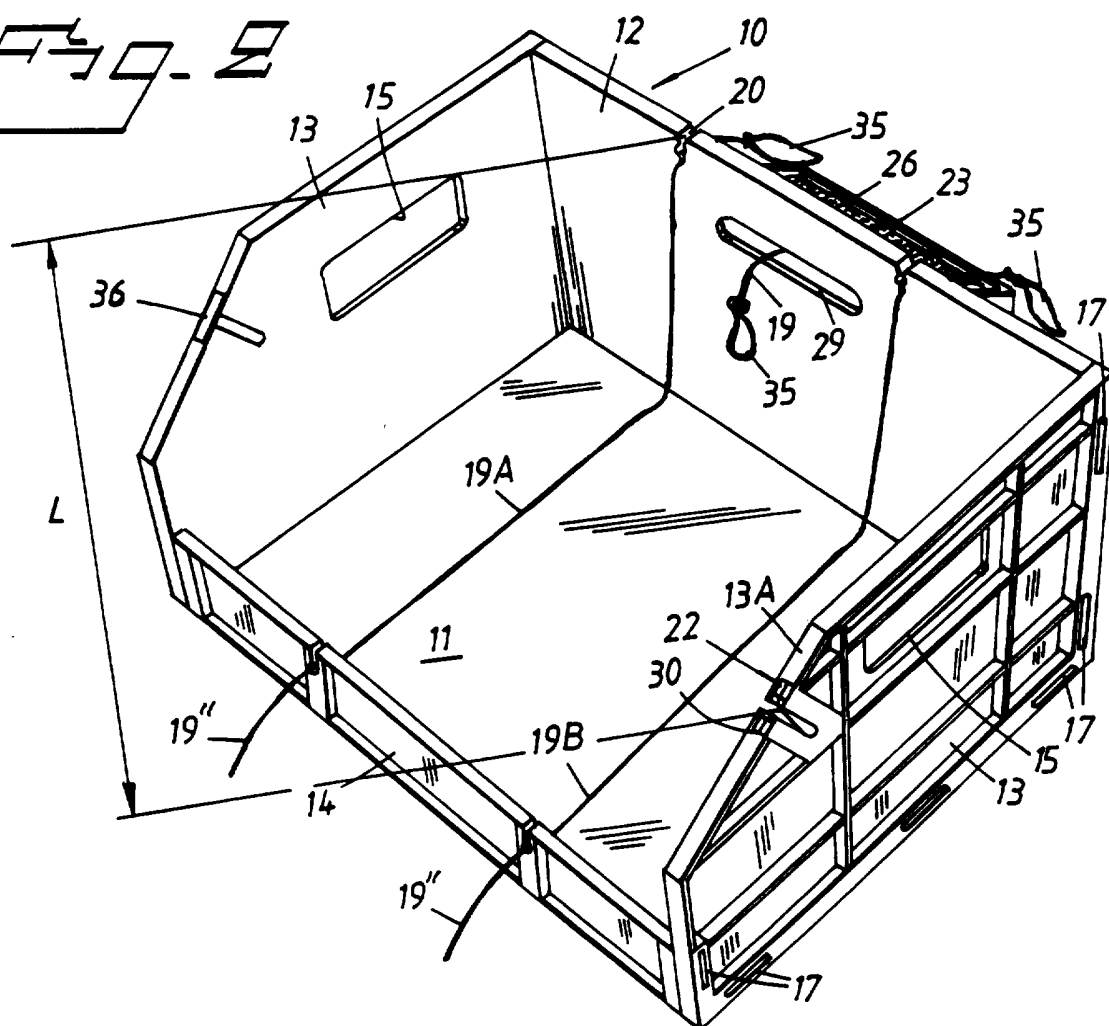


Fig. 12

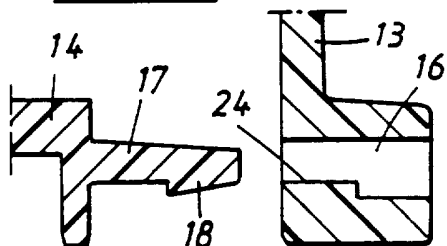


Fig. 13

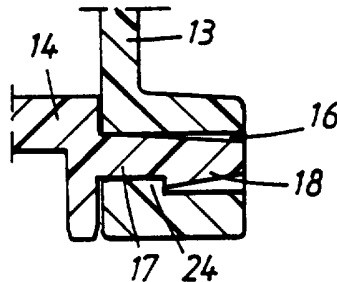


Fig. 14A

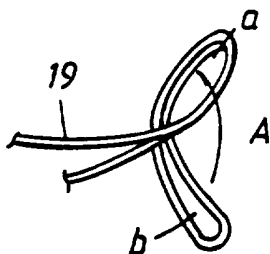


Fig. 14B

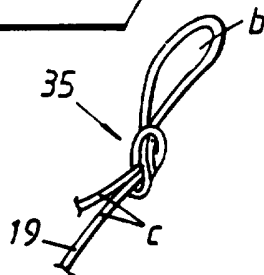
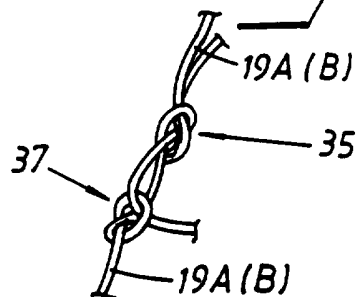


Fig. 14C



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Fig. 5

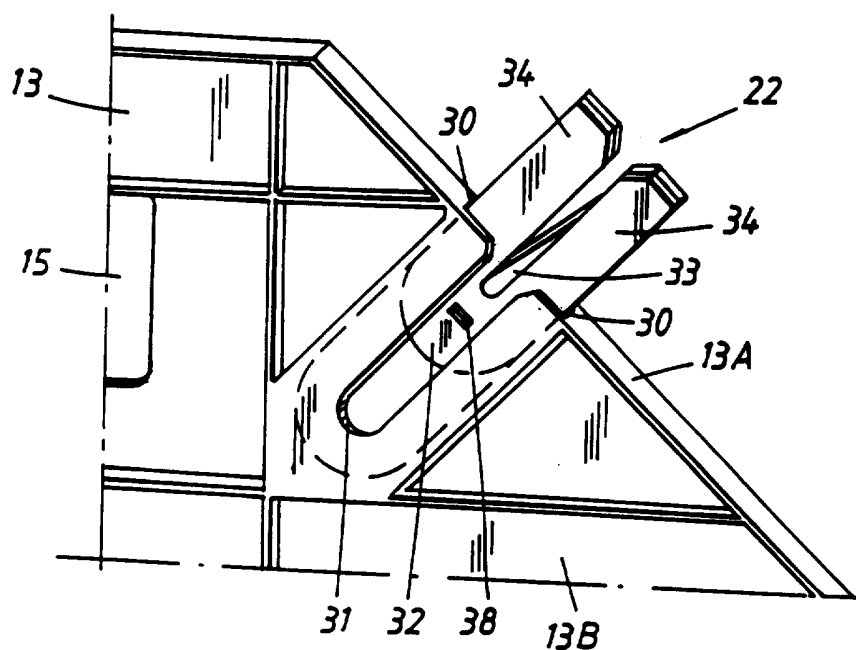
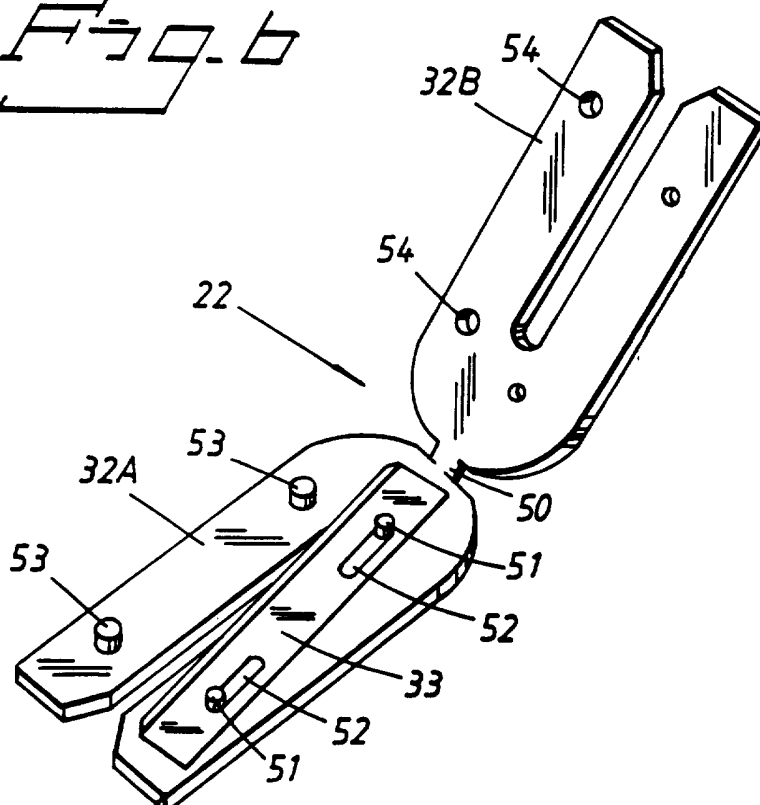


Fig. 6



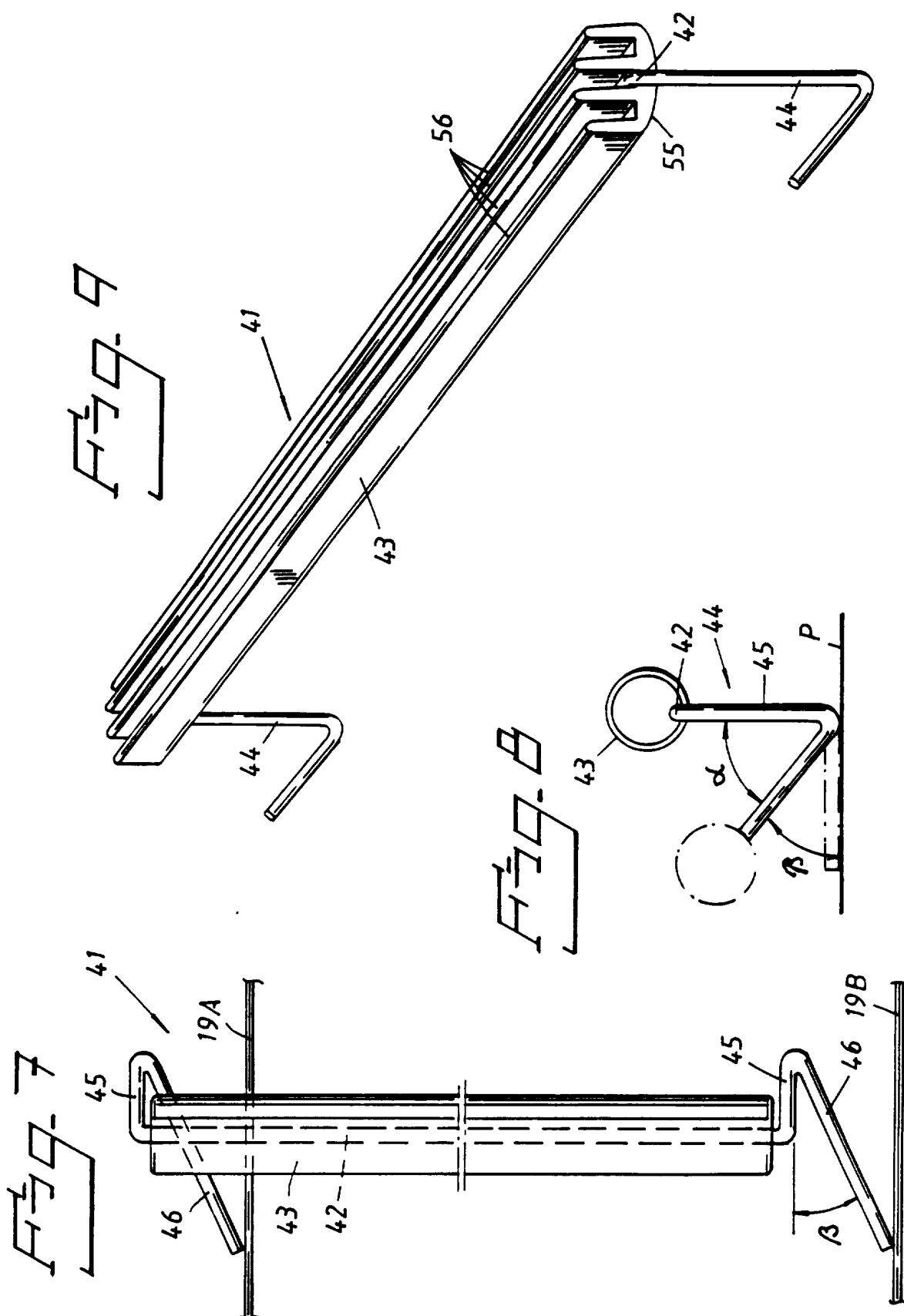


Fig. 10

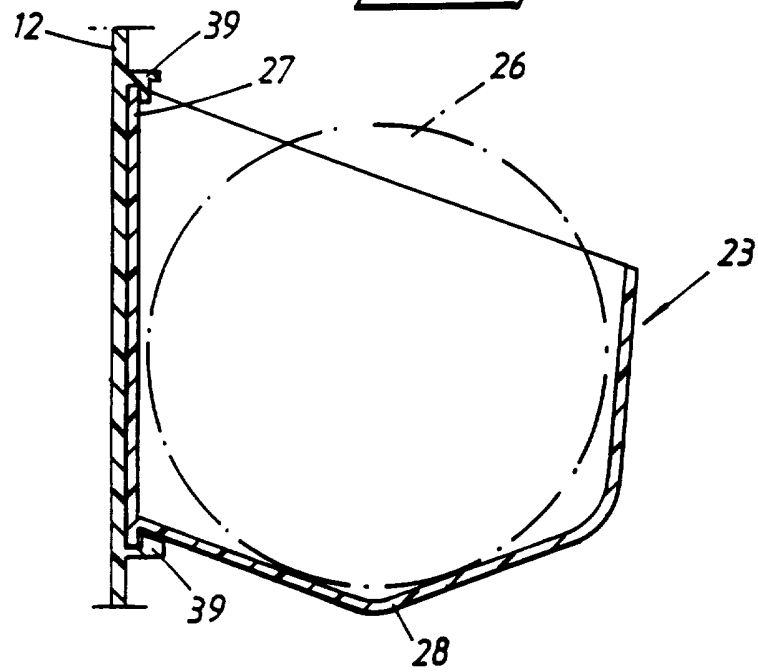
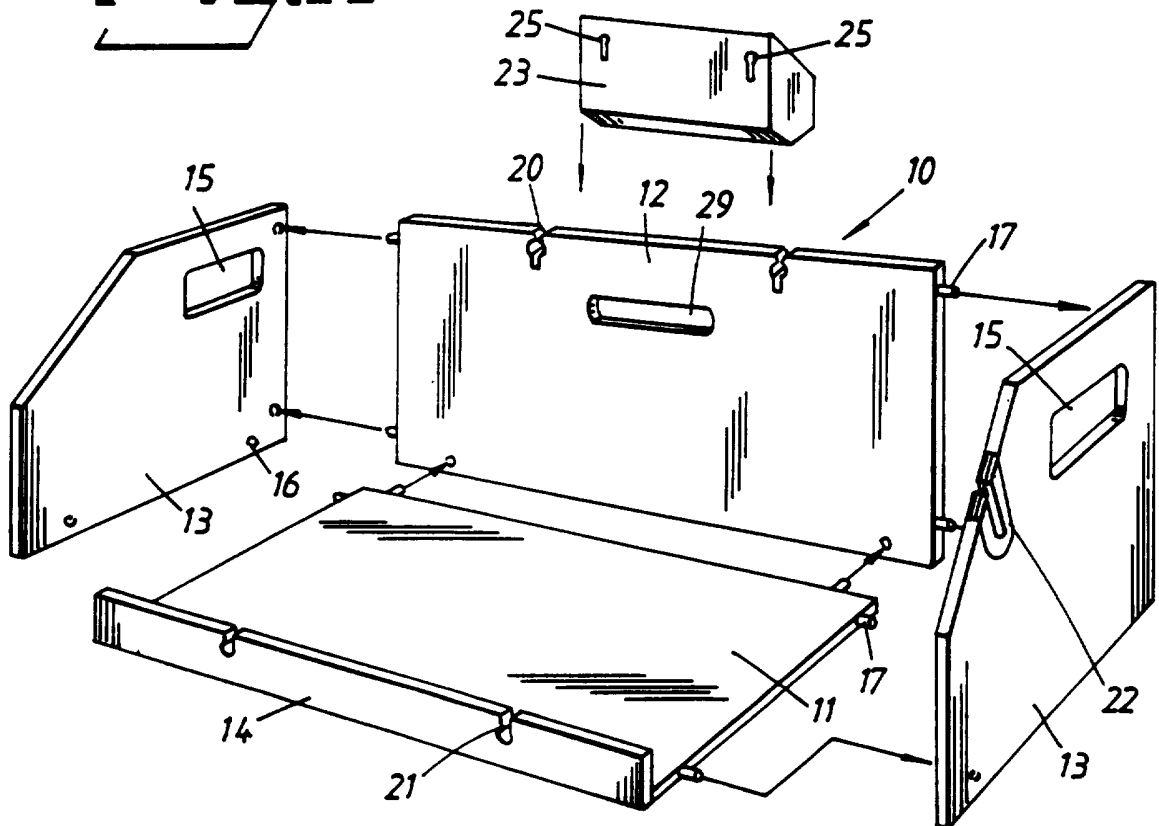


Fig. 11



INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 96/00220

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: B65B 27/08 // B65D 025/28

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: B65B, A45F, B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

DIALOG, US CLAIMS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	DE 2738468 A1 (JÄRUND DEVELLO AB), 1 March 1979 (01.03.79), figure 1 --	1-8
Y	DK 21223 C (ANTON SEVERIN KRUSE), 15 May 1916 (15.05.16), figure 3, claim 1 --	1-12
Y	ICA-KURIREN, Volume, No 5, 1972, IB, GÖTEBORG, "PAKETPINNE", figure 1 --	1-12
Y	GB 2093686 A (CYRIL ATKINS), 8 Sept 1982 (08.09.82), page 1, line 6 - line 11, figure 1 --	1-12

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

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- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

18 July 1996

Date of mailing of the international search report

19.07.96

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 96/00220

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2522833 A (M. MACCAFERRI), 19 Sept 1950 (19.09.50), column 3, line 72 - column 4, line 4, figure 10 --	1-12
Y	FR 756584 A (M. MARCEL SAUVAIN), 12 December 1933 (12.12.33), column 1, line 14 - line 25, figure 1 --	1-12
Y	US 2321802 A (W. H. DEUBENER), 15 June 1943 (15.06.43), column 1, line 26 - line 50, figures 1, 6,7 --	1-12
Y	DE 2935175 A1 (EGER, WILHELM), 19 March 1981 (19.03.81), figures 2,4 --	1-8
A	SE 88035449 A (ESSEBRO TRÄ & MASKIN AB), 7 April 1990 (07.04.90), figure 1, abstract -- -----	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

01/07/96

International application No.

PCT/SE 96/00220

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE-A1- 2738468	01/03/79	NONE	
DK-C- 21223	15/05/16	NONE	
GB-A- 2093686	08/09/82	NONE	
US-A- 2522833	19/09/50	NONE	
FR-A- 756584	12/12/33	NONE	
US-A- 2321802	15/06/43	NONE	
DE-A1- 2935175	19/03/81	NONE	
SE-A- 88035449	07/04/90	NONE	