

EUROPEAN QUALIFYING EXAMINATION 1992

PAPER C

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INSTRUCTIONS TO CANDIDATES

1. Attached you will find a letter from a client to a professional representative with annexed documents.
2. Your task is to put yourself in the position of the representative and, using only the information provided by the client, to prepare a notice of opposition, which when typed would be ready for filing. Should you so wish, you may use the pre-printed opposition form provided, but you are in no way obliged to do so and marks will not be lost if you do not.
3. If in the notice of opposition
 - you have not taken account of a particular piece of prior art,
 - there is a claim which you have not attacked,
 - you have made no use of a possible line of attack on a claim, or
 - you have attacked a given claim in circumstances where there is real doubt as to whether the attack would be successful,you should justify this briefly on a separate sheet of paper.
4. The documents should only be referred to by their annex number.
5. If not needed for the sake of argumentation, avoid word for word reproduction of the claims in your work. In particular, a mere listing of the features of the claims of Annex 1 should not be given by way of an introduction to the arguments presented.
6. You are not called upon to prepare documents which might be necessary for supporting the opposition, e.g. evidence from experts, authorisations, receipts or statements by witnesses.
7. You are to accept all dates as correct; in particular any claimed priority is valid unless there is evidence to suggest otherwise. The date of the client's letter has been chosen only to indicate to the candidate that there is not time to confer with the client. Explanations regarding the manner of filing the opposition to meet the deadline are therefore not required.
8. You should be aware that Annex 1 is fictitious and is not necessarily in a form that would have lead to a patent granted by the European Patent Office.
9. In addition the following points from »Instructions to candidates for preparing their answers« (Official Journal EPO 1-2/1991) should be taken into account:

I. Applicable to papers A, B, C and D

1. Candidates are to accept the facts given in the paper and to base their answers upon such facts. Whether and to what extent these facts are used is the responsibility of the candidate.
2. Candidates are not to use any special knowledge they may have of the subject-matter of the invention, but are to assume that the prior art given is in fact exhaustive.

IV. Applicable to paper C

•Duration: 5 hours; third day, morning

8. The paper will be presented in the form of a letter from a client to a professional representative. The candidate is expected to draw up a notice of opposition which satisfies the requirements regarding filing, other than those relating to typing and the keeping of certain margins.

The notice of opposition prepared by the candidate should comply with Article 100 and Rule 55, bearing in mind the relevant recommendations in the Guidelines for examination in the EPO, Part D. However, in order to maintain the candidate's anonymity he is not to use his real name in the papers but, instead, the candidate should use the name of the representative to whom the client's letter is addressed. The grounds of Article 100(b) will not be used.

The candidate must also briefly set out on a separate sheet reasons why he adopted or did not adopt the suggestions of the client. In addition any questions the client may have posed should be answered.

Detailed analysis of documents done in rough on separate sheets is not regarded as part of the answer and should not be included or attached; nor should the test paper itself or any rough notes. Candidates should therefore concentrate more on the contested patent claims and less on analysis of the documents of the prior art.

9. The notice of opposition should contain all (and only those) grounds – as far as possible against all the claims – which the candidate in that particular case considers prejudicial to the maintenance of the patent.

Omission of a good ground for opposition will lead to a loss of marks, commensurate with the importance of the ground in the particular case.

11. The European patent to be opposed will be furnished in all three official languages. The candidate must indicate which of the three versions he chose to oppose.

Diaplast GmbH Karwendelstr.2 8102 Mittenwald

Mr. P. Hessmann
Patentanwalt
Europaplatz 120
8000 München 80

Mittenwald, 08.04.92

Dear Sir,

We request that you file an opposition in our name against European patent 0 220 996 (Annex 1) held by Diacolor Italia and that you attack all claims.

We have already inspected the file and have found that claims 1 to 3, the description and drawings were never amended. However, after the applicant received the first communication of the examining division (Annex 2), he deleted the apparatus claims 4 to 6 as filed (see Annex 2, last page) and stated that he would make them the subject of a divisional application. Nevertheless, in a later letter to the EPO he filed new apparatus claims based on a suggestion in the first communication. We are a little confused by this because we are under the impression that current jurisprudence does not allow the re-introduction of subject-matter which has been abandoned. Would you advise us on this point and, if it strengthens our case, mention it in the notice of opposition.

A European patent application (Annex 5), also in the name of Diacolor Italia, having a filing date earlier than the patent to be opposed, also deals with the problems associated with assembling a flexible tape comprising a sequence of framed transparencies. A patent was granted on this application in June, 1991.

Unfortunately, we missed our opportunity to file an opposition in due time. This is all the more annoying as proceedings have been instigated against us in Italy for infringement of this patent. Please advise us whether we can request accelerated processing of our present opposition for this reason, and if there is any way in which we can defend ourselves against the infringements.

Annex 7 seems to be a relevant document because it mentions that a tape of framed transparencies may be assembled using adhesive tape. However, as the relevant passage might be interpreted as a pre-judice against the alleged invention of the contested patent, and as the document is rather old, we would ask you to consider the advisability of using it; the EPO could interpret it as supporting inventive step.

Other relevant prior art documents are enclosed as Annexes 3, 4, 6 and 8.

Yours sincerely



Dr. Hofmann

(general manager)

encls.: Annexes 1 to 8

⑮



Europäisches Patentamt

European Patent Office

Office européen des brevets

⑪ Publication number:

O 220 996
B1

⑫

EUROPEAN PATENT SPECIFICATION

④⑤ Date of publication of patent specification: 07.08.91 ⑤① Int. Cl. 5: G03B 21/64; G03D 15/10

⑦① Application number: 86 420 188.4

⑦② Date of filing: 11.07.86

⑤④ Tape of framed transparencies

③⑩ Priority: 04.11.85 IT 85 59 688

④③ Date of publication of application:
06.05.87 Bulletin 87/19④⑤ Publication of the grant of the patent:
10.07.91 Bulletin 91/28⑧④ Designated Contracting States:
AT CH DE FR IT LI⑤③ References cited:
EP-A-0 208 324
DE-A-3 035 060⑦③ Proprietor: Diacolor Italia
Via San Teodoro, 70
Vicenza (IT)⑦② Inventor: Arondello, Gianni
Via Vigolo, 94
Vicenza (IT)⑦④ Representative: Trocelli, Giuseppe
Via Garibaldi, 12
Verona (IT)

Note: Within nine months from the publication of the mention of the grant of the European patent, any person may give notice to the European Patent Office of opposition to the European patent granted. Notice of opposition shall be filed in a written reasoned statement. It shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European patent convention).

Courier Press, Leamington Spa, England.

EP 0 220 996 B1

The invention is directed to a flexible tape comprising a sequence of framed transparencies for use in a printing machine, and to an apparatus for assembling such a flexible tape.

- 5 Before being projected, transparencies are framed. If prints are required, the framed transparencies can be individually processed in a printing machine; however this is time-consuming and expensive. It is therefore common practice to use a flexible tape comprising a sequence of framed transparencies which can be fed
10 automatically through the printing machine to obtain high printing speed. After printing, the transparencies are removed from the flexible tape, as they should be given back to the photographer in their original state.
- 15 DE-A-3 035 060 discloses tapes comprising a large number of sequential separated compartments filled with framed transparencies. This prior art tape essentially consists of two ladder-shaped parts of synthetic material welded together at the rungs and one of the uprights, the spaces between the rungs being approximately the same
20 size as a frame. This tape offers the advantage of ease of transport through the printing machine and can be wound or folded for storing or delivery. In this prior art tape, the framed transparencies have to be slipped into the compartments. Previously this was done manually, but now machines exist for opening the
25 compartments during the filling step by means such as an air stream or by mechanical means such as wedges. This filling step is still time-consuming. Each compartment has to be slightly larger than the size of a transparency frame, otherwise insertion becomes impossible. The position of the transparency within the compartment is
30 then not fully fixed which may give rise to incomplete reproduction of the image.

A further disadvantage is that the detection of the location of the image in the tape may be hampered by the light blocking ladder rungs. This detection is usually done with the aid of a light emitter and receiver arrangement positioned upstream of the printing station in the middle of the tape passage. A further disadvantage is that the known synthetic tapes can only be provided with the necessary indicia, e.g. code numbers, using special felt pens.

10 The tape as set out in claim 1 can be assembled efficiently and allows precise positioning of the frames during printing. The used adhesive has a peeling strength such that it adheres more strongly to the strips than to the frames so allowing easy loosening of the frames from the adhesive strips after printing.

15 If the adhesive strips are of paper, indicia can easily be written on them. Two further paper strips, also covered with such an adhesive, can be deposited on the other face of the frames to enhance the fixing of the framed transparencies to the tape and
20 improve the precise positioning of the frames during printing.

An apparatus for assembling a flexible tape according to the invention is claimed in claim 4.

25 The invention will now be described with reference to the drawings:

Figure 1 is a plan view of a tape according to the invention;

Figure 2 is a side view of the tape of Fig. 1;

Figure 3 shows an apparatus for assembling such a tape; and

30 Figure 4 shows a prior art tape as described in DE-A-3 035 060.

Referring to Fig. 1, frames 1 surround transparencies 2 and are connected by adhesive strips 3. Two paper strips 4 (Fig. 2) are in superposed relation to the strips 3 and are adhered to them in the
35 spaces 5 between the frames. The strips 3,4 and the spaces 5

between the frames allow folding or winding of the tape. As there is no material between the two strip pairs, the location of the leading edges of the frames can be safely detected by the light emitter and receiver arrangement (indicated by E,R in 5 Figures 1,2), positioned ahead of the printing station. The rear edges of the frames may be used for a simple mode of transport through the printing machine, for example by means of combs.

Figure 3 shows an apparatus for assembling a tape of the kind shown 10 in Figures 1 and 2. An endless chain of pivotally connected flat links 8 is wound around two rollers 6 and 7 having polygonal cross section. Two parallel strips 3 having an adhesive on the top side are fed from roller 9 to the chain 6. A framed transparency 1,2 is deposited in position 11, the frame 1 being pressed onto the strips 15 3 by press 12. Essential for obtaining the advantages of the invention, and in particular for obtaining sufficient pressure at position 11, is the provision of means for driving the rollers 6 and 7 stepwise, as this allows the frames to be adhered during the stand-still periods of the chain. From position 11, the adhered 20 transparencies are transported stepwise (to the right in Fig.3) to a blade 17 which removes the tape from the links 8. Two parallel paper strips 4 covered with adhesive on their undersides are fed by roller 13 in superposed relation to the strips 3. Press 15 adheres the strips 4 to the frames and press 16 fixes the superposed 25 strips 3,4 to each other in the spaces 5 between the frames, again during stand-still periods of the chain.

Figure 4 shows the above-mentioned prior art tape. It consists of two parts 20a,20b welded together along lines 21,22 to form 30 compartments 23. The framed transparency 24 to be inserted is held by a gripper 25. Means for generating the air jets to widen the opening of the compartment are indicated by 26.

C L A I M S

1. A flexible tape comprising a sequence of framed transparencies (1,2), characterised in that each frame (1) is adhered on one face by an adhesive to two parallel strips (3) the adhesive having a peeling strength such that it adheres more strongly to the strips than to the frames.
2. A tape according to claim 1, characterised in that the two parallel strips (3) are of paper.
3. A tape according to claim 2, characterised in that two further parallel paper strips (4) covered with adhesive on the side facing the frames (1), the adhesive having a peeling strength such that it adheres more strongly to the strips than to the frames, are located on the other face of the frames (1) in superposed relation to the parallel strips (3) on said one face, and that the superposed strips (3,4) are releasably adhered to each other in spaces (5) between the frames.

4. Apparatus for assembling a flexible tape comprising a sequence of framed transparencies (1,2), characterised by two rollers (6,7) having polygonal cross section, an endless chain consisting of pivotally intercoupled flat links (8) and being wound around the rollers, means to drive the rollers, means (9) to feed two parallel paper strips (3) to the chain, which strips are provided with adhesive on the side remote from the chain, and by means (12) to deposit and press framed transparencies (1,2) on said remote side of the strips thereby to adhere one face of each frame (1) to the strips (3).
5. Apparatus according to claim 4, characterised in that the means to drive the rollers (6,7) are arranged for stepwise motion and the means (12) to deposit and press the framed transparencies (1,2) are arranged to operate during the stand-still periods of the chain.
6. Apparatus according to claim 5, characterised by means (13) to feed two further parallel paper or plastics strips (4) to the other face of the frames in superposed relation to the parallel strips (3) on said one face, and by pressing means (16) arranged to adhere the superposed strips (3,4) to each other in spaces (5) between the frames, during the stand-still periods of the chain.

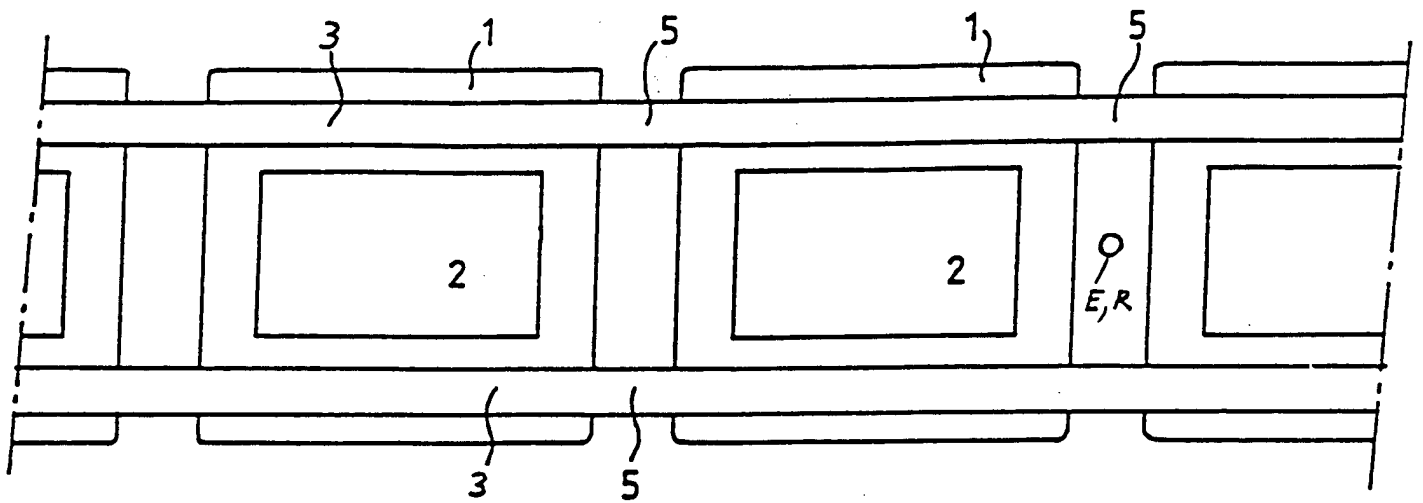


FIG. 1

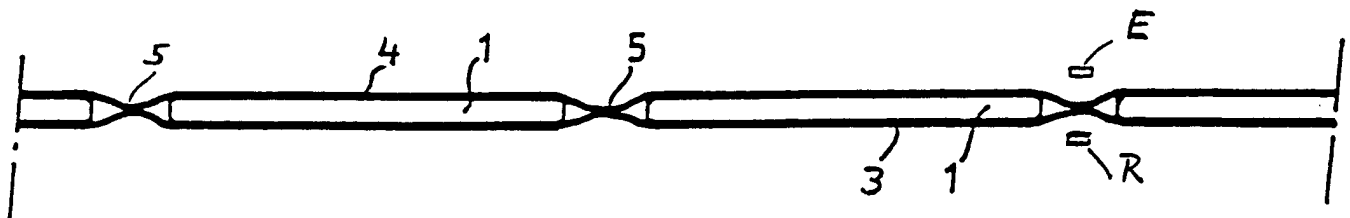


FIG. 2

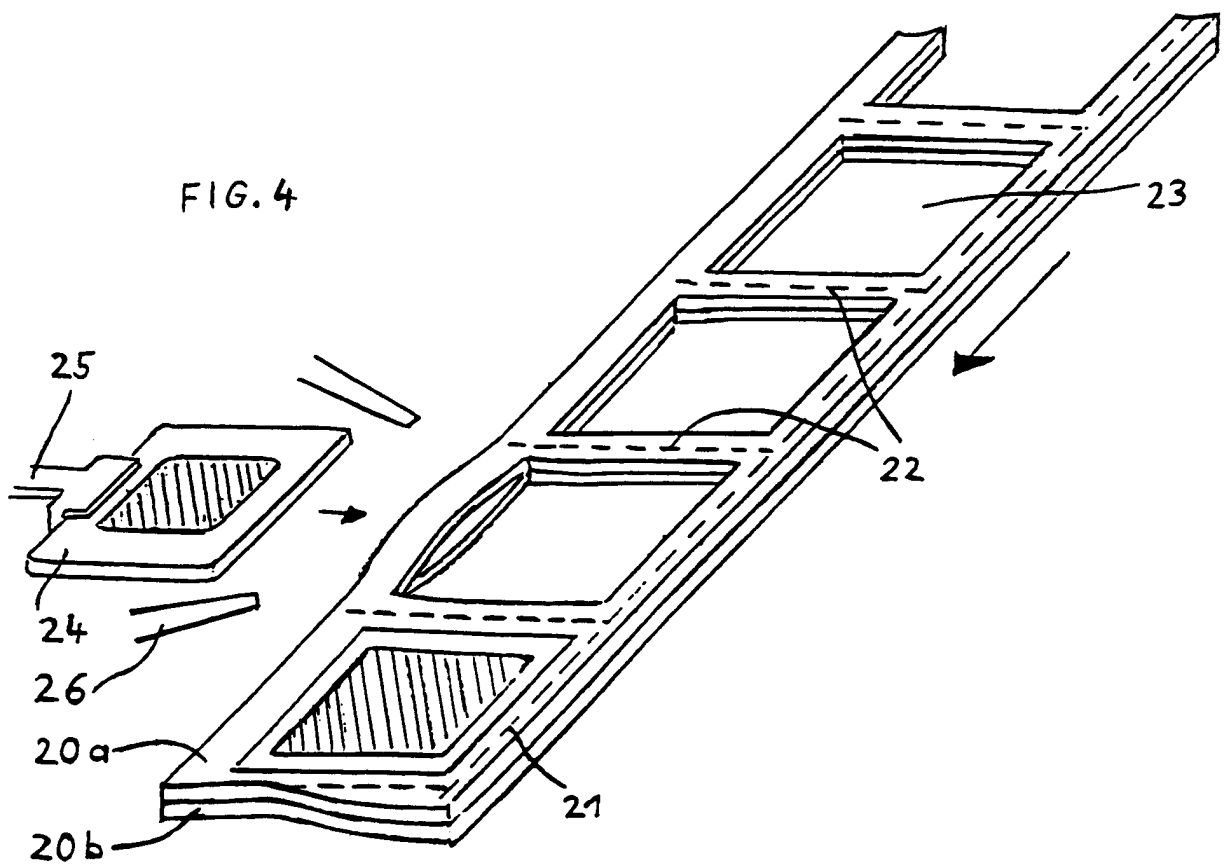


FIG. 4

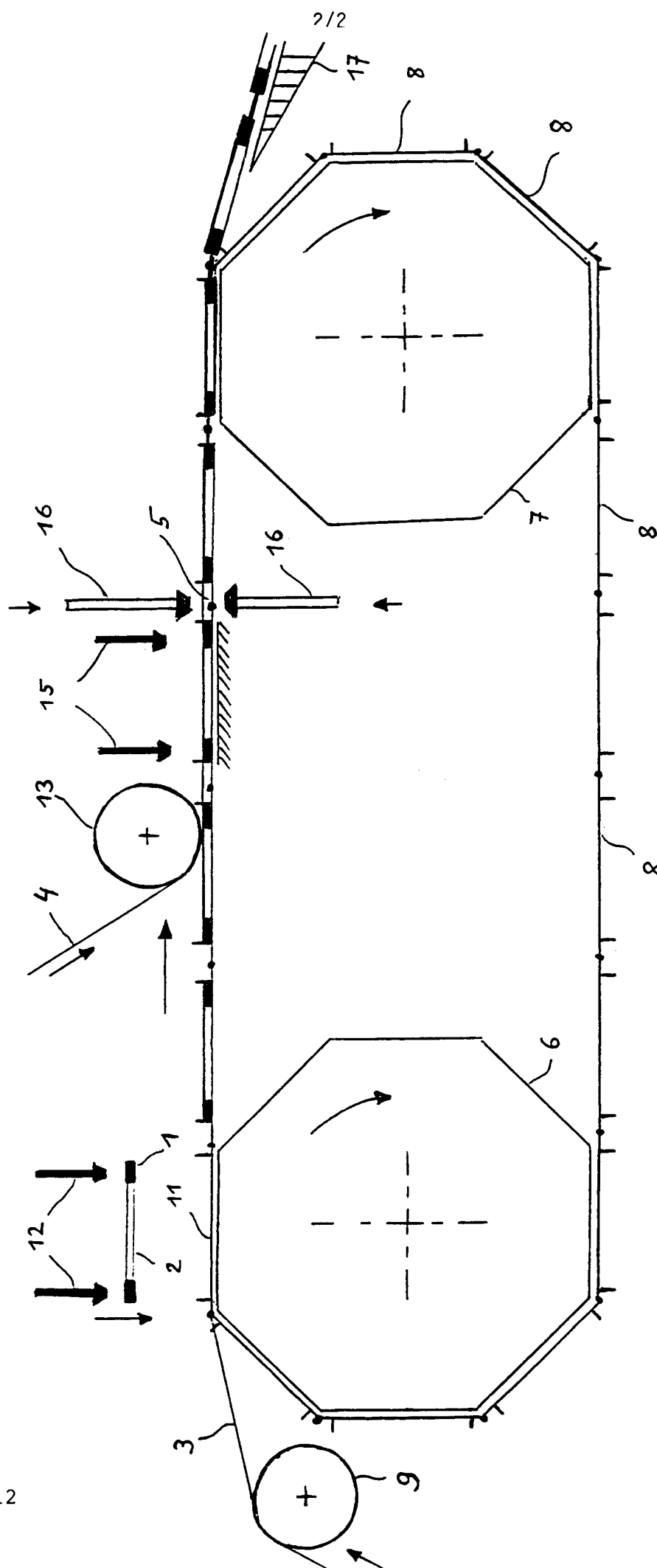


FIG. 3



Datum
Date 15.04.88
Date

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Sheet 1
Feuille

Anmelde-Nr.:
Application No. 86 420 188.4
Demande n° :

The examination is being carried out on the application documents as originally filed.

1. The apparatus for assembling a flexible tape comprising a sequence of framed transparencies according to claim 4 is not considered to be linked to the flexible tape according to claim 1 so as to form a single general inventive concept (Art. 82 EPC), because such apparatus would not produce a flexible tape with adhesive strips.
2. If, however, claim 4 is completed by the features of dependent claim 5, unity of invention in the sense of Art. 82 EPC could be acknowledged and the claims for the apparatus for assembling a flexible tape could be maintained in the present application. In the annexed copy of originally filed claims 4 to 6, the examiner suggests such an amendment.
3. If the applicant does not want to restrict present claim 4, he should declare whether he wants claims 1 to 3, directed to the flexible tape comprising a sequence of framed transparencies, or claims 4 to 6 to be examined. The other subject matter would have to be excised from the present application and could be made subject of a divisional application.



Datum

15.04.88

Blatt

Sheet
Feuille 2

Anmelde-Nr.:

Application No. 86 420 188.4
Demande n° :

4. If the applicant maintains the subject matter of claims 1 to 3 in the present application, his attention is drawn to his European application 85 420 222.5 filed on 14.11.85, claiming priority of an application filed in Italy on 08.07.85, and designating the Contracting States AT, CH, DE, IT, LI. The European application was published as EP-A-0 208 324 on 14.01.87, its content is identical to that of the Italian application and is also directed to a flexible tape of framed transparencies.
5. If the applicant maintains the subject matter of claims 4 to 6 in the present application, he should be aware that the priority application IT 85 59688 of the present application contains only three figures (Figures 1, 2 and 4 of the present application) showing the flexible tape comprising sequential framed transparencies, and that the description relating to the apparatus for assembling such a tape and the present Figure 3 is not part of the priority application.

0 220 996

4. Apparatus for assembling a flexible tape comprising a sequence of framed transparencies (1,2), characterised by two rollers (6,7) having polygonal cross section, an endless chain consisting of pivotally intercoupled flat links (8) and being wound around the rollers, means to drive the rollers stepwise,^{<>} and means (12) to deposit and press framed transparencies (1,2), during the stand-still periods of the chain/~~on the chain~~/ <>

~~5. Apparatus according to claims 4, characterised by~~ means (9) to feed two parallel paper strips (3) to the chain, which strips are provided with adhesive on the side remote from the chain,[>]
~~the framed transparencies (1,2) being deposited~~ on said remote side of the strips thereby to adhere one face of each frame (1) to the strips (3).>>

⁵/~~6~~. Apparatus according to claim ⁴/~~5~~, characterised by means (13) to feed two further parallel paper strips (4) to the other face of the frames in superposed relation to the parallel strips (3) on said one face, and by pressing means (16) arranged to adhere the superposed strips (3,4) to each other in the spaces (5) between the frames, during the stand-still periods of the chain.



DEUTSCHES
PATENTAMT

⑫ Patentschrift
⑪ DE 2944000 C2

②① Aktenzeichen: P 29 44 000.3-27
②② Anmeldetag: 31. 10. 79
④③ Offenlegungstag: 14. 5. 81
④⑤ Veröffentlichungstag
der Patenterteilung: 26.11.85

DE 2944000 C2

Innerhalb von 3 Monaten nach Veröffentlichung der Erteilung kann Einspruch erhoben werden

③① Unionspriorität: ③② ③③ ③①

⑦③ Patentinhaber: Diaplast GmbH
8102 Mittenwald

⑦④ Vertreter: P. Hessmann
Dipl.-Phys. Pat.-Anw.,
8000 München

⑦② Erfinder: Zeller, Max-Josef
8100 Garmisch-P.

⑤⑤ Im Prüfungsverfahren entgegengehaltene
Druckschriften nach § 44 PatG:

⑤④ Herstellung eines Bandes mit gerahmten Diapositiven

DE 2944000 C2

Die vorliegende Erfindung betrifft die Herstellung eines Bandes mit gerahmten Diapositiven. In Kopieranstalten wurden üblicherweise Plastikbänder mit Taschen verwendet, in welche die gerahmten Diapositive maschinell eingeführt werden. Die Bandform der Kopier-
5 vorlagen ermöglicht die rationelle Herstellung von Kopien. Weil aber solche Taschen größer sein müssen als die Diarähmchen, erfolgt manchmal eine so starke Verschiebung des Rähmchens innerhalb der Tasche, daß sich inakzeptable Kopien ergeben. Die vorliegende Erfindung nach Anspruch 1 soll hier Abhilfe schaffen.

10

Auf einem Klebetisch werden alle zu einem Auftrag gehörigen Diarähmchen längs einer Linie in gleichem Abstand voneinander abgelegt. Hierzu werden Zentrierschächte oder Keile verwendet. Dann werden maschinell von oben und von unten je zwei parallel ver-
15 laufende Bänder so an die Diarähmchen angelegt, daß sie übereinander liegen. Je ein oberes und ein unteres Band haben eine Klebeschicht derart, daß sie beim Zusammenpressen eine dauerhafte Klebung ergeben, daß die Klebeschicht eines einzelnen Bandes allein aber keine Klebung bewirkt. Entsprechende "Zweikomponentenkleber"
20 sind preiswert im Handel erhältlich. Die Breite der zum Zusammenpressen verwendeten Preßstempel stimmt so genau mit dem Abstand zwischen den Rähmchen überein, daß die Rähmchen nach Verklebung der Bänder praktisch keinerlei Spiel haben und somit ein exaktes Kopieren der Dias möglich ist. Das Abtrennen der Bänder von den
25 Rähmchen nach dem Kopieren ist rationell durchführbar, indem die Streifenpaare knapp neben den Rähmchen von zwei Messern durchtrennt werden.

Man kann unter oder über jedem Diarähmchen einen Datenträger
30 einfügen, der in maschinenlesbarer Form bspw. die Zahl der anzufertigenden Kopien enthält. Hierfür wird der Datenträger mit einer Klebeschicht versehen, die mit dem anliegenden Band ebenfalls einen Zweikomponentenkleber bildet.

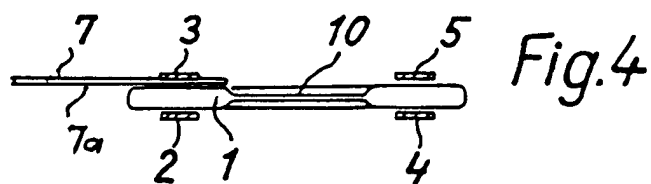
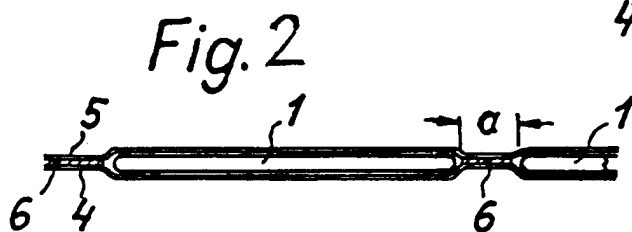
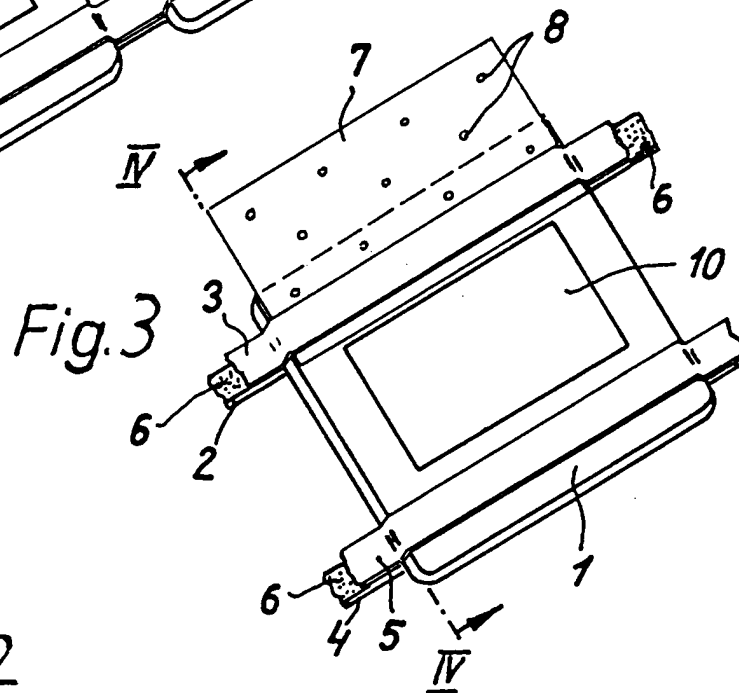
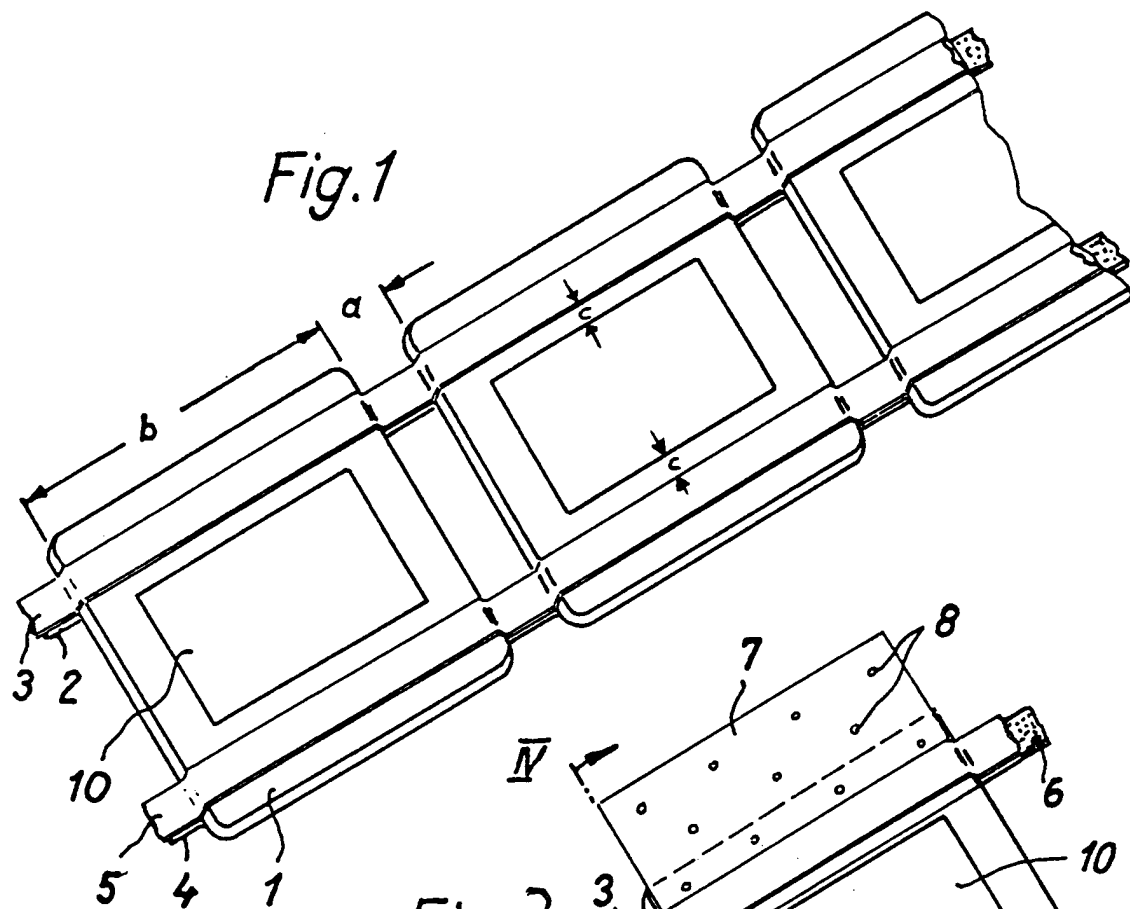
35 Figur 1 ist eine perspektivische Ansicht und Figur 2 eine Schnittdarstellung eines Bandes mit gerahmten Diapositiven gemäß der Erfindung. Figur 3 ist eine perspektivische Ansicht und Figur 4 eine Schnittdarstellung eines Bandelements mit Datenträger.

In den Figuren sind die Rähmchen mit 1 bezeichnet, der rechteckige Bildausschnitt mit 10, die Bänder mit 2, 3, 4, 5 und die Klebeschicht mit 6. Die Bänder erstrecken sich entlang der langen Seiten des Bildausschnitts in etwa gleichem Abstand c. Die volle Abstandslänge a zwischen den Rahmen dient zur Verklebung der übereinander liegenden Bänder mittels (nicht gezeigter) Preßstempel. Durch die Bandverformung beim Pressen legen sich die Bänder im Bereich b eng an die Rähmchen an. In den Figuren 3 und 4 ist ein Datenträger mit 7 bezeichnet, der eine Klebeschicht 7a hat, die mit der auf dem Band 3 einen Zweikomponentenkleber bildet. Die Daten können bspw. als Strichcode oder als Perforation 8 aufgebracht sein. Andererseits können die zu jedem Diarähmchen gehörigen Daten auch direkt auf einem der bspw. aus Papier bestehenden Bänder maschinenlesbar aufgebracht werden, z.B. in Form eines Strichcodes.

15

P A T E N T A N S P R U C H

Verfahren zur Herstellung eines Bandes mit gerahmten Diapositiven, dadurch gekennzeichnet, daß die gerahmten Diapositive (1) längs einer Linie in gleichem Abstand voneinander abgelegt werden, daß dann maschinell von oben und von unten je zwei parallel verlaufende Bänder (2-5) so an sie angelegt werden, daß sie übereinander liegen, wobei die Bänder auf den einander zugewandten Seiten eine Klebeschicht (6) aufweisen derart, daß sich beim Zusammenpressen zweier Bänder eine dauerhafte Klebung ergibt, daß die Klebeschicht eines einzelnen Bandes allein aber keine Klebung bewirkt, und daß die Bänder auf die volle Abstandslänge (a) zwischen den gerahmten Diapositiven verklebt werden.



(12) UK Patent Application (19) GB (11) 2 149 322 A

(43) Application published 12 Jun 1985

(21) Application No 8426269

(22) Date of filing 17 Oct 1984

(30) Priority data

(31) 58/195607 (32) 19 Oct 1983 (33) JP

(51) INT CL⁴
G03 B 21/64

(52) Domestic classification

(56) Documents cited
None

(58) Field of search
G03 B 21/64

(71) Applicant Foil extrusion
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(72) Inventors

Eiichi

Uchiyama

Motoo

Yamamoto

(74) Agent and/or Address for Service

London EC4A 1PL

(54) Process for manufacture of carrier tapes for framed transparencies

GB 2 149 322 A

The invention relates to a process for manufacturing carrier tapes for framed transparencies.

For processing orders for copies of framed transparencies, they must be joined together as tapes in order to allow an efficient mode of operation. If satisfactory copies are not obtained in the first copying run, a data carrier attached to the transparency frame should be provided for recording the correction data for the second copying run.

10

Known processes for manufacturing such carrier tapes are either too time-consuming or do not allow accurate positioning of the transparency frame.

15 Accordingly the invention provides an inexpensive carrier tape, which has depressions for receiving transparencies and, optionally, means for holding the inserted transparencies.

Figure 1 shows one variant of the carrier tape.

20 Figure 2 shows another variant of the carrier tape.

Figure 3 shows a variant adapted for transport.

In Figure 1 the carrier tape 1 essentially consists of a thin film 6, having rectangular holes 8 of smaller size than a standard transparency frame. Relatively thick lengths of film 4 with corresponding openings 7 are laid over the thin film 6 as seen in Figure 2. The openings 7 correspond exactly to the size of a standard transparency and are centrally located over the holes 8. The openings 7 are separated by webs 5 and the film edges are provided with notches 10 for positioning the transparencies in the copying station. The lengthwise perforation 12 is for the data strip 2 to be torn off after copying, the transverse perforation 13 enables the slides to be given back to the customer as short strips. It is also possible to give them back in the form of a zig-zag tape (Figure 3).

The manufacture of the carrier tape can be simplified if, instead of lengths of film 4, a continuous film is used. The openings 7 and holes 8 can then be punched with a regular spacing from one another.

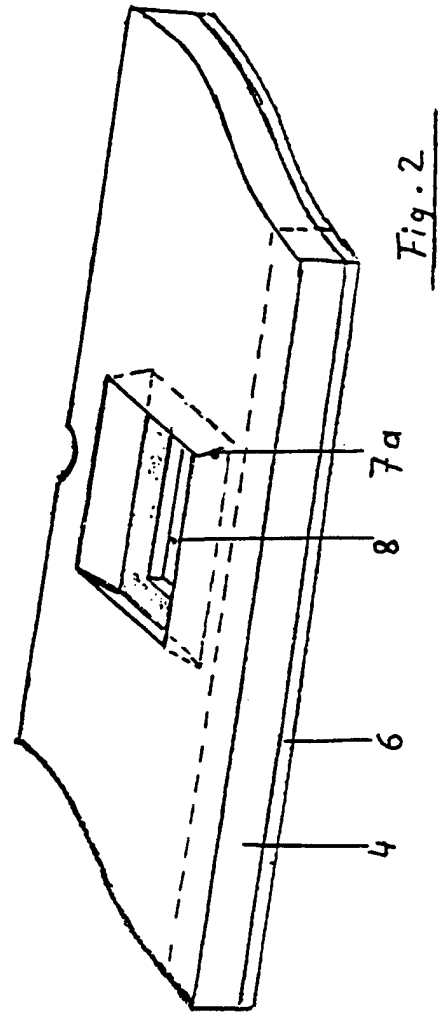
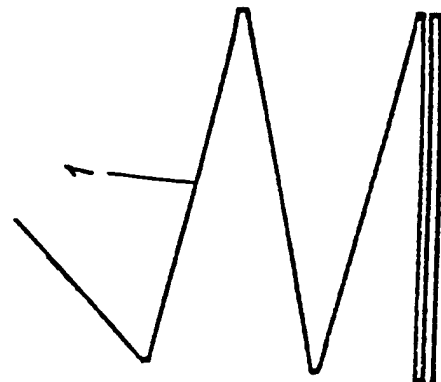
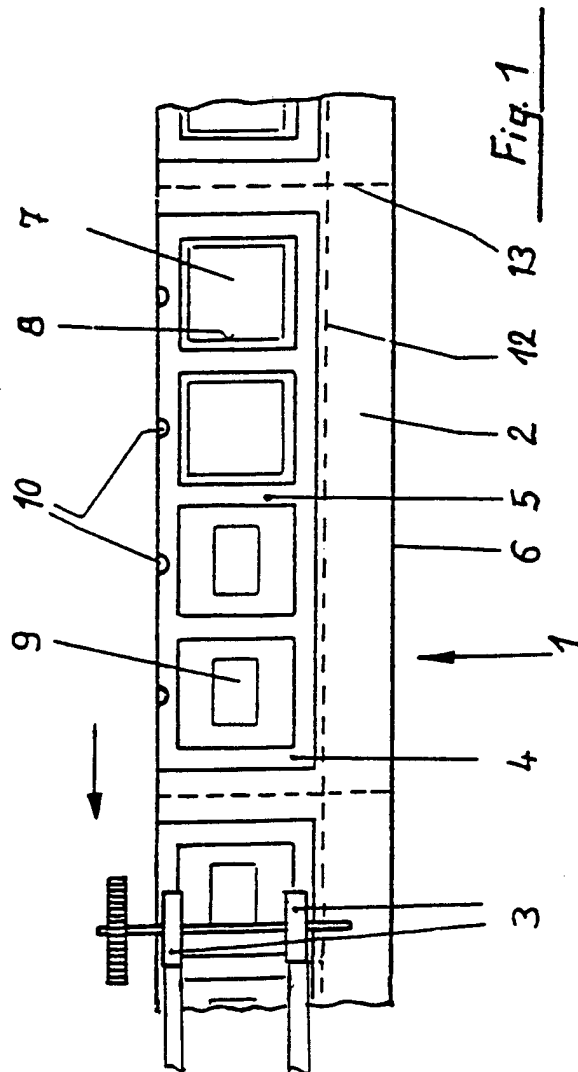
5

The placing of the slides 9 in the carrier tape is done by machine. To prevent them from falling out, two adhesive tapes are applied via two rollers (3 in Figure 1) over the entire length of the carrier tape. The openings 7 in the thick film 4 can also be
10 punched obliquely (7a in Figure 2), which also gives a certain amount of protection against falling out. For storage in the copying establishment the carrier tapes with the slides are wound onto large diameter drums.

15

C L A I M

Process for manufacture of carrier tapes for framed transparencies, wherein rectangular section holes (8) are punched in a first strip of film, the holes being smaller than the size of transparency frames, openings (7) having the size of transparency frames being punched in a second thicker strip of film (4), and both strips of film being so joined to each other that the openings (7) are centered over the holes (8).



①②

DEMANDE DE BREVET EUROPEEN

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③① Priorité: 04.11.85 IT 85 59 687

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Bulletin 87/19

⑧④ Etats contractants désignés: AT CH DE IT LI

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⑤④ Dispositif d'assemblage de bandes comprenant des diapositives encadrées

L'invention se rapporte à un dispositif pour placer des diapositives encadrées dans une bande de support pourvue d'évidements, et à une bande appropriée. Une telle bande est utilisée pour la réalisation de copies sur les copieurs à bande, 5 pour lesquels un positionnement précis des diapositives dans la station à copier est nécessaire.

Le document DE-A-3 035 060 (Diaplast) décrit une bande de support composée de deux parties en plastique ayant la forme d'une échelle, 10 qui sont soudées ensemble et qui forment ainsi des poches d'une dimension légèrement supérieure à celle des cadres de diapositives. Pour introduire une diapositive dans une poche on utilise, par exemple, un courant d'air, ce qui est compliqué. Le positionnement des cadres de diapositives dans les poches n'est, de plus, pas 15 précis.

L'inventeur de la présente demande a déjà proposé dans une demande européenne déposée plus tôt (85 420 222.5) un dispositif dans lequel les cadres de diapositives sont déposés un à un sur deux 20 rubans de bande adhésive parallèles et dans lequel les rubans ainsi garnis sont enroulés en rouleaux. Une économie de temps substantielle pourrait être obtenue si plusieurs cadres pouvaient être déposés simultanément sur les rubans.

25 L'invention décrite dans la revendication résout ce problème technique.

Des ouvertures rectangulaires régulièrement espacées sont prévues dans une bande en plastique. Des moyens de retenue en matériau 30 compressible, comportant chacun un rebord pour la fixation précise des cadres de diapositives, sont fixés sur cette bande par soudage ou collage. Les moyens de retenue sont sous forme de baguettes disposées perpendiculairement à l'axe longitudinale de la bande de support.

35 La figure 1 montre une bande de support pendant l'opération de déformation des moyens de retenue par les cadres de diapositives. La figure 2 montre la bande avec les cadres de diapositives en place.

Sur la figure 1 la bande en plastique porte la référence 1, les ouvertures rectangulaires la référence 1a, les moyens de retenue fixés sur la feuille la référence 2, et les rebords la référence 3. Sur la figure 1 les rebords 3 sont déformés par le bord des cadres 5 de diapositives. Après la mise en place des diapositives, les rebords ont tendance à reprendre leur position initiale et poussent ainsi les diapositives contre la surface de butée 2a, tel que cela est illustré sur la figure 2. La longueur de bande pour chaque diapositive est définie par la référence b.

10 Un certain nombre n de pinces 5 munies de ventouses est prévu pour sortir les diapositives d'un chargeur, les pousser contre les moyens de retenue 2 et ne les relâcher que lorsqu'elles sont complètement appliquées contre la feuille.

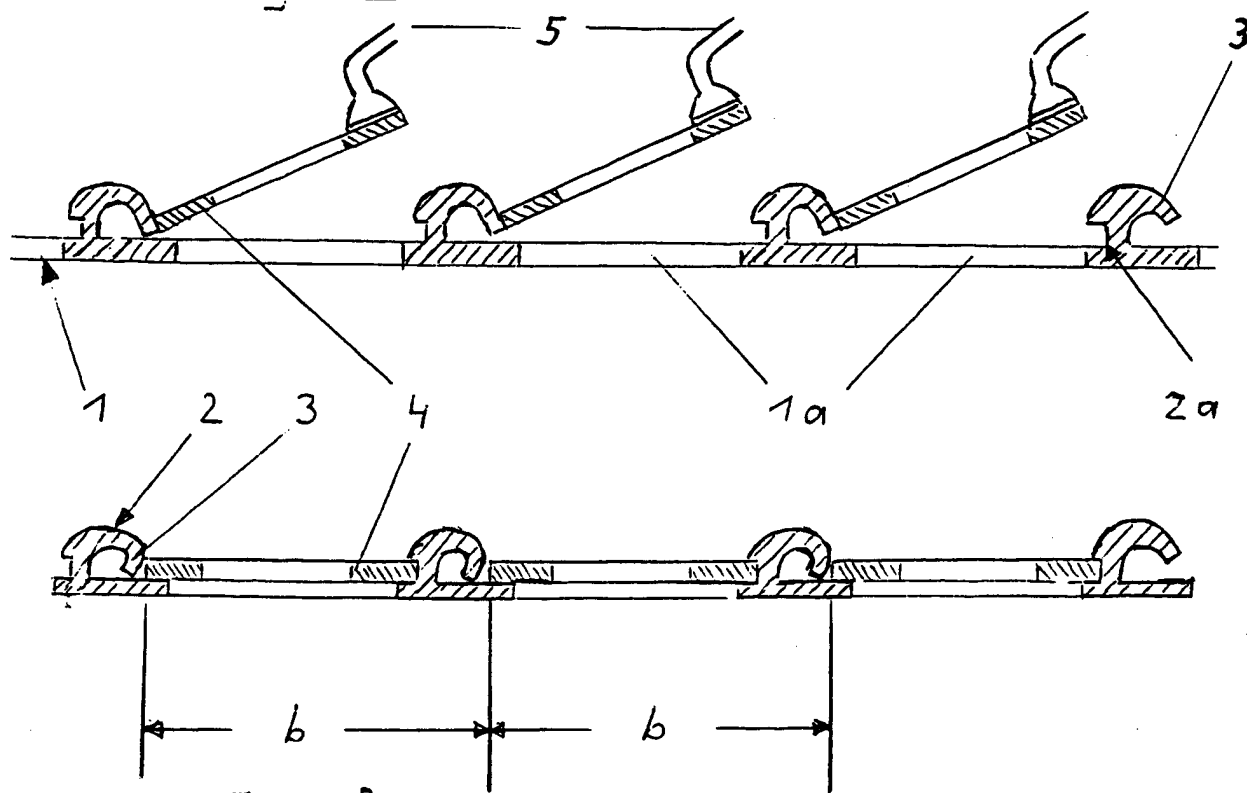
15 Les diapositives peuvent être retirées machinellement des bandes selon l'invention lorsque le copiage est terminé.

Les bandes selon l'invention sont plus économiques que celles 20 exposées dans la demande de brevet européen mentionnée plus haut (85 420 222.5), pour lesquelles des bandes adhésives spéciales composées d'une couche de support en papier et d'une couche d'adhésif qui colle moins aux cadres de diapositives qu'à la couche de support, sont utilisées.

25

REVENDICATION

Dispositif pour introduire des diapositives encadrées dans une bande de support (1) pourvue d'ouvertures (1a), caractérisé par un certain nombre (n) de pinces (5), qui sont commandées de telle sorte qu'elles pressent chacune, obliquement par rapport à la bande de support, un cadre de diapositive contre un moyen de retenue (2) compressible, et ne le relâchent que lorsqu'il repose à plat sur la bande de support (1), et par un dispositif de transport déplaçant la bande de support d'une distance (n x b) qui correspond à la longueur de bande pourvue de diapositives.

Figure 1Figure 2

United States Patent [19]

Thomas et al.

[11] Patent Number: 4,793,549

[45] Date of Patent: Nov 04, 1985

[54] Accessory table for a copying machine

[75] Inventors: E. Raymond Thomas; Lysle D. Cahill, both of Dayton; John L. Tibbits, Centerville, all of Ohio; Kenneth D. Fraser, Scarboro, Canada; John F. Keane, Bellbrook, Ohio; Stanley Harting, Kettering, Ohio; Georg Kramer, Xenia, Ohio; Ronald J. Duke, Miamisburg, Ohio; Theod A. Kessis, Dayton, Ohio; John C. Butler; Gary L. Frank, both of Centerville, Ohio; John A. Laws Dayton, Ohio

Primary Examiner—A. C. Prescott
Attorney, Agent, or Firm—Silverman, Cass & Singer, Ltd.

[73] Assignee: Photofinishing, Corp.

[21] Appl. No.: 538,948

[22] Filed: Oct. 4, 1983

Related U.S. Application Data

[62] Division of Ser. No. 139,462, Apr. 11, 1980.

[51] Int. Cl.³ G03D 15/01

[52] U.S. Cl.

[58] Field of Search

[56] References Cited

The present invention relates to a copying machine adapted to copy framed transparencies. Copying machines are primarily designed to copy negatives on roll film. However, such copiers should also be able to provide prints from framed transparencies.

5

It is a first object of the invention to feed framed transparencies to the printing station so that they are accurately positioned during exposure.

10 It is another object to integrate the feed system into existing copying machines of the type where the light of the copying lamp is directed to the original to be copied by means of a direction reversing mirror.

15 For this purpose, the inventors have simply exchanged the commonly fixed operator table having drive means for roll material by an accessory table comprising a chain having trays for the framed diapositives and being stepwise driven through the copying station.

20 The single Figure shows the accessory table according to the invention. At the printing station 1 of the copying machine the transparencies 5 must be positioned in the image plane of a lens 2 which images them onto a film frame on the film 3. The copier lamp housing including the lamp, the shutter and the color filters, is
25 not shown, but it is to be understood that it is positioned behind the 90° mirror 4 which directs the illuminating light upwards.

The accessory table comprises two polygonal rollers 6,7 stepwise driven in the direction of arrows 8 and supporting an endless chain
30 consisting of pivotally intercoupled flat links 9 including trays 10. The base of the tray has a rectangular aperture greater than the film portion within the frame. The outwardly extending rims of each tray 10 fit closely on all four sides with the transparency frame. The transparency is held down during exposure
35 in the printing station by means not shown.

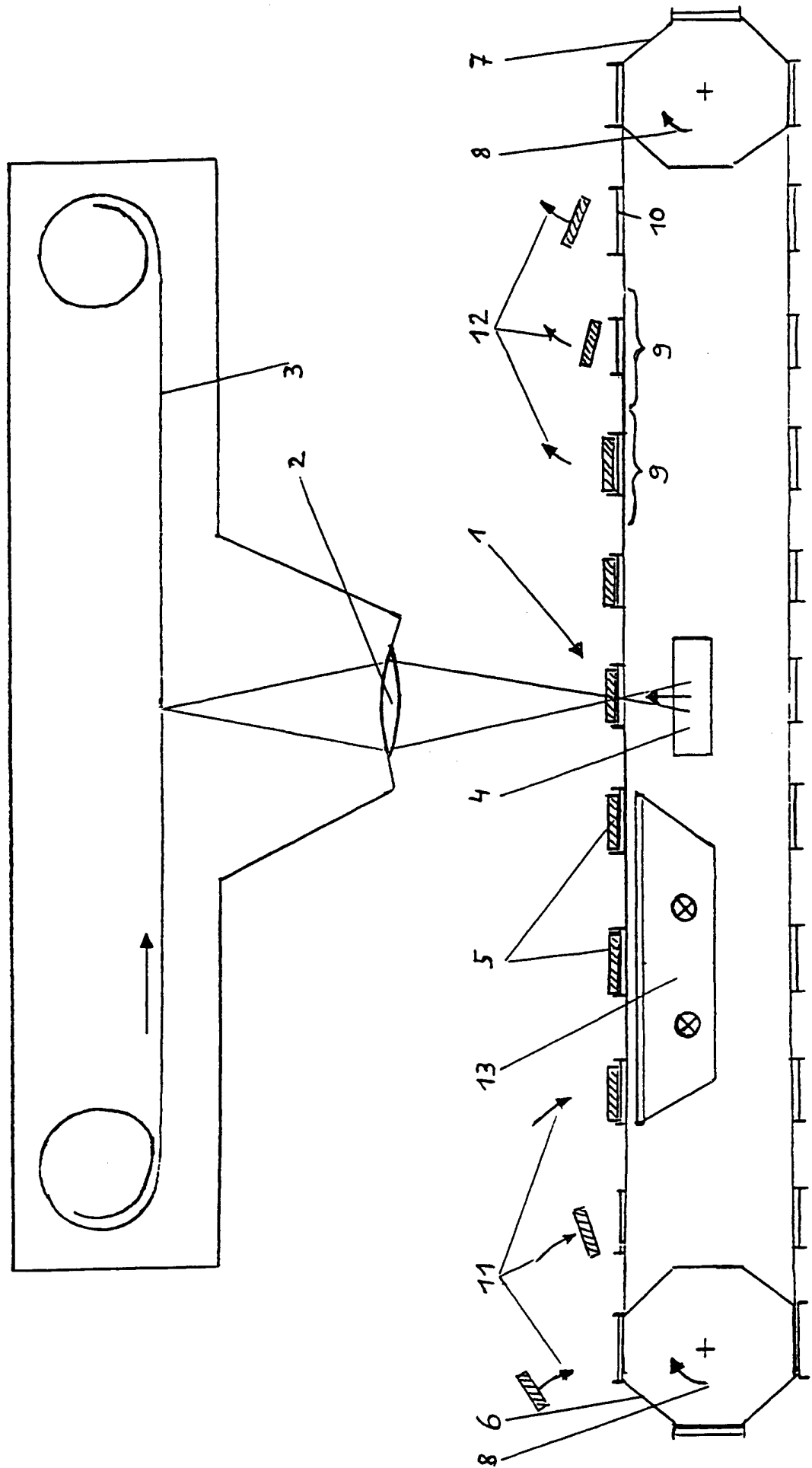
The operator can load framed transparencies on the left side of the printing station 1 (indicated by arrows 11) and can remove them on the right side of the printing station (indicated by arrows 12).

Optionally, there is provided a lamp box 13 to give the operator
5 the possibility to observe the transparency and to enter copy correction data. Following an exposure, the chain is automatically transported one tray forward in synchronism with one frame on film 3.

10

C L A I M

Accessory table for a copying machine equipped with a copying light direction changing mirror (4), for copying framed transparencies (5), the table comprising two rollers (6,7) having polygonal cross-section, an endless chain consisting of pivotally intercoupled flat links including trays (10) of the size of the framed transparencies and being wound around the rollers, the upper run of the chain being fed through the printing station stepwise tray by tray.



1 438 474

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A1

DEMANDE
DE BREVET D'INVENTION

(21)

N° 66 29175

(54) Procédé pour copier des diapositives

(51) Classification internationale. (Int. Cl 2 : G03B 27/00)

(22) Date de dépôt 28 novembre 1966

(33) (32) (31) Priorité revendiquée : *Demande de brevet déposée en France, le 29 novembre 1965,*
n. 3.713/65.(41) Date de la mise à la disposition du
public de la demande B.O.P.I. — «Listes» n. 26 du 27-6-1967.

(71) Déposant Société dite : Société de copieurs, résidant en France

(72) Invention de :

(73) Titulaire : *Idem* (71)(74) Mandataire : Cabinet Tartarin 107, boulevard Tarascon,
75017 Paris.

La présente invention se rapporte à un procédé pour copier des diapositives encadrées sur un copieur fonctionnant à la lumière du jour.

5 Il existe sur le marché des copieurs qui peuvent copier aussi bien des négatifs que des diapositives, à condition que celles-ci soient assemblées en bandes. En général après le développement, les films de diapositives sont découpés en bandes d'environ cinq images, ou bien chaque image est encadrée séparément. Un tel copieur peut
10 aussi être utilisé pour des commandes peu fréquentes de copies de diapositives encadrées. Ceci est cependant difficile à cause de l'espace restreint au niveau de la station de copiage d'un copieur installé dans des locaux normalement éclairés ; cet espace restreint ne permet pas d'introduire manuellement une à une les
15 diapositives, la place disponible étant limitée par le support de l'objectif.

La présente invention se fixe comme objectif de développer un procédé permettant l'introduction de diapositives encadrées dans la
20 station de copiage de tels copieurs tout en assurant un positionnement précis. Il s'est avéré que l'assemblage en bande de plusieurs diapositives encadrées à l'aide de rubans adhésifs n'est pas praticable car les rubans adhésifs ne peuvent pas être retirés sans laisser de traces sur les diapositives. Le procédé selon la
25 revendication 1 est économique, des rangées rigides de diapositives peuvent être poussées ou tirées de la station de copiage et positionnées de façon précise.

La figure 1 montre la station de copiage d'un copieur utilisable à
30 la lumière du jour. La figure 2 montre une rangée de diapositives encadrées.

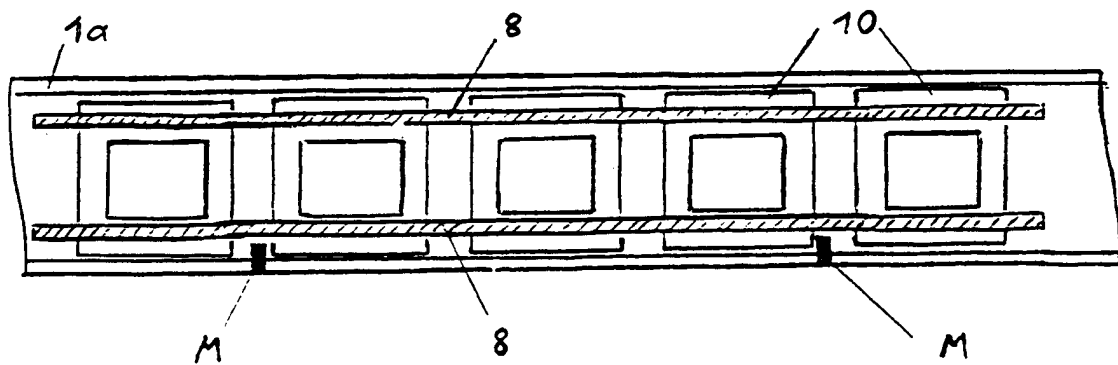
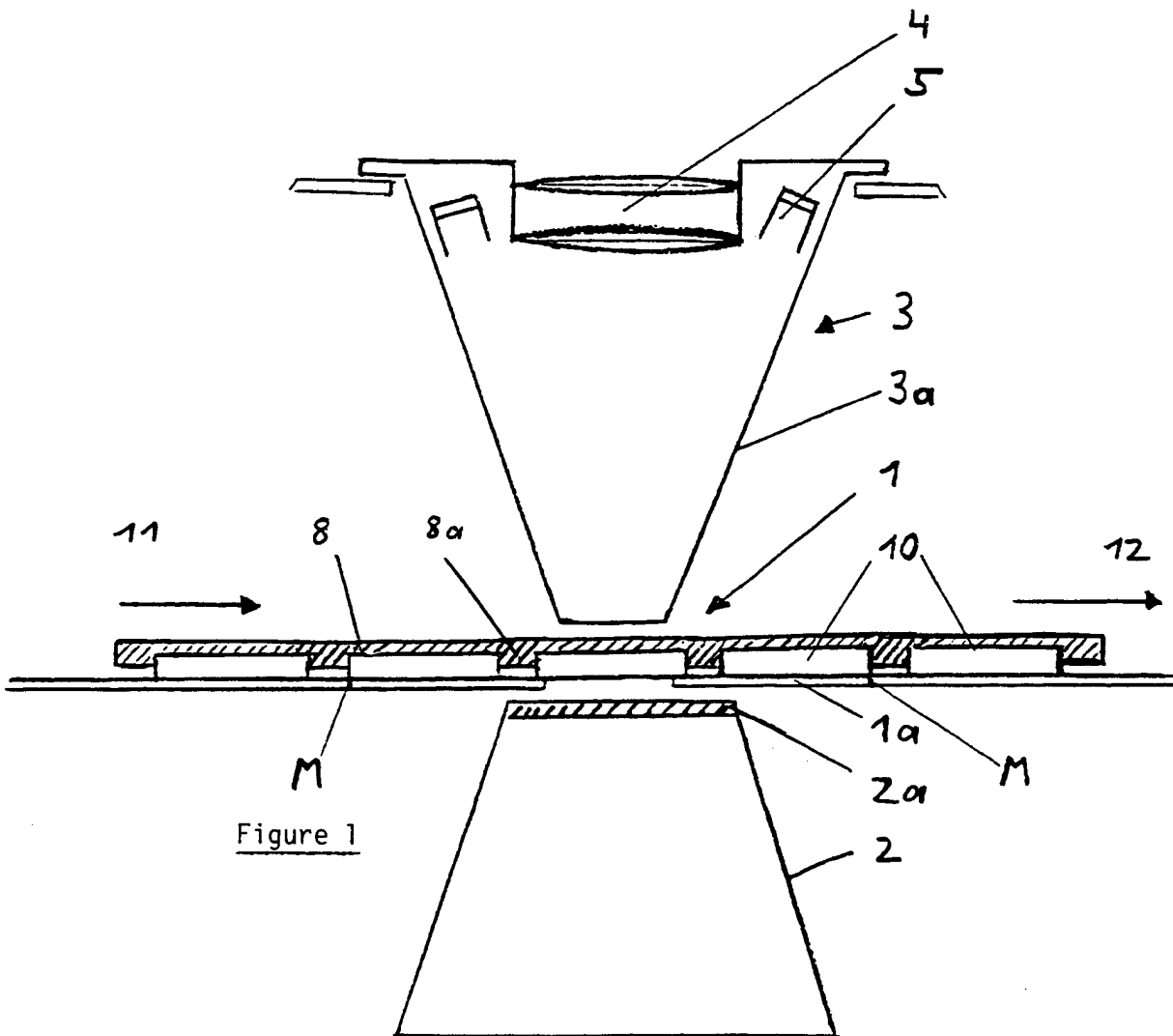
Dans la figure 1 la table d'originaux pour les films négatifs ou diapositives est désignée par 1. Elle comporte notamment un masque
35 la pour le format d'originaux utilisé.

L'éclairage se fait à l'aide d'un conduit de lumière 2 réfléchissant à l'intérieur pourvu d'un verre dépoli 2a. Le support d'objectif 3 est essentiellement constitué d'un caisson noirci à l'intérieur comportant un élément de soutien servant au support du
5 caisson qui comprend non seulement l'objectif 4 mais également les cellules de mesure 5 de l'intensité des couleurs de l'original à copier. Pour que la lumière du jour ne fausse pas les mesures des cellules de mesure 5, le caisson s'étend sous forme d'un cache de lumière 3a pratiquement jusqu'à l'original à copier, rendant ainsi
10 l'introduction manuelle des originaux séparément dans la station de copiage quasiment impossible.

Pour copier des diapositives encadrées 10 il faut tout d'abord glisser dans la table d'originaux un masque la suffisamment large
15 et sans rouleaux de transport. Des repères M correctement adaptés à la largeur des saillies 8a prévues sur les réglettes 8 définies ci-dessous, sont prévus sur le masque à des endroits bien visibles. Ils indiquent à l'opérateur qu'une diapositive se trouve dans la position de copiage. La présente invention prévoit d'assembler les
20 diapositives 10 en une rangée rigide de par exemple cinq cadres à l'aide de réglettes en plastique 8, de sorte qu'il soit facile de les introduire manuellement (flèche 11) ou de les retirer (flèche 12) manuellement de la station de copiage. Comme les réglettes ne comportent pas de rubans adhésifs, elles peuvent être
25 enlevées facilement après le copiage.

R E V E N D I C A T I O N

Procédé pour copier des diapositives encadrées à l'aide d'un copieur fonctionnant à la lumière du jour, comportant un support d'objectif (3) avec des cellules de mesure (5) ainsi qu'un cache de lumière (3a) s'étendant jusqu'au modèle à copier, caractérisé en ce qu'un masque de copiage (1a) de la largeur des diapositives encadrées est glissé dans la table d'originaux, que plusieurs diapositives encadrées sont assemblées à l'aide de réglettes de positionnement rigides (8) en une rangée qui est déplacée manuellement à travers la station de copiage.



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ANNEX 1 / ANNEX 1 / ANNEX 1

Deutsch	English	Français	Dansk	Italiano	Nederlands	Svenska
gehindert	hindered	gérée	forstyret, hæmmet	ostacolato	belemmerd	hindrad
upright	upright	longeron	stigevang	longherone	boom	stångare
rungs	rungs	échelons	stigeleir	pioli	sporen	stegpinnar
combs	combs	peignes	kamme	pettini	kammen	kammar

ANNEX 3

Deutsch	English	Français	Dansk	Italiano	Nederlands	Svenska
Bandform	tape shape	sous forme de bande	båndform	in forma di banda	in vorm van een band	bandformig
Zentriertrichterle	centering wells	caissons de centrage	gang for centring	pozzello di centraggio	centrerschachten	centerschakt
Keile	wedges	coins	kile	cunei	keien	kilar
Zweikomponentenkleber	two component adhesive	colle à deux composants	klæbstof bestående af to komponenter	adesivo a due componenti	twee componentenlijm	två komponentlim
maschinell lesbar	machine-readable	lisible machinement	maskinel læsbar	leggibile a macchina	maskinleesbar	maskinläsbar
Strichcode	bar code	code à barres	stregkode	codice a barre	streepjescode	streckkod

ANNEX 4

English	Deutsch	Français	Dansk	Italiano	Nederlands	Svenska
punched	gestanzt	poinçonné	udstandset	perforato	gestanst	stansad
obliquely	schräg	obliquement	skaevl	obliquamente	schuin	sned

ANNEX 5

Français	Deutsch	English	Dansk	Italiano	Nederlands	Svenska
moyens de retenue	Niederhalter	holddown means	nedtrykker	mezzi di ritenzione	aandrukmiddel	nedtryckare
rebords	Lappen	flaps	flab	f lembi; falde	lappen	flappar
ventouses	Saugköpfe	suction heads	sugekopper	ventose	aanzuigkoppen	sugkoppar

ANNEX 7

Français	Deutsch	English	Dansk	Italiano	Nederlands	Svenska
caisson	Kasten	box	kasse	scatola	doos	låda
réglette de positionnement	Positionierleiste	positioning ledge	positioneringsstang	regolo di posizionamento	positioneringsrail	positioneringsstång

ANNEX 8

Deutsch	English	Français	Dansk	Italiano	Nederlands	Svenska
Haftkraft	peeling strength	résistance au décollement	klæbekraft	resistenza di scollamento	kleefkracht	adhesionskraft
Markteinführung	commercialisation	introduction au marché	kommercialisering	commercializzazione	introduc tie op de markt	införandet på marknaden