

WIPO



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WORLD INTELLECTUAL PROPERTY ORGANIZATION

GENEVA

**INTERNATIONAL PATENT COOPERATION UNION
(PCT UNION)****MEETING OF INTERNATIONAL AUTHORITIES
UNDER THE PATENT COOPERATION TREATY (PCT)****Fourteenth Session
Geneva, February 5 to 7, 2007****STANDARD OF DRAWINGS REQUIRED FOR
INTERNATIONAL SEARCH AND PRELIMINARY EXAMINATION***Document prepared by the Secretariat*

SUMMARY

1. Rule 11 sets out various requirements for the presentation of drawings (as well as other parts of the international application). However, according to Rule 26.3, the receiving Office checks drawings destined for inclusion in the published application for compliance with these requirements only “to the extent necessary for the purpose of reasonably uniform international publication”. There is no direct procedure for the International Bureau or the International Searching Authority to require replacement drawings where it is felt that the original drawings were inadequate to meet their needs.

2. The Meeting is invited to discuss whether the provisions of Rules 11 and 26 meet the needs of International Searching Authorities and whether any other arrangements could be envisaged which would better meet those needs and also improve the value of drawings in the international publication to the applicant, third parties and designated Offices.

BACKGROUND

3. Rule 11 sets out a number of requirements relevant to the drawings, the main ones being as follows:

“Rule 11

Physical Requirements of the International Application

...

11.2 *Fitness for Reproduction*

(a) All elements of the international application (i.e., the request, the description, the claims, the drawings, and the abstract) shall be so presented as to admit of direct reproduction by photography, electrostatic processes, photo offset, and microfilming, in any number of copies.

(b) All sheets shall be free from creases and cracks; they shall not be folded.

(c) Only one side of each sheet shall be used.

(d) Subject to Rule 11.10(d) and Rule 11.13(j), each sheet shall be used in an upright position (i.e., the short sides at the top and bottom).

11.3 *Material to Be Used*

All elements of the international application shall be on paper which shall be flexible, strong, white, smooth, non-shiny, and durable.

...

11.6 *Margins*

...

(c) On sheets containing drawings, the surface usable shall not exceed 26.2 cm x 17.0 cm. The sheets shall not contain frames around the usable or used surface. The minimum margins shall be as follows:

- top: 2.5 cm
- left side: 2.5 cm
- right side: 1.5 cm
- bottom: 1 cm.

...

11.11 *Words in Drawings*

(a) The drawings shall not contain text matter, except a single word or words, when absolutely indispensable, such as “water,” “steam,” “open,” “closed,” “section on AB,” and, in the case of electric circuits and block schematic or flow sheet diagrams, a few short catchwords indispensable for understanding.

(b) Any words used shall be so placed that, if translated, they may be pasted over without interfering with any lines of the drawings.

...

11.13 *Special Requirements for Drawings*

(a) Drawings shall be executed in durable, black, sufficiently dense and dark, uniformly thick and well-defined, lines and strokes without colorings.

(b) Cross-sections shall be indicated by oblique hatching which should not impede the clear reading of the reference signs and leading lines.

(c) The scale of the drawings and the distinctness of their graphical execution shall be such that a photographic reproduction with a linear reduction in size to two-thirds would enable all details to be distinguished without difficulty.

(d) When, in exceptional cases, the scale is given on a drawing, it shall be represented graphically.

(e) All numbers, letters and reference lines, appearing on the drawings, shall be simple and clear. Brackets, circles or inverted commas shall not be used in association with numbers and letters.

(f) All lines in the drawings shall, ordinarily, be drawn with the aid of drafting instruments.

(g) Each element of each figure shall be in proper proportion to each of the other elements in the figure, except where the use of a different proportion is indispensable for the clarity of the figure.

(h) The height of the numbers and letters shall not be less than 0.32 cm. For the lettering of drawings, the Latin and, where customary, the Greek alphabets shall be used.

(i) The same sheet of drawings may contain several figures. Where figures on two or more sheets form in effect a single complete figure, the figures on the several sheets shall be so arranged that the complete figure can be assembled without concealing any part of any of the figures appearing on the various sheets.

(j) The different figures shall be arranged on a sheet or sheets without wasting space, preferably in an upright position, clearly separated from one another. Where the figures are not arranged in an upright position, they shall be presented sideways with the top of the figures at the left side of the sheet.

(k) The different figures shall be numbered in Arabic numerals consecutively and independently of the numbering of the sheets.

(l) Reference signs not mentioned in the description shall not appear in the drawings, and vice versa.

(m) The same features, when denoted by reference signs, shall, throughout the international application, be denoted by the same signs.

(n) If the drawings contain a large number of reference signs, it is strongly recommended to attach a separate sheet listing all reference signs and the features denoted by them.

...”

4. Further elaboration of these requirements appears in paragraphs 143 to 175 of the Applicant’s Guide. Of particular note are paragraphs 173 and 174, concerning shading and photographs:

“173. *Is the use of shading permitted?* The use of shading in figures is allowed provided this assists in their understanding and is not so extensive as to impede legibility. Shading may, for instance, be used to indicate the shape of spherical, cylindrical, conical elements, etc. Flat parts may also be lightly shaded. Such shading is allowed in the case of parts shown in perspective but not for cross-sections. Only spaced lines may be used for shading, not fully blacked out areas. These lines must be thin, as few in number as possible and they must contrast with the rest of the drawings.

174. *May a photograph be presented instead of a drawing?* The PCT makes no provision for photographs. Nevertheless, they are allowed where it is impossible to present in a drawing what is to be shown (for instance, crystalline structures). Where, exceptionally, photographs are submitted, they must be black and white, must be on sheets of A4 size, and must respect the minimum margins (see paragraph 148) and admit of direct reproduction. Color photographs are not accepted, nor are color drawings. Photographs are retained by the International Bureau as part of the record copy.”

5. Rule 26 provides, among other things, for how the receiving Office is to approach enforcement of Rule 11:

“Rule 26

Checking by, and Correcting before, the Receiving Office of Certain Elements of the International Application

...

26.3 *Checking of Physical Requirements under Article 14(1)(a)(v)*

(a) Where the international application is filed in a language of publication, the receiving Office shall check:

(i) the international application for compliance with the physical requirements referred to in Rule 11 only to the extent that compliance therewith is necessary for the purpose of reasonably uniform international publication;

...

(b) Where the international application is filed in a language which is not a language of publication, the receiving Office shall check:

...

(ii) any translation furnished under Rule 12.3 or 12.4 and the drawings for compliance with the physical requirements referred to in Rule 11 to the extent that compliance therewith is necessary for the purpose of reasonably uniform international publication.

26.3bis Invitation under Article 14(1)(b) to Correct Defects under Rule 11

The receiving Office shall not be required to issue the invitation under Article 14(1)(b) to correct a defect under Rule 11 where the physical requirements referred to in that Rule are complied with to the extent required under Rule 26.3.

...

26.5 Decision of the Receiving Office

The receiving Office shall decide whether the applicant has submitted the correction within the time limit under Rule 26.2 and, if the correction has been submitted within that time limit, whether the international application so corrected is or is not to be considered withdrawn, provided that no international application shall be considered withdrawn for lack of compliance with the physical requirements referred to in Rule 11 if it complies with those requirements to the extent necessary for the purpose of reasonably uniform international publication.

...”

6. Paragraphs 132 to 136 of the Receiving Office Guidelines set out the requirements of Rule 26, explaining that:

(a) sheets which will be published as part of the international publication (that is, sheets of the international application if filed in a language of publication, or sheets of a translation of the international application into a language of publication) must be checked for compliance with Rule 11 “only to the extent that compliance therewith is necessary for the purpose of reasonably uniform international publication”.

(b) other sheets (that is, sheets of the international application if filed in a non-publication language, or sheets of a translation furnished for the purposes of international search where the international application is already in a language of publication) must be checked for compliance with Rule 11 “to the extent that compliance therewith is necessary for the purpose of satisfactory reproduction”.

7. The Guidelines provide no indication of which of the requirements of Rule 11 are particularly important to ensuring uniform publication or satisfactory reproduction and leave the matter to the judgement of the individual receiving Office.

8. It is recalled that a number of Contracting States have suggested a need to review the requirements of Rule 11 itself, most notably in relation to photographs and color drawings, but also for other matters (see paragraphs 77 to 80 of document PCT/R/WG/8/9).

9. Rule 28 allows the International Bureau to bring defects to the attention of the receiving Office; it is then up to the receiving Office to decide whether or not to request the applicant to correct the defects. There is no formal procedure for the International Searching Authority to request that defects be corrected before the international search is carried out. The Authority may note the defects in the written opinion once the search has been carried out, but there is no provision enabling the applicant to provide replacement sheets in order to assist the international search. The only possibility would seem to be for the Authority to bring the matter informally to the attention of the International Bureau or receiving Office, but the International Searching Authority would need to know when, if ever, replacement sheets might arrive in order to decide when to start the international search.

10. The issues appear to be slightly different for international preliminary examination since the International Preliminary Examining Authority can point out the defects (or rely on the statement made in the written opinion of the International Searching Authority) and has the chance to receive Article 34 amendments in response in time for the establishment of the international preliminary examination report. Nevertheless, it may be difficult to establish that there is no added subject matter, particularly if the deficiencies in the Authority's copy were a result of scanning or copying and it does not have a copy of the originally filed sheets. Furthermore, amendments of the application made at this stage cannot rectify any deficiencies in the search which have been caused by the poor drawings.

FACTORS AFFECTING USABILITY OF DRAWINGS

11. A failure to meet the requirements of Rule 11 will not necessarily affect the ability of International Authorities to conduct a proper international search and preliminary examination. Obviously, the main requirement is that the drawings must be sufficiently clear for the examiner to be able to easily determine the working and scope of the invention in conjunction with the description.

12. National phase processing of the international application by designated Offices is generally done on the basis of the international application as published. While designated Offices during national phase processing will generally have needs equivalent to those of the International Authorities during the international phase, those Offices may also need to consider certain issues to a greater extent than is required solely for the purpose of conducting a high quality search, for example, issues such as clarity and sufficiency of the disclosure. Furthermore, designated Offices may, for national phase processing, decide to require stricter compliance with the requirements of Rule 11, beyond the "reasonably uniform publication" standard applied under Rule 26 during the international phase. Consequently, high quality drawings in the international publication may be important for the applicant to avoid the need to furnish replacement drawings to multiple individual designated Offices during national phase processing. This would imply that, for international publication, the quality standard for drawings is likely to be higher than might be necessary for the purposes of the international search.

13. Some issues to consider include the following:

(a) The receiving Office only conducts a brief formal examination of the drawings rather than evaluating them carefully in conjunction with the description. The formalities examiner does not need to be familiar with the technology involved. It may not be apparent

from a formalities examination whether important details in drawings can be seen clearly, particularly in the case of photographs or drawings which are shaded in a way which does not comply with Rule 11.13(a).

(b) Drawings (especially photographs and greyscales) which appear clear in an international application filed on paper may not reproduce well in photocopies or in scanned electronic versions. This factor may be difficult to evaluate by the receiving Office where the record copy and the search copy are forwarded in paper form and subsequently scanned by the International Bureau and/or the International Searching Authority. On the other hand, where the applicant has filed the international application in multiple copies as may be required under Rule 11.1(b), the search copy as so filed may in fact be of a significantly higher quality than the international application as published (in the form of a scanned image later produced by the International Bureau).

(c) In general, photographs and grayscale drawings contained in international applications filed in electronic form are more likely to be clear when printed since there is no additional scanning step involved.

(d) Even where the clarity of a drawing affects the quality of the disclosure and the question whether the claimed invention is fully supported, this may sometimes be of little significance to the ability to conduct a high quality international search.

(e) If an originally filed drawing is so poorly presented that it significantly reduces the ability to conduct a high quality search, it may not be possible for the defect to be corrected since to do so would be likely to add subject matter. This contrasts with the case where scanning by the receiving Office or by the International Searching Authority has reduced the quality of the drawing which is seen by the examiner as compared to the clear copy originally filed by the applicant.

14. The substantive assessment of drawings by the International Searching Authority may sometimes mean that the Authority can state with more certainty than the receiving Office whether the drawings are adequate “for the purpose of reasonably uniform international publication”. In such cases, it might be desirable for the International Searching Authority at least to draw defects to the attention of the applicant (at the same time informing the receiving Office and possibly also the International Bureau) so that corrected sheets can be provided during the international phase. This would improve the disclosure in the international publication for third parties and avoid the need to provide replacement sheets separately to multiple designated Offices, noting especially that designated Offices usually only have access to the drawings contained in the international application as published and not to those contained in the original home or record copies.

15. The scanning process referred to in paragraph 13(b), above, is a new factor which adds significantly to the difficulties of ensuring that receiving Offices are able to apply a consistent, appropriate standard of test for whether a drawing is adequate “for the purpose of reasonably uniform international publication”, particularly in view of the increasing use of photographs and grayscale drawings. It might be desirable to provide for the International Bureau to notify the applicant direct (at the same time informing the receiving Office) where the original drawings are found not to be suitable for publication.

16. Irrespective of any possible changes to the authority of the International Bureau to prompt the provision of replacement drawings, it may be desirable to improve guidance to receiving Offices on what types of drawings are likely to cause difficulties in reproduction, in order to reduce the number of drawings being provided for international search or international publication which are not fit for their respective purpose.

17. The Annex shows a number of examples of drawings which do not appear to meet the requirements of Rule 11 for one reason or another but have nevertheless been included in an international publication. It seems likely that the search copies concerned would have been of similar quality. The international applications in question were filed with several different receiving Offices. In some cases, the International Bureau drew defects to the attention of the receiving Offices. In some cases, the defective drawings are themselves replacement drawings.

18. The Meeting may wish to comment on which types of defects actually cause difficulties in conducting the international search and whether particular types of defects should result in requests for replacement sheets during the national phase.

19. Other presentational defects related to drawings which are not exemplified in the Annex but which are fairly common within certain technical fields include computer programs, sequence listings or tables relating to sequence listings presented as if they were drawings rather than as an appropriate part of the description. In the case of sequence listings, the International Searching Authority is entitled under the existing Rules to request the furnishing of a sequence listing in electronic form for the purposes of international search. It is not clear whether such defects present any real difficulties either to Offices or to third parties.

20. *The Meeting is invited to discuss:*

(i) whether the standard set in Rule 26 in relation to the checking of drawings is appropriate to the requirements of international search;

(ii) whether any problems arise from the present practices of receiving Offices in applying the standard; and

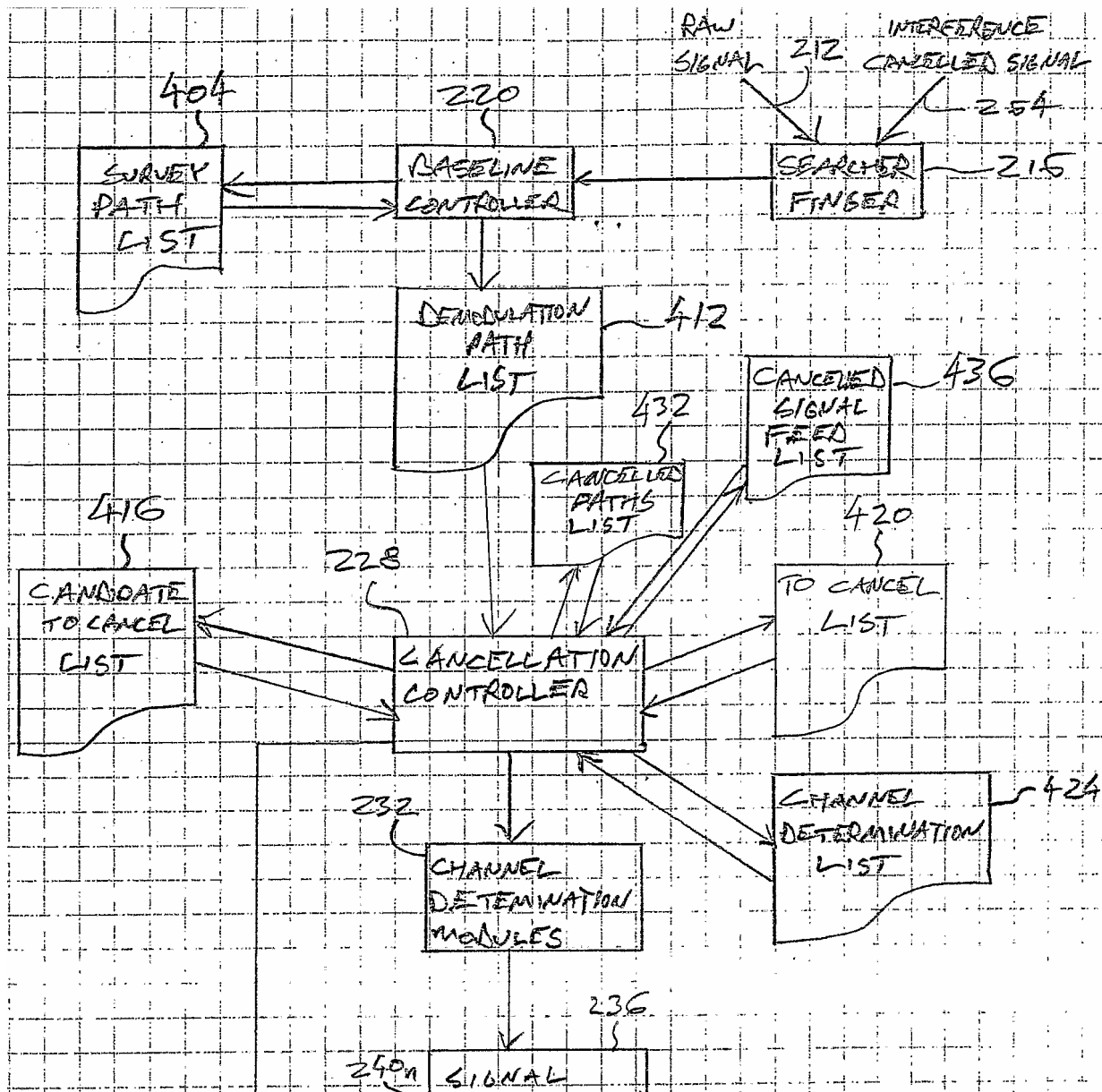
(iii) whether other arrangements for checking of drawings by the International Bureau or by the International Searching Authority might be appropriate for ensuring appropriate quality of drawings for the purposes of international search and of international publication, also having regard to the needs of applicants, third parties and designated Offices.

[Annex follows]

ANNEX

EXAMPLES OF DRAWINGS FROM INTERNATIONAL APPLICATIONS AS PUBLISHED

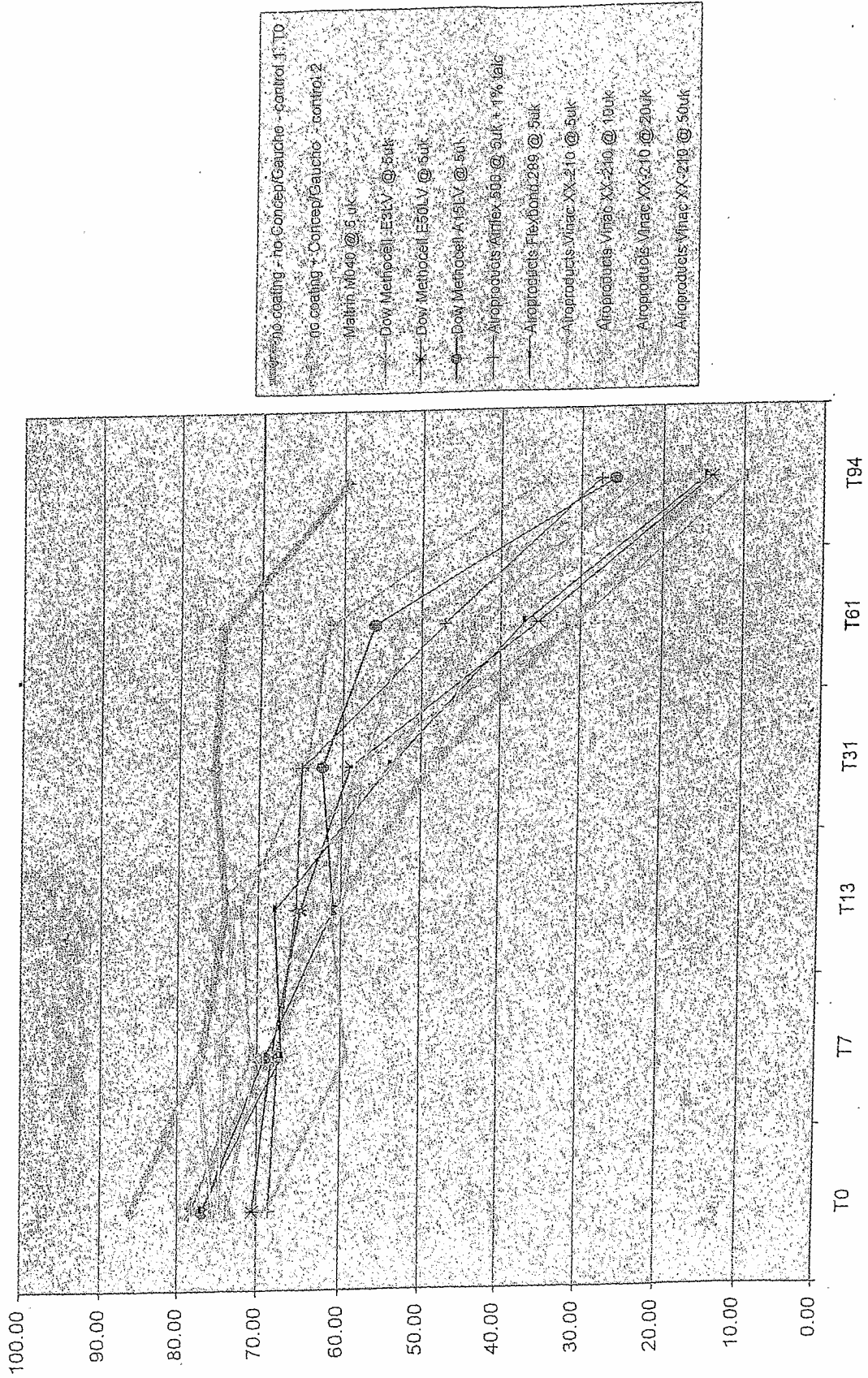
Example 1: (Partial) Drawing on Squared Paper



In this drawing, squared paper is used rather than plain white, making it significantly more difficult to read the diagram (which also contains a large amount of text, in common with many flowcharts).

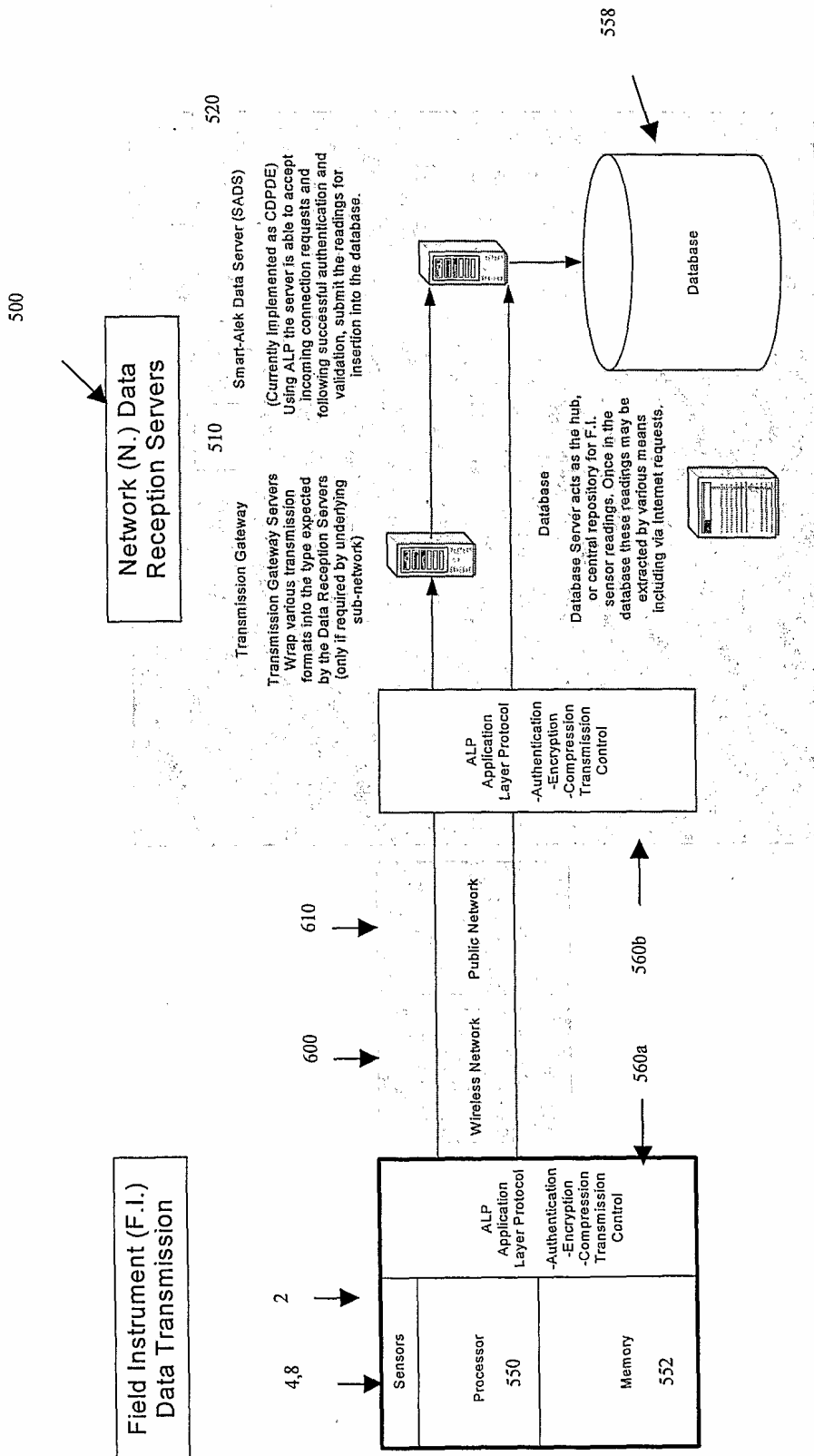
In the particular case, the receiving Office requested replacement sheets, which were supplied, but were received by the International Bureau too late for international publication.

Example 2: Drawing on Grey Background



The gray background of this chart was clear in the record copy, but difficult to scan, resulting in a chart where the lines are difficult to read and much of the text is almost completely illegible.

Example 3a: Large Quantities of Small Text



There is significantly more text on this drawing than is suggested by Rule 11.11(a) and even the largest text is of a smaller size than required by Rule 11.13(h) (0.32cm). There is also a light gray background in the original which has not been reproduced well, though in this particular instance this has not obviously affected the substance or legibility of the drawing.

Example 3b: Large Quantities of Small Text; Problems of Color Images

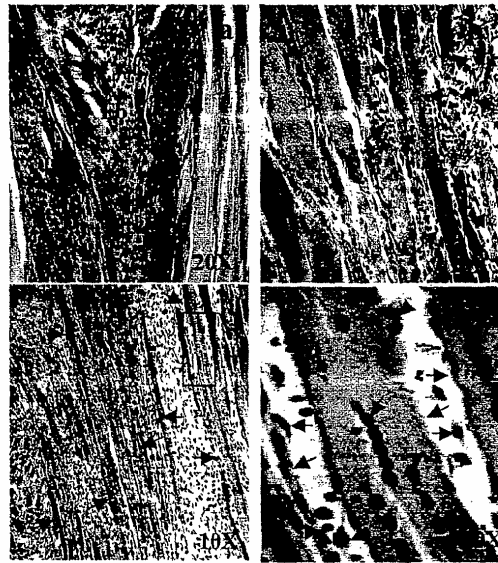


Fig. 3: The histological appearance of strain injured tibialis anterior following treatment with EGJV for 7 days. **a**, The wound site in control were full of inflammatory cells & fibrous tissues (Fb and Inf). **b,c**, In contrast, well-aligned & elongated newly regenerated myotubes (indicated by red arrows) were observed and they bridged the gaps of the wound sites in EGJV treated group. **d**, It is the amplified area in the blue rectangular in **c**. The red arrows indicate the newly regenerated myotubes, the green arrows indicate the central nuclei of the newly regenerated myotubes. The blue arrows suggest the activated satellite cells. Some of them were going to fuse with the myotubes.

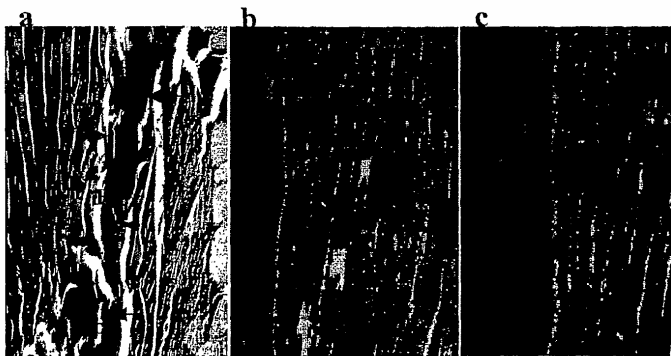


Fig. 4: The histological picture of strain injured tibialis anterior following treatment with EGJV for 14 days. **a**, The wound sites in control were healed with fibrosis (Fb) and the gaps of injuries were contracted (blue arrows). **b,c**, In contrast, well-aligned & elongated newly regenerated muscle fibers completely bridged the gaps of the wounds in EGJV treated group. Rm indicates the newly regenerated muscle fibers and Em shows the pre-existing muscle fibers. The contour of the cutting lines could still be recognized as indicated by arrows. The newly regenerated muscle fibers (less than two weeks old) are differently stained compared with the pre-existing muscle fibers probably due to the protein contents are still different in the two different aged cell groups.

As in Example 3a, this drawing contains large quantities of small text.

In the particular case, the receiving Office objected to the original page on the grounds that the photographs were in color, rather than that there was any problem with the inclusion of large quantities of text. The published page is a fairly good reproduction of the images which appear in the black and white substitute sheet provided by the applicant, but a large amount of detail has been lost compared to the color images in the original sheet, especially in Figure 4 where some of the relevant details cannot be seen and very few of the arrows and marker symbols are visible.

Example 4: Small Charts

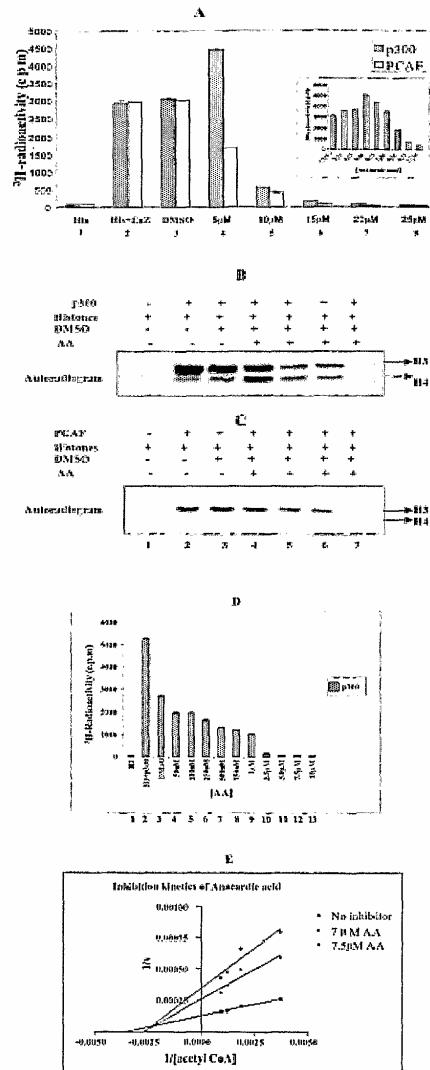
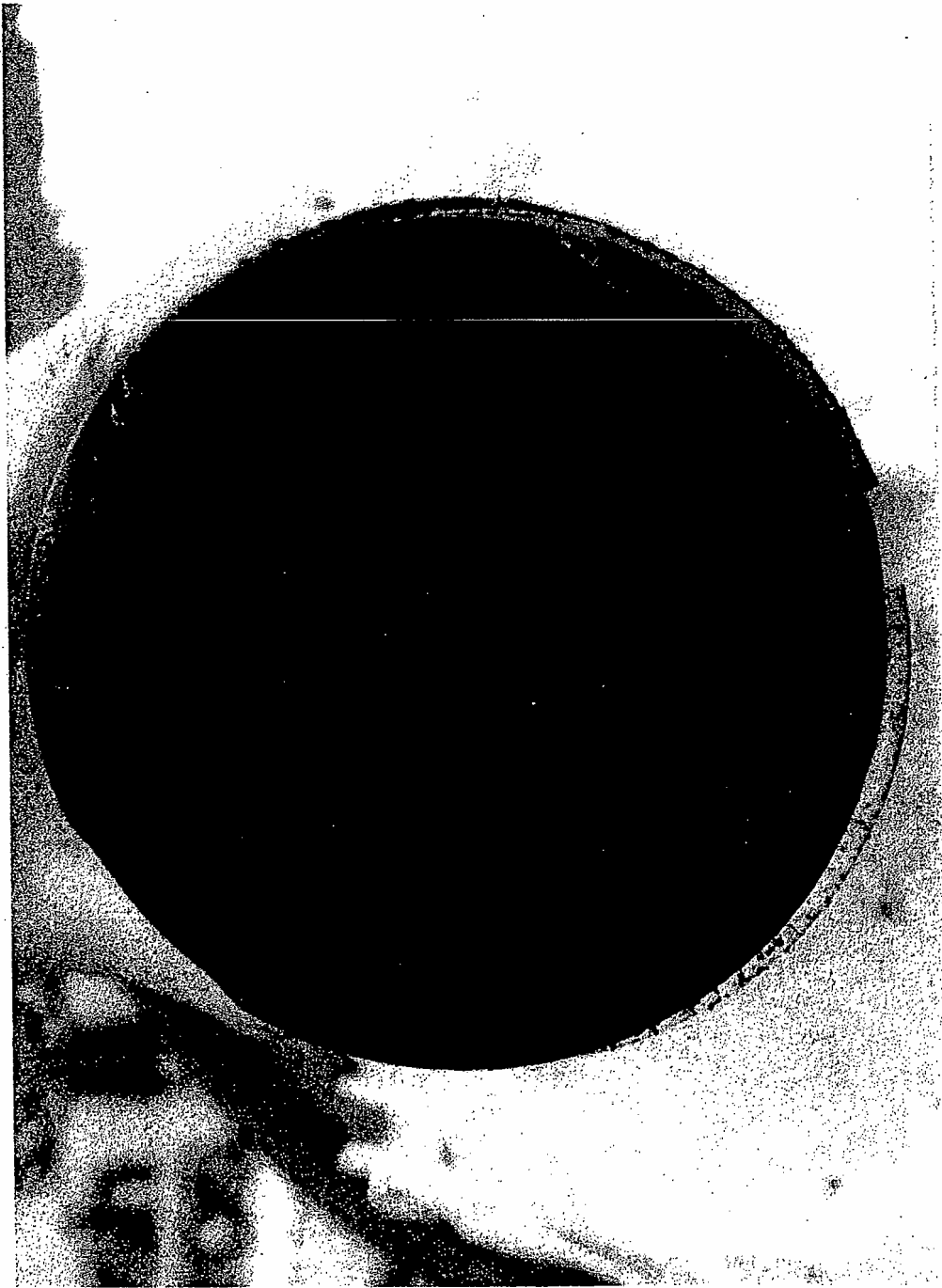


FIGURE-3

The charts in this case are so small that they would be difficult to understand even if the small text was legible.

Example 5: Photograph of Doubtful Quality



In photographs such as these, it will not be apparent from a formalities check whether the picture (which shows a piston top) is of sufficient quality to permit the relevant details to be seen and understood.

Example 5: Photograph With All Detail Lost

Viral antigens

DEN-1 virus-infected hDC

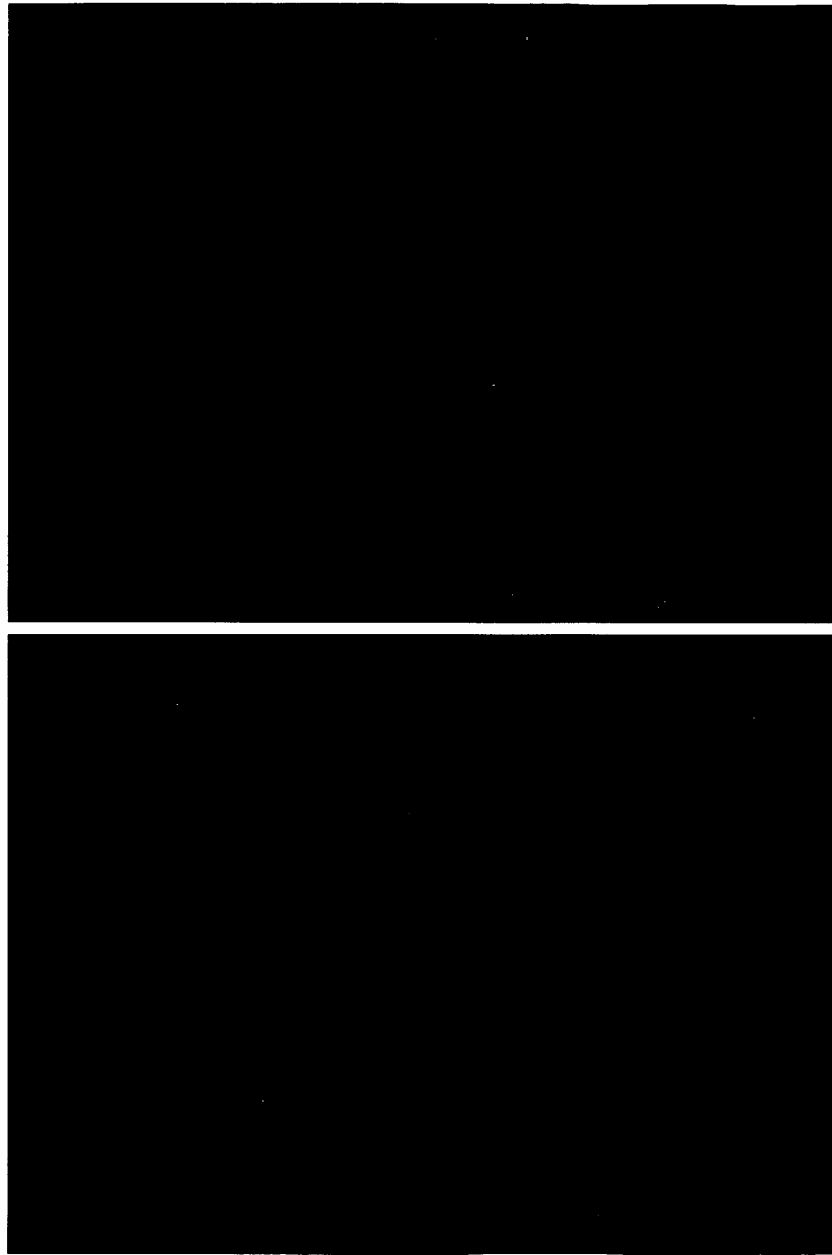
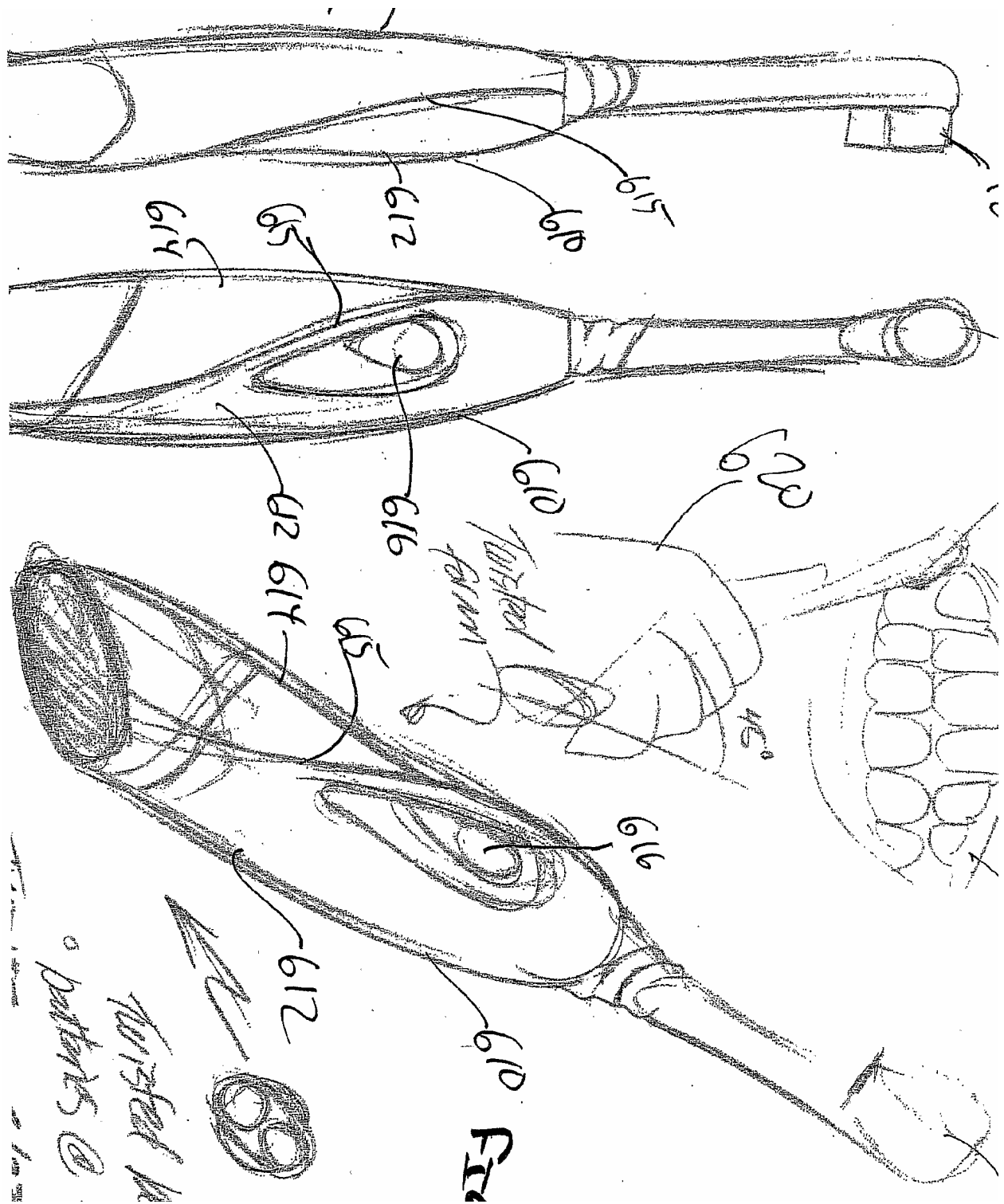


Figure 2B.

TUNEL

None of the detail of the photographs can be seen from the scanned image. In this particular instance, a replacement sheet was provided and used for the international publication, but was also not suitable for scanning the image. The original sheet in the record copy is in color on mat paper, apparently printed using an inkjet printer and cells can clearly be seen in red and green fluorescence. The substitute sheet in the record copy consists of grayscale versions of the photographs on glossy photographic paper and also shows the cells clearly.

Example 6: Drawings Not Drawn With the Aid of a Drafting Instrument



The lines in this drawing are not drawn with the aid of a drafting instrument as required by Rule 11.13(f). The original image also failed to meet the margin requirements, resulting in the left edge being lost in the international publication. The image has been further cropped here so that it can be presented at its original scale within the margins of this document.