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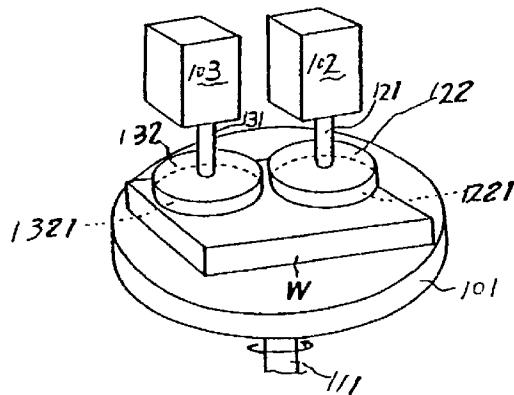
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### (54) Buffing apparatus and method

(57) A wet type buffing method is practiced such that a final buffing step (G) is conducted in a buffing liquid having alkalinity and the remaining buffing steps (A,B) are conducted in other buffing liquid having acidity. A work buffing apparatus is constructed such that a disconnection preventive member is disposed at the foremost end of a shaft (510) for a work, the outside of a buffing wheel (520) comes in contact with the disconnection preventive member, a tightening nut (540) is threadably engaged with the buffing wheel (520), and the buffing wheel (520) is tightly fixed to the shaft (510) by displacing the tightening nut (540) along the shaft. In addition, a surface treatment conducting method is practiced such that each surface treatment is conducted after a work is subjected to barrel buffering before or after the surface treatment. Additionally, a work supporting apparatus includes a buffering medium (762) receiving container having a buffering medium received therein and a work supporting arm (792). Further, a buffering medium (762) employable for a buffing apparatus is composed of grain of soft material or small block of the soft material.

Fig. 2





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| DOCUMENTS CONSIDERED TO BE RELEVANT   |   |  |  |
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| The present search report has been drawn up for all claims  |   |  |  |
| Place of search   | Date of completion of the search  | Examiner   |  |
| THE HAGUE   | 24 June 1998  | Garella, M   |  |
| CATEGORY OF CITED DOCUMENTS   |   | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>& : member of the same patent family, corresponding document |  |
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| <p>The present search report has been drawn up for all claims</p> <table border="1"> <tr> <td>Place of search</td> <td>Date of completion of the search</td> <td>Examiner</td> </tr> <tr> <td>THE HAGUE</td> <td>24 June 1998</td> <td>Garella, M</td> </tr> </table> |  |  |  | Place of search | Date of completion of the search | Examiner | THE HAGUE | 24 June 1998 | Garella, M |
| Place of search   | Date of completion of the search   | Examiner   |  |                 |                                  |          |           |              |            |
| THE HAGUE   | 24 June 1998   | Garella, M   |  |                 |                                  |          |           |              |            |
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Application Number  
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| The present search report has been drawn up for all claims                       |  |                   |  |
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| P : intermediate document  | & : member of the same patent family, corresponding document   |                   |  |



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### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

European Patent  
OfficeLACK OF UNITY OF INVENTION  
SHEET BApplication Number  
EP 97 12 0302

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claim : 1

Wet buffing method

2. Claim : 2

Deposition plating method

3. Claim : 3 to 5

Barrel buffing method

4. Claim : 6 and 6

Buffing method in a vacuum or nitrogen gas atmosphere

5. Claim : 8 and 9

Buffing apparatus with a buffing wheel fitted to a shaft

6. Claim : 10 to 13

Apparatus with a buffing medium feeding device

7. Claim : 14 to 22

Surface treatment method with a barrel buffing step

8. Claim : 23 to 25 and 27 to 29

barrel buffing apparatus with a work supporting arm

9. Claim : 26

buffing medium