



**Sprachen & Dolmetscher Institut**  
München

# **Specific Linguistic Problems in Patent Translation**

© H. Bryant McEwen, M. David Drevs, 2006

Anglophoner Tag 2006  
Munich, 12/13/14 May 2006

# The “Language Problem“

- Member of EP: “It is indeed true that the language problems are considerable. The average cost of a patent is about € 30.000, much higher than in the United States, and that is because 40% of those costs are taken up by language problems – the translation costs [...].”
- EPO’s machine translation project



# Unique Challenges of PT

- Both legal and technical language
  - Patent regulations vary between countries
  - Elusive nature of patents
  - Terminology problem
- Translator must develop expertise
- Teamwork

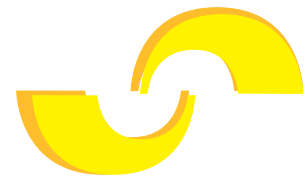
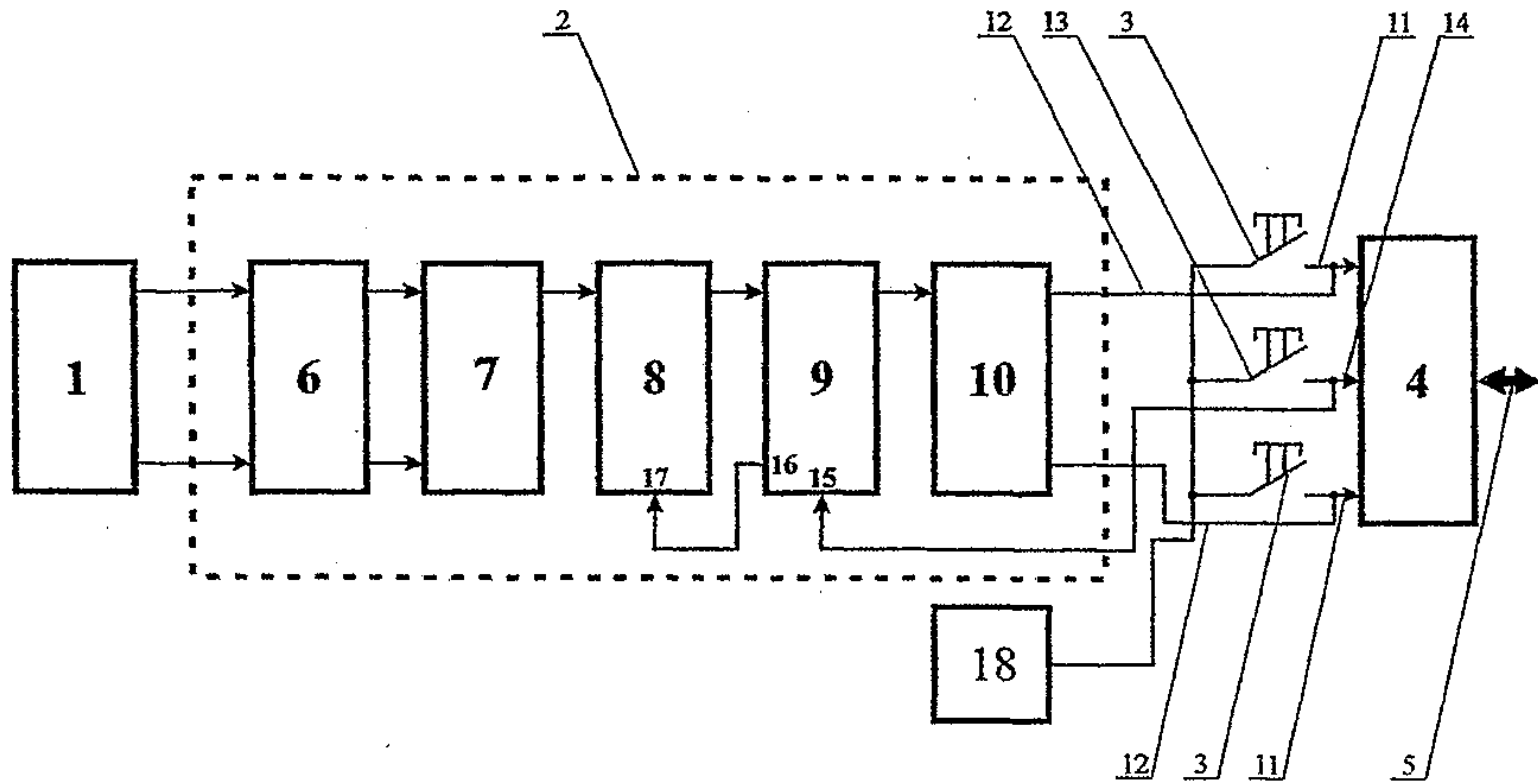


# Language vs. Pragmatics

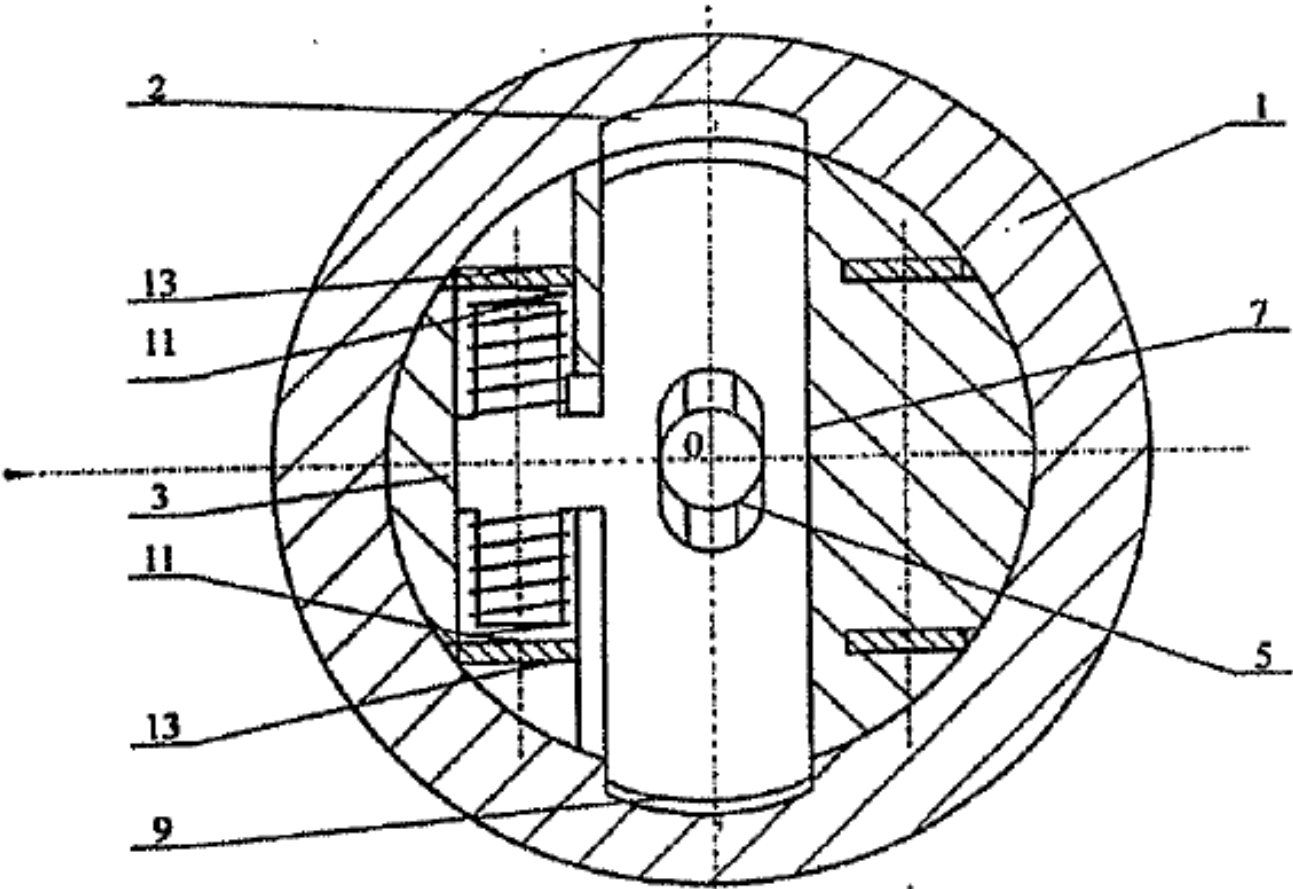
- “Device for Controlling a Computer Mouse-Type Cursor”
- “A Device for Controlling a Mouse-Type Computer Cursor”
- “Fig. 1” → „Fig. 1“, «Фиг. 1»



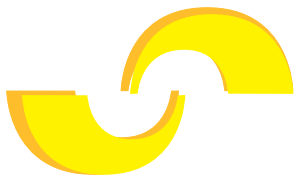
# Enigmatic Figures



# Enigmatic Figures

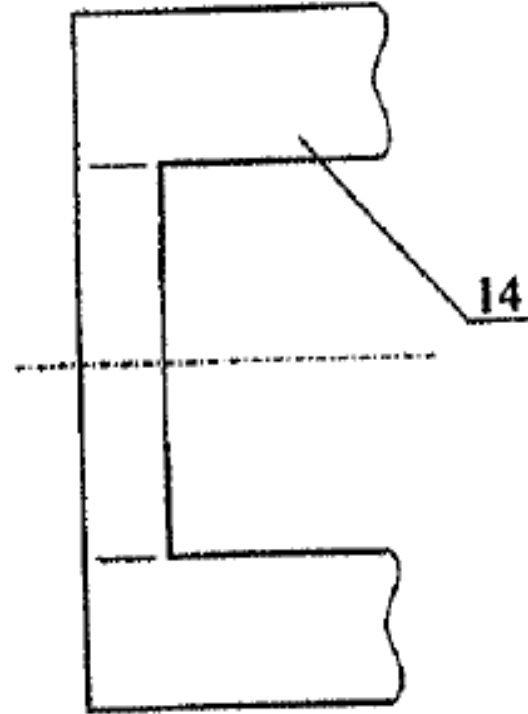


Фиг.2



# Enigmatic Figures

[...] To facilitate assembly, the latter surfaces are embodied in the form of supporting ??? 14.



Фиг.6

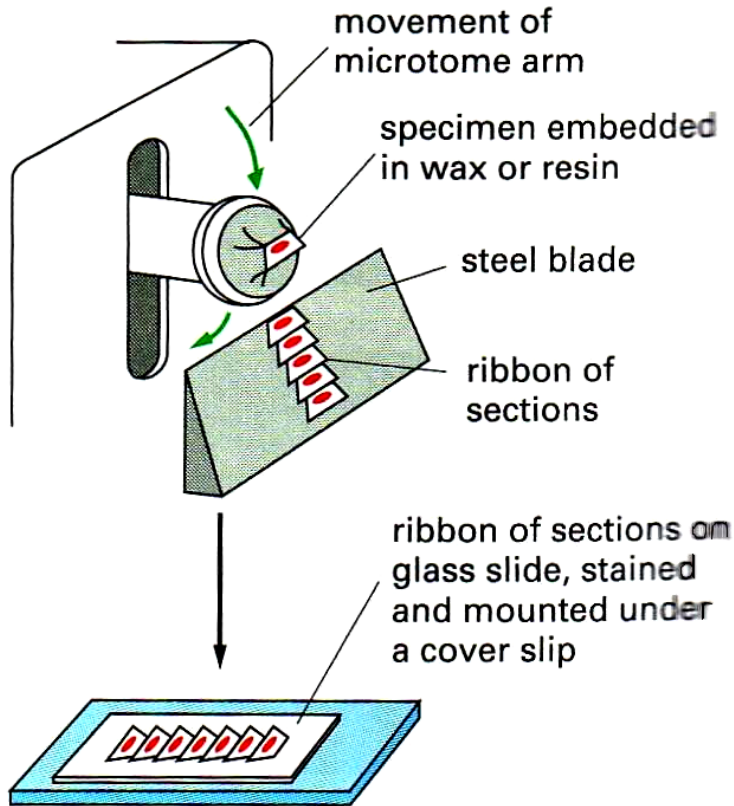


# Coverslipping





# A Microtome

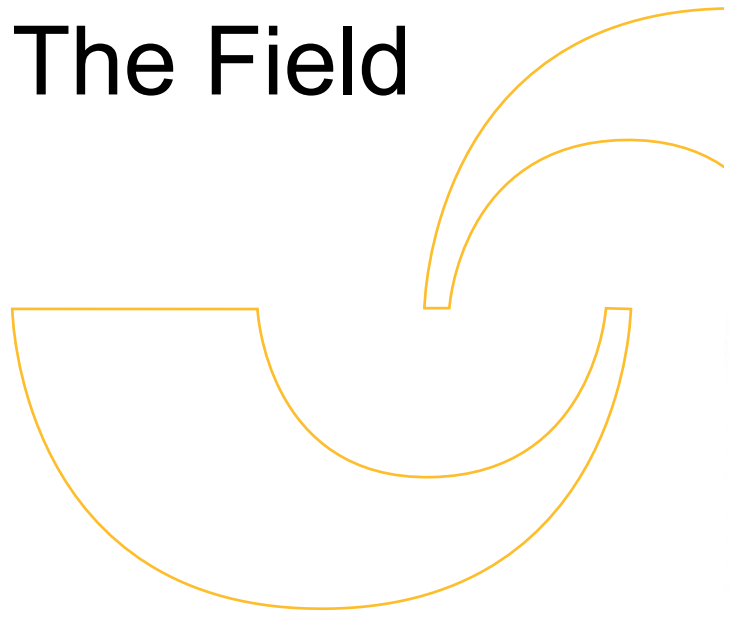


[http://personalpages.manchester.ac.uk/staff/j.gough/lectures/the\\_cell/visualising\\_cells2/microtome.jpg](http://personalpages.manchester.ac.uk/staff/j.gough/lectures/the_cell/visualising_cells2/microtome.jpg)

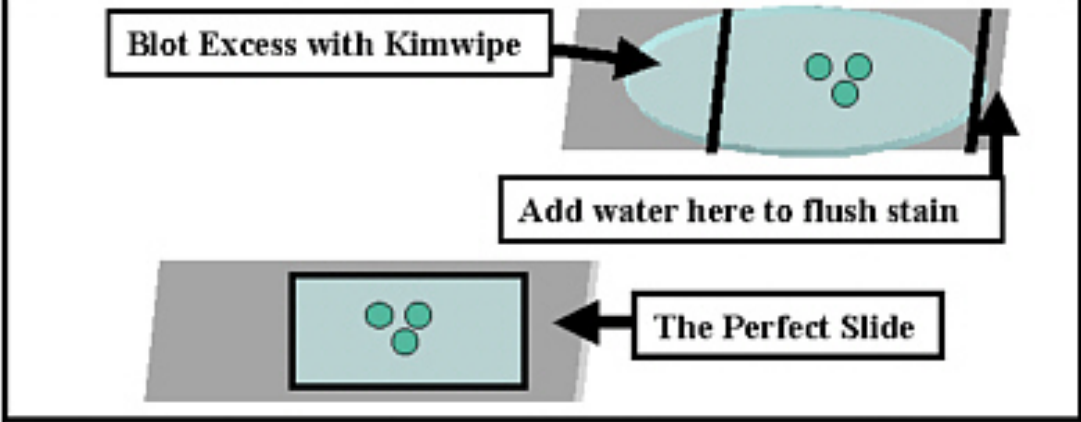
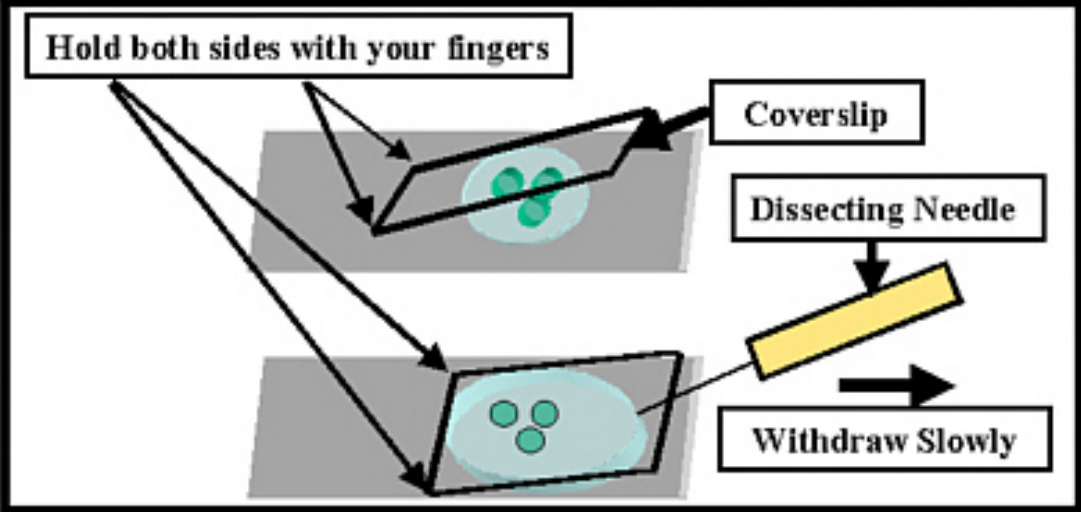
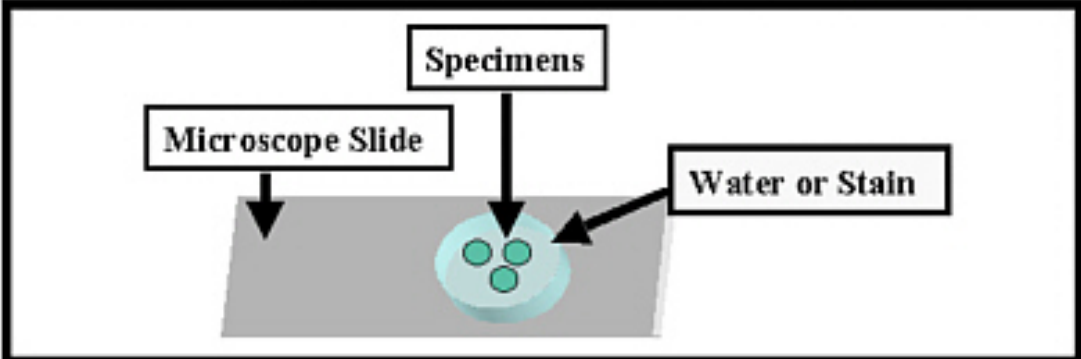
<http://imaginglinux2.omrf.uhsc.edu/virtour/images/equipment/Shandon%20Finesse%20Microtome.jpg>



# The Field



## Adding a Coverslip



<http://www.botany.hawaii.edu/faculty/webb/BOT410/Microscope%20Tutorial/ScopeDOC/CSliphtml.htm>

# The Contract



- Russian PCT application
- Translations into German and English
  - National patents in Germany, USA and Japan
- Caveat lector
  - German translation of Russian original inexact:
    - “Einschluß” should be “Eindeckung”
    - “Einschlußanlage” should be “Eindeckanlage”
  - WO publication also inexact:
    - “Enclosing” should be “coverslipping”
    - “Deckgläser are “coverslips”



# Internet Search

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# Internet Search: Microscopic mounting

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# Internet Search: Histological techniques

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**Web** Results 1 - 10 of about **73,400** for [histological techniques "coverslip"](#). (0.43 seconds)



# Cited Prior Art



Bekannt ist der Consul-Eindeckautomat der englischen Firma Shandon Life Sciences International Ltd. (Shandon Consul Automatic Coverslipper), der einen Deckglas-Speicher mit Schieber, einen Objektträger-Halter, eine Dosiereinheit für das Eindeckungsmedium sowie eine Walzvorrichtung umfasst.



# Shandon Consul<sup>®</sup> Coverslipper

Automated coverslipper.



The Shandon Consul permanently covers slide-mounted specimens using routinely accepted glass coverslips. This is the only method truly compatible with the optics of today's high-performance microscopes and image analysis systems.

## Shandon Consul<sup>®</sup> Specifications

Description		Order Number
Shandon Consul	110-120V, 50/60Hz	74100002
Shandon Consul	220-240V, 50/60Hz	74100001

### Physical Specifications

#### Dimensions (H x W x D)\*

23.6" x 27.2" x 20" (60 x 69 x 51 cm)

\*Clearance Height (hood up) is 40.9" (103.8 cm).

#### Weight

121 lbs. (55 kg)

#### Power Requirements

110-120V or 220-240V, 50/60Hz; 100 VA

Included with Product*	Order Number
40-Slide Support Rod - 2 / Pk. (2 packs supplied)	52610028
Slide Loader	52610046
Xylene Tank Wick - 12 / Pk.	74110259
Slide Clips - 100 / Pk. (2 packs supplied)	74110262
Multiple Slide Support Rod Bench Stand	74110263
Disposable Tray - 10 / Pk.	74110264
24 mm Hopper	74120254
22 mm Hopper	74120255
40 mm Coverslip Holder	74120256
60 mm Coverslip Holder	74120258





### Quality

- Automates coverslipping and maintains **long-term storage quality** of specimens.
- Coverslips **400 slides per hour** using permanent, glass coverslips.



### Safety

- The system **reduces operator exposure to solvents**.
- **Eliminates repetitive motion** which can lead to injury.
- Unit comes with built-in **activated charcoal filter**; vent adapter kit is also available.
- Slides are stored in a **clearant reservoir** before coverslipping.



### Versatility

- Accepts coverslip sizes **22, 24 x 40, 50, 55, 60 mm**.
- Accommodates slides from **0.8 to 1.2 mm in thickness**.

### Accuracy

- **High-precision computerized mountant dispense system** gives the user **9-level** control of mountant dispense volume.
- **Optical sensors** detect incorrect or multiple **coverglass feed**.
- **Roll-on pressure pad** assures smooth adhesion.
- Mountant and roller pad pressure can be adjusted for either **histology or cytology preparations**.



# Bibliographical References

15 Die Eindeckung der Proben erfolgt oft von Hand. Zu diesem Zweck wird die Probe auf einen Glasobjektträger gelegt, sodann ein Tropfen einer Xylol-Lösung des genannten Stoffes aufgetragen und vorsichtig mit einem Deckglas abgedeckt.

20 (G. I. Roskin. Technik der Mikroskopie. Staatlicher Verlag „Sowjetskaja Nauka“, Moskau 1951, S. 152; G. A. Merkulow. Kurze Einführung in die Technik der Pathohistologie. „Medgis“, Leningrad 1951, S. 86; B. Romeis. Technik der Mikroskopie. „IL“, Moskau 1953, S. 191-192.) Eine weitere Methode besteht darin, dass ein Tropfen mit einem in Xylol gelösten Harz auf ein Deckglas passender Größe aufgebracht und der Objektträger mit der Probe sodann vorsichtig von oben herabgesenkt wird, bis die Probe den Lösungstropfen auf dem Deckglas berührt.

25 (R. Lilli. Technik der Pathologie und praktische Histochemie. „Mir“, Moskau 1969, S. 85.)



# Bibliographical References



Specimens are often mounted manually. To do this, the specimen is placed on a microscope slide, a drop of a xylene solution of the above mentioned medium is added and a cover glass (cover slip) is carefully positioned on the specimen.

- 15 (Roskin G. I., Microscopic Technique, "Sowjetskaja Nauka" State Publishing House, Moscow 1951, p. 152; Merkulow G. A., A Brief Introduction to Pathohistological Technique, "Medgis", Leningrad 1951, p. 86; Romeis B., Microscopic Technique, "IL", Moscow 1953, pp. 191-192.) Another method consists of placing a drop of a resin dissolved in xylene on an appropriately sized cover glass and
- 20 then carefully lowering the microscope slide with the specimen on it until the specimen makes contact with the drop of solution on the coverslip (Lilli R., Technique of Pathology and Practical Histochemistry, "Mir", Moscow 1969, p. 85.



# Pleuelstange = Conrod ??

15 gangstellung unterhalb des Deckglases befinden. Der Tisch lässt sich einschließlich der Rollen senkrecht zur Fläche des Deckglases verfahren, wobei die Rollen durch **gefederte Pleuelstangen** abgelenkt werden können.

ble and two rollers that are located beneath the coverslip. The table together with the rollers is adapted to be moved perpendicular to the surface of the coverslip. The rollers may be diverted by spring-biased connecting rods.



# “Coverslipping” as Verb

Mit dem Consul-Eindeckautomaten lassen sich bis zu 400 Proben pro Stunde **eindecken**. Aufgrund dieser hohen Leistung kann er in pathohistologischen Labors erfolgreich eingesetzt werden.

5 The Consul Automatic **Coverslipper** is capable of **coverslipping** as many as 400 specimens per hour. By virtue of this high output, it can be used successfully in pathohistological laboratories.

5 The Consul Automatic **Coverslipper** is capable of **mounting** as many as 400 specimens per hour. By virtue of this high output, it can be used successfully in pathohistological laboratories.

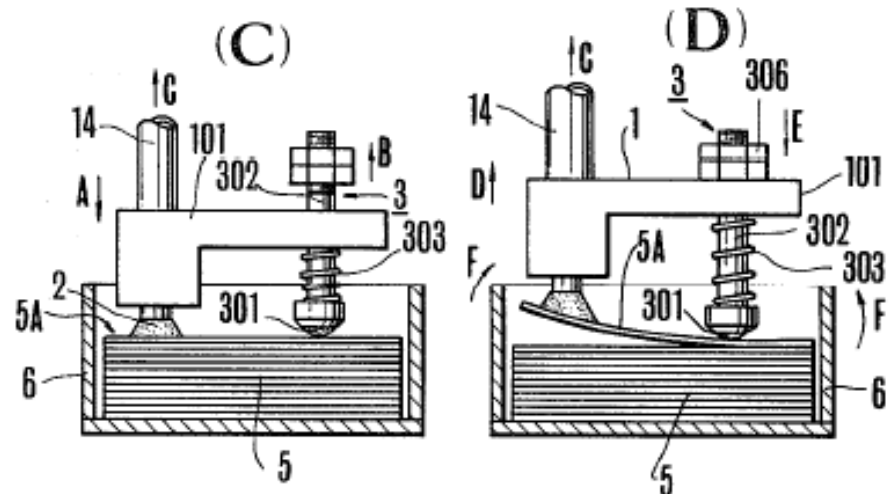


# United States Patent 4428793

Ebenfalls bekannt ist die Eindeckvorrichtung gemäß US-Patent Nr. 4428793, IPK B65C 9/08, veröffentlicht am 31.01.1984, die einen Deckglas-Speicher, einen Tisch zur Aufnahme der Objektträger sowie eine Vorrichtung für die Entnahme des Deckglases aus dem Speicher, seinen Transport zum Objektträger-Tisch und das Auflegen auf den Objektträger. Diese Vorrichtung besteht aus einem Halter, an dem ein Vakuumsauger sowie ein gefederter Drücker angebracht sind, wobei der Sauger höher steht als der Drücker.

10 The pushing bar 302 consists of a sliding pillar part 302C having an outer diameter but allows it to be movably insertable into the perforated hole 106 for pushing bar 302 in the supporting body 101, and a step formed part 302B of a cylindrical shape formed to have a larger outer diameter than the outer diameter of the sliding pillar part 302C and to have a pushing body inserting part 302A of a concave shape at its center, wherein said pushing bar 302 has threads formed at a fore end part at the opposite end against said step formed part 302B.

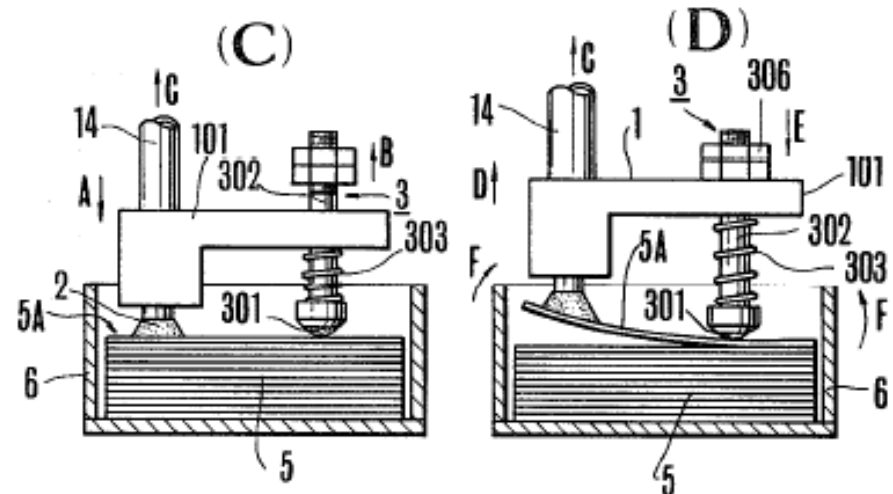
15  
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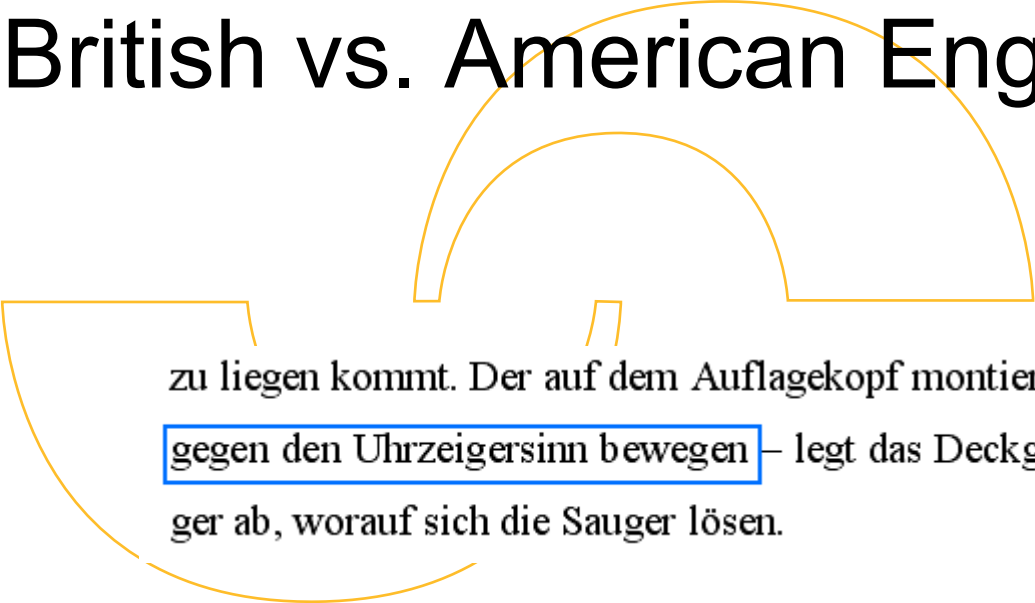
# United States Patent 4428793

Der Nachteil dieser Vorrichtung besteht darin, dass sich ein einzelnes Deckglas mit einer Dicke von max. 0,06-0,25 mm nur schwer von dem Stapel im Deckglas-Speicher abnehmen lässt, umso mehr als bei jedem Entnahmevorgang die Federkraft des Drückers auf den Deckglas-Stapel wirkt. Zudem kann beim Auflegen des Deckglases die zur Kompression der **Stößelfeder** benötigte Kraft zur Beschädigung der Probe führen.

The **spring 303** is made of a coil spring having an inside diameter being larger than the outer diameter of the sliding pillar part 302C of the **pushing bar 302** and being smaller than an outer diameter of step formed part 302B.



# British vs. American English



zu liegen kommt. Der auf dem Auflagekopf montierte Hebel – er lässt sich im und gegen den Uhrzeigersinn bewegen – legt das Deckglas sodann auf dem Objektträger ab, worauf sich die Sauger lösen.

slide. The lever mounted on the application head – it is capable of moving clockwise and counterclockwise – then places the coverslip on the microscope slide, whereupon the suction cups are released.





# United States Patent 5989386

Die in US-Patent Nr. 5989386 beschriebene Vorrichtung soll dazu dienen, „einen großen Prozentsatz einzelner Deckgläser“ zu entnehmen.

This invention relates to an instrument for automatically applying coverslips to microscopic specimen slides in the field of histology and pathology. More particularly the invention relates to a method and apparatus, within such an instrument, for reliably lifting and separating a single glass coverslip from a stack of coverslips. In an alternative form the invention relates to a method and apparatus for mounting a coverslip onto a slide in a manner which produces a higher percentage of acceptable samples than has been previously achievable.

The apparatus described in US Patent Specification No. 5989386 is supposed to remove "a large percentage of individual coverslips".



# Mountant

Ein Objektträger mit einer Probe und einem Tropfen Eindeckungsmedium wird auf die Plattform gelegt. Die Ansaugvorrichtung nimmt das Deckglas mit Hilfe

## Accuracy

- High-precision computerized mountant dispense system gives the user 9-level control of mountant dispense volume.



## Mount'ant

a. 1. Raised; high.

A microscope slide with a specimen and a drop of mounting medium is placed on the platform. The suction means picks up the coverslip with the help of the suc-



# State – Report – Declare – Point out

wird. Danach löst sich der Sauger. Es wird angegeben, dass die Vorrichtung eine beschädigungsfreie Eindeckung histologischer Proben ermöglicht.

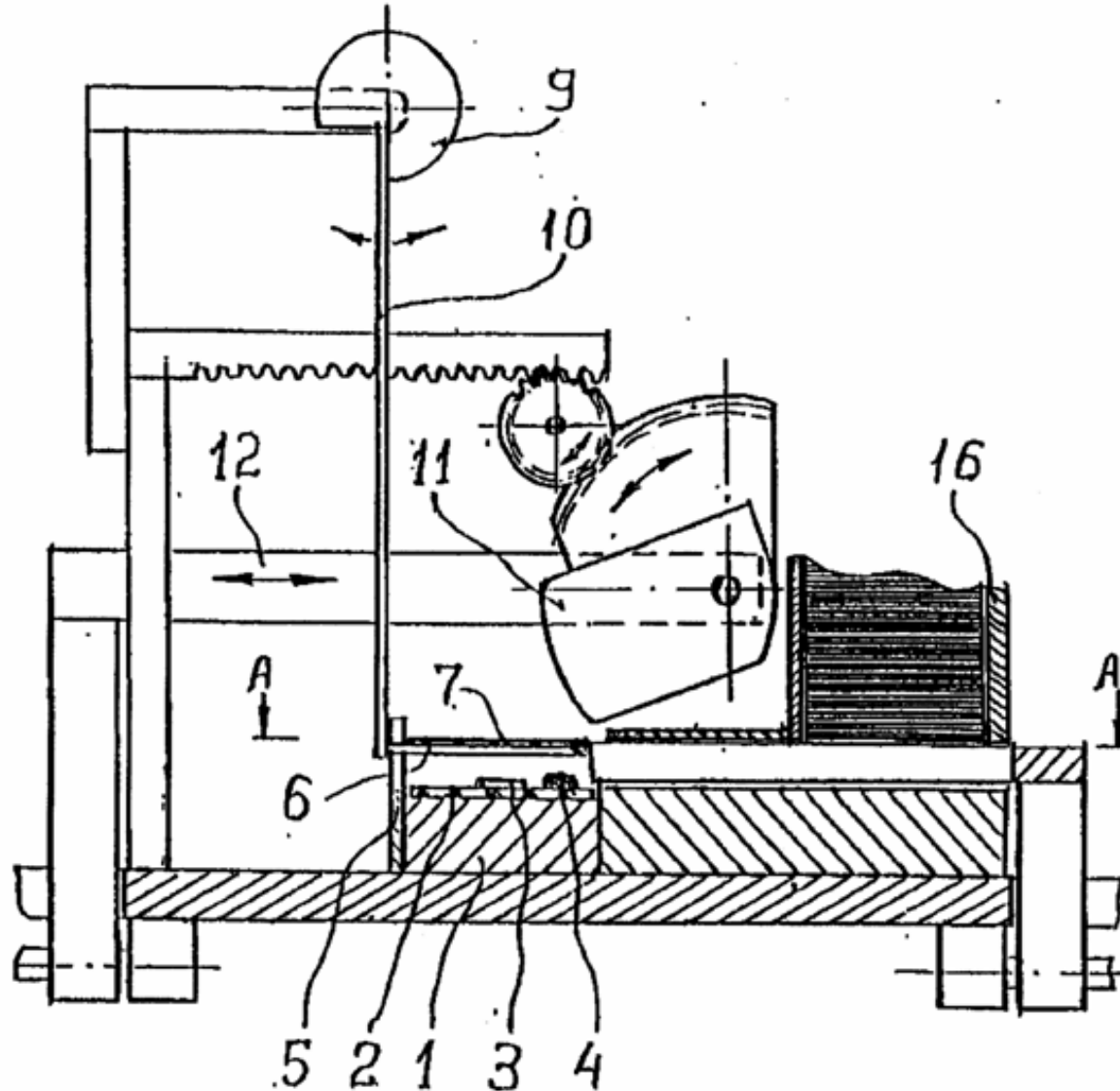
Der Nachteil der genannten Vorrichtung liegt in der Aufnahme des Deckglases mittels des Vakuumsaugers. Diese Konstruktion benötigt eine Vakuumpumpe sowie eine komplexe Steuerung, wodurch sich die Masse der Vorrichtung sowie deren Herstellungskosten erhöhen.

## **Offenbarung der Erfindung**

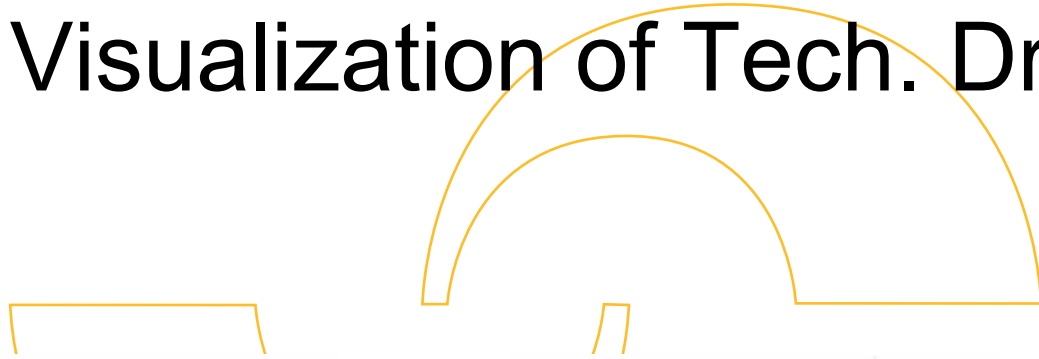
then disengaged. It is claimed that the apparatus is capable of mounting histological specimens without damage.



# Visualization of Tech. Drawings



# Visualization of Tech. Drawings



A-A

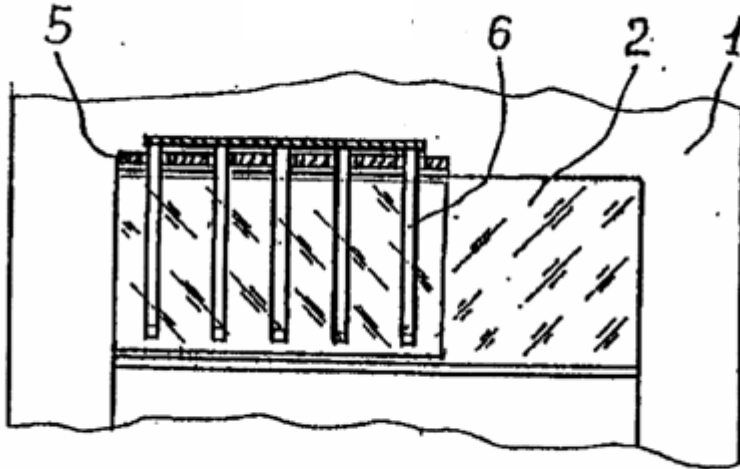


Fig. 3

B-B

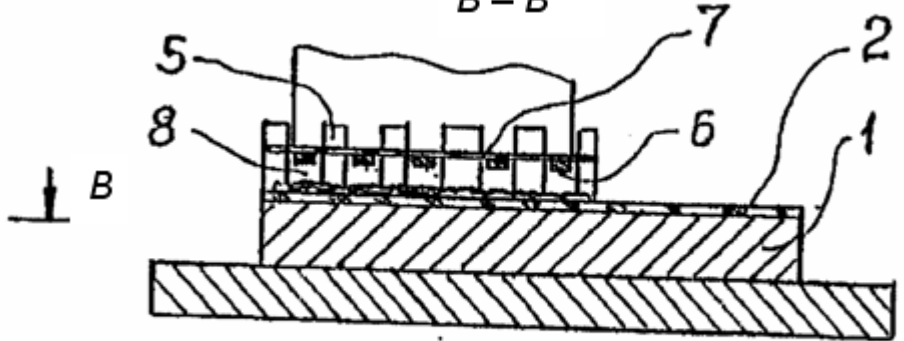


Fig. 4





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# Questions ?

The End