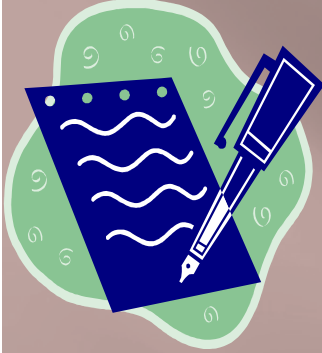


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Por: Prof. Ronaldo Martínez (QEPD)
Actualizada por: Prof. Gladys E. López
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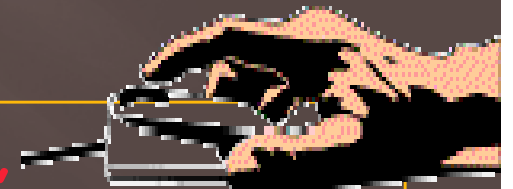
- Para determinar si la puede obtener o si su invento ya ha sido patentado e identificar el “arte previo” requerido.
- Para preparar la solicitud.
- Para mejorar el conocimiento o conciencia de la situación del producto o artefacto a inventar.
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- Para reducir los costos de los abogados /agentes.
- Para producir un análisis de mercado, tecnológico, y/o competitivo.

Describa su Invento



- ¿Cuál es el propósito de mi invento?
- ¿Es un proceso o un producto?
- ¿De qué está hecho? ¿Composición física?
- ¿Cómo se usa? ¿Método?
- ¿Cuáles son los términos comunes y técnicos usados para describir la naturaleza del invento?

Para propósitos de nuestra presentación, vamos a ilustrarla con una búsqueda para un nuevo "MOUSE" de computadora.



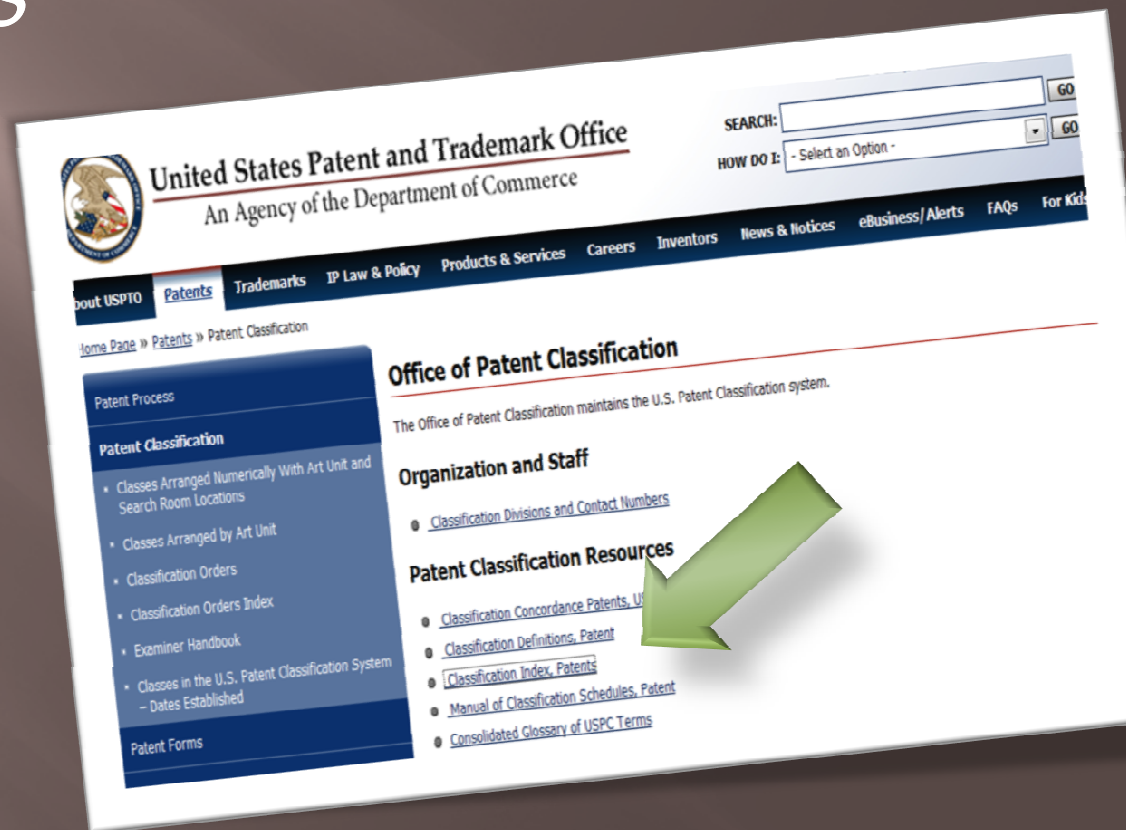
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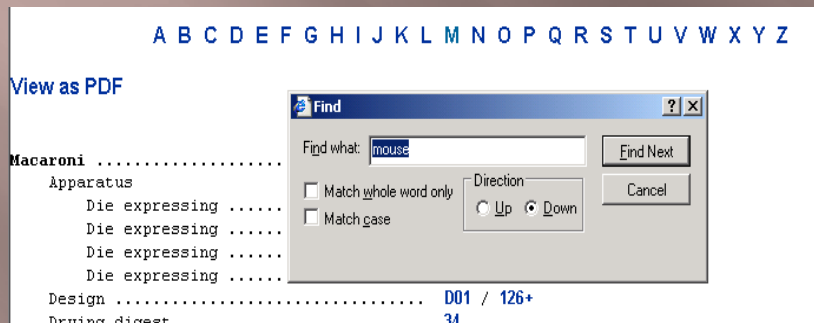
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- Selecciona "Index to the United States Patent Classification (USPC) System" en <http://www.uspto.gov/web/patents/classification/uspcindex/indextouspc.htm>

The screenshot shows a Windows Internet Explorer browser window displaying the USPTO website. The address bar shows the URL: <http://www.uspto.gov/web/patents/classification/uspcindex/indextouspc.htm>. The page title is "Index to the USPC". The main content area features the heading "Index to the United States Patent Classification (USPC) System" and a section titled "Select the format and section (by letter) ...". Below this, there are two rows of links: "Index in HTML" and "Index in PDF", each followed by a sequence of letters from A to Z. A search bar is present with the text "KEY: online business system fees forms help laws/regulations definition (glossary)". At the bottom of the page, there is a footer with navigation links: "HOME | SITE INDEX | SEARCH | eBUSINESS | HELP | PRIVACY POLICY" and a timestamp: "Last Modified: 10/30/2006 12:19:10". The Windows taskbar at the bottom shows the Start button and several open applications: "Inbox - Microsoft Out...", "Index to the USPC - ...", "Microsoft PowerPoint ...", and "Forma Escritorio de I...". The system clock shows "3:11 PM".

Búsqueda del Índice

A. Selecciona “M” para “mouse” o escriba el término en la ventana “Find”



C. Vea los sub-encabezamientos “Computer input & display control...” Vea los números de **clasificación y sub-clas.**

Index to USPC

1. Select what you want...

- Index in HTML
- Index in PDF

2. Select letter ...

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

B. Escriba “mouse” sin comillas (paso opcional)

Mouse

Computer input & display control	345 / 156+
Devices	345 / 156+
Guard	
Piano pedal openings	84 / 233
Multicellular living organisms	800
Traps	43 / 58+

2^{do} paso *Manual de Clasificación*

- Desde el *Index to U.S. Patent Classifications*, seleccione sobre 156 en la lista de clasificaciones (código 345/156).
- Esto lo llevará al *Manual de Clasificación* clase no. 345, más abajo se encuentra la sub-clase no. 163.

Mouse		
Computer input & display control	345 /	156+
Devices	345 /	156+
Guard		
Piano pedal openings	84 /	233
Multicellular living organisms	800	
Traps	43 /	58+

Patents > Guidance, Tools, and Manuals > Classification > Class Schedule	
Class Numbers & Titles Class Numbers Only USPC Index International HELP	
You are viewing a USPC Schedule.	
Class 345 COMPUTER GRAPHICS PROCESSING AND SELECTIVE VISUAL DISPLAY SYSTEMS	
P 156	DISPLAY PERIPHERAL INTERFACE INPUT DEVICE
P 157	· Cursor mark position control device
P 158	· Including orientation sensors (e.g., infrared, ultrasonic,
P 159	· Having variable cursor speed
P 160	· Cursor key
P 161	· Joystick
P 162	· Positional storage means
P 163	· Mouse
P 164	· Rotatable ball detector
P 165	· Photosensor encoder
P 166	· Optical detector
P 167	· Trackball

3^{er} paso Definiciones de *Clasificación*

- Estas son la Definiciones de *Clasificaciones* para todas las Clases 345.
- Baje la pantalla hasta la subclase 163 para más info. Favor ver las referencias "SEE" para ayuda adicional.

A CLASS COMPUTER GRAPHICS PROCESSING AND SELECTIVE VISUAL DISPLAY
345, SYSTEMS
[Click here for a printable version of this file](#)

SECTION I - CLASS DEFINITION

This class provides for processes and apparatus for selective electrical control of two or more light-generating or light-controlling display elements* in accordance with a received or stored image data signal. The image data includes character, graphical information or display attribute data. The image data may include, for example, information data from a peripheral input device, from the reception of a television signal, from the recognition of image data, or from the generation or creation of image data by a computer.

This class also provides for digital data processing systems or methods for data processing for visual presentation, wherein the processing of data includes the creation or manipulation of graphic objects (e.g., artificial images), or text.

Toque abajo

P 163 Mouse:

This subclass is indented under **subclass 157**. Subject matter wherein the cursor mark position device is movable on a fixed surface (e.g., desk top) for controlling the position of cursor mark.

P 164 Rotatable ball detector:

This subclass is indented under **subclass 163**. Subject matter wherein the mouse includes a rotatable ball for detecting movement of the mouse.

SEE OR SEARCH THIS CLASS, SUBCLASS:

167, for using a trackball for moving the cursor position.

4^{to} paso Revisión de las Patentes

Selecciona el ícono de la "P" roja a la izq. del no. de subclase 163.

P 163 **DISPLAY PERIPHERAL INTERFACE INPUT DEVICE:**
This subclass is indented under [the class definition](#). Subject matter wherein the selective electrical control includes means which permits an operator to selectively control a display device*.
(1) Note. The peripheral input devices are used for interfacing with a display device* for controlling the display device* in some manner, such as positioning a cursor or other indicia of the point of specific control.

USPTO PATENT FULL-TEXT AND IMAGE DATABASE

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Searching 1790 to present...

Results of Search in 1790 to present db for:

CCL/345/163: 774 patents.

Hits 1 through 50 out of 774

PAT. NO.	Title
1 6,967,643	Tactile feedback for cursor control device
2 6,965,369	Method and apparatus for smoothing cursor movement in relation to a refresh rate of a display device
3 6,963,333	Automated banking machine apparatus and system
4 6,956,558	Rotary force feedback wheels for remote control devices
5 6,954,198	Ergonomically shaped computer pointing device

Sobre 700 patentes fueron recuperadas. Viendo los títulos, detecte si alguno de ellos se parece a su invento. Si esta lista de subclases se acerca, revísela completa y vea cada imagen.

Su PC tiene que tener TIFF plug-in (próx.)>>

¿TIFF plug-in instalado?

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Notices

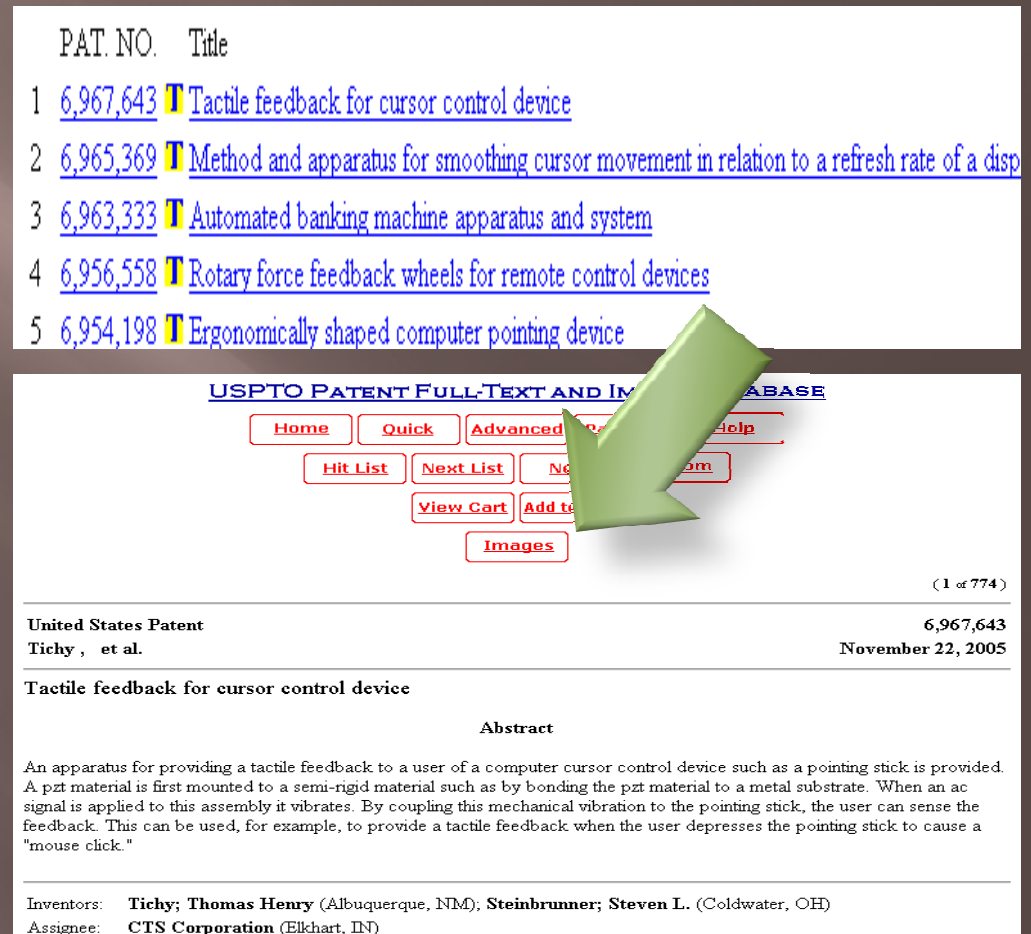
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- Para obtener la imagen actual de la patente, seleccione sobre el botón de "Images".



PAT. NO. Title

- 1 [6,967,643](#)  [Tactile feedback for cursor control device](#)
- 2 [6,965,369](#)  [Method and apparatus for smoothing cursor movement in relation to a refresh rate of a display](#)
- 3 [6,963,333](#)  [Automated banking machine apparatus and system](#)
- 4 [6,956,558](#)  [Rotary force feedback wheels for remote control devices](#)
- 5 [6,954,198](#)  [Ergonomically shaped computer pointing device](#)

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(1 of 774)

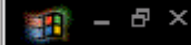
United States Patent 6,967,643
Tichy, et al. November 22, 2005

Tactile feedback for cursor control device

Abstract

An apparatus for providing a tactile feedback to a user of a computer cursor control device such as a pointing stick is provided. A pzt material is first mounted to a semi-rigid material such as by bonding the pzt material to a metal substrate. When an ac signal is applied to this assembly it vibrates. By coupling this mechanical vibration to the pointing stick, the user can sense the feedback. This can be used, for example, to provide a tactile feedback when the user depresses the pointing stick to cause a "mouse click."

Inventors: **Tichy; Thomas Henry** (Albuquerque, NM); **Steinbrunner; Steven L.** (Coldwater, OH)
Assignee: **CTS Corporation** (Elkhart, IN)



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Sections:

- Front Page
- Drawings
- Specifications
- Claims



US006967643B2

(12) **United States Patent**
Tichy et al.

(10) **Patent No.:** US 6,967,643 B2
(45) **Date of Patent:** Nov. 22, 2005

(54) **TACTILE FEEDBACK FOR CURSOR CONTROL DEVICE**

(75) Inventors: **Thomas Henry Tichy**, Albuquerque, NM (US); **Steven L. Steinbrunner**, Coldwater, OH (US)

(73) Assignee: **CTS Corporation**, Elkhart, IN (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 661 days.

(21) Appl. No.: **09/773,243**

(22) Filed: **Jan. 31, 2001**

(65) **Prior Publication Data**
US 2002/0101404 A1 Aug. 1, 2002

(51) **Int. Cl.**⁷ **G09G 5/08**

(52) **U.S. Cl.** **345/157; 345/156; 345/160; 345/161; 345/163; 345/167**

(58) **Field of Search** 345/157, 156, 345/160-161, 163, 167-168; 341/20-22, 341/33; 340/325; 400/479-496; 178/18.01-18.07, 178/19.01-19.07, 20.01, 20.04

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2001/0005108 A1 *	6/2001	Saarnaa et al.	310/345

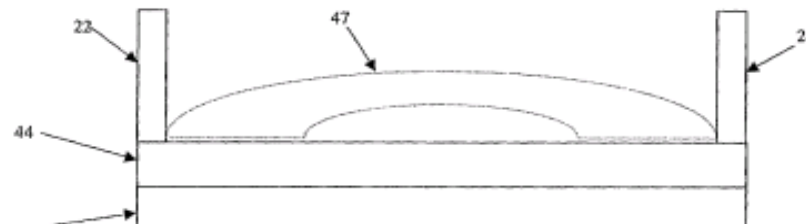
* cited by examiner

Primary Examiner—Vijay Shankar
Assistant Examiner—Leonid Shapiro
(74) *Attorney, Agent, or Firm*—Mark P. Bourgois

(57) **ABSTRACT**

An apparatus for providing a tactile feedback to a user of a computer cursor control device such as a pointing stick is provided. A pzt material is first mounted to a semi-rigid material such as by bonding the pzt material to a metal substrate. When an ac signal is applied to this assembly it vibrates. By coupling this mechanical vibration to the pointing stick, the user can sense the feedback. This can be used, for example, to provide a tactile feedback when the user depresses the pointing stick to cause a "mouse click."

2 Claims, 4 Drawing Sheets





5^{to} paso Búsqueda por Keyword

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- Keyword searching es rápido; no requiere estrategias de búsqueda especializadas. Es más apropiada para tecnologías de reciente desarrollo en donde las clasificaciones de USPTO no están tan avanzadas. Sin embargo, keyword searching no es exhaustivo y **patentes anteriores al 1976 tienen que ser buscados por clasificación o número de patente.**

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Searching 1976 to present...

Results of Search in 1976 to present db for:
ABST/mouse AND ABST/computer: 1075 patents.
Hits 1 through 50 out of 1075

PAT. NO.	Title
1 6,970,159	Mouse printing device with integrated touch pad buttons
2 6,970,156	Collapsible computer mouse
3 6,968,509	Recording of user-driven events within a computer application
4 6,967,643	Tactile feedback for cursor control device
5 6,961,906	Method and system for switching between windows in a multiwindow computer environment

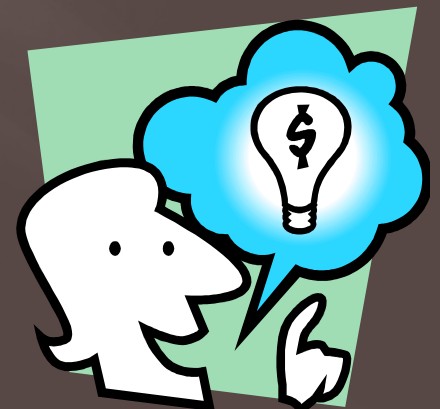
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