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portable printer ✕

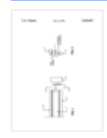
raj tuli ✕

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[Portable facsimile/thermal printer utilizing a multi-purpose ...](#)



www.google.com/patents/US5420697
 Grant - Filed Feb 22, 1993 - Issued May 30, 1995 - Raja S. Tuli - Tuli; Raja S. Tuli
Portable facsimile/thermal **printer** utilizing a multi-purpose single roller Nov 7, 1994, Sep 4, 2001, **Raja Singh Tuli**, Apparatus and method for facsimile design.

[Receiving and sending electronic messages through a portable device](#)



www.google.com/patents/WO2001060048A1?cl=en
 App. - Filed Feb 8, 2001 - Published Aug 16, 2001 - Raja Tuli - Docuport Inc
 A wireless, portable facsimile and printer device (1) comprising capabilities to access the Internet (4), such that electronic ... Inventors, **Raja Tuli**. Applicant ...
 A **portable printer** device including a modem, as claimed in Claim 1 , comprising; ...

[Printer driver system for remote printing](#)



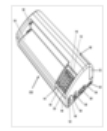
www.google.com/patents/US20020018234
 App. - Filed Mar 8, 2001 - Published Feb 14, 2002 - Arron Fu - Arron Fu
 In the practice of the present invention, a universal **printer** driver is installed on the host sever ... **Raja Tuli**, **Portable** internet access device back page cache.

[System for processing handwriting written by user of portable ...](#)



www.google.com/patents/US5546538
 Grant - Filed Dec 14, 1993 - Issued Aug 13, 1996 - David A. Cobbley - Intel Corporation
 A **portable** computer device that relies on handwriting or speech for input is ...
 2000, Mar 29, 2005, **Raja Tuli**, **Portable** high speed internet device with user fees ...
 **Mobile** telecommunication device having a **printer** for printing connection ...

[Portable electronic faxing, scanning, copying, and printing device](#)



www.google.com/patents/US7443547
 Grant - Filed Jul 3, 2004 - Issued Oct 28, 2008 - Mario Moreno - Science Forge, Inc.
 5,420,697 ("the '697 patent"), and **Tuli** U.S. Pat. ... Petteruti discloses a **portable printer** capable of printing data on either pre-cut paper or rolls of paper. Nov 7, 1994, Sep 4, 2001, **Raja Singh Tuli**, Apparatus and method for facsimile design.

[Thermal print head arrangement](#)



www.google.com/patents/US6154242
 Grant - Filed Mar 16, 1998 - Issued Nov 28, 2000 - Raja Singh Tuli - Raja Tuli
 A thermal print head arrangement for a thermal **printer** in which print lines of printing elements of ... **Tuli**. Original Assignee, **Raja Tuli**. Export Citation

In this case study the developer (Raj Tuli) holds over 100 patents including 9 for printers.

We can review his patents and other devices citing them.

Ideally we should reference those **where we are using or improving on prior in house developments.**

Portable facsimile/thermal printer utilizing a multi-purpose single roller

US 5420697 A

ABSTRACT

A normal size facsimile machine (8 1/2 inches wide) is to be made for portable applications, with the added feature of being a thermal printer. The design is focused on a slim profile of extremely light weight. All components that can be attached externally only when needed, have been removed from the main body, and built as separate add on modules. Printing speeds are fast due to thermal technology and extremely economical. As far as portable facsimiles are concerned, this is quite a unique machine due to its compact size, 8 1/2 inch wide print capability, and high speed with low power consumption.

| | |
|--------------------|---------------|
| Publication number | US5420697 A |
| Publication type | Grant |
| Application number | US 08/020,368 |
| Publication date | May 30, 1995 |
| Filing date | Feb 22, 1993 |
| Priority date ? | Feb 22, 1993 |
| Fee status ? | Lapsed |

| | |
|-----------|--------------|
| Inventors | Raja S. Tuli |
|-----------|--------------|

| | |
|-------------------|---------------|
| Original Assignee | Tuli; Raja S. |
|-------------------|---------------|

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External Links: [USPTO](#), [USPTO Assignment](#), [Espacenet](#)

IMAGES (1)

Step 1: find relevant methods



DESCRIPTION

BACKGROUND OF THE INVENTION

This invention relates to an apparatus and a method for producing a portable facsimile machine with a thermal printer, capable of printing on to 8 1/2 inch wide thermal paper. In particular, the apparatus employs a single soft durometer roller, to drive the scanner and printer mechanism simultaneously, if required. This is dependent on the mode in which the machine is in.

Conventional facsimile communication methods are utilized by the invention, as are the components. What is unique about the invention is the fact that a single

CLAIMS (2)

I claim:

1. A device capable of printing and scanning simultaneously using a single roller to accomplish both tasks such that:

the printing is accomplished through the use of the thermal print head which prints a single line of dots parallel to the roller;

the said printer prints on thermal sensitive paper which is sandwiched between the roller, which is fixed, and the said thermal print head;

Step 1: find relevant methods - reference where we are using or improving on prior in house developments.

U.S. Patent

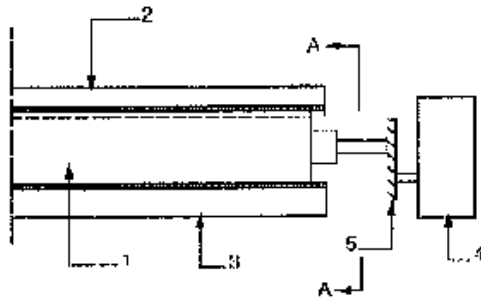


FIG. 1

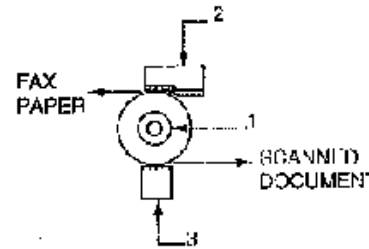


FIG. 2

May 30, 1995

5,420,697

CLAIMS:

Power consumption is reduced considerably when scanning and printing simultaneously, as only one drive roller is employed instead of two or more, in other machines of similar functions. When printing only, the contact scanner is retracted from the drive roller via a cam mechanism, so as to remove any friction resistance between the roller and scanner glass, thus reducing the torque and power requirements on the drive motor.

Size has also been reduced considerably for a machine with the described capabilities. Using the most compact configuration, in accordance with the invention, the absolute minimum dimensions were derived utilizing selected facsimile components. **Length<12.0"×width<2.5"×height<2.0"**.

interbetween.
PATENT CITATIONS

Step 2: Scroll to bottom to view other similar patents

| Cited Patent | Filing date | Publication date | Applicant | Title |
|--------------------------------|--------------|------------------|--------------------------|---|
| US4583126 * | Aug 10, 1984 | Apr 15, 1986 | Xerox Corporation | Raster input/output scanner |
| US5005026 * | Mar 13, 1990 | Apr 2, 1991 | Sharp Kabushiki Kaisha | Thermal head separating mechanisms |
| US5047870 * | Mar 17, 1988 | Sep 10, 1991 | Optum Corporation | Image reproduction system utilizing single operation scanning/reproducing |
| US5077618 * | Nov 6, 1989 | Dec 31, 1991 | Sharp Kabushiki Kaisha | Image data processing apparatus |
| US5105279 * | Jul 5, 1991 | Apr 14, 1992 | Ricoh Company, Ltd. | Image reading and recording apparatus having a unitary read/write head |
| US5162916 * | Jul 2, 1990 | Nov 10, 1992 | Xerox Corporation | Compact read/write scanner |
| US5229869 * | Apr 12, 1991 | Jul 20, 1993 | Tokyo Electric Co., Ltd. | Portable original reading apparatus |
| JPH01212162A * | | | | <i>Title not available</i> |
| JPS56129476A * | | | | <i>Title not available</i> |
| JPS60106272A * | | | | <i>Title not available</i> |

* Cited by examiner

NON-PATENT CITATIONS

Reference

- 1 "Personal Communicator" Washington Post F1,3 11/4/92.
- 2 * Personal Communicator Washington Post F1,3 11/4/92.

* Cited by examiner

REFERENCED BY

| Citing Patent | Filing date | Publication date | Applicant | Title |
|-----------------------------|--------------|------------------|--------------------------------|--|
| US5499108 * | Dec 9, 1992 | Mar 12, 1996 | Visioneer Communications, Inc. | Document-driven scanning input device communicating with a computer |
| US5760926 * | Oct 20, 1995 | Jun 2, 1998 | Apple Computer, Inc. | Apparatus for utilizing a single paper path for scanning, faxing, copying, and printing |
| US5867283 * | Oct 31, 1996 | Feb 2, 1999 | Samsung Electronics Co., Ltd. | Device and method for determining transmission/reception/duplication positions in facsimile system |
| US6285469 * | Nov 7, 1994 | Sep 4, 2001 | Raja Singh Tuli | Apparatus and method for facsimile design |
| US7248376 * | Sep 19, 2005 | Jul 24, 2007 | Silverbrook Research Pty Ltd | Printer module with a pen-like configuration |
| US7142517 | Jul 2, 2004 | Oct 20, 2008 | Science Forge, Inc. | Portable scanning device with a pen-like configuration |

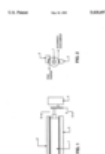
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US 5420697 A

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IMAGES (1)



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Publication number US5420697 A
Publication type Grant
Application number US 08/020,368
Publication date May 30, 1995
Filing date Feb 22, 1993
Priority date Feb 22, 1993
Fee status Lapsed

Inventors [Raja S. Tuli](#)

Original Assignee [Tuli; Raja S.](#)

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Step 3: find prior art

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Search Terms

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- bulletin ✕
- miniature ✕
- printer ✕
- miniature bulletin printer ✕

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[IKITAKE, Z. A miniature earth-inductor. Bull. Earthquake Res. Inst., Tokyo Univ., 29, Pt. 1](#)

WC PARKINSON, FW WOOD, WE SCOTT - Trans. Amer. Geophys. Union, 1951

... Observatorio del Ebro, No. 10, 119 (1949). IKITAKE, Z. A **miniature** earth-inductor. Bull. ... Govt. **Printer**, Pretoria, 58 pp. with appendix (1950). ... U·J) S·_T]·s Co_sT ·_N·) G]·o·)]·½ SURVEY. Seismological **bulletin**, January, February, March, 1949. Washington, I). C., US Coast Geod. ...

[A Philadelphia Calico-Printer](#)

NA Reath - The Pennsylvania Museum **Bulletin**, 1931

... in the **Bulletin** for March 1930. ... John Hewson was an English calico-**printer**, born in 1744, and employed at Bromley Hall, near London, "one of the most ... Mrs. Alcock tells us that when Mrs. Washington found Hewson needed a likeness to copy she lent him a **miniature**, from which ...

[Bulletin: Anthropological series](#)

National Museum of Canada - 1953

[A Sienese Antiphony](#)

MEG - **Bulletin** of the Fogg Art Museum, 1932

[John Shand Gordon Correspondence](#)

JS Gordon, HE Dunnack - 1872

... I enoese a shert stery ef myself fer "Literary **Bulletin**." will yeu ... ' ' " OSS*® ' @jS3>> JOHN GORDON., Proprietor Author of "The Sea Serpent," "The Tramp **Printer**," "Sandy McWhiffle, Famous Inventor," and "Gordon's **Miniature** Library." Also "The Vinalhaven Pilot." ...

[Ming printing and printers](#)

KT Wu, W Kuang-Ch'ing - Harvard Journal of Asiatic Studies, 1943

... As makers of ink, the CHENG brothers were very skillful in embossing the familiar delicate designs and **miniature** pictures on ... due to typesetting are reduced to a minimum, inasmuch as the block is carved directly from the " **printer's** copy "; and ... MING PRINTING AND PRINTERS ...

[Telegraph printer](#)



www.google.com/patents/US2134722

Cited by US3201514

Grant - Filed Jul 31, 1935 - Issued Nov 1, 1938 - Long James W - Western Union Telegraph Co

TELEGRAPH **PRINTER** Filed July 51, 1935 I3 Sheets-Sheet 2 INVENTORS J.W LONG Oct 19, 1961, Aug 17, 1965, Scm Corp, **Miniature bulletin printer** ...

[Printing-telegraph receiver.](#)

Patent US3201514



Miniature bulletin printer

Show Claims

Inventors: Bradbury Wilburn F, Kleinschmidt Edward E

Assignees: Scm Corp

Patent number: US3201514

Filing date: Oct 19, 1961

Issue date: Aug 17, 1965

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- miniature x
- printer x
- miniature bulletin printer x

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Telegraph printer



www.google.com/patents/US2134722

Cited by US3201514

Grant - Filed Jul 31, 1935 - Issued Nov 1, 1938 - Long James W - Western Union Telegraph Co
TELEGRAPH PRINTER Filed July 51, 1935 13 Sheets-Sheet 2 INVENTORS J.W LONG Oct 19, 1961, Aug 17, 1965, Scm Corp, **Miniature bulletin printer** ...

Printing telegraph receiver

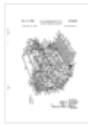


www.google.com/patents/US1201809

Cited by US3201514

Grant - Filed Oct 14, 1913 - Issued Oct 17, 1916 - Amos F Dixon - Western Electric Co
This invention relates to **printing** telegraphs, and more particularly to **printing** telegraph Oct 19, 1961, Aug 17, 1965, Scm Corp, **Miniature bulletin printer** ...

Printing telegraph apparatus



www.google.com/patents/US2773931

Cited by US3201514

Grant - Filed Aug 15, 1951 - Issued Dec 11, 1956 - Anderson Carl P - Kleinschmidt Edward E
PRINTING TELEGRAPH APPARATUS 15 Sheets-Sheet 8 Filed Aug. 15, 1951 INVENTORS Oct 19, 1961, Aug 17, 1965, Scm Corp, **Miniature bulletin printer**.

Printing telegraph receiver

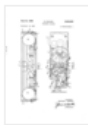


www.google.com/patents/US2774816

Cited by US3201514

Grant - Filed Apr 27, 1953 - Issued Dec 18, 1956 - Yost Kermit D - Kleinschmidt Lab Inc
A narrow **printing** hammer, over which an inking ribbon passes, is mounted in front of the Oct 19, 1961, Aug 17, 1965, Scm Corp, **Miniature bulletin printer**.

Telegraph printer




www.google.com/patents/US2942065

Cited by US3201514

Grant - Filed Dec 13, 1957 - Issued Jun 21, 1960 - Bernard Howard - Teleprinter Corp
The telegraph **printer** of my aforesaid Patent 2,769,029 has a type cylinder which is In practice, the cables 40 and 42 are **miniature** roller chains, and the pulleys 44, 46, Oct 19, 1961, Aug 17, 1965, Scm Corp, **Miniature bulletin printer**.

Patent US3201514



Miniature bulletin printer

Show Claims

Inventors: Bradbury Wilburn F, Kleinschmidt Edward E
Assignees: Scm Corp
Patent number: US3201514
Filing date: Oct 19, 1961
Issue date: Aug 17, 1965

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| 13 | Title | URL | Application Date | Page Num | Availability | | | |
| 14 | IKITAKE, Z. A miniature earth-inductor. Bull. Ear | http://onlinelibrary.wiley.com/doi/10.1029/JZ056i004p00619/full | | | | | | |
| 15 | A Philadelphia Calico-Printer | http://www.jstor.org/stable/3794418 | | | | | | |
| 16 | Bulletin: Anthropological series | http://scholar.google.com/scholar?cluster=13565970999697440051&hl=en&oi=scholar | | | | | | |
| 17 | A Sienese Antiphonary | http://scholar.google.com/scholar?cluster=7428572228988571107&hl=en&oi=scholar | | | | | | |
| 18 | John Shand Gordon Correspondence | http://digitalmaine.com/cgi/viewcontent.cgi?article=1047&context=maine_writers_correspondence | | | | | | |
| 19 | Ming printing and printers | http://www.jstor.org/stable/2718015 | | | | | | |
| 20 | Telegraph printer | https://www.google.com/patents/US2134722 | Filed Jul 31, 1935 | | | | | |
| 21 | Printing-telegraph receiver. | https://www.google.com/patents/US1201809 | Filed Oct 14, 1913 | | | | | |
| 22 | Bulletin of Photography | https://books.google.com/books?id=Q_nNAAAAAAAJ | | | | Page 379 | Snippet view | |
| 23 | Library Bulletin | https://books.google.com/books?id=T8m5AAAAIAAJ | | | | Page 11 | Snippet view | |
| 24 | | | | | | | | |
| 25 | Scholar | | | | | | | |
| 26 | Title | URL | | | | | | |
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| 30 | A Sienese Antiphonary | http://scholar.google.com/scholar?cluster=7428572228988571107&hl=en&oi=scholar | | | | | | |
| 31 | John Shand Gordon Correspondence | http://digitalmaine.com/cgi/viewcontent.cgi?article=1047&context=maine_writers_correspondence | | | | | | |
| 32 | Ming printing and printers | http://www.jstor.org/stable/2718015 | | | | | | |
| 33 | Printing in the Classroom | http://scholar.google.com/scholar?cluster=12719164534283074357&hl=en&oi=scholar | | | | | | |
| 34 | New York Children's Books: Prior to 1900 | http://scholar.google.com/scholar?cluster=15884154935282509849&hl=en&oi=scholar | | | | | | |
| 35 | A practical guide for authors in their relations with p | http://scholar.google.com/scholar?cluster=7973483182781403493&hl=en&oi=scholar | | | | | | |
| 36 | List of the birds collected in Bolivia by Dr. HH Rusby, | http://digitalibrary.amnh.org/dspace/bitstream/handle/2246/1649/v2/dspace/ingest/pdfsource/bul/b002a07.pdf?sequence=1 | | | | | | |
| 37 | | | | | | | | |
| 38 | Patents | | | | | | | |
| 39 | Title | URL | Application Date | | | | | |
| 40 | Telegraph printer | https://www.google.com/patents/US2134722 | Filed Jul 31, 1935 | | | | | |
| 41 | Printing-telegraph receiver. | https://www.google.com/patents/US1201809 | Filed Oct 14, 1913 | | | | | |
| 42 | Printing telegraph apparatus | https://www.google.com/patents/US2773931 | Filed Aug 15, 1951 | | | | | |
| 43 | Printing telegraph receiver | https://www.google.com/patents/US2774816 | Filed Apr 27, 1953 | | | | | |
| 44 | Telegraph printer | https://www.google.com/patents/US2942065 | Filed Dec 13, 1957 | | | | | |
| 45 | Printing telegraph apparatus | https://www.google.com/patents/US2247408 | Filed Mar 3, 1938 | | | | | |

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