



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/130,138	05/30/2008	Thorsten Meyer	I560.204.101/2008P50209US	3388
25281	7590	12/02/2016	EXAMINER	
DICKE, BILLIG & CZAJA FIFTH STREET TOWERS 100 SOUTH FIFTH STREET, SUITE 2250 MINNEAPOLIS, MN 55402			REAMES, MATTHEW L	
			ART UNIT	PAPER NUMBER
			2893	
			NOTIFICATION DATE	DELIVERY MODE
			12/02/2016	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO.PATENTS@dbclaw.com
dmorris@dbclaw.com
DBCLAW-Docket@dbclaw.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte THORSTEN MEYER¹

Appeal 2015-005245
Application 12/130,138
Technology Center 2800

Before ADRIENE LEPIANE HANLON, CATHERINE Q. TIMM, and
JENNIFER R. GUPTA, *Administrative Patent Judges*.

TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL²

¹ Appellant identifies the real party in interest as Infineon Technologies AG.
Appeal Br. 3.

² In our opinion below, we reference the Final Office Action mailed July 9,
2014 (Final), the Appeal Brief filed November 17, 2014 (Appeal Br.), the
Examiner's Answer mailed February 12, 2015 (Ans.), and the Reply Brief
filed April 13, 2015 (Reply Br.).

STATEMENT OF CASE

Appellant appeals under 35 U.S.C. § 134(a) the Examiner's decision to reject claims 1–15 and 26–35. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

The claims are directed to embodiments of a semiconductor device (*see, e.g.*, claims 1, 9, 26, 32) and a semiconductor device package (*see, e.g.*, claim 7). Figure 1, reproduced below, illustrates one embodiment:

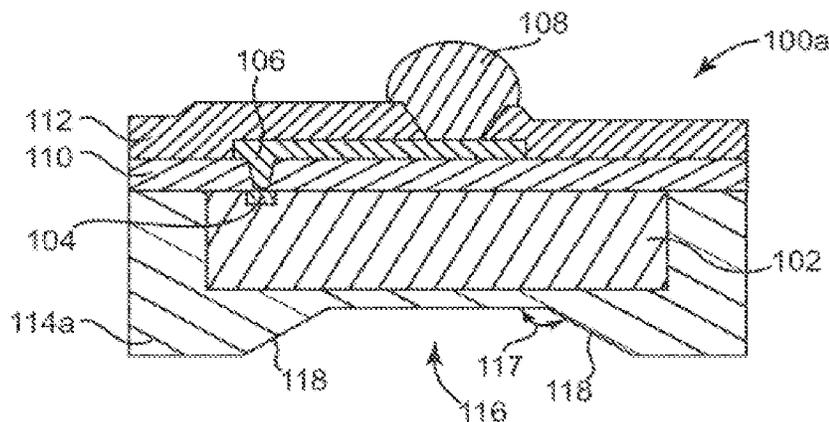


Fig. 1

Figure 1 is a cross-sectional view of a semiconductor device 100a

Claim 1, with reference numerals inserted from Figure 1, is illustrative of the embodiment of Figure 1. We highlight the language pertinent to the issue on appeal:

1. A semiconductor device [100a] comprising:
a semiconductor chip [102];
at least one metal line [106] over a first side of the semiconductor chip; and

a molded body [114a] *consisting of* a mold material, the mold material *directly contacting an entirety of* at least a second side of the semiconductor chip opposite the first side, and the molded body comprising at least one recess [116].

Claims Appendix, Appeal Br. 16 (emphasis added).

Figure 2 illustrates another embodiment and is reproduced below:

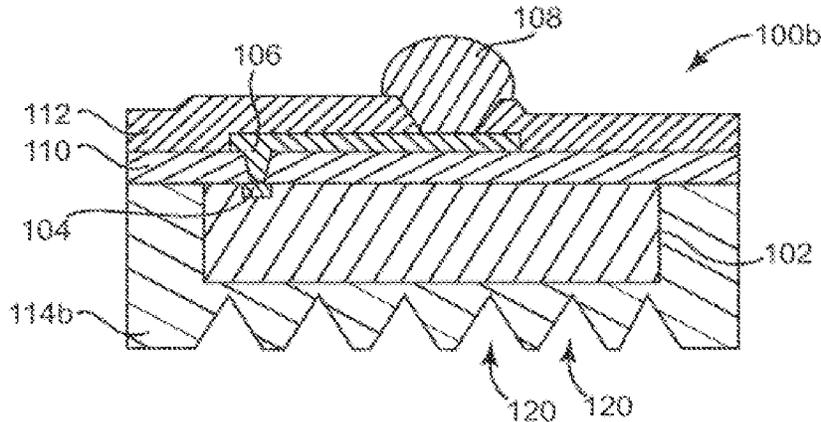


Fig. 2

Figure 2 is cross-sectional view of another embodiment

Claim 26, with reference numerals inserted from Figure 2, is illustrative of another embodiment covered by some of the claims. Again, we highlight the language pertinent to the issue on appeal:

26. A semiconductor device [100b] comprising:
- a semiconductor chip [102];
 - at least one metal line [104] over a first side of the semiconductor chip; and
 - a mold material [114b] defining at least two recesses [120] extending only partially into the mold material, the mold material *directly contacting an entirety of* a second side, a third side, and a fourth side of the semiconductor chip, the second

side opposite the first side, and the third side and the fourth side perpendicular to the first side.

Claims Appendix, Appeal Br. 18 (emphasis added).

The Examiner maintains the following rejections:

- A. The rejection of claims 1–15, and 26–35³ under 35 U.S.C. § 103(a) as obvious⁴ over Rostoker⁵ in view of Ma⁶ and Mostafazadeh;⁷
- B. The rejection of claims 10, 11, and 26–31 under 35 U.S.C. § 103(a) as obvious over Rostoker in view of Kragl;⁸ and
- C. The rejection of claim 30 under 35 U.S.C. § 103(a) as obvious over Rostoker and Kragl, further in view of Sherrer.⁹

³ The Examiner's statement of the rejection omits claims 27, and 32–35, but the body of the rejection discusses claims 27, and 32–35. Final 2. Appellant recognizes that claims 32–35 are rejected. Appeal Br. 7. Thus, the error as to the listing of claims 32–35 was harmless. Although Appellant does not list claim 27, Appellant did not argue any claim separately when addressing this rejection, much less separately argue other claims that were rejected and are of similar or narrower scope (e.g., claims 28–30). Thus, the omission of claim 27 appears to be of little consequence. We will proceed to decide the issues on appeal to avoid prolonging Appellant's wait for a decision.

⁴ The Examiner states the rejection as under 35 U.S.C. § 102(b) as being anticipated, but the body of the rejection provides an obviousness rationale. Appellant notes that the rejection appears to be under 35 U.S.C. § 103(a) and addresses it as such. Appeal Br. 7. Thus, the error was harmless.

⁵ Rostoker et al., US 5,311,060, issued May 10, 1994.

⁶ Ma et al., US 6,271,469 B1, issued Aug. 7, 2001.

⁷ Mostafazadeh et al., US 5,705,851, issued Jan. 6, 1998.

⁸ Kragl, US 6,832,861 B2, issued Dec. 21, 2004.

⁹ Sherrer et al., US 2004/0264866 A1, published Dec. 30, 2004.

OPINION

Rejection A

When addressing the rejection of claims 1–15 and 26–35 under 35 U.S.C. § 103(a) as obvious over Rostoker in view of Ma and Mostafazadeh, Appellant argues the claims as a group. Appeal Br. 7–10. We select claim 1 as representative for deciding the issue on appeal.

The issue is: Has Appellant identified a reversible error in the Examiner’s finding that the combination of Rostoker, Mostafazadeh, and Ma would have suggested forming a molded body consisting of a mold material “directly contacting an entirety of at least a second side of the semiconductor chip opposite the first side” as recited in claim 1?

Appellant has not identified such an error.

Rostoker, Mostafazadeh, and Ma are directed to integrated circuit (IC) packages that contain a semiconductor die and associated packaging that contains the die. Rosketer, col. 1, ll. 33–39; Mostafazadeh, col. 1, ll. 5–7; col. 3, ll. 2–28; Ma, col. 2, ll. 28–46.

All of the references encapsulate the semiconductor die in molding material.

Rosketer encapsulates the die (die 452 in Fig. 4A) in epoxy molding material (epoxy potting compound 494) after applying silicone gel material 458 around leads 454 and over die 452. Rosketer, col. 9, ll. 6–18. Similarly to Rosketer, Mostafazadeh encapsulates die 34 (Fig. 2) and leads 42 with a molding material 52, although Mostafazadeh does not use silicone gel around the leads 42. Mostafazadeh, col. 3, ll. 19–24. Ma encapsulates die 102 with encapsulating material 112 as shown in Figure 1b. Ma, col. 3, ll. 54–57. Ma, as found by the Examiner and not disputed by

Appellant, is directed to a flip chip configuration and does not use wire bonds or leads for electrical connection. *Compare* Ans. 3 with Reply Br. 3; Ma, Fig 1i (showing a first embodiment without a heat dissipation device); Fig. 2d (showing a second embodiment with a heat dissipation device, such as a heat slug 152, attached to die 102); Fig. 7e (showing an embodiment with a plurality of dies 102, each with an associated heat slug 152).

Before the appeal, the Examiner's position was that it would have been obvious to one of ordinary skill in the art to omit the silicone gel in Roskoter's package as shown by Mostafazadeh. Final 3–4. After Appellant argued that such a modification would not have resulted in direct contact of the epoxy molding material 494 of Rostoker over “an entirety of” the second side because bond wires 454 would prevent contact at the location of the bond wires (Appeal Br. 8), the Examiner responded that: (1) “an entirety” can be less than “the entirety”; and (2) “[e]ven if the claim recited ‘the entirety’ an obvious variant would be a flip chip configuration shown in Ma which does not use wire bonds on the second side.” Ans. 3.

With regard to the use of “an entirety” in the claims, although this language is less than ideal, we disagree with the Examiner that it somehow opens the claims to structures where the molding material does not cover the entire second surface.

“A claim must be read in accordance with the precepts of English grammar.” *In re Hyatt*, 708 F.2d 712, 714 (Fed. Cir. 1983). “A”, “an”, and “the” are articles that signal that a noun will follow and that any modifiers

between the article and the noun refer to that noun. Quick Access § 43.¹⁰ “A” and “an” are indefinite articles used to refer to nonspecific nouns. Quick Access § 43a. The definite article “the” is used with a specific noun. *Id.* “A noun is specific when a reader can understand from the context exactly and specifically what the noun is referring to.” *Id.* For instance, a noun is specific and requires “the” when the noun names something either unique or commonly known. Quick Access, Quick Box 43.2, Rule 1. As an example, one uses the definite article “the” in the following sentence” “*The* sun has risen above *the* horizon,” because only one sun and only one horizon exist; they are specific nouns. *Id.* See also *Bose Corp. v. JBL, Inc.*, 274 F.3d 1354, 1359 (Fed. Cir. 2001) (quoting MPEP § 2173.05(e) (“Inherent components of elements recited have antecedent basis in the recitation of the components themselves.”)).

As argued by Appellant, “entirety” means “the whole of something.” Reply Br. 2; see also dictionary.com ((1) “the state of being entire; completeness”; (2) “something that is entire; the whole”). Thus, like “the sun” and “the horizon” there is only one “entirety” associated with a surface such as a second surface. Thus, in accordance with proper English grammar, Appellant should have recited “the entirety” in the claims. That being said “entirety” refers to “the whole” whether it is preceded by “an” or “the”. Thus, we agree with Appellant that the claim requires the whole surface of the second side directly contact the molding material.

¹⁰ Lynn Quitman Troyka & Douglas Hesse, Quick Access Reference for Writers 387–389 (5th ed. 2007). A copy of pages 387 to 389 accompany this decision.

The Examiner's claim interpretation, however, did not result in a reversible error. As we stated above, the Examiner also responded that "[e]ven if the claim recited 'the entirety' an obvious variant would be a flip chip configuration shown in Ma which does not use wire bonds on the second side." Ans. 3. Appellant does not dispute that Ma teaches a flip chip configuration without wire bonds, nor does Appellant dispute that using the flip chip configuration to form a package with the heat sink receiving recess of Rostoker would have been an obvious variant. Instead, Appellant contends that Ma "fails to disclose a mold material comprising at least one recess." Reply Br. 3. Because the Examiner does not rely on Ma for a teaching of the recess, but on Roskoter, Appellant fails to identify a reversible error in the rejection based on the combination of Rostoker, Mostafazadeh, and Ma.

Rejection B

The Examiner also rejects claims 10, 11, and 26–31 under 35 U.S.C. § 103(a) as obvious over Rostoker in view of Kragl. The dispositive issue with regard to this rejection is: Has Appellant identified a reversible error in the Examiner's finding of a reason to combine the teachings of Rostoker and Kragl in a way that results in the semiconductor device of claims 10 and 26?

Appellant has identified such an error.

Claim 10 depends from claim 9. Claim 9 is directed to a semiconductor device including "a molded body *consisting of* a mold material, the mold material *directly contacting an entirety of* a second side of the semiconductor die opposite the first side and the mold material defining at least one recess." Claim 9 (emphasis added). Claim 10 requires the mold material define "a plurality of recesses." Claim 10.

Claim 26 is directed to a semiconductor device including “*a mold material defining at least two recesses extending only partially into the mold material, the mold material directly contacting an entirety of a second side, a third side, and a fourth side of the semiconductor chip, the second side opposite the first side, and the third side and the fourth side perpendicular to the first side.*” Claim 26 (emphasis added).

Rostoker is directed to a semiconductor package with heat sinks for heat dissipation. Rostoker, col. 1, ll. 17–20. The molding material is an epoxy potting compound that encases the die 452, silicone gel 458, and bond wires 454. Rostoker, Fig. 4A; col. 9, ll. 14–18.

Kragl is directed to a structure for coupling a light emitting diode (LED) and an optical waveguide. Kragl, col. 1, ll. 44–47; col. 10, l. 63–col. 11, l. 8. A molding material is used to form coupling element 3 with a bore that receives the optical waveguide 7. Kragl, Fig. 1A; col. 10, l. 63–col. 11, l. 1. The bore can be above the LED 2 as shown in Figure 1A or to the side as shown in Figure 11. The space between the end face of the optical waveguide 7 and LED 2 is filled with transparent adhesive K. Kragl, col. 11, ll. 21–25. Kragl places a submount 1 under the LED 2 to dissipate heat. Kragl, col. 12, ll. 22–38.

The Examiner finds that “Kragl [sic] teaches a semiconductor device with a mold body items 3 and K with a recess or [sic, for] accepting a [sic, an] optical cable, the recess can be on the top (item 1A) [sic, fig. 1A] or have multiple on the top [(]figure 9a[)] and be formed on a side perpendicular to the bottom [(]figure 11).” Final 9. The Examiner concludes that “it would have been obvious to one of ordinary skill in the art to integrate the recesses

of Kragl [sic] on the side perpendicular to the first with the device of Rostoker.” *Id.*

Items 3 and K of Kragl are not “a molded body consisting of a mold material” as required by claim 9, from which claim 10 depends, nor are items 3 and K “a mold material” as required by claim 26. The use of the phrase “consisting of” in claim 9 limits the mold body to a single composition. This single composition must be “directly contacting an entirety of a second side of the semiconductor die opposite the first side.” Claim 9. The use of the indefinite article “a” before “mold material” followed by use of the definite article “the” to refer back to this “mold material” in claim 26 means a single mold material must be “directly contacting an entirety of a second side, a third side, and a fourth side” as required by claim 26. The language of claims 9 and 26 precludes reading the combination of coupling element 3 and adhesive K as being the mold body of claim 9 or the mold material of claim 26. The Examiner has not provided sufficient evidence to support a finding of a suggestion within the prior art that would place a single mold material in direct contact with a second side of the semiconductor chip opposite the first side as required by claim 10, by virtue of its dependency on claim 9, and claim 26.

Rejection C

In the rejection of claim 30 under 35 U.S.C. § 103(a) as obvious over Rostoker and Kragl, further in view of Sherrer, the Examiner does not rely on Sherrer in a way that remedies the deficiency in the rejection over Rostoker and Kragl discussed above.

CONCLUSION

We sustain the rejection of claims 1–15 and 26–35 under 35 U.S.C. § 103(a) as obvious over Rostoker in view of Ma and Mostafazadeh, but we do not sustain the Examiner’s rejection of claims 10, 11, and 26–31 under 35 U.S.C. § 103 as obvious over Rostoker in view of Kragl, nor do we sustain the rejection of claim 30 under 35 U.S.C. § 103(a) as obvious over Rostoker and Kragl, further in view of Sherrer.

DECISION

The Examiner’s decision is affirmed.

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1).

AFFIRMED

<i>Notice of References Cited</i>	Application/Control No. 12/130,138	Applicant(s)/Patent Under Patent Appeal No. 2015-005245	
	Examiner MATTHEW REAMES	Art Unit 2893	Page 1 of 1

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-		
	B	US-		
	C	US-		
	D	US-		
	E	US-		
	F	US-		
	G	US-		
	H	US-		
	I	US-		
	J	US-		
	K	US-		
	L	US-		
	M	US-		

FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N				
	O				
	P				
	Q				
	R				
	S				
	T				

NON-PATENT DOCUMENTS

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
U	Lynn Quitman Troyka & Douglas Hesse, Quick Access Reference for Writers, 387–389 (Pearson Prentice Hall 5 th Ed. 2007).
V	
W	
X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

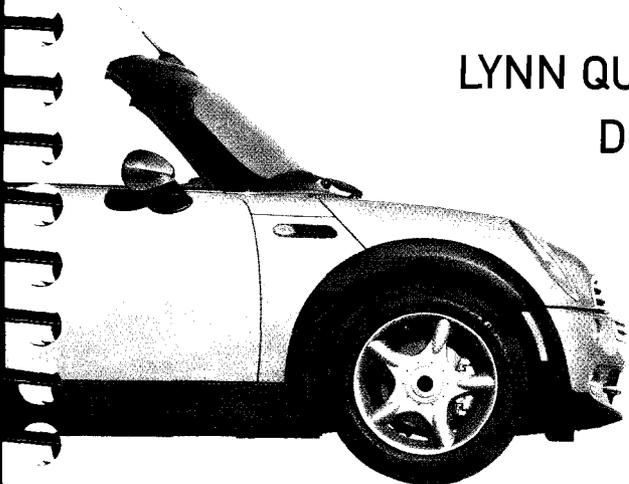
• Thinking, Reading,
and Writing Critically

• Writing Process

• Writing Across
the Curriculum

FIFTH EDITION

LYNN QUITMAN TROYKA
DOUGLAS HESSE

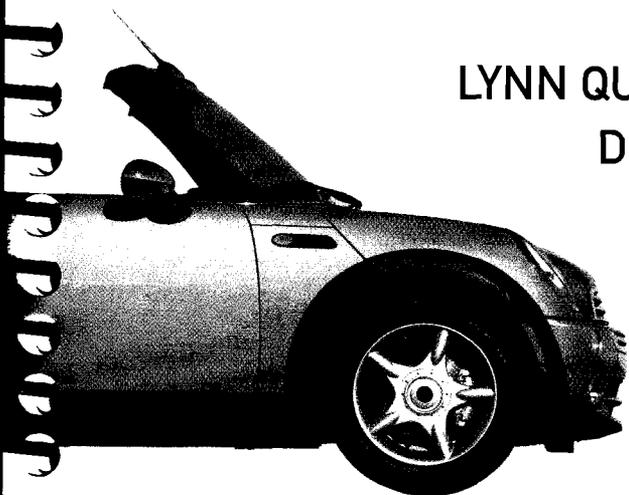


Upper Saddle River, New Jersey 07458

QUICK ACCESS

Reference for Writers
FIFTH EDITION

LYNN QUITMAN TROYKA
DOUGLAS HESSE



Upper Saddle River, New Jersey 07458

• Thinking, Reading,
and Writing Critically

• Writing Processes

• www.prehall.com/troyka

Library of Congress Cataloging-in-Publication Data

Troyka, Lynn Quitman [date]

Quick access reference for writers/Lynn Quitman Troyka, Douglas Hesse.—5th ed.
p. cm.

Rev. ed. of: Simon & Schuster quick access reference for writers. 4th ed. 2003.

Includes bibliographical references and indexes.
ISBN 0-13-195226-9

1. English language—Rhetoric—Handbooks, manuals, etc. 2. English language—Grammar—Handbooks, manuals, etc. 3. Report writing—Handbooks, manuals, etc. I. Hesse, Douglas Dean. II. Troyka, Lynn Quitman, Simon & Schuster quick access reference for writers. III. Title.

PE1408.T6964 2006
808'.042—dc22

200505559

Editorial Director: Leah Jewell
Executive Editor: Paul Crockett
Assistant Editor: Melissa Casciano
Editorial Assistant: Tara Culliney
VP/Director of Production and Manufacturing: Barbara Kittle
Senior Production Editor: Shelly Kupperman
Manufacturing Manager: Nick Sklitsis
Prepress and Manufacturing Manager: Mary Ann Gloriande
Director of Marketing: Brandy Dawson
Senior Marketing Manager: Windley Morley
Marketing Assistant: Kara Pottle
Creative Design Director: Leslie Osher

Development Editor in Chief: Rochelle Diogenes
Development Editor: Veronica Tomaiuolo
Senior Art Director: Anne Bonanno Nieglos
Interior Designer: Michelle Wiggins
Cover Designer: Anne DeMarinis
Electronic Artist: Mirella Signoretto
Image Resource Center Director: Melinda Reo
Rights and Permissions Manager: Zina Arabia
Visual Research Manager: Beth Brenzel
Image Permission Coordinator: Vickie Menanteau
Photo Researcher: Melinda Alexander
Cover Photo: Stephan Oliver/Dorling Kindersley
Media Library

Grateful acknowledgment is made to all copyright holders for permission to use copyrighted material. **Figures/Photos:** (Title page) Stephan Oliver/Dorling Kindersley Media Library; (Tabs 1-4) Kim Westerskov/Photographer's Choice/Getty Images; (1.1, p. 2) Courtesy of Jillian, <<http://www.boredomonastick.blogspot.com>>; (2.1, p. 6) Reprinted by permission of the Ad Council; (2.2, p. 11) Excerpt from "Beyond Kyoto" by John Browne, *Foreign Affairs*, July/August 2004, Vol. 83, No. 4. Copyright © 2004 by the Council on Foreign Relations, Inc., <<http://www.foreignaffairs.org>>. Reprinted by permission; (4.1, p. 19) Peter Vadnai; (5.1, p. 22) Microsoft® and Windows® are registered trademarks of the Microsoft Corporation in the USA and other countries. Screen shots and icons are reprinted with permission from the Microsoft Corporation. This book is not sponsored or endorsed by or affiliated with the Microsoft Corporation; (5.3, p. 25) Wikipedia, the Free Encyclopedia, <<http://en.wikipedia.org>>; (p. 63) Lynn Quitman Troyka; (11.1, p. 71) Courtesy of Doctors Without Borders/Médecins Sans Frontières; (pp. 77-82, student paper) Reprinted with permission of Lacie Juris; (p. 78) Photos.com; (p. 79) Martin Harvey/CORBIS; (13.1, p. 88) AP Wide World Photos; (p. 95, poem) "Blackberries" from *Neon Vernacular: New and Selected Poems* by Yusef Komunyakaa. Copyright © 1993. Reprinted by permission of Wesleyan University Press; (p. 97) Copyright by Patrick Johns/CORBIS. All rights reserved; (18.1, p. 115) Courtesy of the Community Service Ecology Action Center, <<http://www.niaid.nih.gov>>; (20.1, p. 133) Reprinted by permission of the Nature Conservancy, <<http://nature.org>>, and Rod Planck Photography; (20.2 and 20.3, p. 135) Report cover and page 1 of "Executive Summary" in *Confronting Climate Change in the Great Lakes Region* by George Kling et al. Copyright © 2003. Reprinted by permission of the Union of Concerned Scientists in conjunction with the Ecological Society of America; (20.5, p. 138) Courtesy of DeAnza College, <<http://www.faculty.deanza.fhda.edu>>; (21.1, p. 139) Courtesy of the Ad Council; (p. 147) AP Wide World Photos; (22.2, p. 152) Courtesy of the National Museum of the American Indian, Washington, DC; (Tabs 5-8) Photodisc/Getty Images; (25.1, p. 172) Courtesy of Milner Library, Illinois State University, and Endeavor Information Systems, Inc.; (26.1, p. 187) Courtesy of Google, <<http://www.google.com>>; (26.2, p. 188) Courtesy of Yahoo, <<http://www.yahoo.com>>; (30.1, p. 223) From *The Creation of Media: Political Origins of Modern Communications* by Paul Starr. Copyright © 2004 by Paul Starr. Reprinted by permission of Basic Books, a division of Perseus Books, L.L.C.; (30.2, p. 229) Text from p. 305 of "Business, Pleasure, and Personal Essay" by Harriet Malinowitz, *College English*, January 2003, Vol. 65, No. 3, pp. 305-322. Copyright © 2003 by the National Council of Teachers of English. Reprinted by permission of the publisher; (30.3, p. 236) Copyright by EBSCO Publishing, Inc. All rights reserved; (30.4, p. 239) Reprinted by permission of *The Scientist*; (30.5, p. 241) Reprinted by permission of Rutgers, the State University of New Jersey; (Tabs 9-11) Laurance B. Aiuppy/Taxi/Getty Images; (Tab 12) Stephan Oliver/Dorling Kindersley Media Library.

This book was set in 9/11 New Century Schoolbook by Pine Tree Composition, Inc. and was printed and bound by R. R. Donnelley & Sons, Inc. The cover was printed by Lehigh Press.

Copyright © 2007, 2004, 2001, 1998, 1995 by Lynn Quitman Troyka.

Published by Pearson Education, Inc., Upper Saddle River, New Jersey, 07458.

Pearson Prentice Hall. All rights reserved. Printed in the United States of America.

This publication is protected by Copyright and permission should be obtained from the publisher prior to any prohibited reproduction, storage in a retrieval system, or transmission in any form or by any means, electronic, mechanical, photocopying, recording, or likewise.

For information regarding permission(s), write to: Rights and Permissions Department.

Pearson Prentice Hall™ is a trademark of Pearson Education, Inc.

Pearson® is a registered trademark of Pearson plc

Prentice Hall® is a registered trademark of Pearson Education, Inc.

Pearson Education LTD.
Pearson Education Singapore, Pte. Ltd
Pearson Education, Canada, Ltd
Pearson Education-Japan
Pearson Education Australia PTY, Limited

Pearson Education North Asia Ltd
Pearson Educación de México, S.A. de C.V.
Pearson Education Malaysia, Pte. Ltd
Pearson Education, Upper Saddle River, NJ



10 9 8 7 6 5 4 3 2 1

ISBN 0-13-195226-9

ALERTS:

- (1) *Many*, *most*, and *some* require *of the* before a noun that is specific but not before a noun that is a generalization.
- **Most** supervisors are well qualified. [general]
 - **Most of the** supervisors **here** are well qualified. [specific]
- (2) The phrases *a few* and *a little* convey the meaning “some”: *I have a few rare books* means “I have some rare books.” *They are worth a little money* means “They are worth some money.” Without the word *a*, the meaning of *few* and *little* is “almost none”: *I have few [or very few] books* means “I have almost no books.” *They are worth [very] little money* means “They are worth almost no money.”
- (3) A phrase with *one of the* always has a plural noun as the OBJECT of the PREPOSITION *of*. The verb agrees with *one*, not with the plural noun, so it is always singular: *One of the most important inventions of the twentieth century is [not are] television* (39g). ♦

42c What forms are correct for nouns used as adjectives?

Some words that function as nouns can also function as ADJECTIVES. In English, adjectives don't have plural forms. If you use a noun as an adjective, don't add *-s* or *-es* to the adjective, even when the noun or PRONOUN it modifies is plural.

- Many Americans students are basketball fans.
- My nephew likes to look at pictures books.

43 ARTICLES

The words *a*, *an*, and *the* are **articles**. Articles are one type of DETERMINER. They signal that a NOUN will follow and that any MODIFIERS between the article and the noun refer to that noun (see Quick Box 43.1 on p. 388).

a chair, the computer

43a How should I use articles with singular count nouns?

When you use a singular COUNT NOUN (see Quick Box 43.2 on p. 389), you need to use a determiner, as shown for Group 1 in Quick Box 42.2. If you have to choose between *a*, *an*, and *the*, decide whether the noun

SUMMARY QUICK BOX 43.1

Using articles: *the*, *a*, and *an*

	COUNT NOUN		NONCOUNT NOUN	PROPER NOUN	
	Singular	Plural		Singular	Plural
SPECIFIC	<i>the*</i>	<i>the</i>	<i>the</i>	[See 43c.]	<i>the</i>
GENERAL	<i>a, an</i>	—	—	—	—

*See 43a and the four rules in Quick Box 43.2.

is specific or nonspecific. A noun is specific when a reader can understand from the context exactly and specifically what the noun is referring to. Quick Box 43.2 can help you decide when a singular count noun is specific and therefore requires *the*.

ALERTS: (1) One common exception affects rule 3 in Quick Box 43.2. A noun may still require *a* or *an* after the first use if one or more descriptive adjectives come between the article and the noun: *I bought a sweater today. It was a [not the] red sweater.*

(2) *An* is used before words that begin with a vowel sound; *a* is used before words that begin with a consonant sound. Sound, not spelling, is the key. Words that begin with *h* or *u* can have either a vowel or a consonant sound; check your dictionary. Choose *a* or *an* based on the sound of the first word after the article, even if that word is not the noun.

- **an** idea, **a** good idea
- **an** umbrella, **a** useless umbrella
- **an** honor, **a** history book ◆

SUMMARY QUICK BOX 43.2

Using *the* with singular count nouns

RULE 1

A noun is specific and requires *the* when it names something either unique or commonly known.

- **The sun** has risen above **the horizon**. [Because only one *sun* and one *horizon* exist, they are specific nouns.]

RULE 2

A noun is specific and requires *the* when it names something used in a representative or abstract sense.

- Benjamin Franklin favored **the turkey** as **the national bird** of the United States. [Because *turkey* and *national bird* are representative references rather than references to a particular turkey or bird, they are specific nouns in this context.]

RULE 3

A noun is specific and requires *the* when it names something that is defined elsewhere in the same sentence or in an earlier sentence.

- **The ship *Savannah*** was the first steam vessel to cross **the Atlantic Ocean**. [*Savannah* names a specific ship, and *Atlantic Ocean* identifies a specific ocean.]
- **The carpet** in my bedroom is new. [*In my bedroom* defines exactly which carpet is meant, so *carpet* is a specific noun in this context.]
- I have a computer and a fax machine in my office. **The computer** is often broken. [*Computer* is introduced in the first sentence, so it uses *a*. *Computer* has been made specific by the first sentence, so the second sentence uses *the* to refer to the same noun.]

RULE 4

A noun is specific and requires *the* when it represents something that can be inferred from the context.

- I need an expert to fix **the problem**. [If you read this sentence after the example about a computer in Rule 3, you understand that *problem* refers to the broken computer, and so *problem* is specific in this context. Here the word *the* is similar to the word *this*.]