

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

Paper No. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TAMIYA ONODERA and KIYOKUNI KAWACHIYA

Appeal No. 2004-2187
Application No. 09/378,549

ON BRIEF

Before THOMAS, OWENS, and BARRY, *Administrative Patent Judges*.
OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal is from the final rejection of claims 1-14, which are all of the claims in the application.

THE INVENTION

The appellants claim a method, apparatus and storage medium for locking an object in a program that runs a plurality of threads. Claim 1, which claims the method, is illustrative:

1. A method for managing a lock of an object by storing a bit representing a type of said lock, and an identifier of a thread having acquired a lock in accordance with a first type of lock or an identifier of a second type

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of lock into a storage area corresponding to said object, in a state where a plurality of threads exist, said method comprising the steps of:

if a first thread attempts to acquire a lock of an object that has been acquired by a second thread, determining whether said bit representing the type of the lock of said object represents said first type of lock; and

if said bit represents said first type of lock, setting a contention bit.

THE REFERENCE

Bacon	6,247,025	Jun. 12, 2001 (filed Sep. 22, 1997)
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THE REJECTION

Claims 1-14 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Bacon.

OPINION

We reverse the aforementioned rejection. We need to address only the independent claims, i.e., claims 1, 6, 9, 10 and 12-14.

Claims 1, 6, 9 and 12-14 require storing a bit representing a type of a lock that locks an object, and claim 10 requires a type identifier associated with a lock that locks an object.

The examiner argues (answer, page 6):

The "Bacon bit" as is used in Bacon is held at "0" when an object [sic, a thread] has an exclusive lock on an object and [the lock] does not have any threads (tasks of an operating system) waiting to gain the lock on the object. The "Bacon bit" is "inflated" (i.e.,) changed from "0" to "1" when a thread tries to obtain a lock

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on an object and is unable to because it is already locked by another thread currently using the object. The first thread (attempting to obtain the lock) is then enqueued on the object (i.e., the thread will wait or suspends itself until the second thread releases the lock on the object). Also, any other thread which attempts to lock the object will be enqueued on the object such that the first thread will gain access to the object before any other thread. This is well known in the art and is known as a "queue lock". Therefore, the Bacon patent teaches indicating the type of lock on an object (either an exclusive with no waiting threads, or a queue lock).

Thus, the examiner is of the view that a change in the Bacon bit indicates a change in the type of lock from an "exclusive with no waiting threads" to a queue lock and that, therefore, the Bacon bit indicates the type of lock.

The Bacon bit only indicates whether threads are waiting to lock an object (e.g., the Bacon bit is 0 if there are no waiting threads and 1 if there is a queue of waiting threads associated with the object) (col. 3, lines 44-51; col. 5, lines 12-15 and 56-65). The examiner has not provided evidence that a lock which has no waiting threads reasonably can be considered to become a different type of lock when it has waiting threads, and vice versa. Hence, the examiner has not established that the Bacon bit represents or identifies the type of lock.

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We therefore find that the examiner has not carried the burden of establishing a *prima facie* case of anticipation of the invention claimed in any of the appellants' claims.

DECISION

The rejection of claims 1-14 under 35 U.S.C. § 102(e) over Bacon is reversed.

REVERSED

JAMES D. THOMAS)	
Administrative Patent Judge)	
)	
)	
)	BOARD OF PATENT
TERRY J. OWENS)	
Administrative Patent Judge)	APPEALS AND
)	
)	INTERFERENCES
)	
LANCE LEONARD BARRY)	
Administrative Patent Judge)	

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LESLIE J. PAYNE
IBM CORP.
3605 HIGHWAY 52 NORTH
ROCHESTER, MN 55901-7829