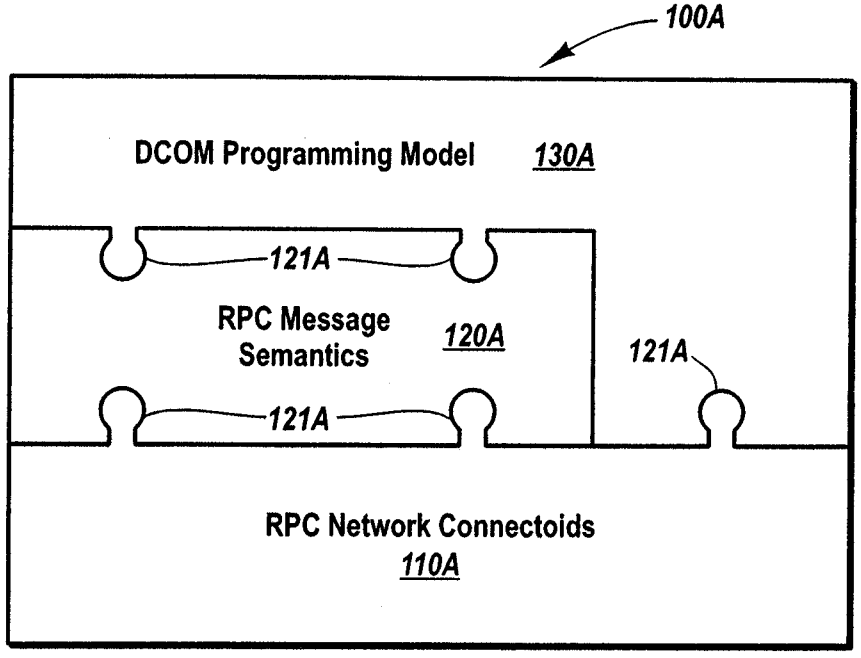


Fig. 1A
(Prior Art)

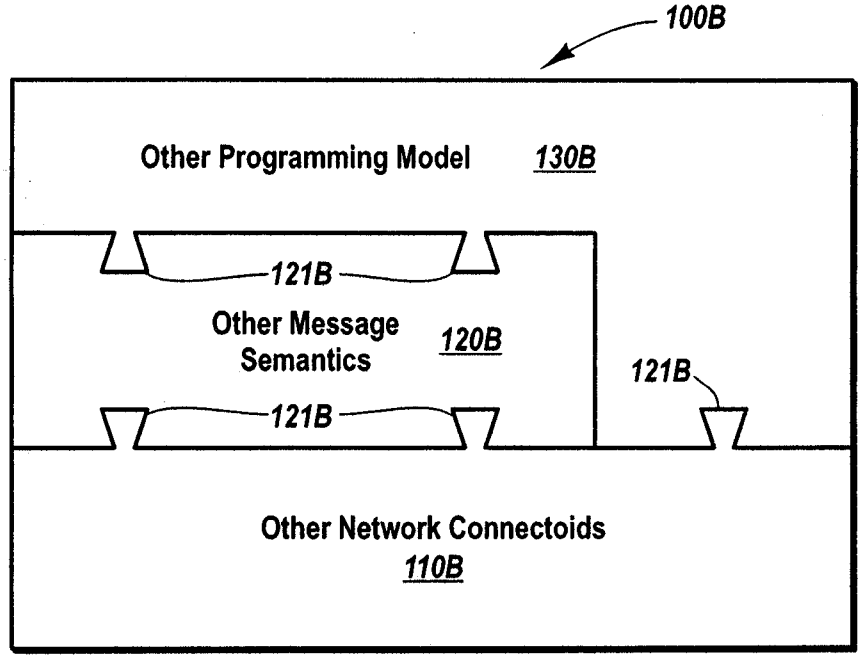


Fig. 1B
(Prior Art)

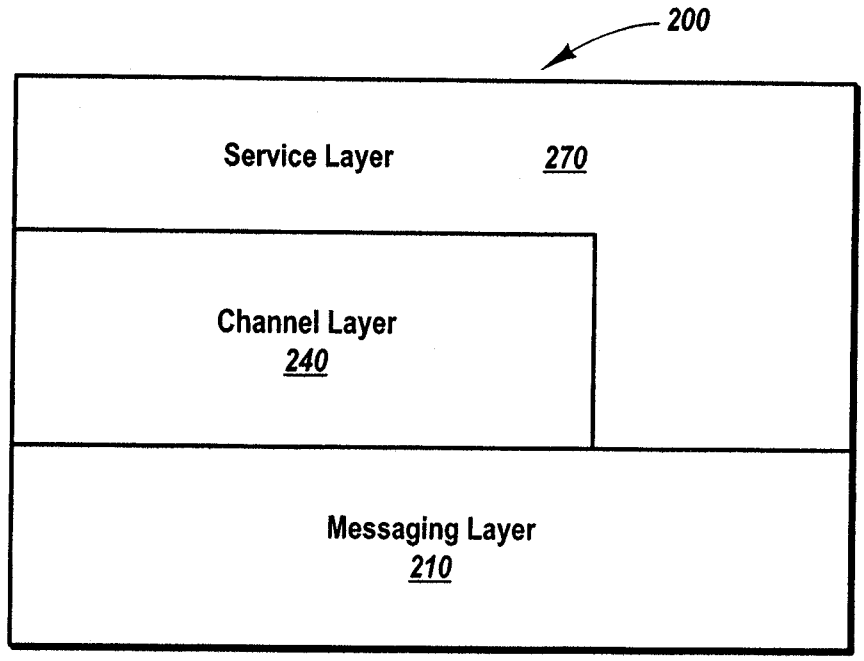

200
Service Layer
270
Channel Layer
240
Messaging Layer
210

Fig. 2

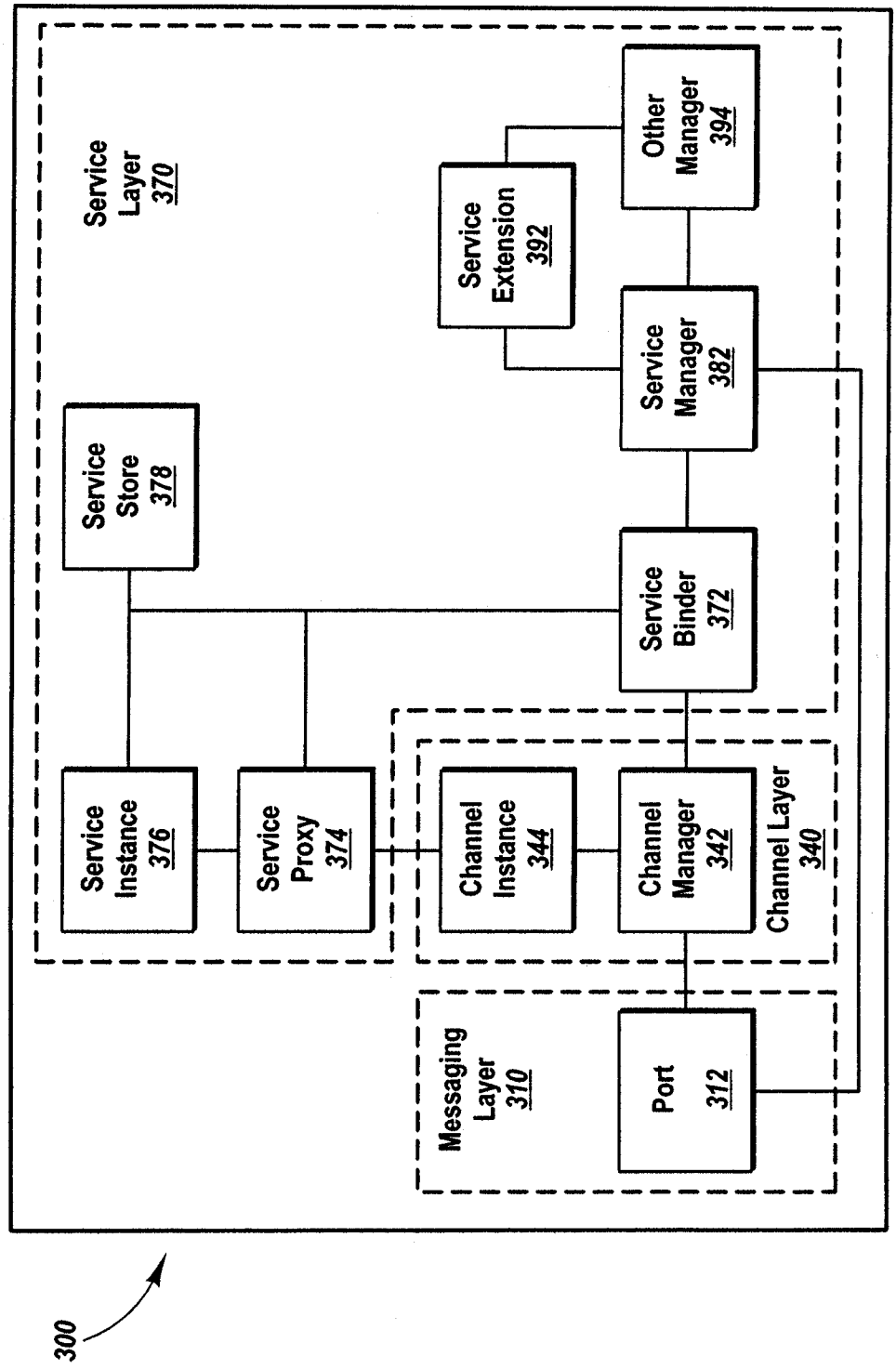

Service Layer 370
Service Store 378
Service Instance 376
Service Proxy 374
Service Extension 392
Other Manager 394
Service Manager 382
Service Binder 372
Channel Instance 344
Channel Manager 342
Channel Layer 340
Messaging Layer 310
Port 312
300

Fig. 3

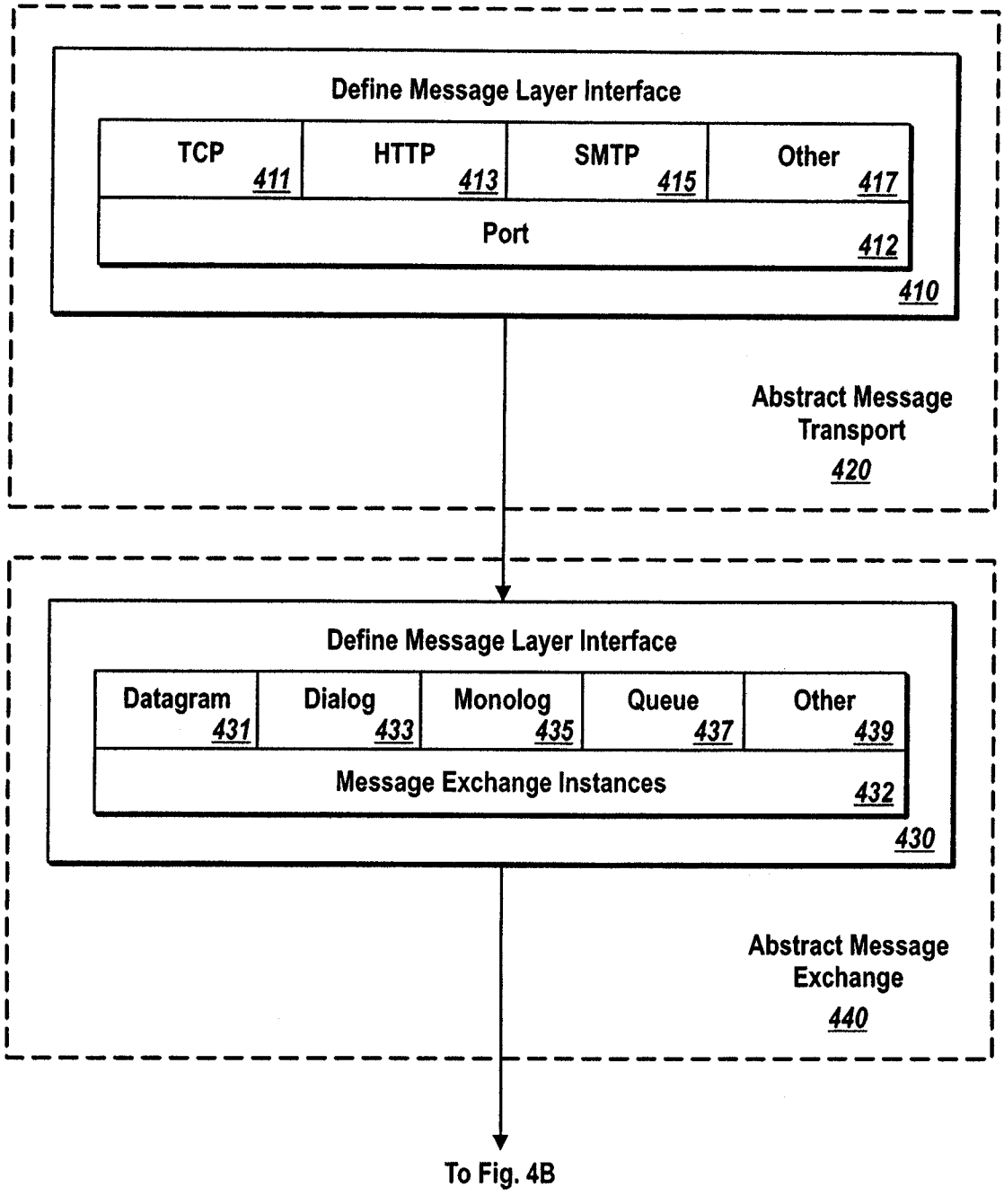

Define Message Layer Interface
TCP
411
HTTP
413
SMTP
415
Other
417
Port
412
410
Abstract Message Transport
420
Define Message Layer Interface
Datagram
431
Dialog
433
Monolog
435
Queue
437
Other
439
Message Exchange Instances
432
430
Abstract Message Exchange
440
To Fig. 4B

Fig. 4A

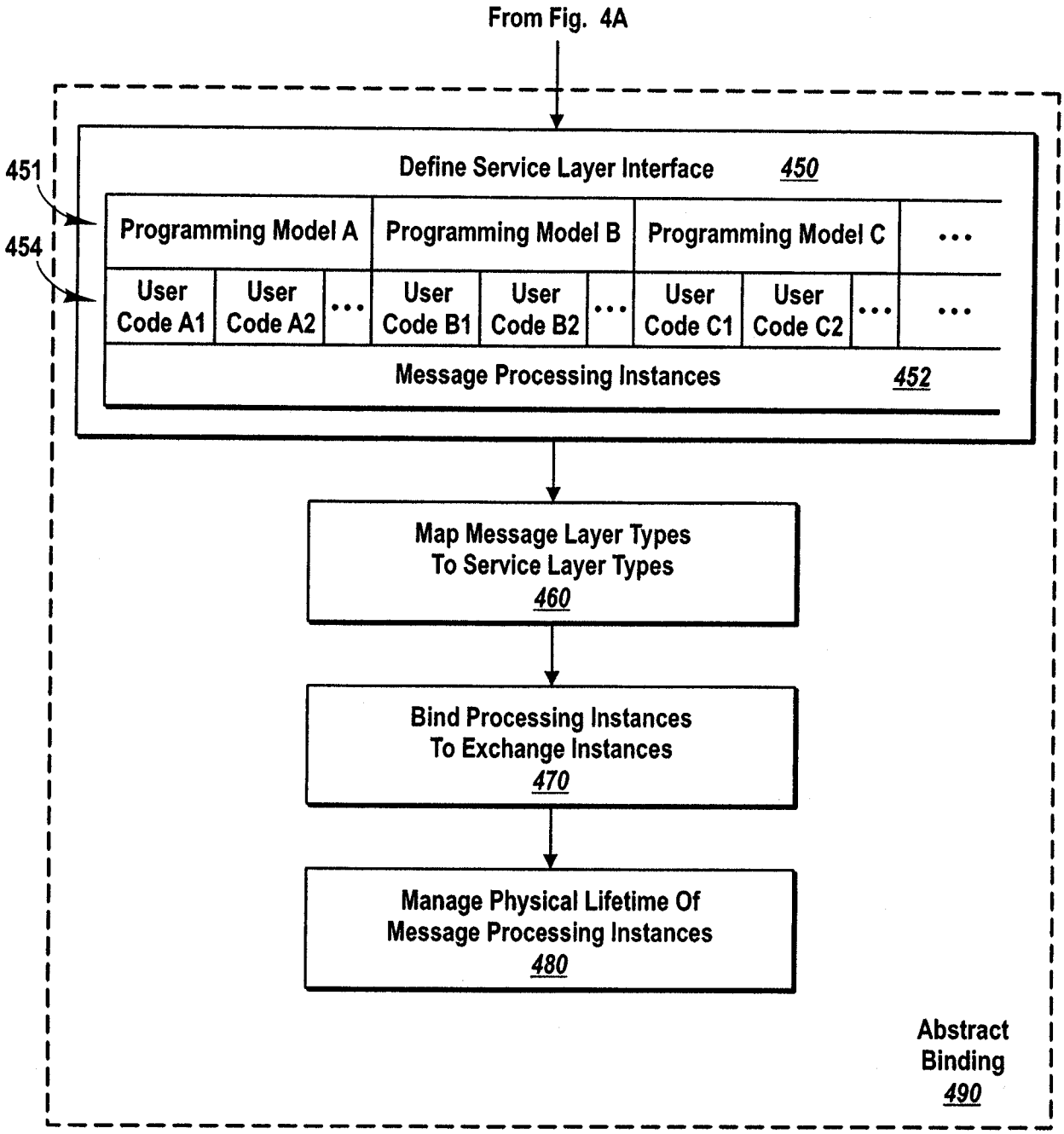

From Fig. 4A
451
454
Define Service Layer Interface 450
Programming Model A
Programming Model B
Programming Model C
User Code A1
User Code A2
User Code B1
User Code B2
User Code C1
User Code C2
Message Processing Instances 452
Map Message Layer Types To Service Layer Types 460
Bind Processing Instances To Exchange Instances 470
Manage Physical Lifetime Of Message Processing Instances 480
Abstract Binding 490

Fig. 4B

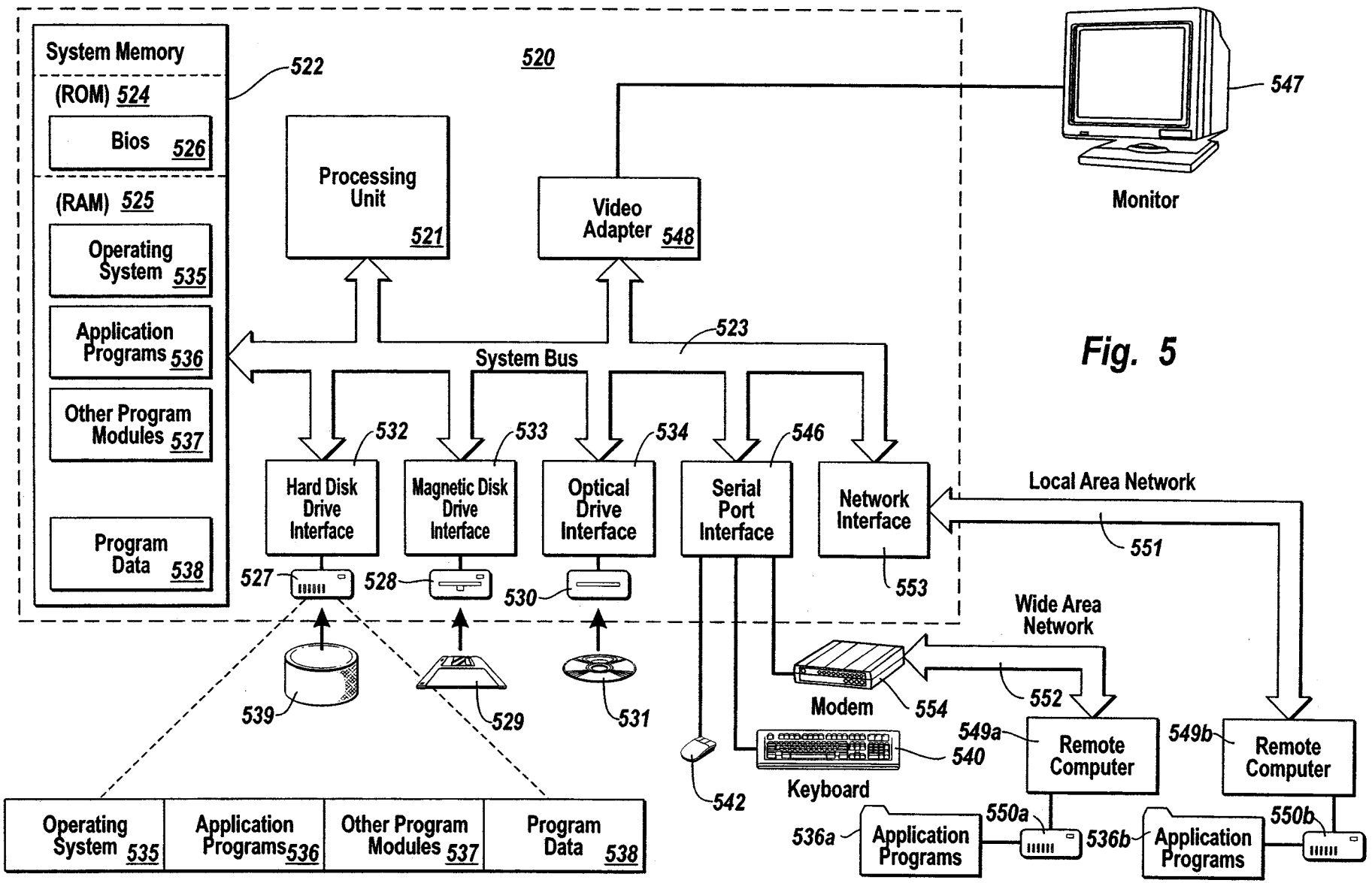

System Memory
522
520
(ROM) 524
Bios 526
(RAM) 525
Operating System 535
Application Programs 536
Other Program Modules 537
Program Data 538
Processing Unit 521
Video Adapter 548
547
Monitor
523
System Bus
532
533
534
546
Hard Disk Drive Interface
Magnetic Disk Drive Interface
Optical Drive Interface
Serial Port Interface
Network Interface
Local Area Network
551
553
527
528
530
539
529
531
Wide Area Network
552
Modem
554
549a
549b
Remote Computer
Remote Computer
540
Keyboard
542
550a
550b
536a
536b
Application Programs
Application Programs
Operating System 535
Application Programs 536
Other Program Modules 537
Program Data 538

Fig. 5