United States Patent [19]

Edwards, Jr.

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[54] **SYSTEM WITH SOFTWARE USAGE TIMER AND COUNTER FOR ALLOWING LIMITED USE BUT PREVENTING CONTINUED UNAUTHORIZED USE OF PROTECTED SOFTWARE**

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[73] Assignee: **NCR Corporation**, Dayton, Ohio

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[51] Int. Cl.⁵ G06F 12/14; G06F 11/34; G06F 7/02; H04L 9/32

[52] **U.S. Cl.** **364/900**; 364/969; 364/969.4; 364/934; 364/921.8; 364/921.9; 364/270; 364/286.4; 364/286.5; 364/246.6; 364/246.9; 364/251.4; 364/251.3; 380/4

[58] **Field of Search** .... 340/825.31, 825.32, 340/825.33, 825.34; 380/20, 23, 17, 4, 25; 364/200 MS File, 900 MS File

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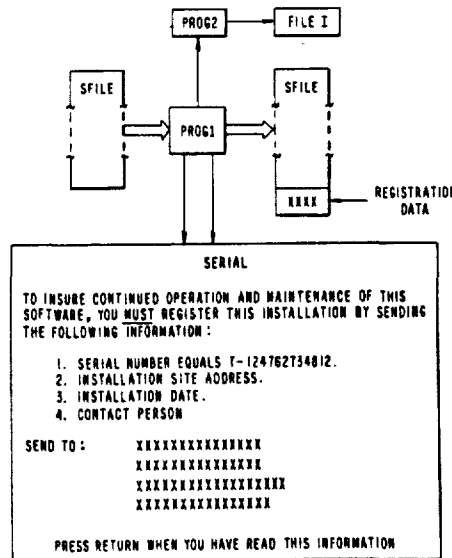*Attorney, Agent, or Firm*—Wilbert Hawk, Jr.; Albert L. Sessler, Jr.

[57] **ABSTRACT**

A method is provided to prevent continued unauthorized use of protected software and to maintain control of sites where software is installed. The method allows unauthorized copies of the protected software to be installed and to operate for a limited time. However, if the user does not register the software within a prescribed period of time, the protected software will be disabled. Prior to disabling, the software will operate for a period of time during which messages are provided to the user, warning that the software should be registered. Both a counter for counting the number of times that the protected software is used, and a timer for measuring the elapsed time since installation of the software, are used in determining how long the protected software will be permitted to operate before either registration or disabling.
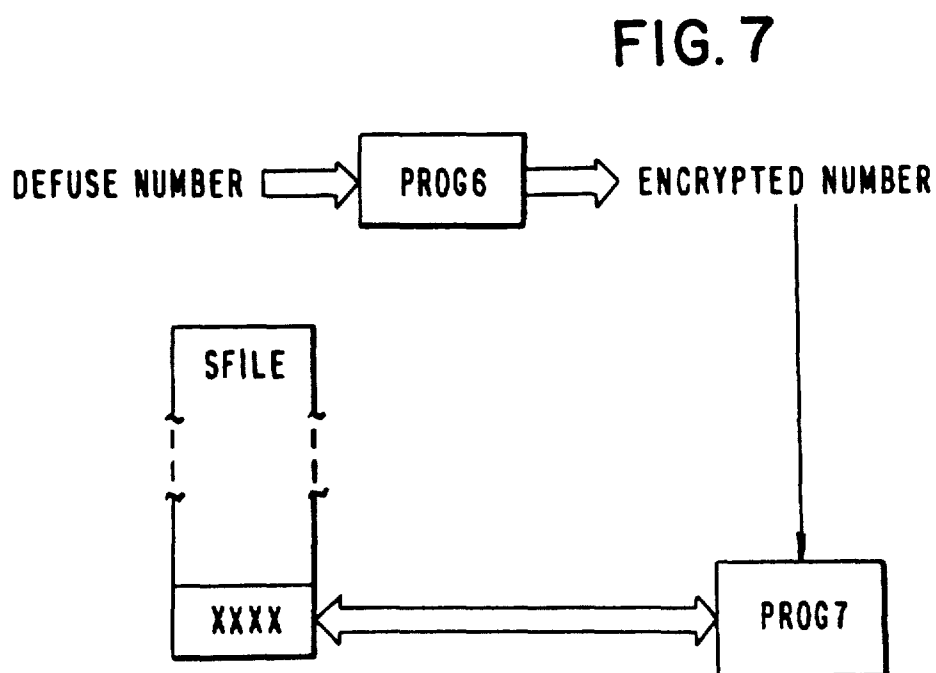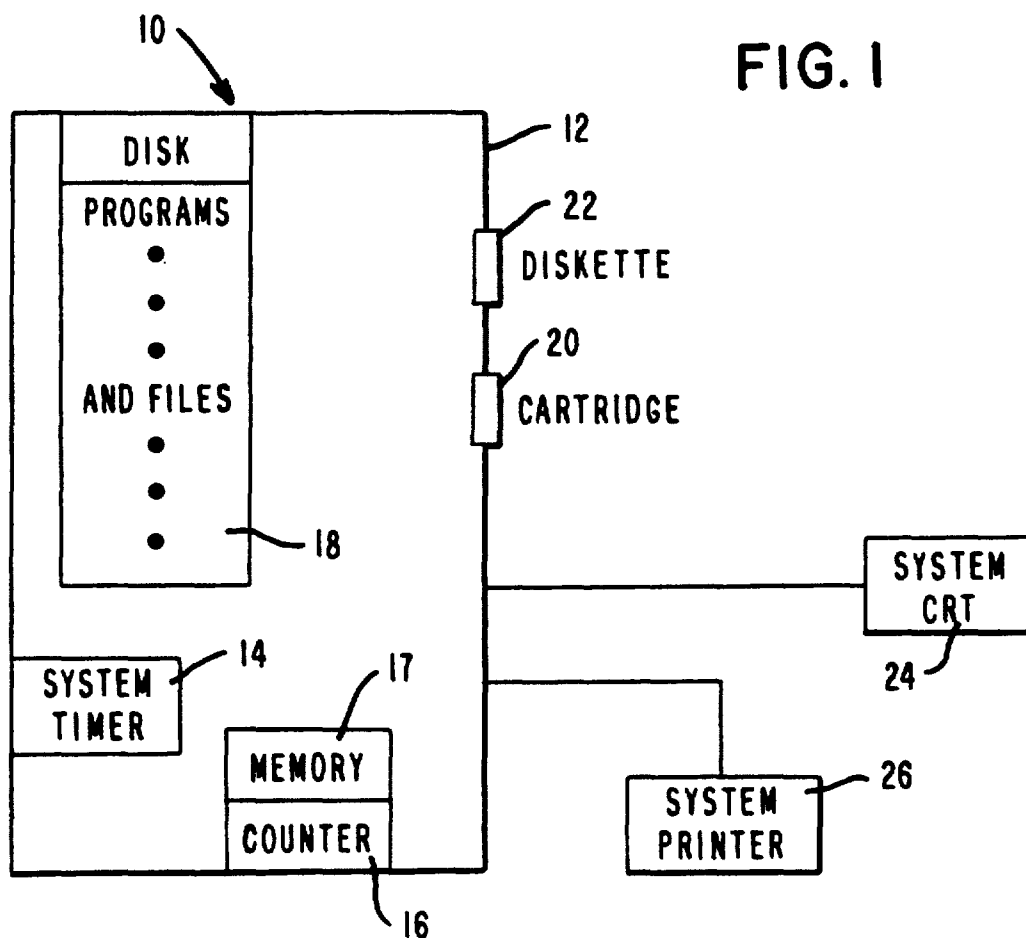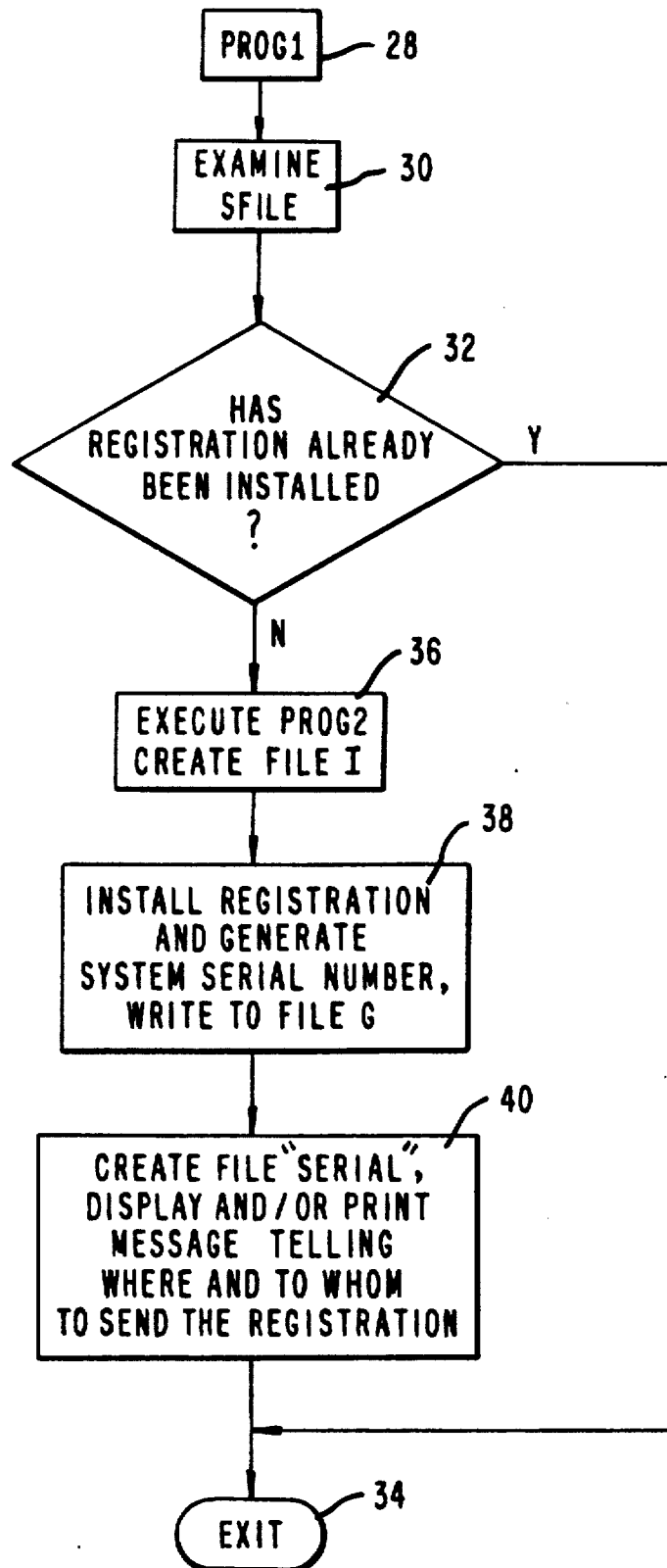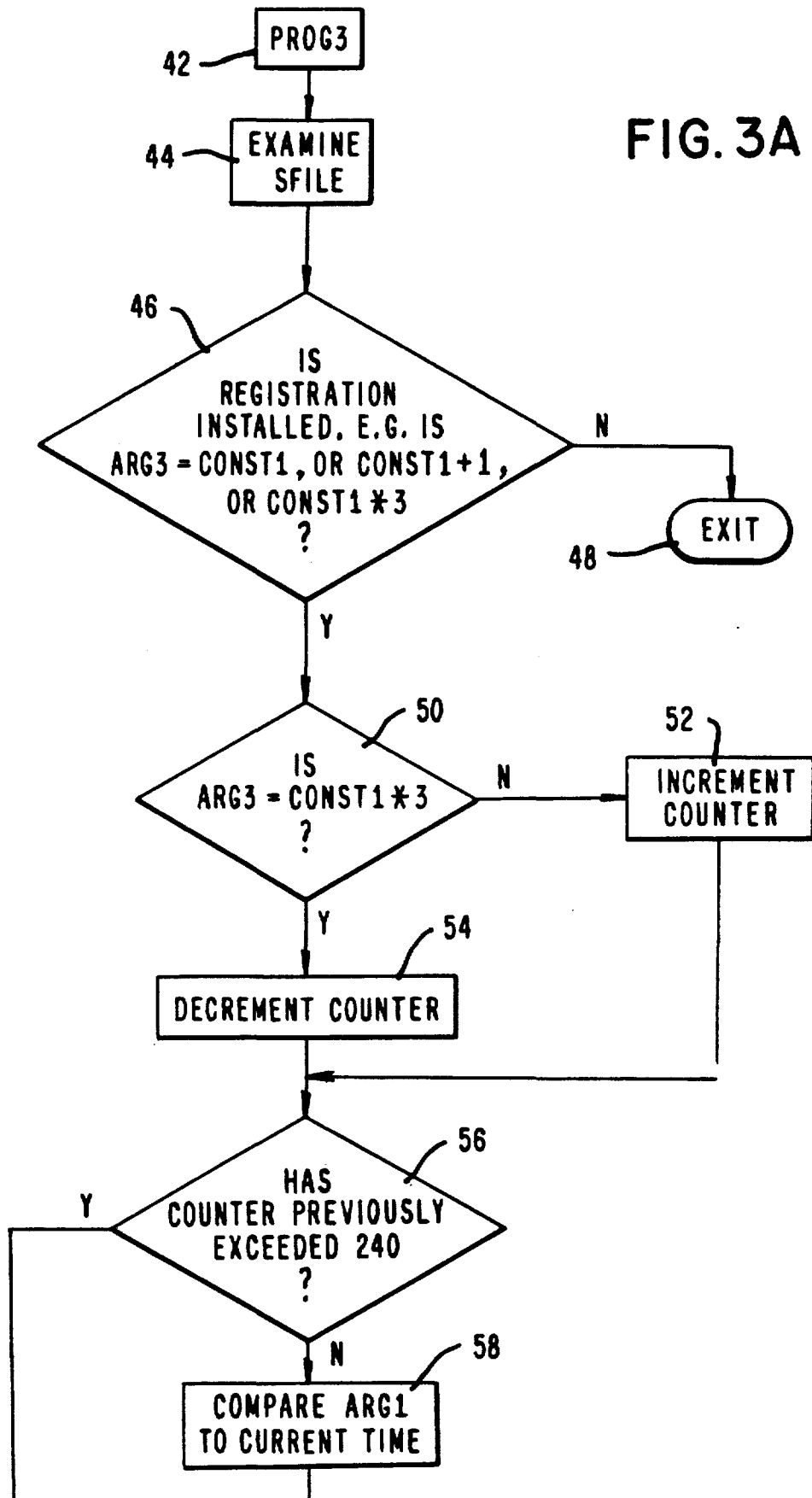
9 Claims, 7 Drawing Sheets

FIG. 1

FIG. 7

FIG. 2

FIG. 3A

42 — PROG3

44 — EXAMINE SFILE

46 — IS REGISTRATION INSTALLED. E.G. IS ARG3 = CONST1, OR CONST1+1, OR CONST1*3 ?

N → EXIT — 48

Y

50 — IS ARG3 = CONST1*3 ?

N → INCREMENT COUNTER — 52

Y

54 — DECREMENT COUNTER

56 — HAS COUNTER PREVIOUSLY EXCEEDED 240 ?

Y

N

58 — COMPARE ARG1 TO CURRENT TIME

FIG. 3B

60 — HAS 120 DAYS PASSED ?

N → 62 EXIT

Y

64 — HAS COUNTER DECREMENTED TO ZERO ?

Y → 66 COPY AND DECRYPT FILE A TO CREATE PROG5

N

70 — COPY AND DECRYPT FILE D TO CREATE PROG4

68 — EXECUTE THE PROGRAM PROG5 WHICH REMOVES PROTECTED FILES FROM THE SYSTEM

72 — CREATE DISPLAY FILE H AND PRINT FILE E

74 — EXECUTE THE PROGRAM PROG4 WHICH PRINTS AND DISPLAYS MESSAGES FILE H AND FILE E, THEN DELETES DECRYPTED FILES
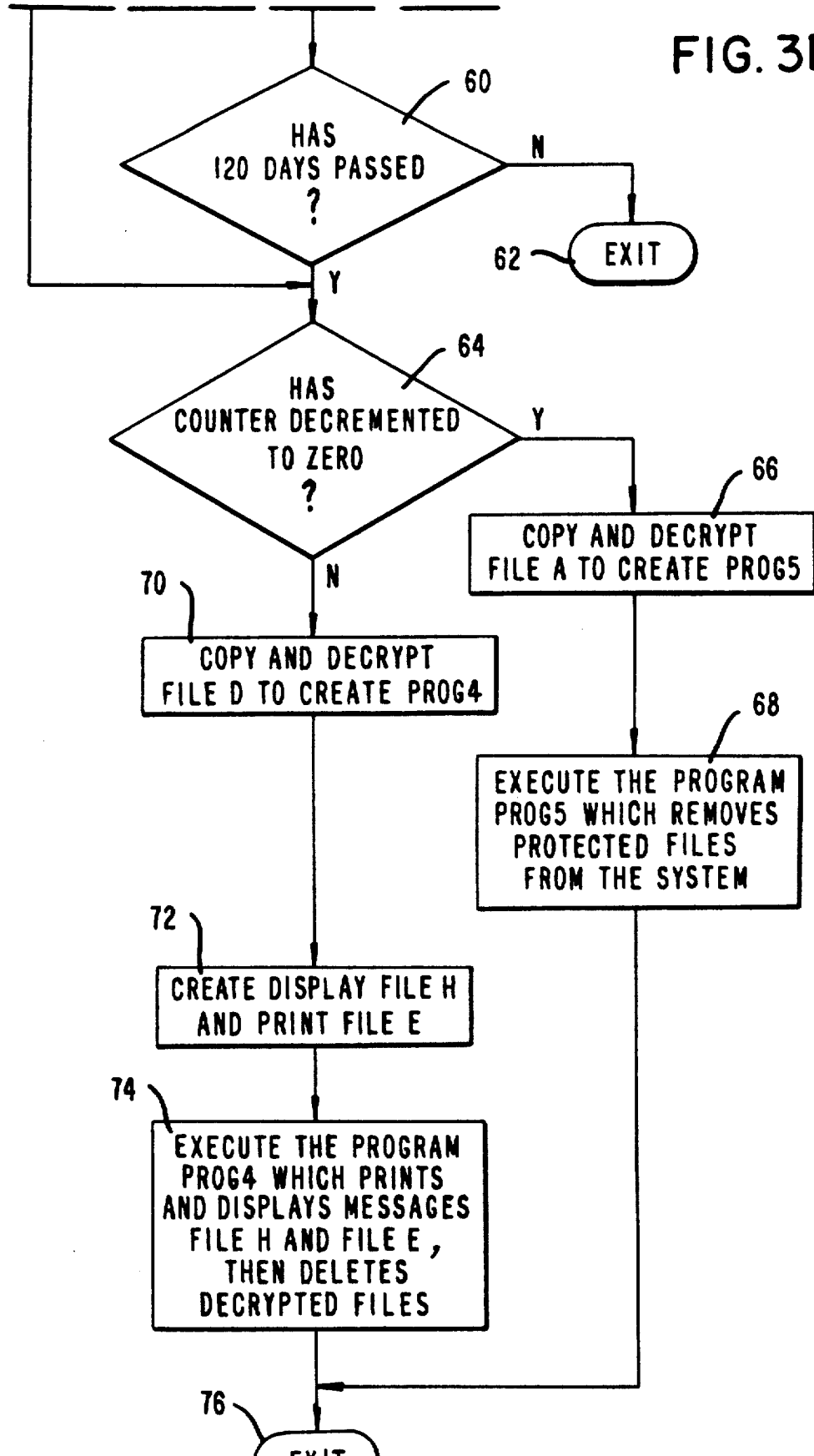
76 — EXIT

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