FIG. 1

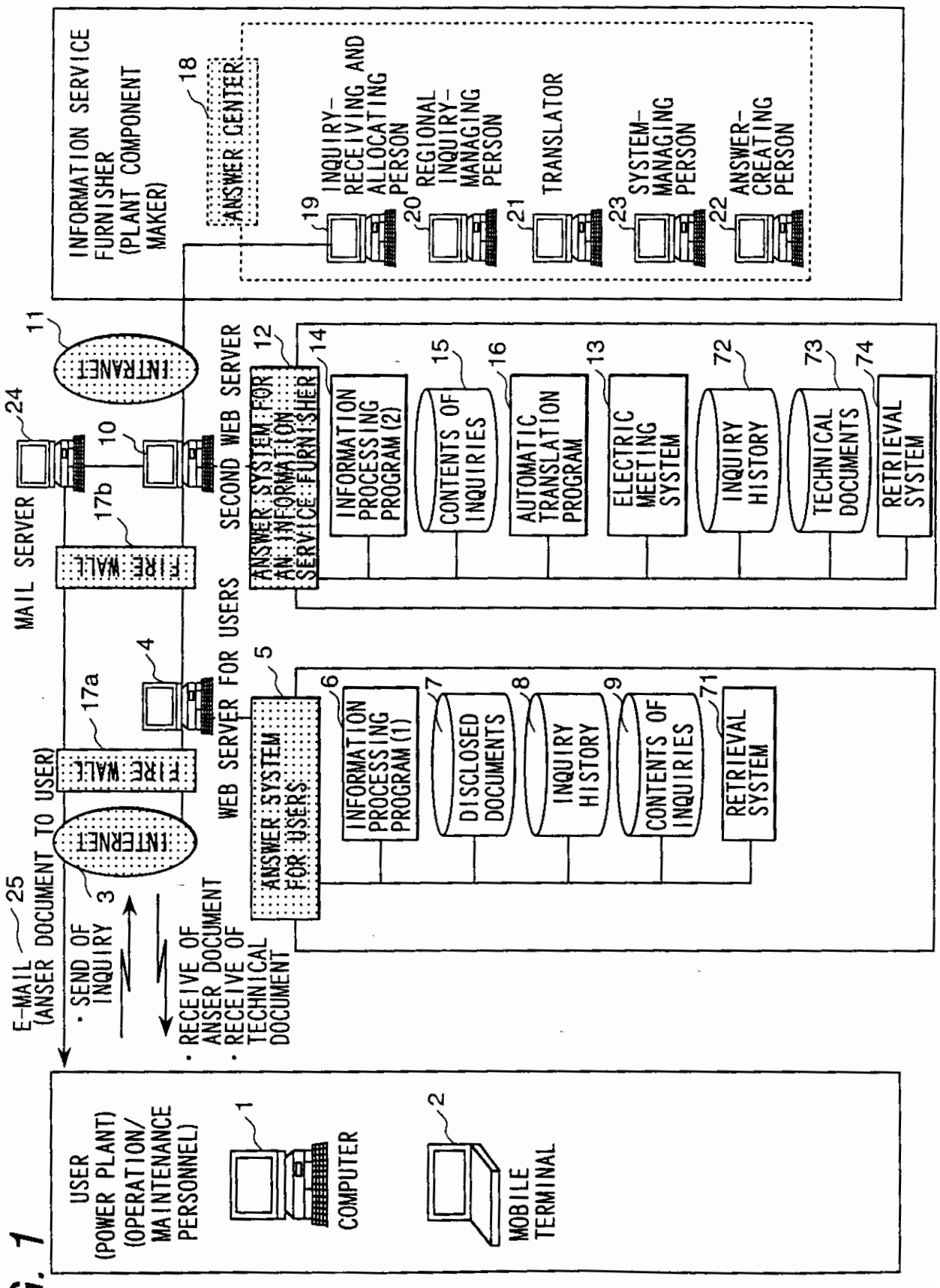

USER (POWER PLANT) (OPERATION/ MAINTENANCE PERSONNEL)
1
COMPUTER
2
MOBILE TERMINAL
E-MAIL (ANSER DOCUMENT TO USER) 25
· SEND OF INQUIRY
· RECEIVE OF ANSER DOCUMENT
· RECEIVE OF TECHNICAL DOCUMENT
3
INTERNET
17a
MAIL
IR
4
WEB SERVER FOR USERS
5
ANSWER SYSTEM FOR USERS
6
INFORMATION PROCESSING PROGRAM (1)
7
DISCLOSED DOCUMENTS
8
INQUIRY HISTORY
9
CONTENTS OF INQUIRIES
71
RETRIEVAL SYSTEM
MAIL SERVER
24
10
17b
MAIL
IR
INTRANET
11
SECOND WEB SERVER
12
ANSWER SYSTEM FOR AN INFORMATION SERVICE FURNISHER
14
INFORMATION PROCESSING PROGRAM (2)
15
CONTENTS OF INQUIRIES
16
AUTOMATIC TRANSLATION PROGRAM
13
ELECTRIC MEETING SYSTEM
72
INQUIRY HISTORY
73
TECHNICAL DOCUMENTS
74
RETRIEVAL SYSTEM
INFORMATION SERVICE FURNISHER (PLANT COMPONENT MAKER)
18
ANSWER CENTER
19
INQUIRY-RECEIVING AND ALLOCATING PERSON
20
REGIONAL INQUIRY-MANAGING PERSON
21
TRANSLATOR
23
SYSTEM-MANAGING PERSON
22
ANSWER-CREATING PERSON

FIG. 2

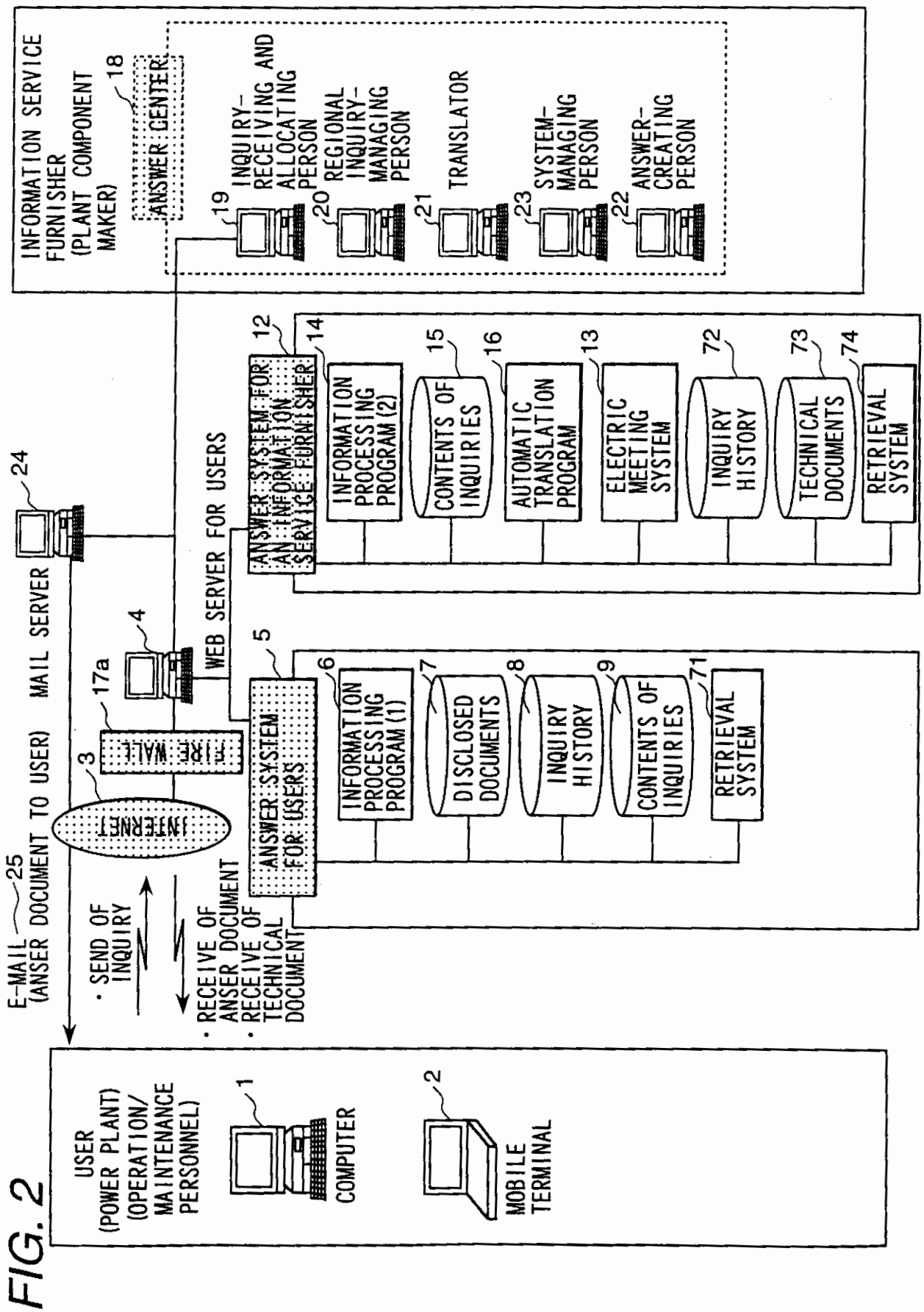
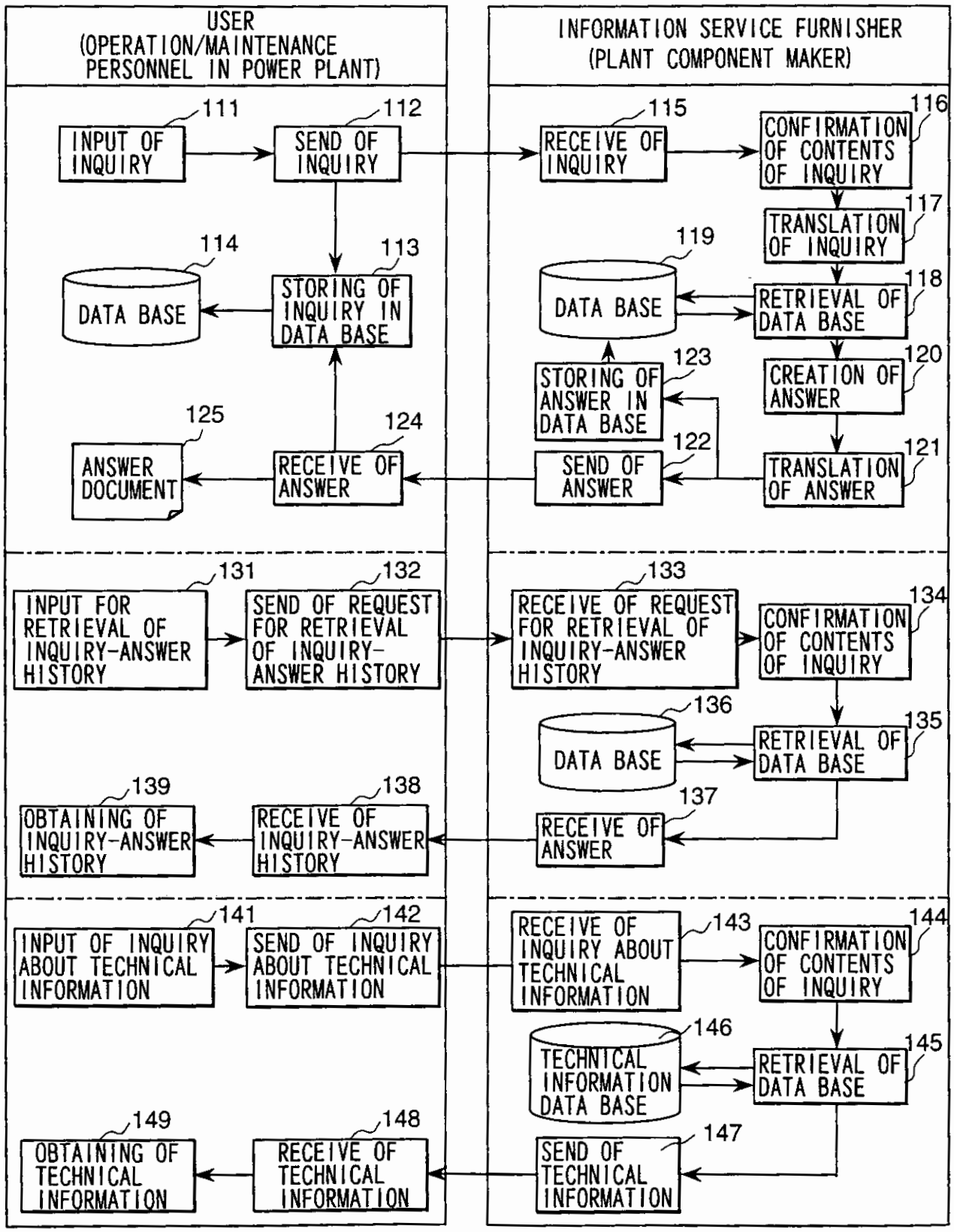

USER (POWER PLANT) (OPERATION/ MAINTENANCE PERSONNEL)
1
COMPUTER
2
MOBILE TERMINAL
E-MAIL (ANSER DOCUMENT TO USER)
25
· SEND OF INQUIRY
· RECEIVE OF ANSER DOCUMENT
· RECEIVE OF TECHNICAL DOCUMENT
INTERNET
3
WAN
17a
4
WEB SERVER FOR USERS
5
ANSWER SYSTEM FOR USERS
6
INFORMATION PROCESSING PROGRAM (1)
7
DISCLOSED DOCUMENTS
8
INQUIRY HISTORY
9
CONTENTS OF INQUIRIES
71
RETRIEVAL SYSTEM
MAIL SERVER
24
ANSWER SYSTEM FOR AN INFORMATION SERVICE FURNISHER
12
14
INFORMATION PROCESSING PROGRAM (2)
15
CONTENTS OF INQUIRIES
16
AUTOMATIC TRANSLATION PROGRAM
13
ELECTRIC MEETING SYSTEM
72
INQUIRY HISTORY
73
TECHNICAL DOCUMENTS
74
RETRIEVAL SYSTEM
INFORMATION SERVICE FURNISHER (PLANT COMPONENT MAKER)
18
ANSWER CENTER
19
INQUIRY-RECEIVING AND ALLOCATING PERSON
20
REGIONAL INQUIRY-MANAGING PERSON
21
TRANSLATOR
23
SYSTEM-MANAGING PERSON
22
ANSWER-CREATING PERSON

FIG. 3


USER
(OPERATION/MAINTENANCE PERSONNEL IN POWER PLANT)
INFORMATION SERVICE FURNISHER
(PLANT COMPONENT MAKER)
111
INPUT OF INQUIRY
112
SEND OF INQUIRY
115
RECEIVE OF INQUIRY
116
CONFIRMATION OF CONTENTS OF INQUIRY
117
TRANSLATION OF INQUIRY
114
DATA BASE
113
STORING OF INQUIRY IN DATA BASE
119
DATA BASE
118
RETRIEVAL OF DATA BASE
123
STORING OF ANSWER IN DATA BASE
120
CREATION OF ANSWER
125
ANSWER DOCUMENT
124
RECEIVE OF ANSWER
122
SEND OF ANSWER
121
TRANSLATION OF ANSWER
131
INPUT FOR RETRIEVAL OF INQUIRY-ANSWER HISTORY
132
SEND OF REQUEST FOR RETRIEVAL OF INQUIRY-ANSWER HISTORY
133
RECEIVE OF REQUEST FOR RETRIEVAL OF INQUIRY-ANSWER HISTORY
134
CONFIRMATION OF CONTENTS OF INQUIRY
136
DATA BASE
135
RETRIEVAL OF DATA BASE
139
OBTAINING OF INQUIRY-ANSWER HISTORY
138
RECEIVE OF INQUIRY-ANSWER HISTORY
137
RECEIVE OF ANSWER
141
INPUT OF INQUIRY ABOUT TECHNICAL INFORMATION
142
SEND OF INQUIRY ABOUT TECHNICAL INFORMATION
143
RECEIVE OF INQUIRY ABOUT TECHNICAL INFORMATION
144
CONFIRMATION OF CONTENTS OF INQUIRY
146
TECHNICAL INFORMATION DATA BASE
145
RETRIEVAL OF DATA BASE
149
OBTAINING OF TECHNICAL INFORMATION
148
RECEIVE OF TECHNICAL INFORMATION
147
SEND OF TECHNICAL INFORMATION

# FIG. 4

## 質問内容詳細

| | | | |
|---|---|---|---|
| 質問番号 | HCL-0012 | 受付日 | 2000/02/03 |
| 回答要求日 | 明日中 | 状況 | 顧客回答済 |
| 機器名 | Steam Turbines | 関連質問番号 | |
| 件名 | SCV Sticking Problem | 電子会議室 | |
| 関連質問資料 | | | |

| | |
|---|---|
| 質問(英文) | EPC has asked if HTC recommends installing grease fittings for application of high temperature grease to SCV camshaft bushings (oiless bushings). XED4 will have brief maintenance outage this coming weekend and if we make such recommendation then EPC would like some details so that they can perform such work on this weekend. I have given a preliminary verbal reply that we will likely advise against using grease in the oiless bushings but that we will consult with T-Pukei. Please send your comments to me through TSA Answer Center and also by fax or e-mail If possible please send reply this evening as I will business trip to Edmonton tomorrow.<br><br>Best regards, JJActon |
| 質問(和文) | EPCから、高温用grease をSCVカムシャフト・ブッシング(オイルレス・ブッシング)に注入するための取り付け口をHTCが推奨するかとの問い合わせを受けました。この週末にXED4は点検補修のために短期停止をします。もしHTCが推奨するというなら、今週末に取り付けを行なえるように、その要請を要求しています。<br>私は以前、グリースをオイルレス・ブッシングに使うことにはあまり賛成できないが、T-Pukeiに相談してみますと口頭で返答しました。TSAアンサーセンターからそちらのコメントを送ってください。ファックス または電子メール へも同様に返答ください。明日エドモントンに出張に行くため、できましたら今晩にも返事ください。<br>JJActon |

| | |
|---|---|
| 回答(英文) | We would like to reply as below.<br>1)The camshaft bushing is oil-less bushing No.500.Basically grease is not used for this bushing type.<br>HTC does not have such an experience as what EPC intends to do .<br>2)Our recommendation is that to conduct hot check immediately after stopping the turbine.<br>The hot check means to conducted to confirm that SCV and servo-motor can move smoothly to both open and close directions.<br>Please pay a special attention when the servo-motor stroke is around 120mm.<br><br>Best Regards,<br>TGS/ Hotta |
| 備考 | |

FIG. 5(a)

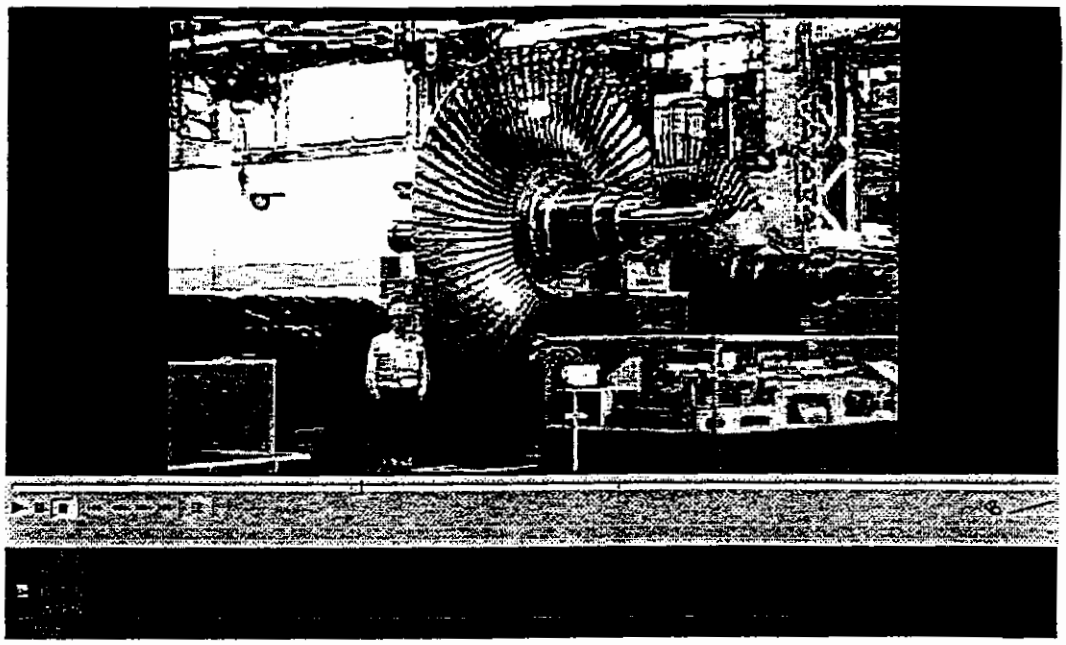


FIG. 5(b)

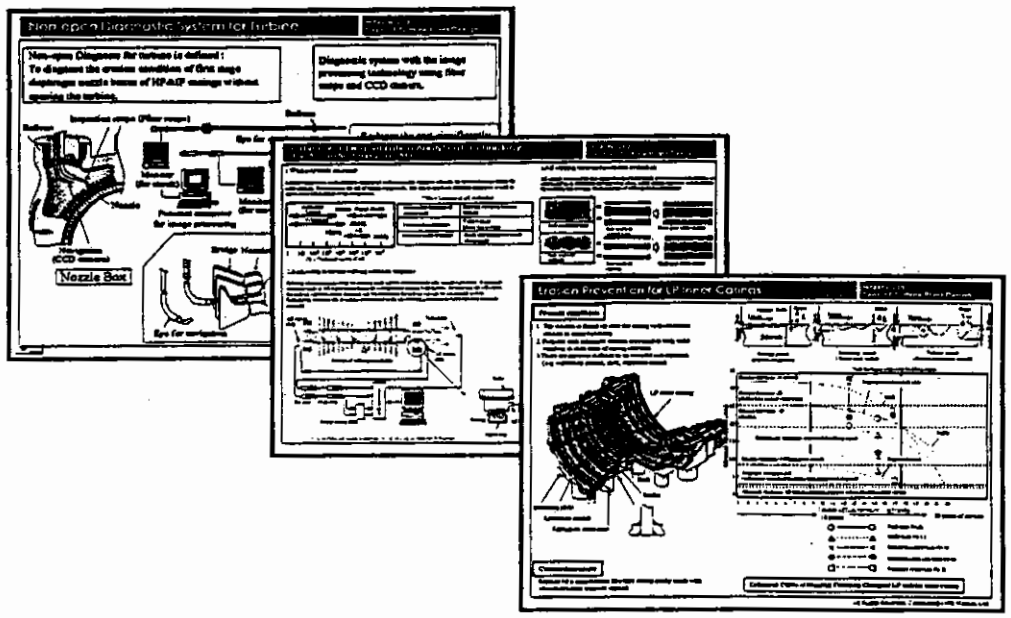


FIG. 6-1

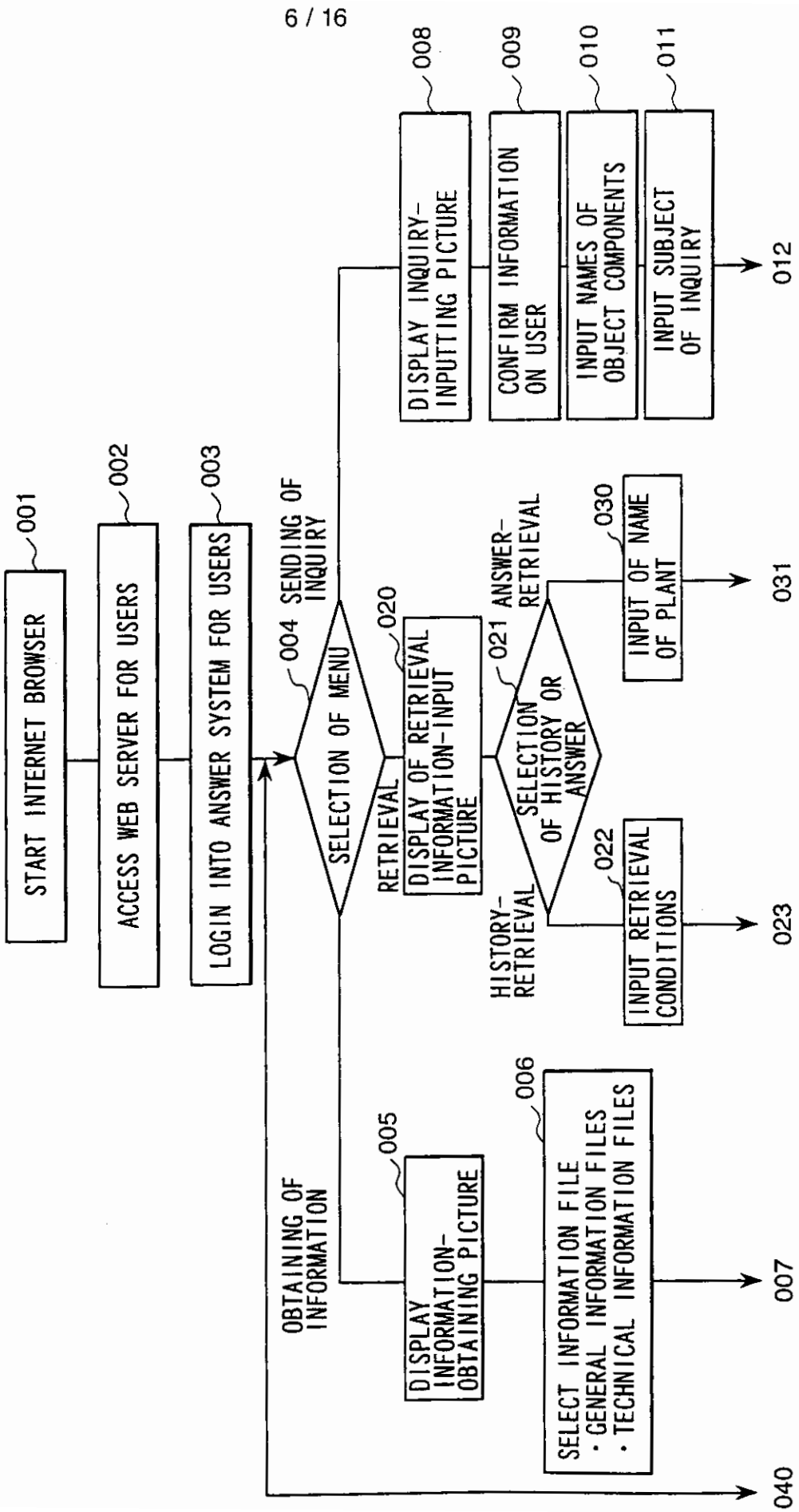
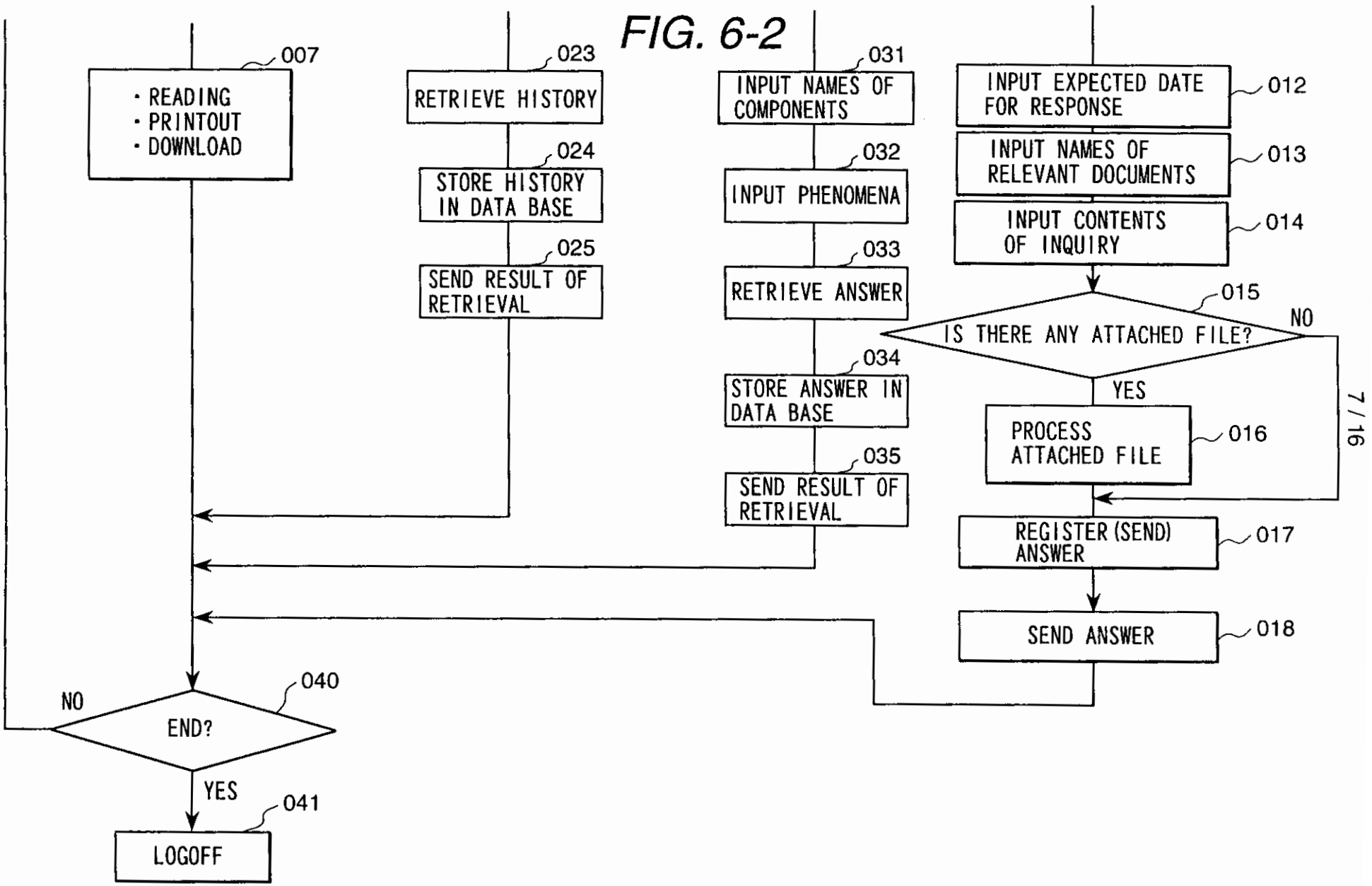

START INTERNET BROWSER
001
ACCESS WEB SERVER FOR USERS
002
LOGIN INTO ANSWER SYSTEM FOR USERS
003
004 SENDING OF INQUIRY
SELECTION OF MENU
OBTAINING OF INFORMATION
005
DISPLAY INFORMATION-OBTAINING PICTURE
006
SELECT INFORMATION FILE
・GENERAL INFORMATION FILES
・TECHNICAL INFORMATION FILES
007
040
RETRIEVAL
020
DISPLAY OF RETRIEVAL INFORMATION-INPUT PICTURE
021 ANSWER-RETRIEVAL
SELECTION OF HISTORY OR ANSWER
HISTORY-RETRIEVAL
022
INPUT RETRIEVAL CONDITIONS
023
030
INPUT OF NAME OF PLANT
031
008
DISPLAY INQUIRY-INPUTTING PICTURE
009
CONFIRM INFORMATION ON USER
010
INPUT NAMES OF OBJECT COMPONENTS
011
INPUT SUBJECT OF INQUIRY
012

FIG. 6-2


007
• READING
• PRINTOUT
• DOWNLOAD
023
RETRIEVE HISTORY
024
STORE HISTORY IN DATA BASE
025
SEND RESULT OF RETRIEVAL
031
INPUT NAMES OF COMPONENTS
032
INPUT PHENOMENA
033
RETRIEVE ANSWER
034
STORE ANSWER IN DATA BASE
035
SEND RESULT OF RETRIEVAL
012
INPUT EXPECTED DATE FOR RESPONSE
013
INPUT NAMES OF RELEVANT DOCUMENTS
014
INPUT CONTENTS OF INQUIRY
015
IS THERE ANY ATTACHED FILE?
NO
YES
016
PROCESS ATTACHED FILE
017
REGISTER (SEND) ANSWER
018
SEND ANSWER
040
NO
END?
YES
041
LOGOFF

# FIG. 7-1

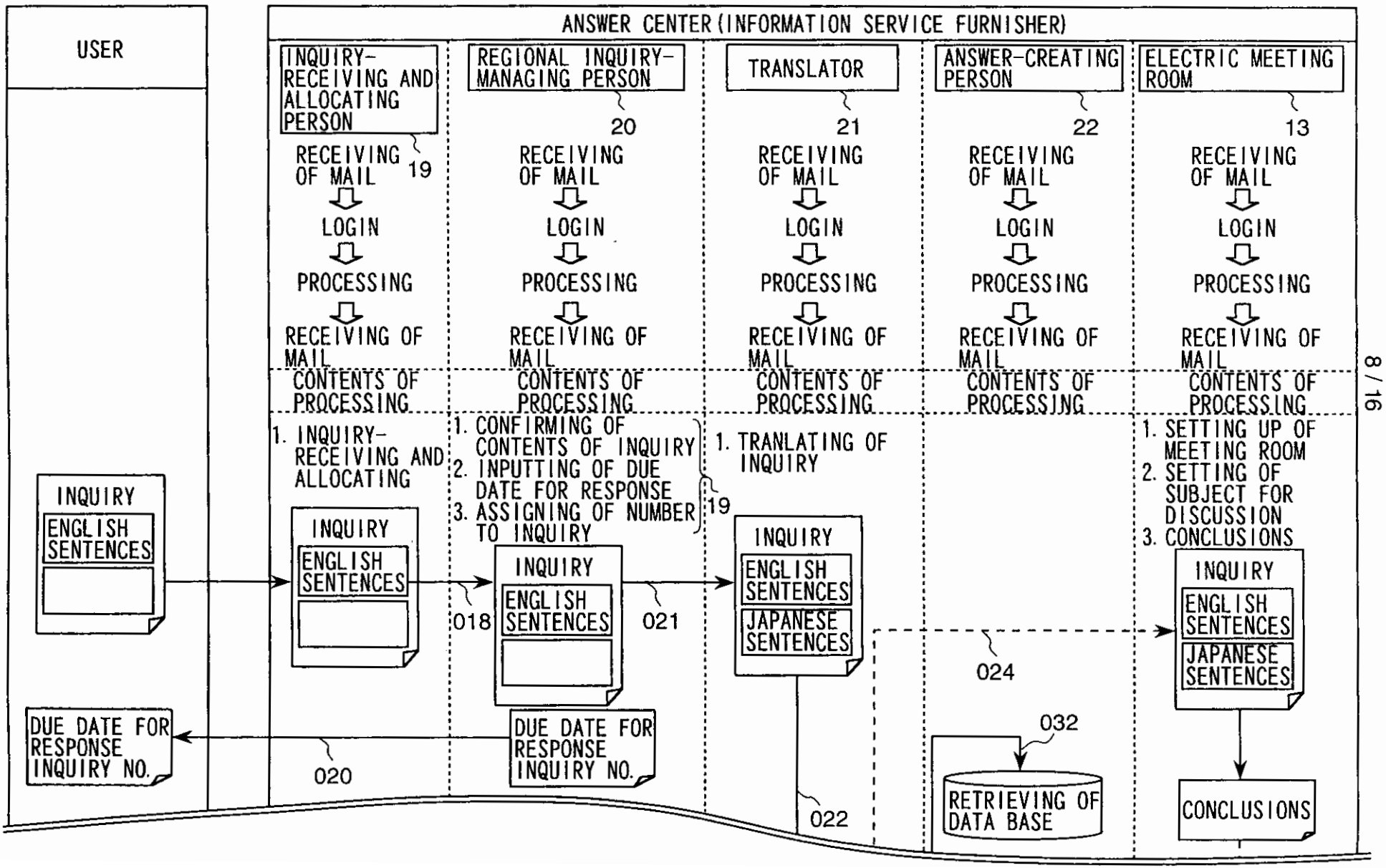

USER
ANSWER CENTER (INFORMATION SERVICE FURNISHER)
INQUIRY-RECEIVING AND ALLOCATING PERSON
19
REGIONAL INQUIRY-MANAGING PERSON
20
TRANSLATOR
21
ANSWER-CREATING PERSON
22
ELECTRIC MEETING ROOM
13
RECEIVING OF MAIL
LOGIN
PROCESSING
RECEIVING OF MAIL
CONTENTS OF PROCESSING
1. INQUIRY-RECEIVING AND ALLOCATING
1. CONFIRMING OF CONTENTS OF INQUIRY
2. INPUTTING OF DUE DATE FOR RESPONSE
3. ASSIGNING OF NUMBER TO INQUIRY
19
1. TRANLATING OF INQUIRY
1. SETTING UP OF MEETING ROOM
2. SETTING OF SUBJECT FOR DISCUSSION
3. CONCLUSIONS
INQUIRY
ENGLISH SENTENCES
JAPANESE SENTENCES
018
021
024
032
020
022
DUE DATE FOR RESPONSE INQUIRY NO.
RETRIEVING OF DATA BASE
CONCLUSIONS

FIG. 7-2

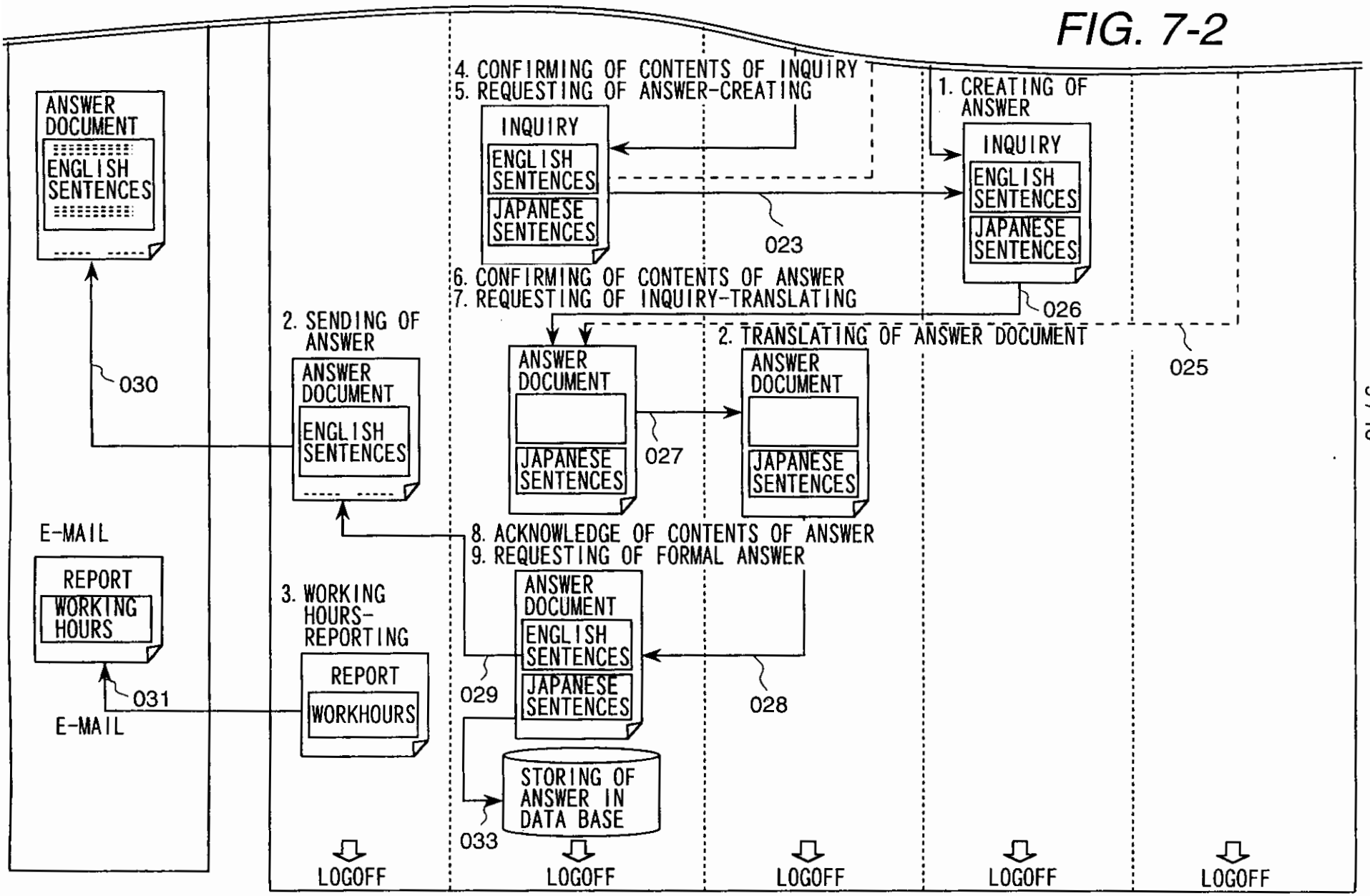

ANSWER DOCUMENT
ENGLISH SENTENCES
4. CONFIRMING OF CONTENTS OF INQUIRY
5. REQUESTING OF ANSWER-CREATING
INQUIRY
ENGLISH SENTENCES
JAPANESE SENTENCES
023
1. CREATING OF ANSWER
INQUIRY
ENGLISH SENTENCES
JAPANESE SENTENCES
026
6. CONFIRMING OF CONTENTS OF ANSWER
7. REQUESTING OF INQUIRY-TRANSLATING
2. SENDING OF ANSWER
2. TRANSLATING OF ANSWER DOCUMENT
025
030
ANSWER DOCUMENT
ENGLISH SENTENCES
ANSWER DOCUMENT
JAPANESE SENTENCES
027
ANSWER DOCUMENT
JAPANESE SENTENCES
E-MAIL
8. ACKNOWLEDGE OF CONTENTS OF ANSWER
9. REQUESTING OF FORMAL ANSWER
REPORT
WORKING HOURS
3. WORKING HOURS-REPORTING
ANSWER DOCUMENT
ENGLISH SENTENCES
JAPANESE SENTENCES
029
028
031
E-MAIL
REPORT
WORKHOURS
STORING OF ANSWER IN DATA BASE
033
LOGOFF
LOGOFF
LOGOFF
LOGOFF
LOGOFF

FIG. 8

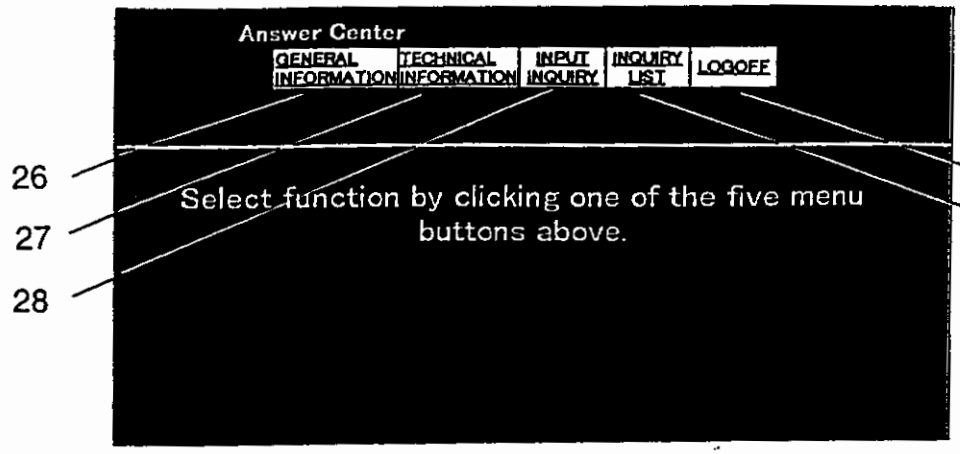



FIG. 9

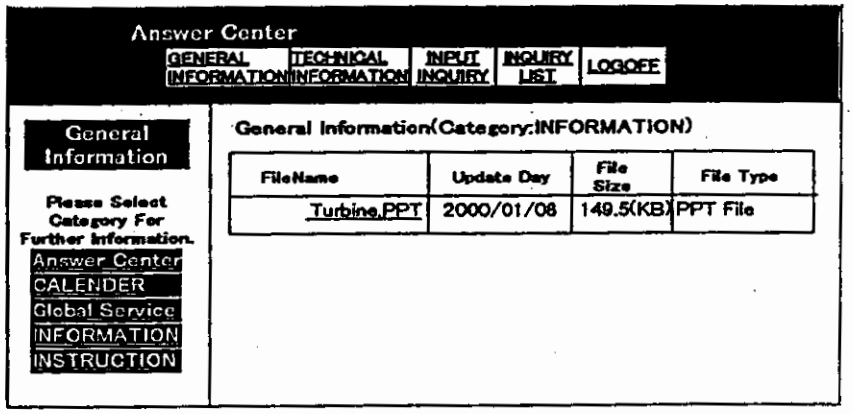



FIG. 10

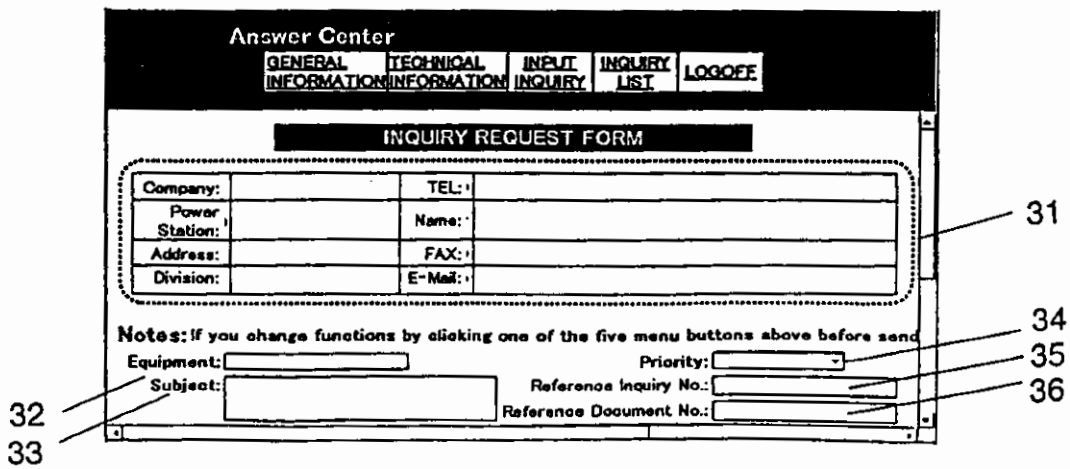


FIG. 11

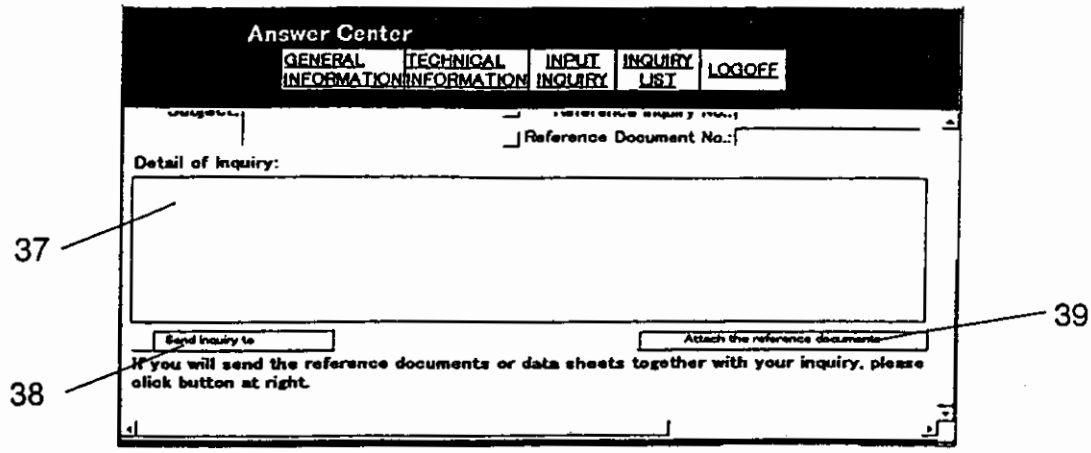



FIG. 12

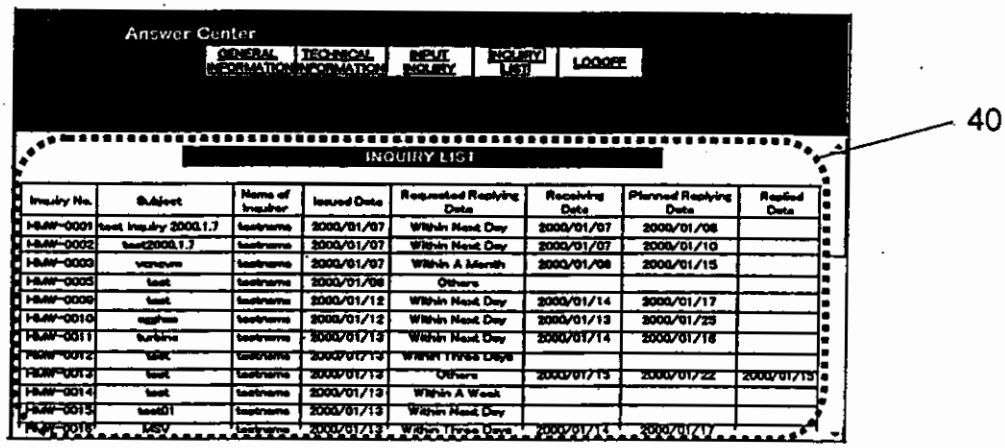



FIG. 13

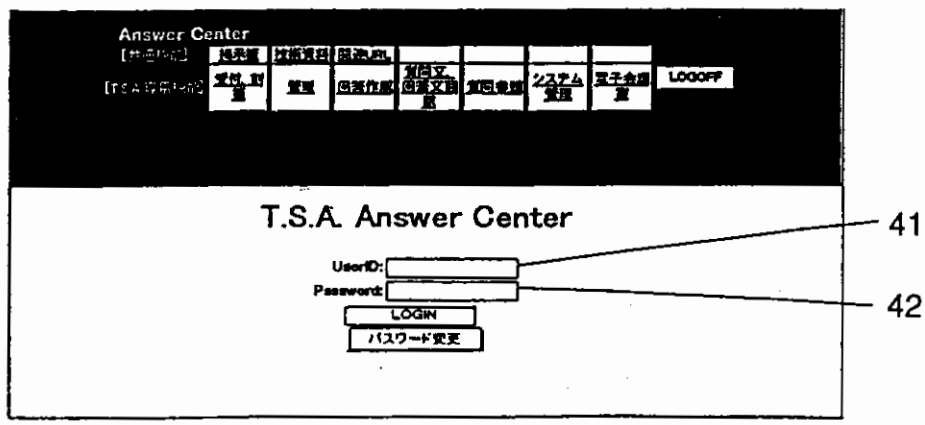


FIG. 14

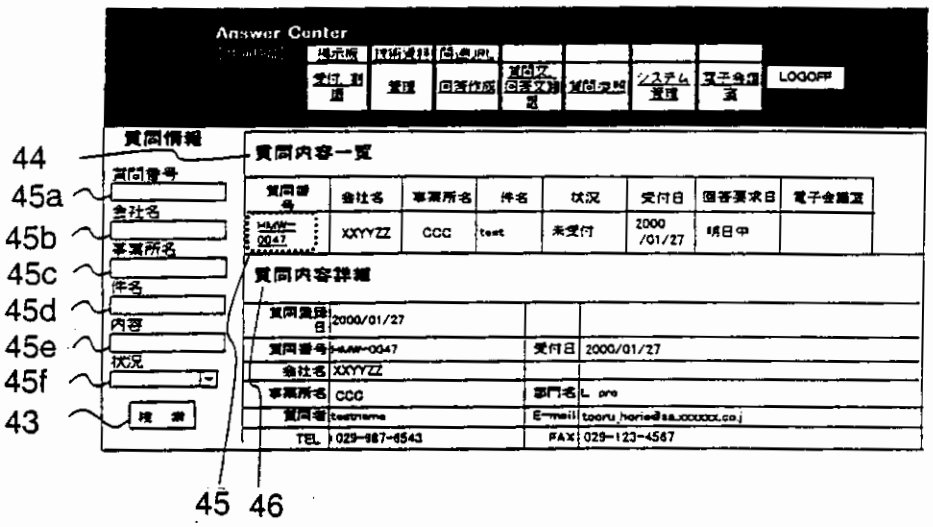



FIG. 15

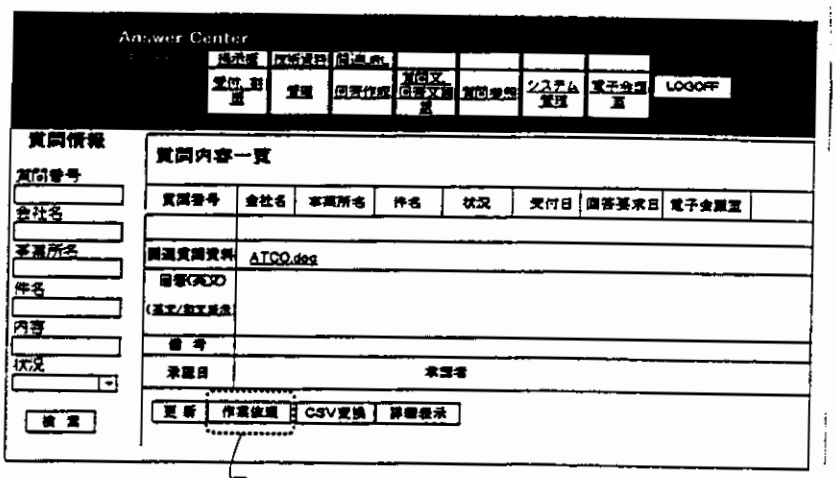



FIG. 16

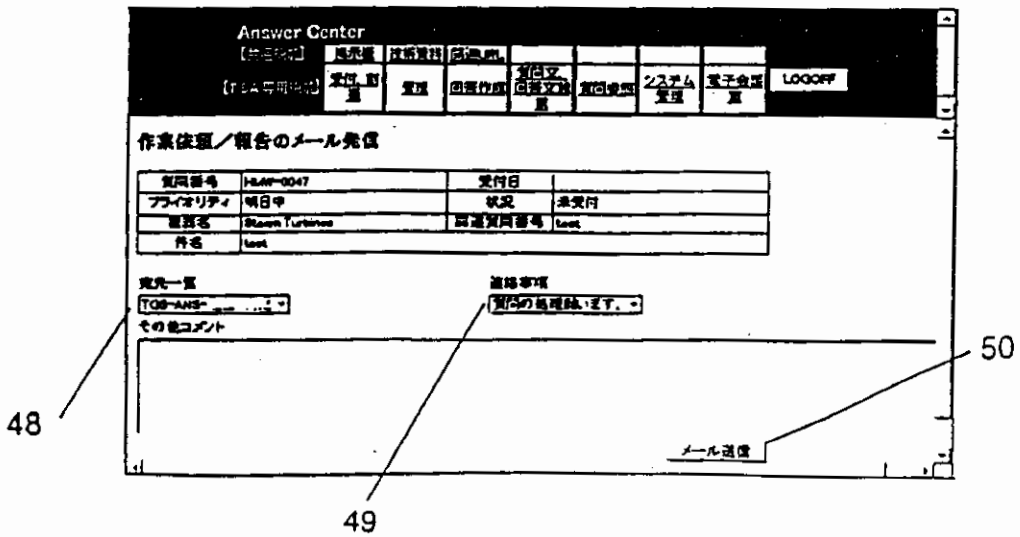


FIG. 17

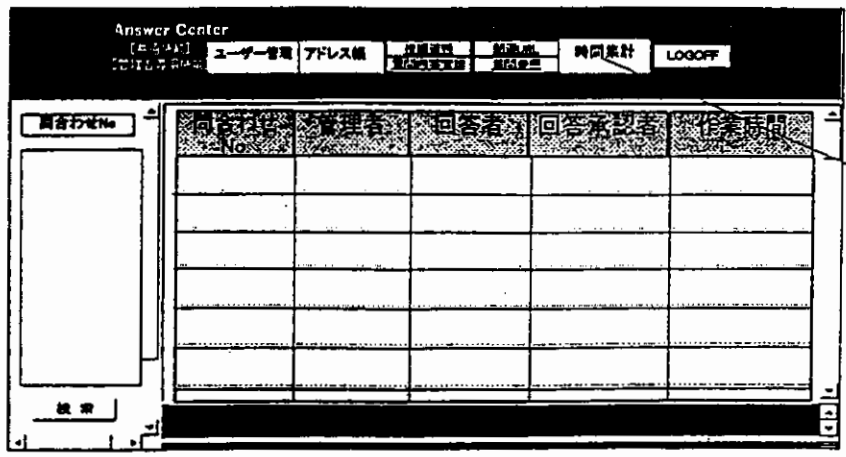



FIG. 18

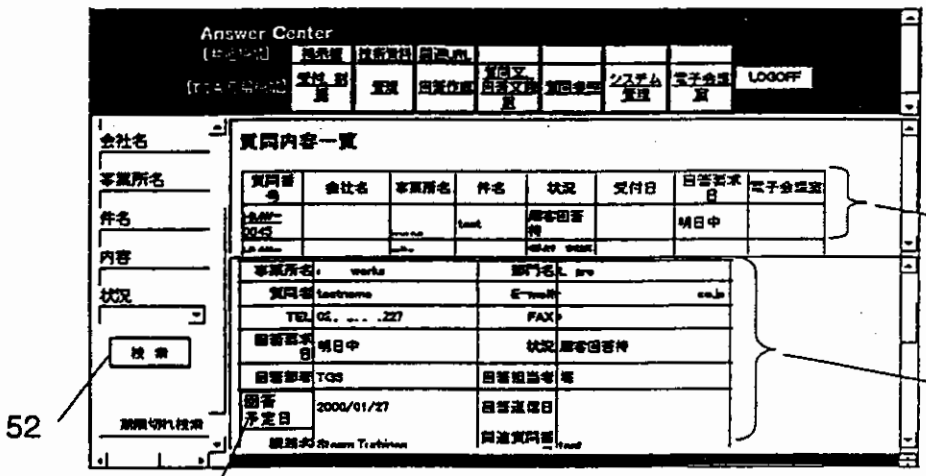



FIG. 19

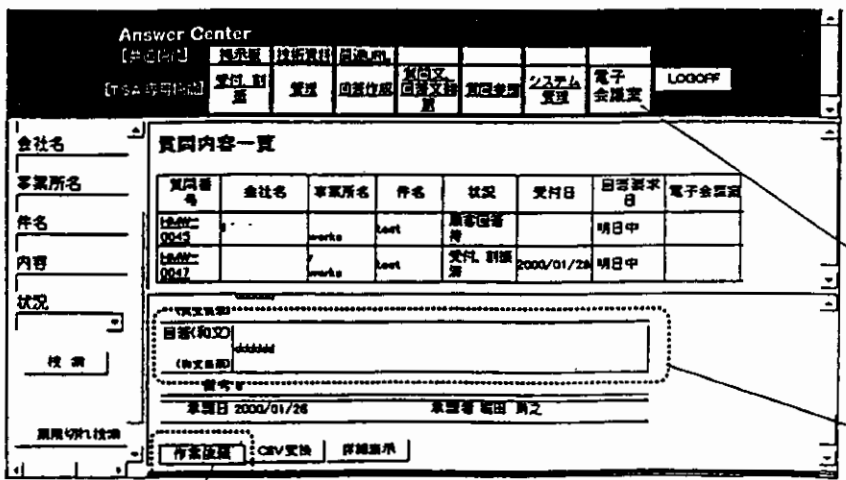


FIG. 20

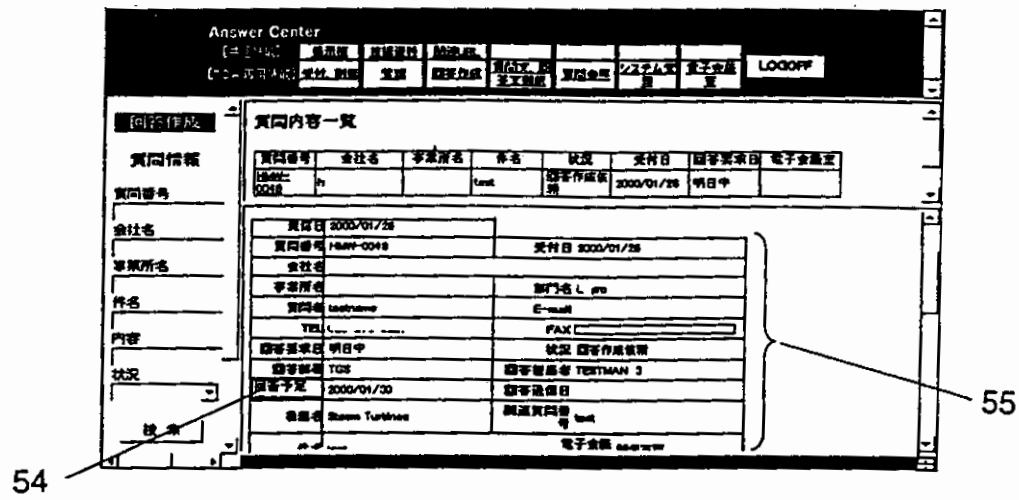



FIG. 21

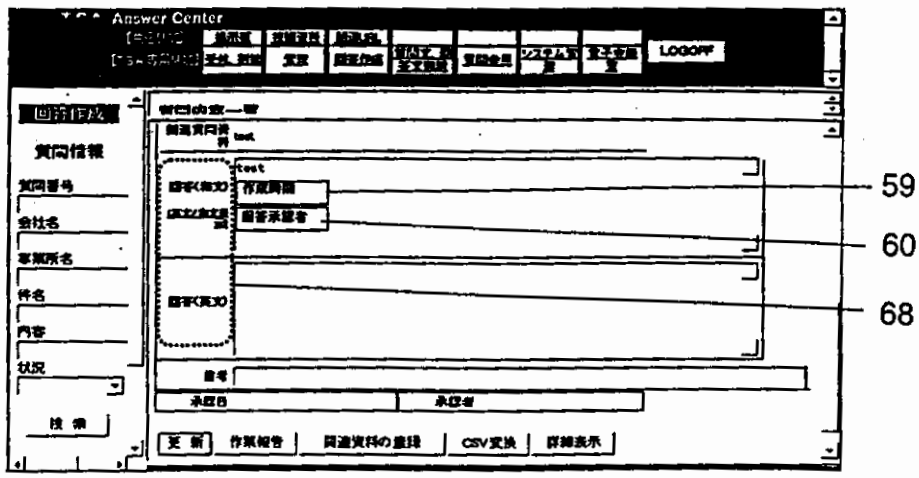



FIG. 22

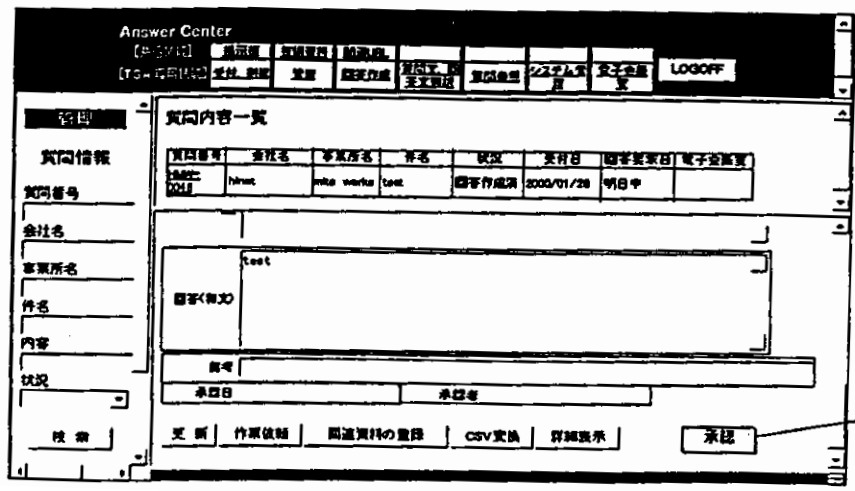


FIG. 23

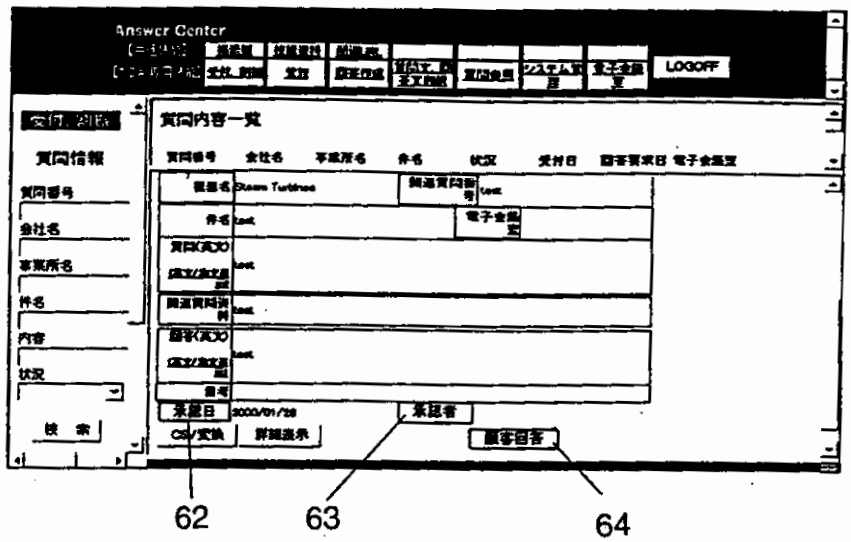



FIG. 24

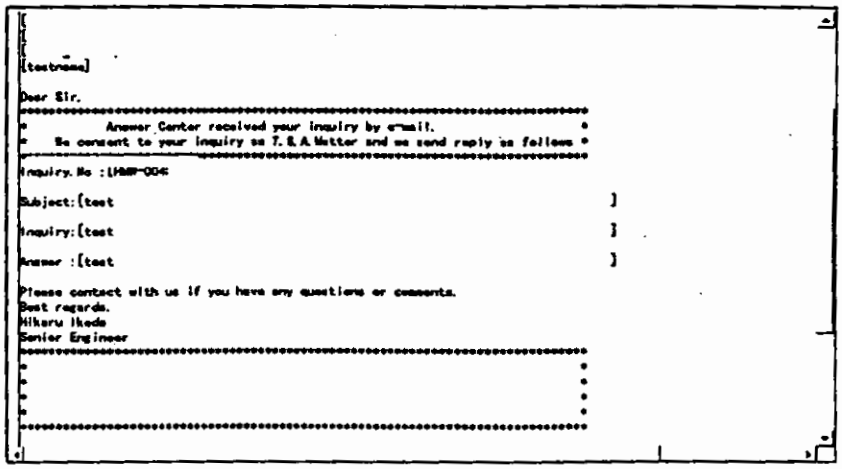



FIG. 25

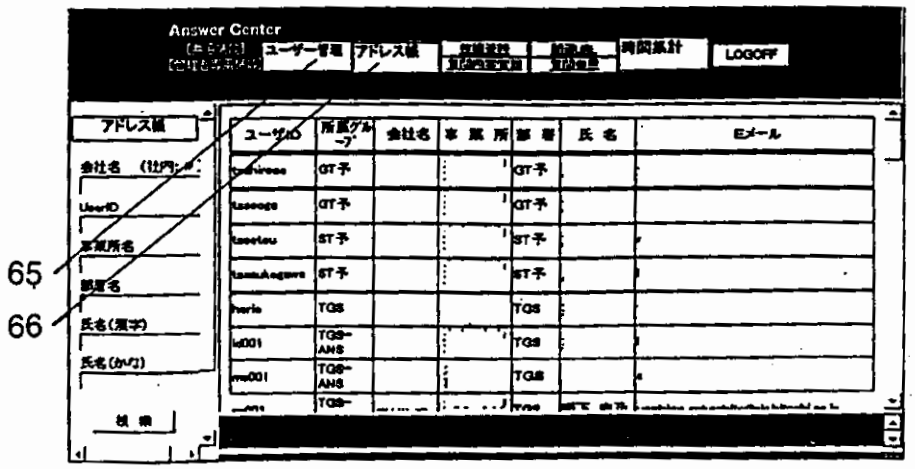


FIG. 26

| RETRIEVAL CONDITIONS | | | RESULT OF RETRIEVAL (EXAMPLE OF ANSWER) | |
|---|---|---|---|---|
| NAME OF COMPONENT (81) | PORTION OF COMPONENT (82) | PHENOMENOM (83) | CAUSE (85) | COUNTERMEASURE (86) |
| GAS TURBINE | COMBUSTOR | CRACKING AT MAIN COMBUSTION CHAMBER | LARGE THERMAL STRESS | ADHIBIT REPAIR BY WELDING |
| GAS TURBINE | BEARING | LARGE VIBRATION | UNBALANCE | ATTACH A BALANCE WEIGHT |
| GAS TURBINE | BEARING | LARGE VIBRATION | DEVIATION IN ALIGNMENT | ADJUST ALIGNMENT |
| STEAM TURBINE | MOVING BLADE | INCREASE OF VIBRATION AMPLITUDE | DEPOSIT OF SCALE | PERFORM HONING PROCESS IN PERIODIC INSPECTION |
| . | . | . | . | . |
| . | . | . | . | . |
| . | . | . | . | . |
| . | . | . | . | . |