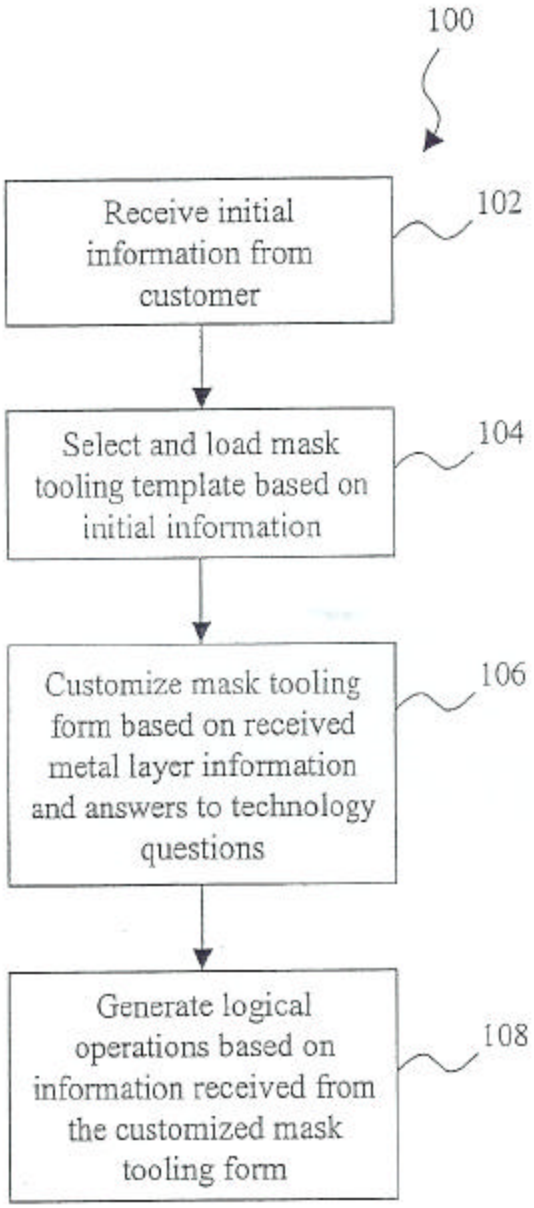

100
Receive initial information from customer
102
Select and load mask tooling template based on initial information
104
Customize mask tooling form based on received metal layer information and answers to technology questions
106
Generate logical operations based on information received from the customized mask tooling form
108

Fig. 1

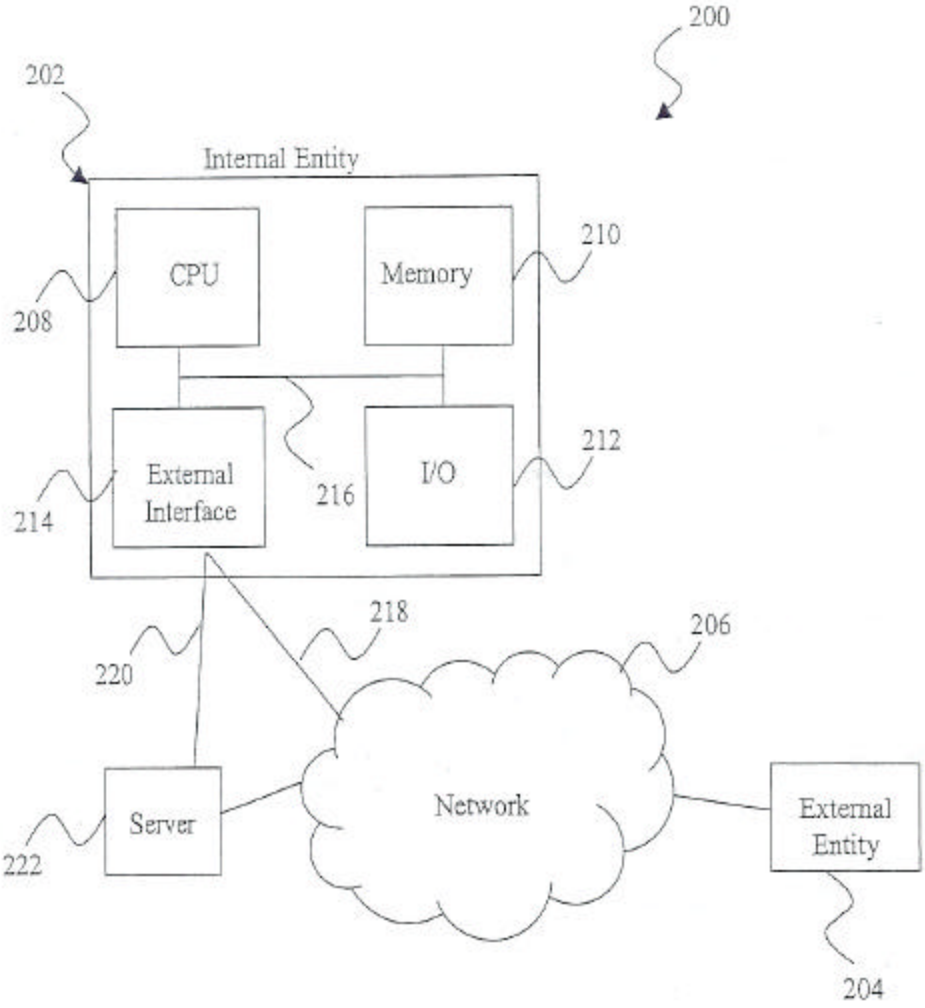

200
202
Internal Entity
CPU
Memory
210
208
External
Interface
216
I/O
212
214
218
206
220
Server
Network
External
Entity
222
204

Fig. 2

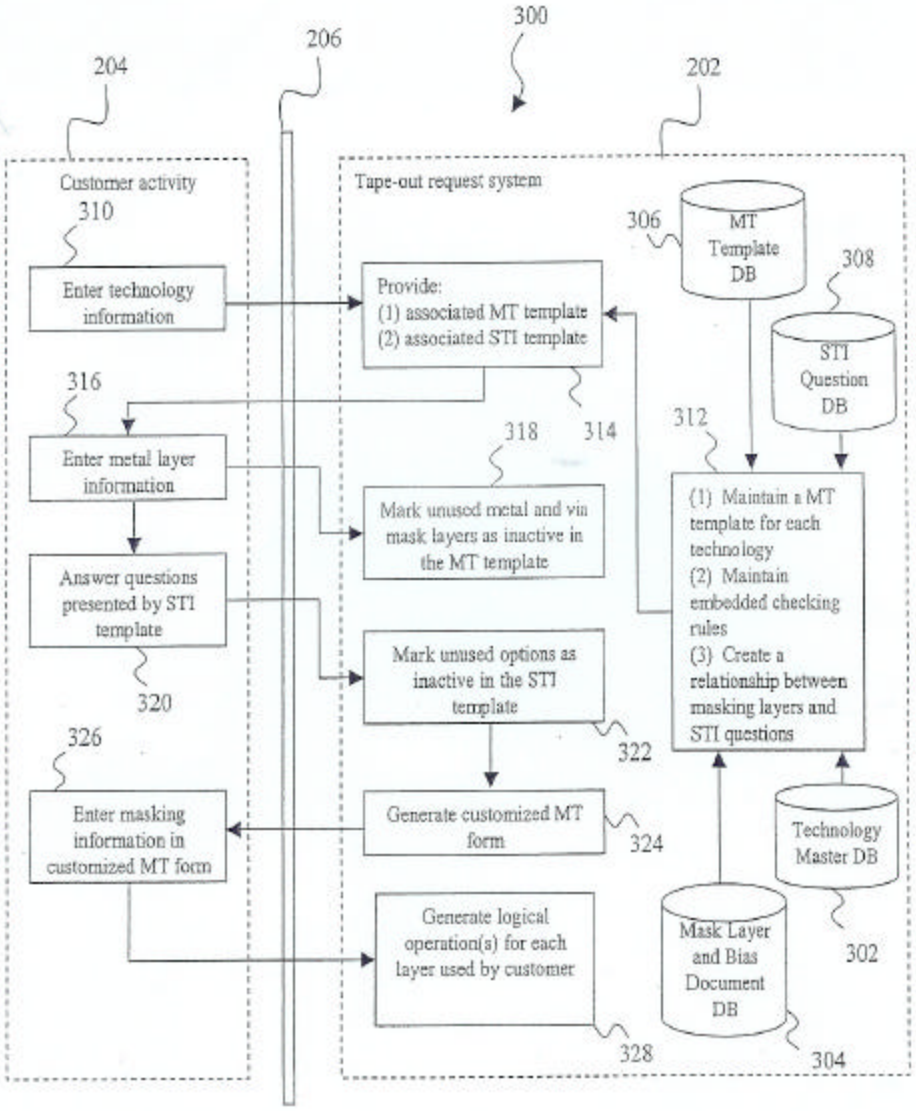
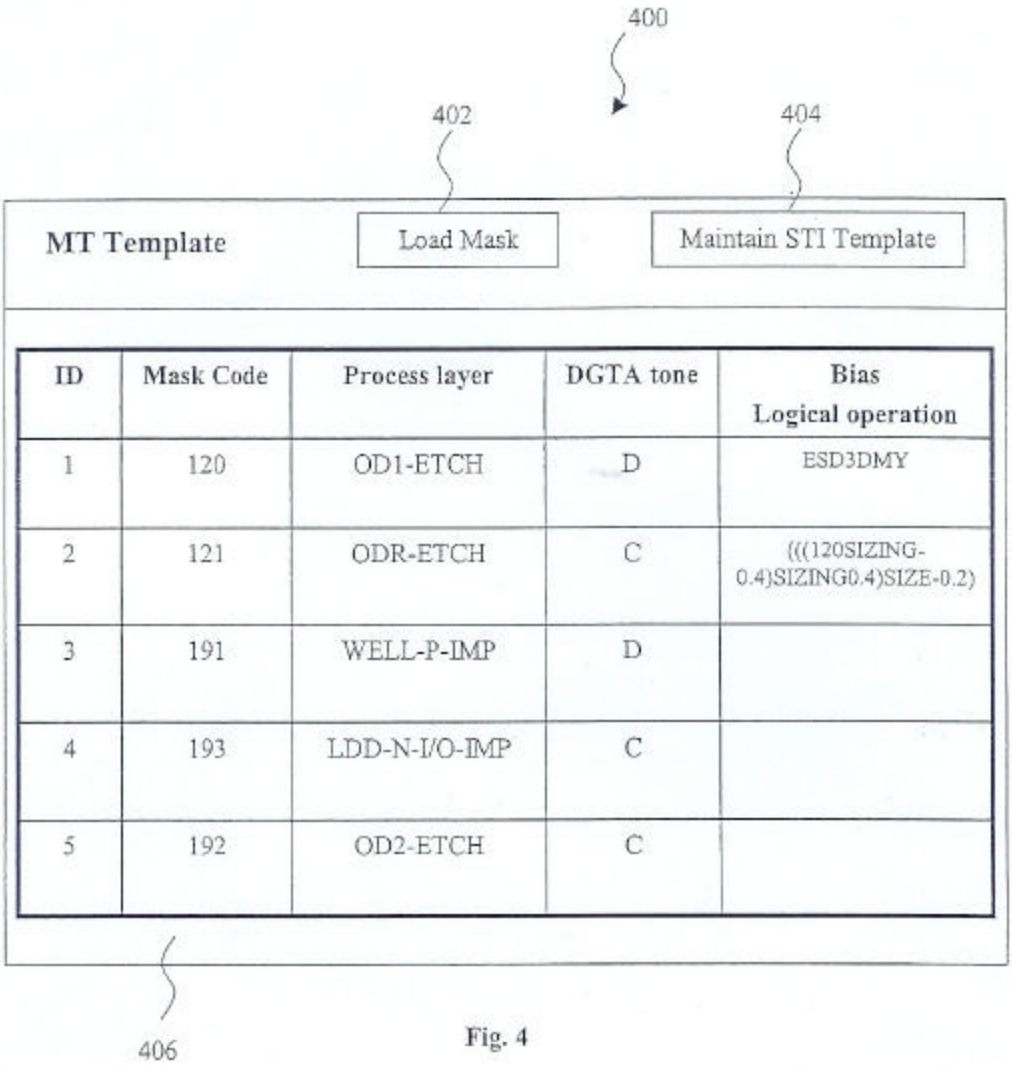
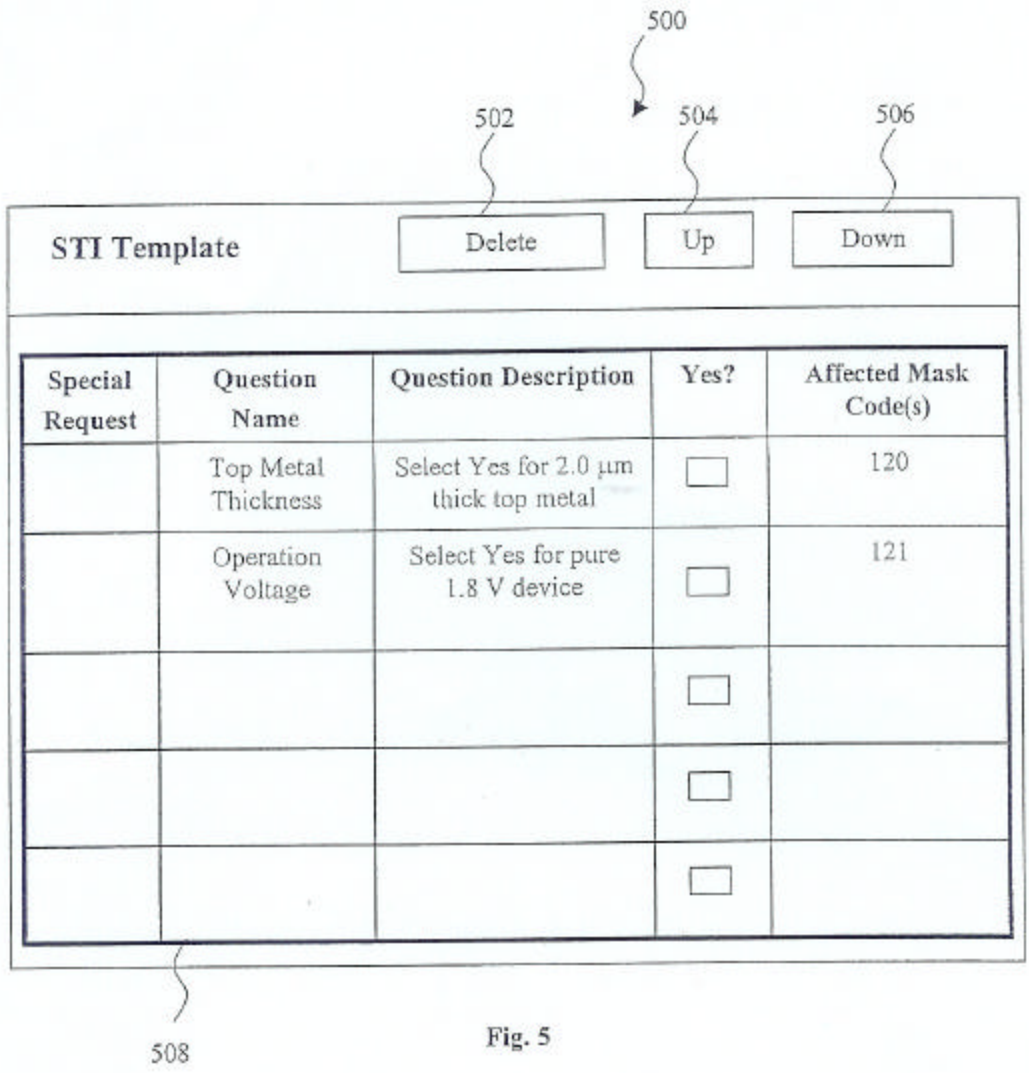

300
206
204
202
Customer activity
Tape-out request system
310
Enter technology information
Provide:
(1) associated MT template
(2) associated STI template
306
MT Template DB
308
STI Question DB
316
314
318
312
Enter metal layer information
Mark unused metal and via mask layers as inactive in the MT template
(1) Maintain a MT template for each technology
(2) Maintain embedded checking rules
(3) Create a relationship between masking layers and STI questions
Answer questions presented by STI template
320
Mark unused options as inactive in the STI template
322
326
Enter masking information in customized MT form
Generate customized MT form
324
Technology Master DB
302
Generate logical operation(s) for each layer used by customer
Mask Layer and Bias Document DB
328
304

Fig. 3



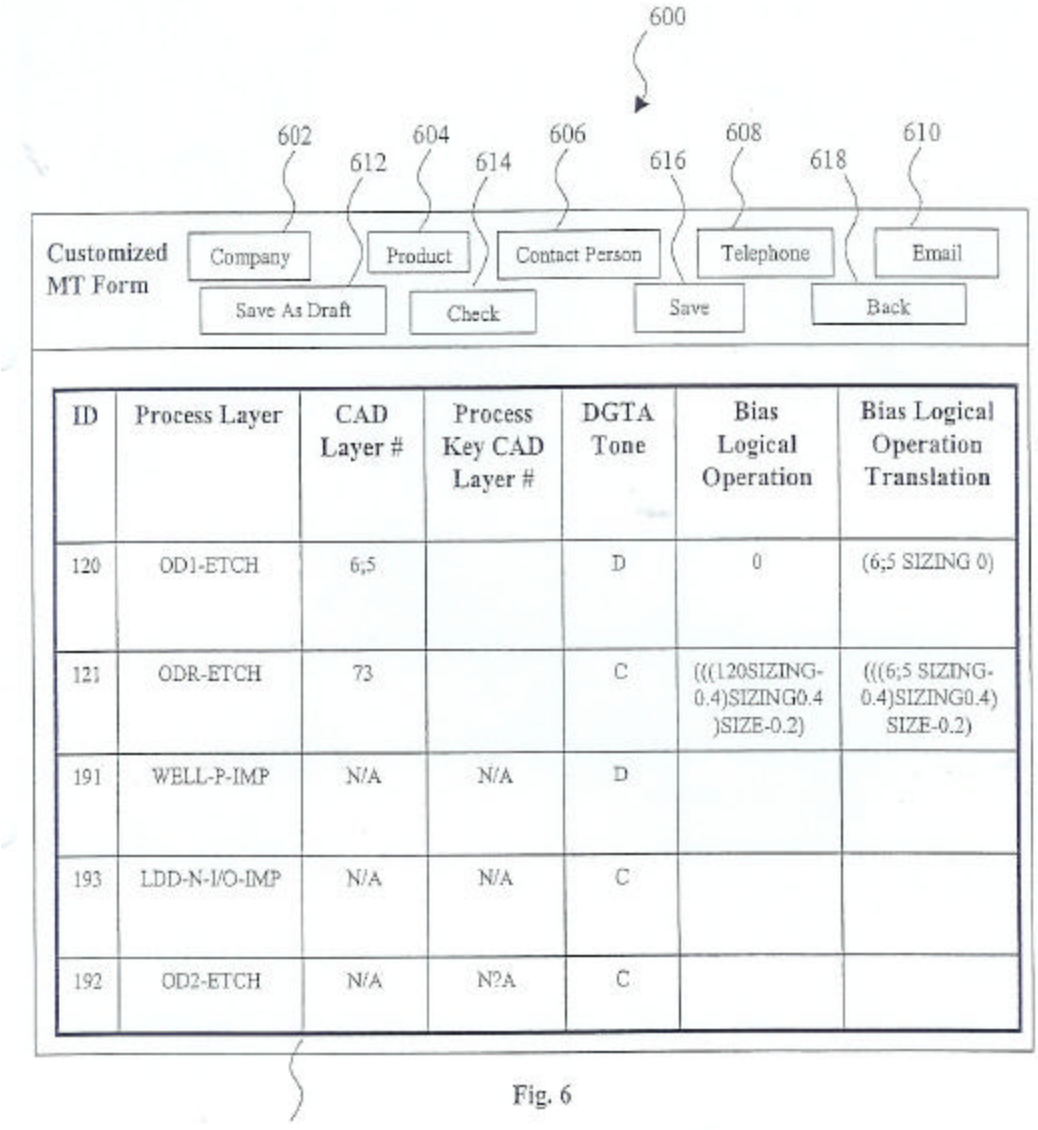
ID	Mask Code	Process layer	DGTA tone	Bias Logical operation
1	120	OD1-ETCH	D	ESD3DMY
2	121	ODR-ETCH	C	(((120SIZING-0.4)SIZING0.4)SIZE-0.2)
3	191	WELL-P-IMP	D	
4	193	LDD-N-I/O-IMP	C	
5	192	OD2-ETCH	C	

Fig. 4



Special Request	Question Name	Question Description	Yes?	Affected Mask Code(s)
	Top Metal Thickness	Select Yes for 2.0 µm thick top metal	☐	120
	Operation Voltage	Select Yes for pure 1.8 V device	☐	121
			☐	
			☐	
			☐	

Fig. 5



ID	Process Layer	CAD Layer #	Process Key CAD Layer #	DGTA Tone	Bias Logical Operation	Bias Logical Operation Translation
120	OD1-ETCH	6;5		D	0	(6;5 SIZING 0)
121	ODR-ETCH	73		C	(((120SIZING-0.4)SIZING0.4)SIZE-0.2)	(((6;5 SIZING-0.4)SIZING0.4) SIZE-0.2)
191	WELL-P-IMP	N/A	N/A	D		
193	LDD-N-I/O-IMP	N/A	N/A	C		
192	OD2-ETCH	N/A	N?A	C		

Fig. 6

620

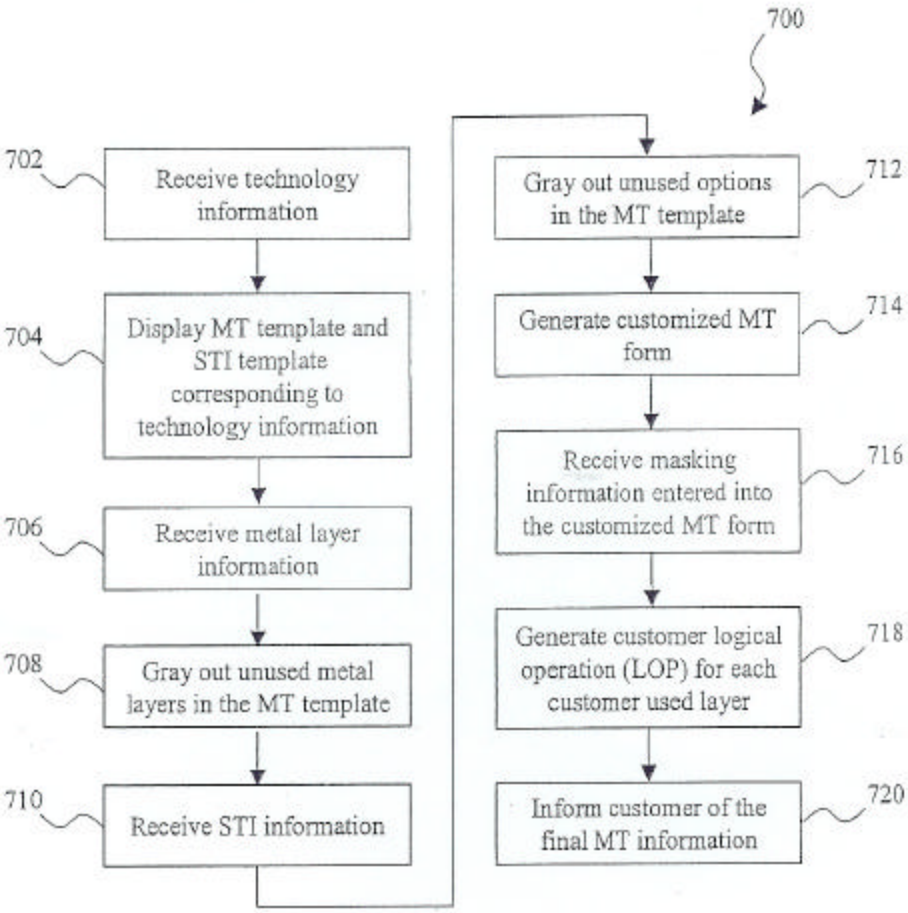

700
702
Receive technology information
704
Display MT template and STI template corresponding to technology information
706
Receive metal layer information
708
Gray out unused metal layers in the MT template
710
Receive STI information
712
Gray out unused options in the MT template
714
Generate customized MT form
716
Receive masking information entered into the customized MT form
718
Generate customer logical operation (LOP) for each customer used layer
720
Inform customer of the final MT information

Fig. 7