

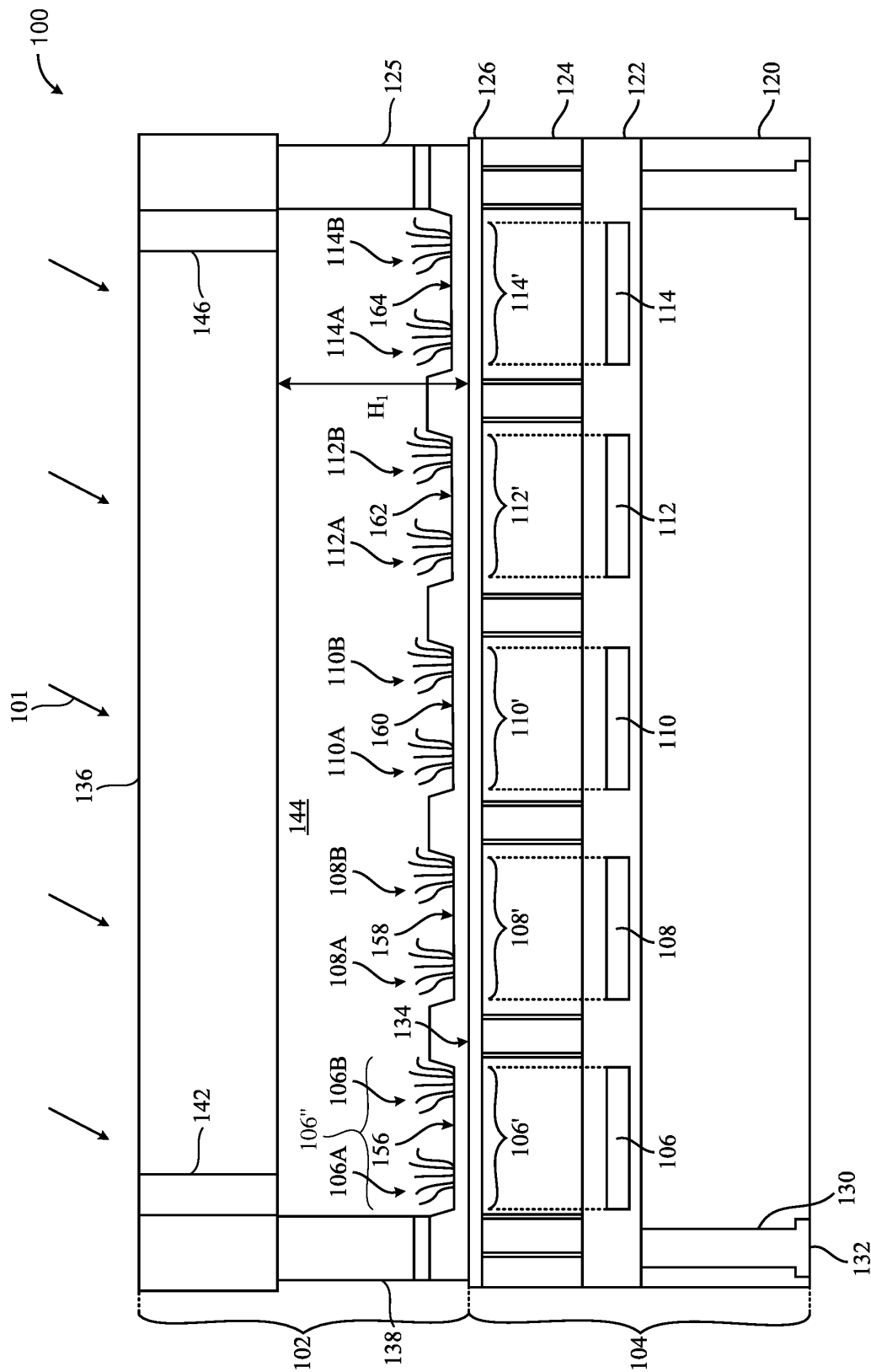


Fig. 1

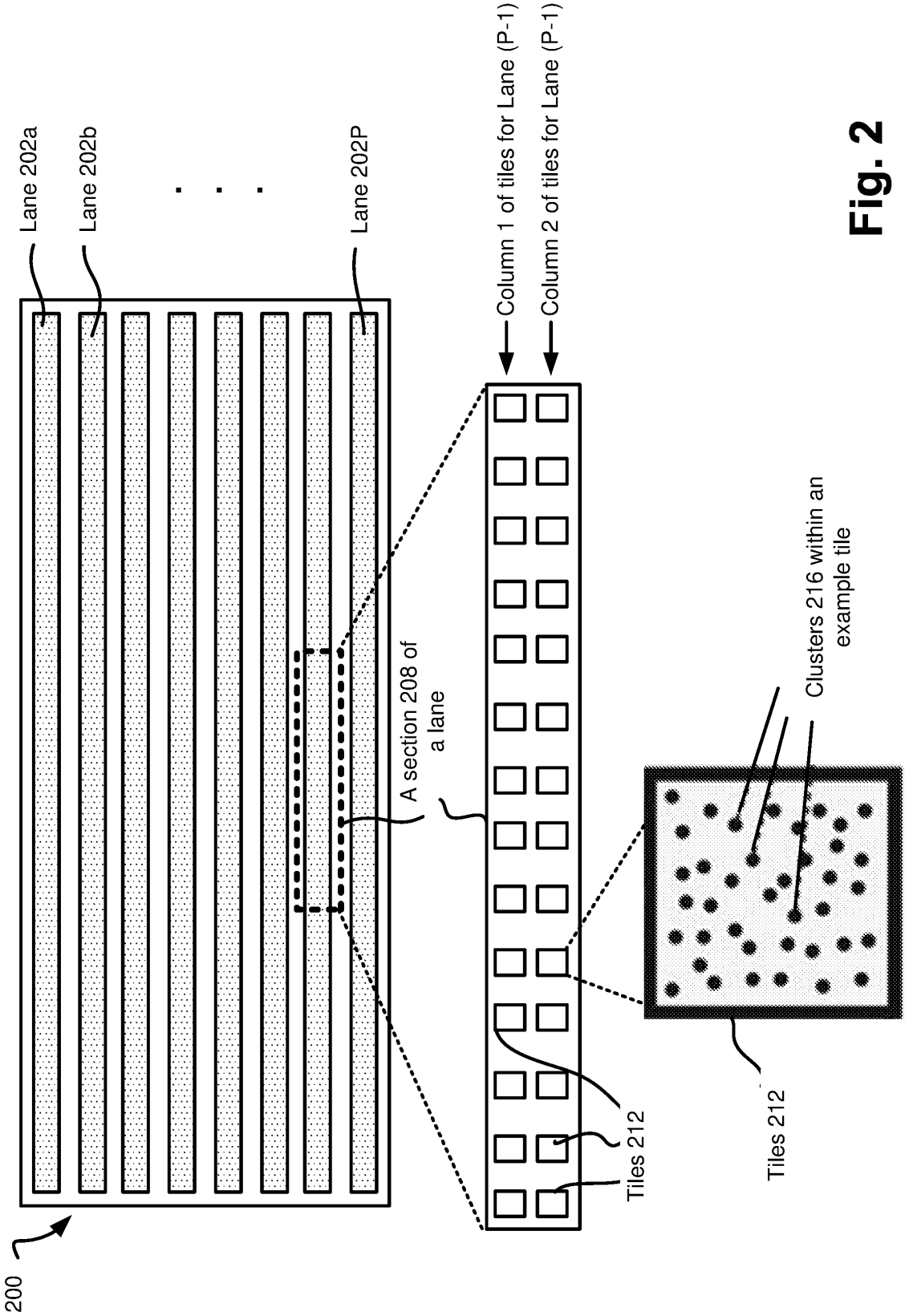


Fig. 2

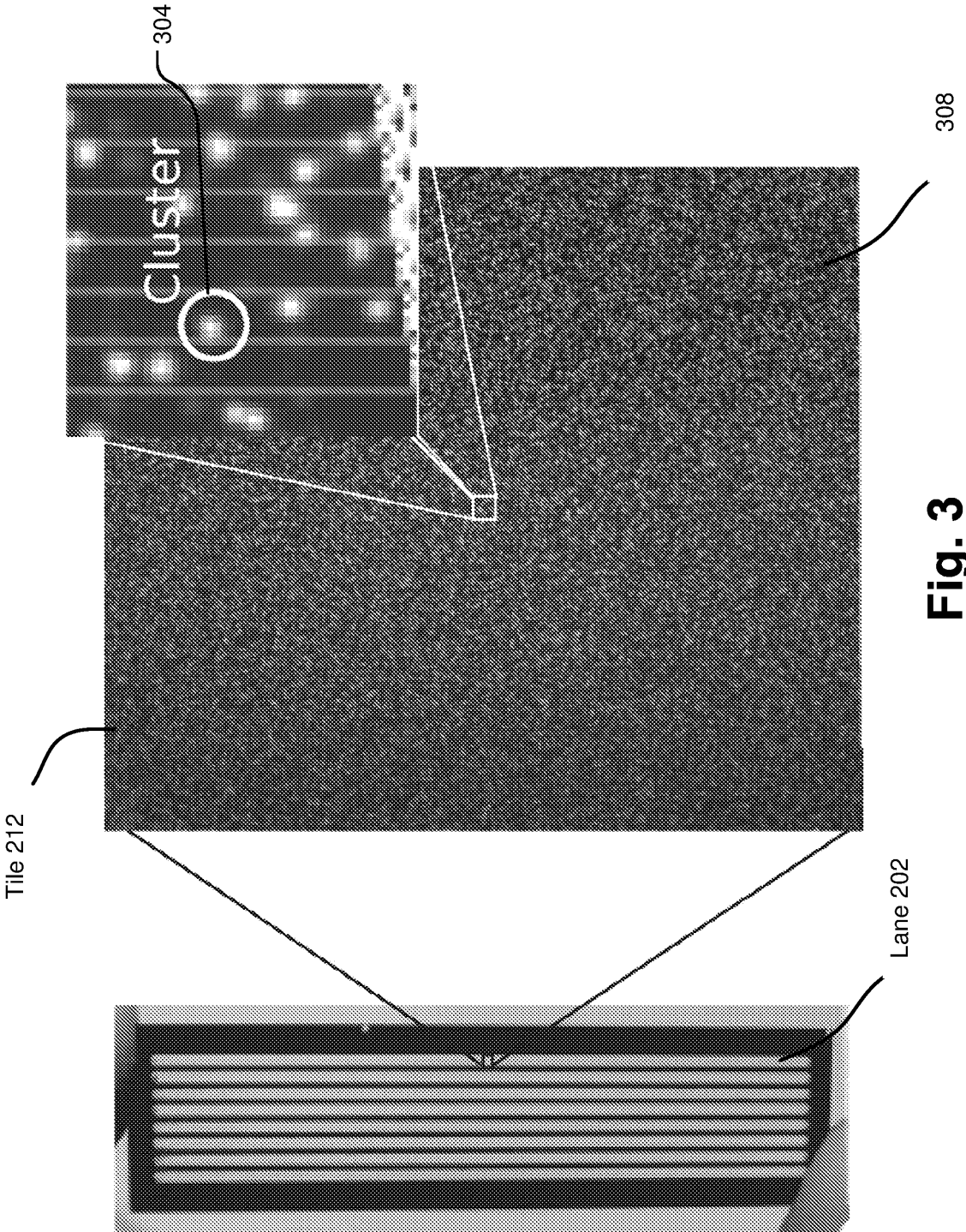


Fig. 3

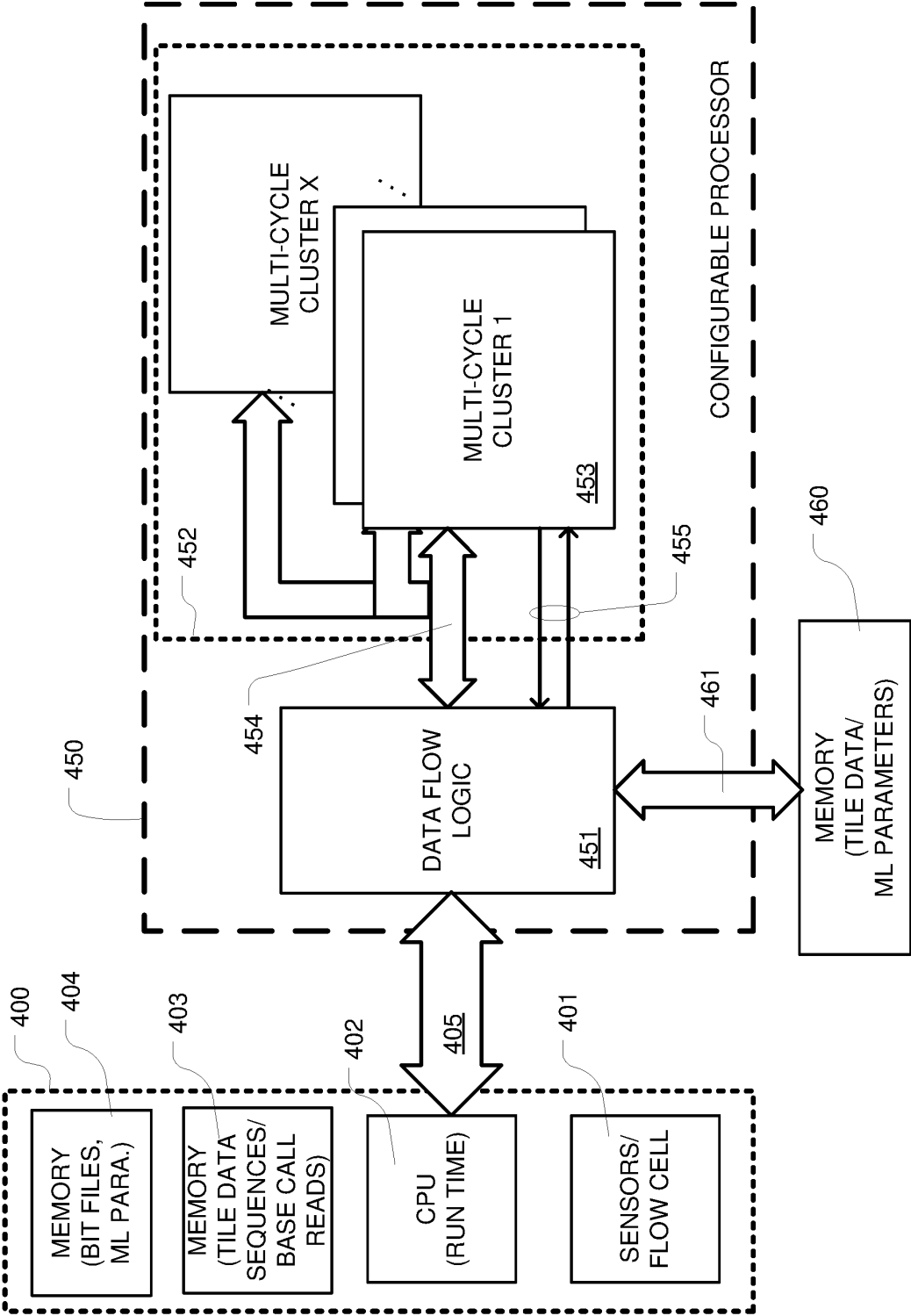


Fig. 4

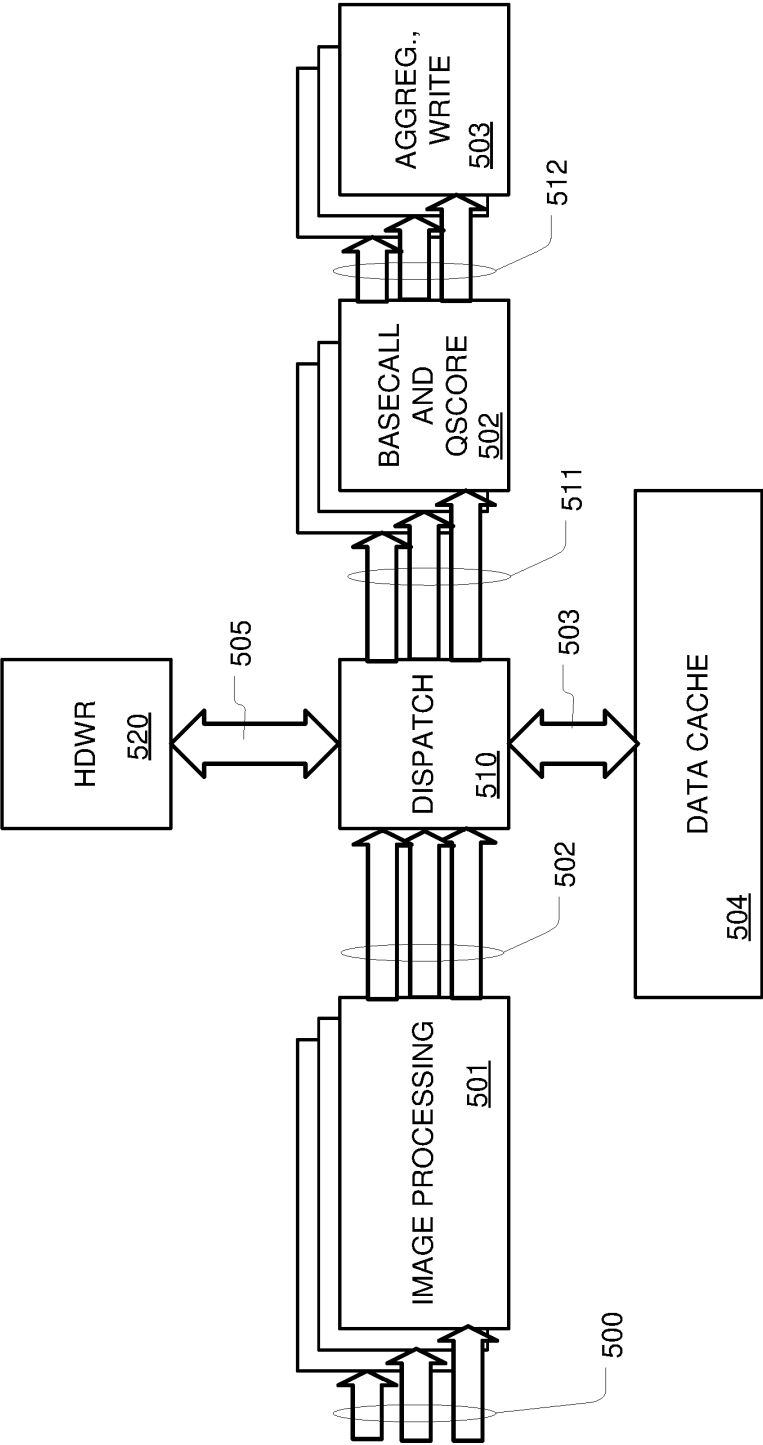


Fig. 5

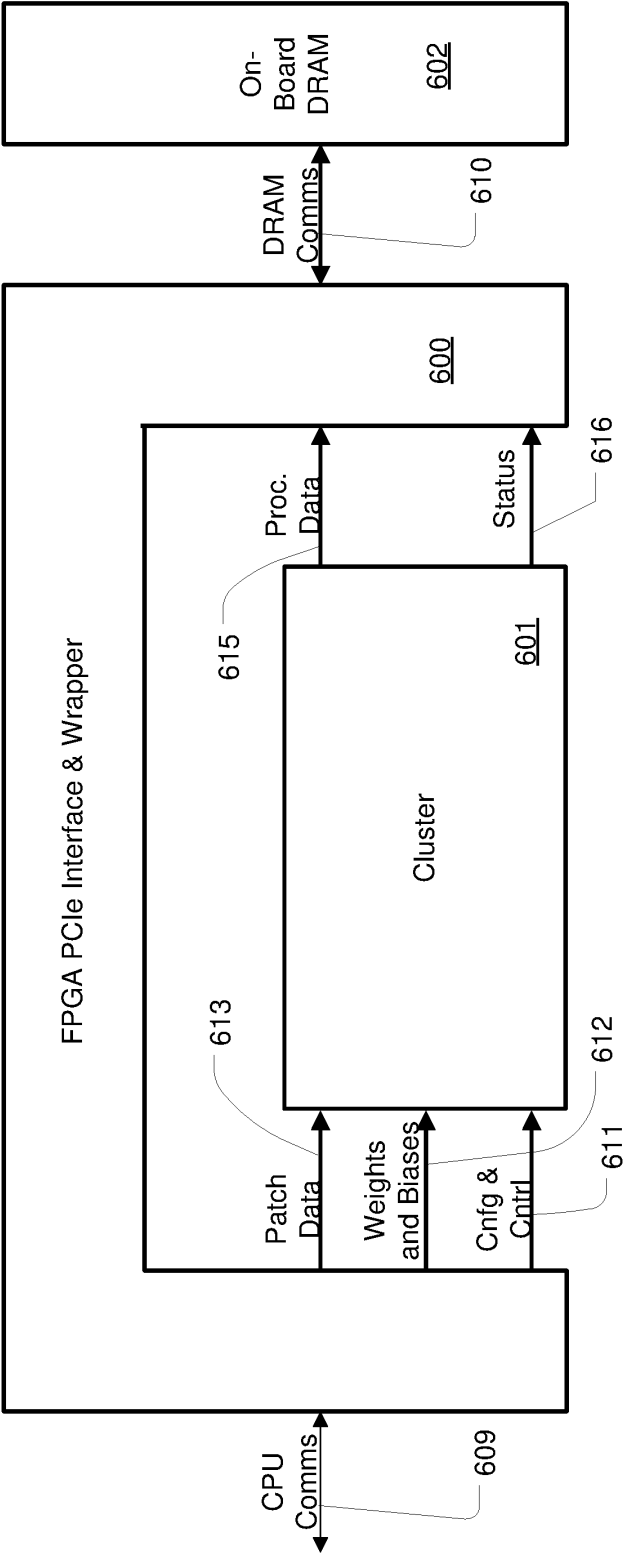


Fig. 6

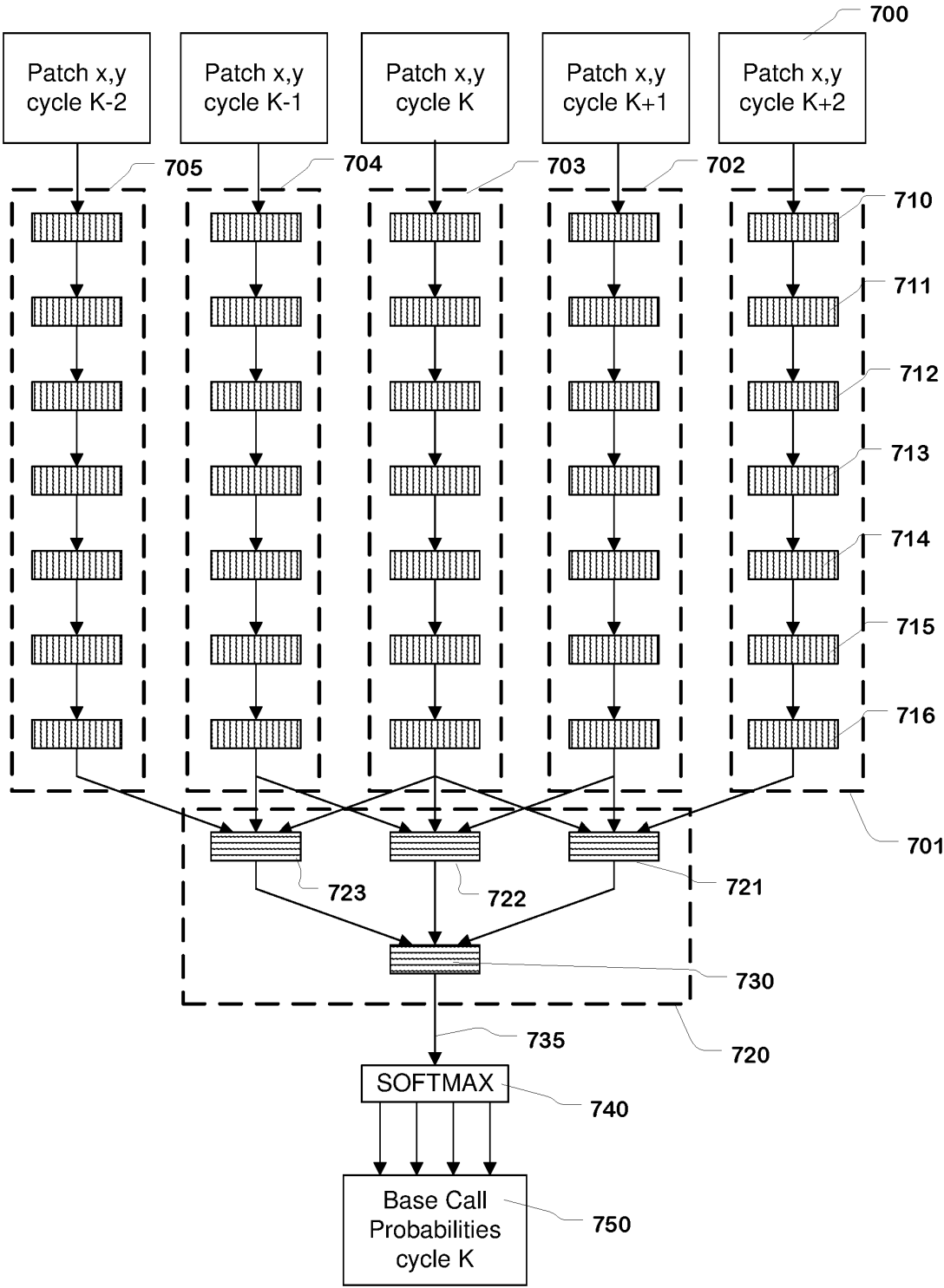


Fig. 7

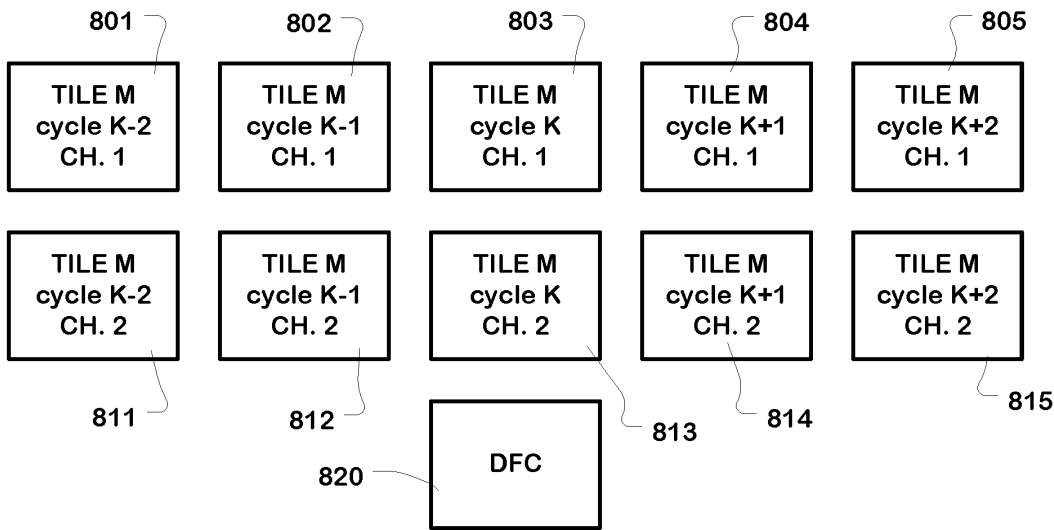


Fig. 8A

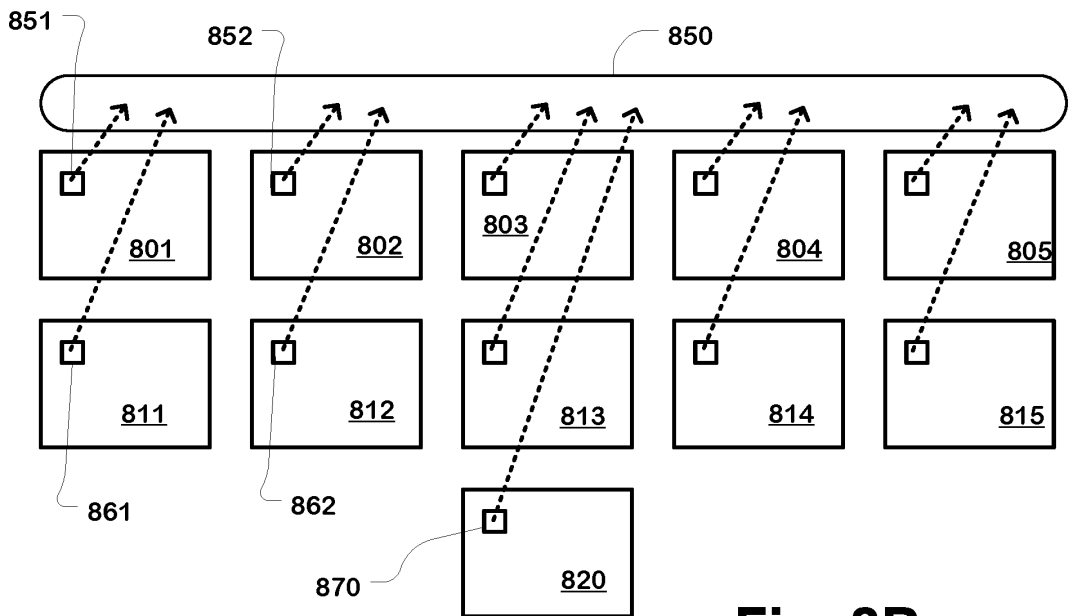


Fig. 8B

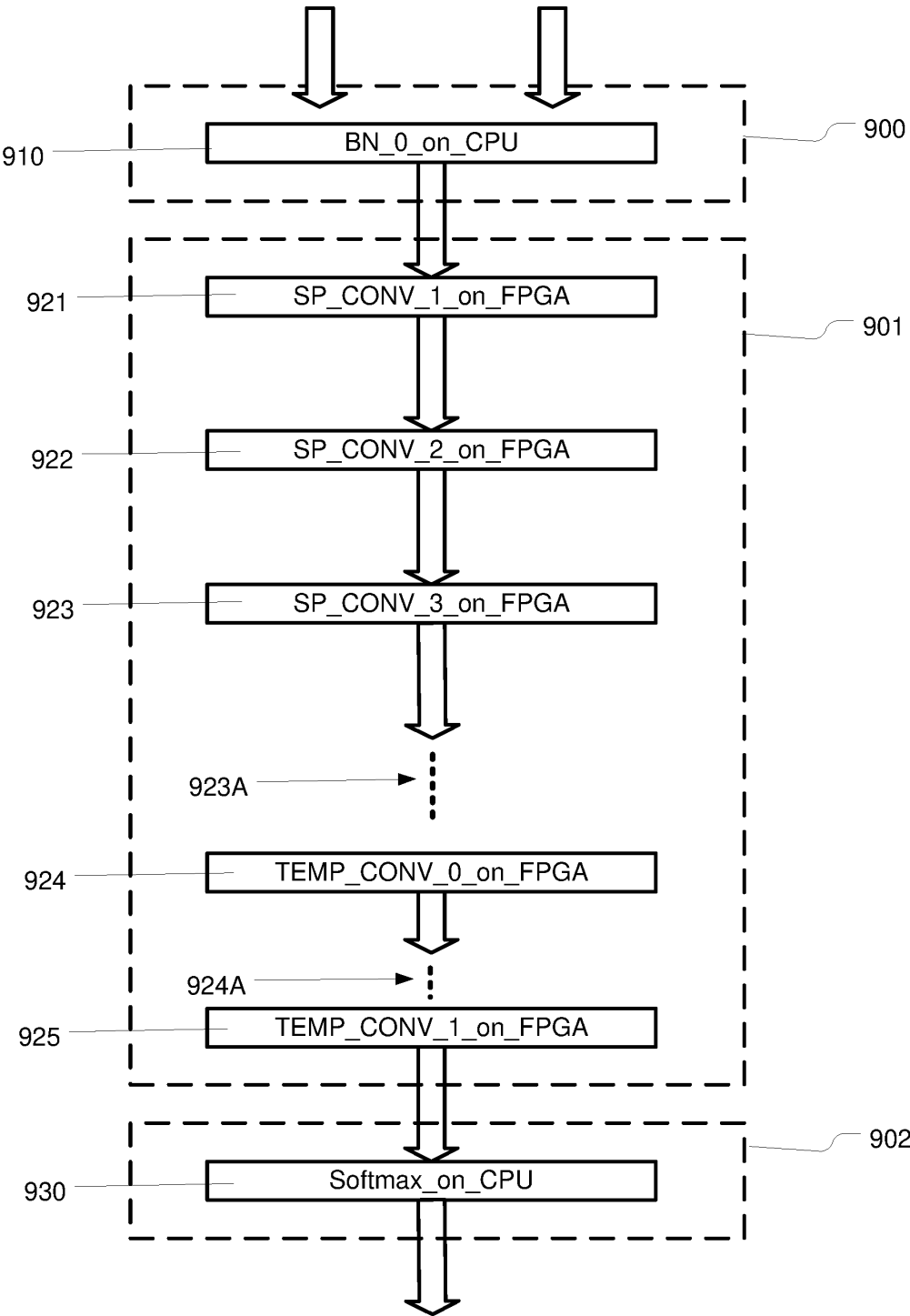


FIG. 9

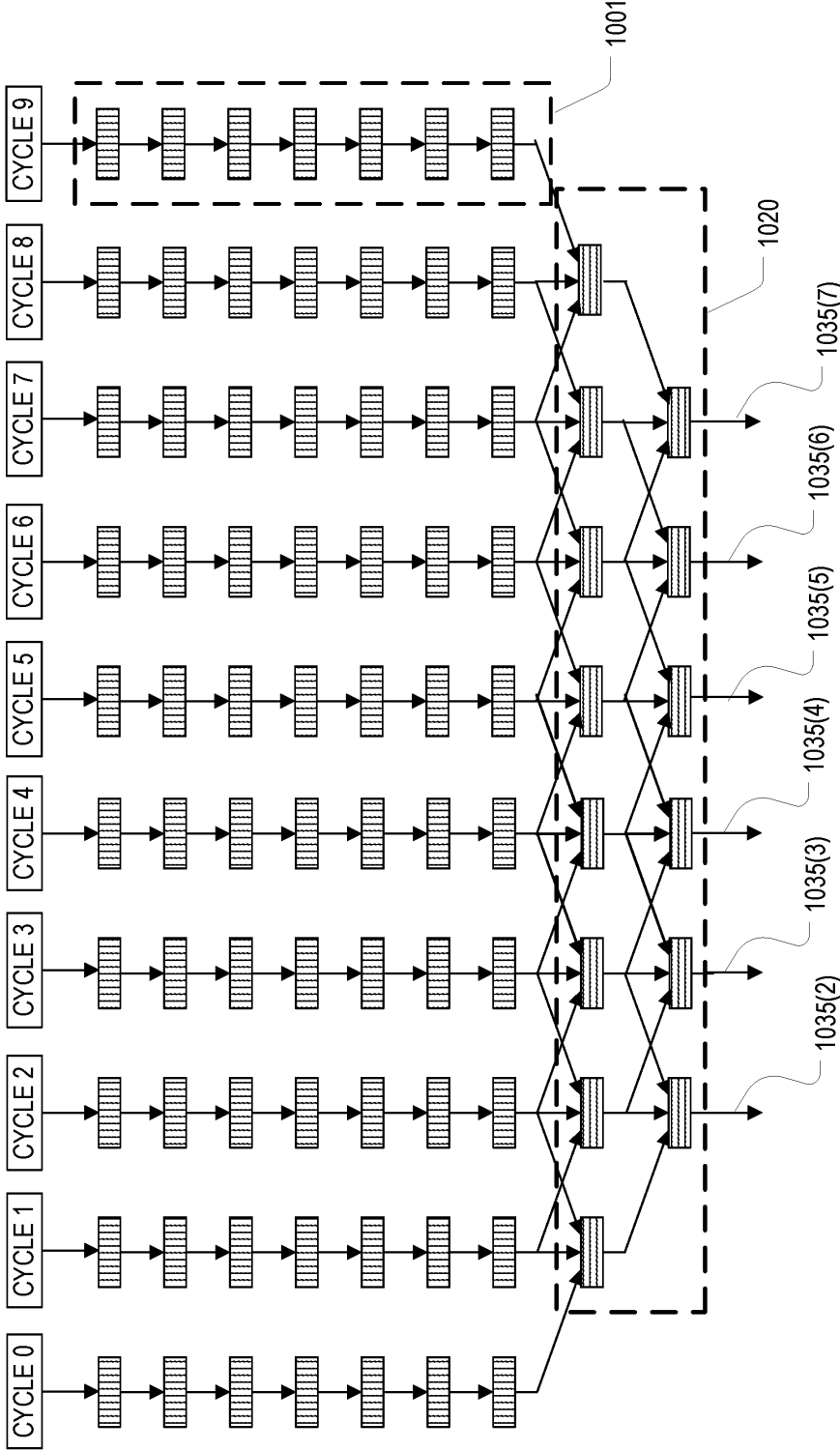


FIG. 10

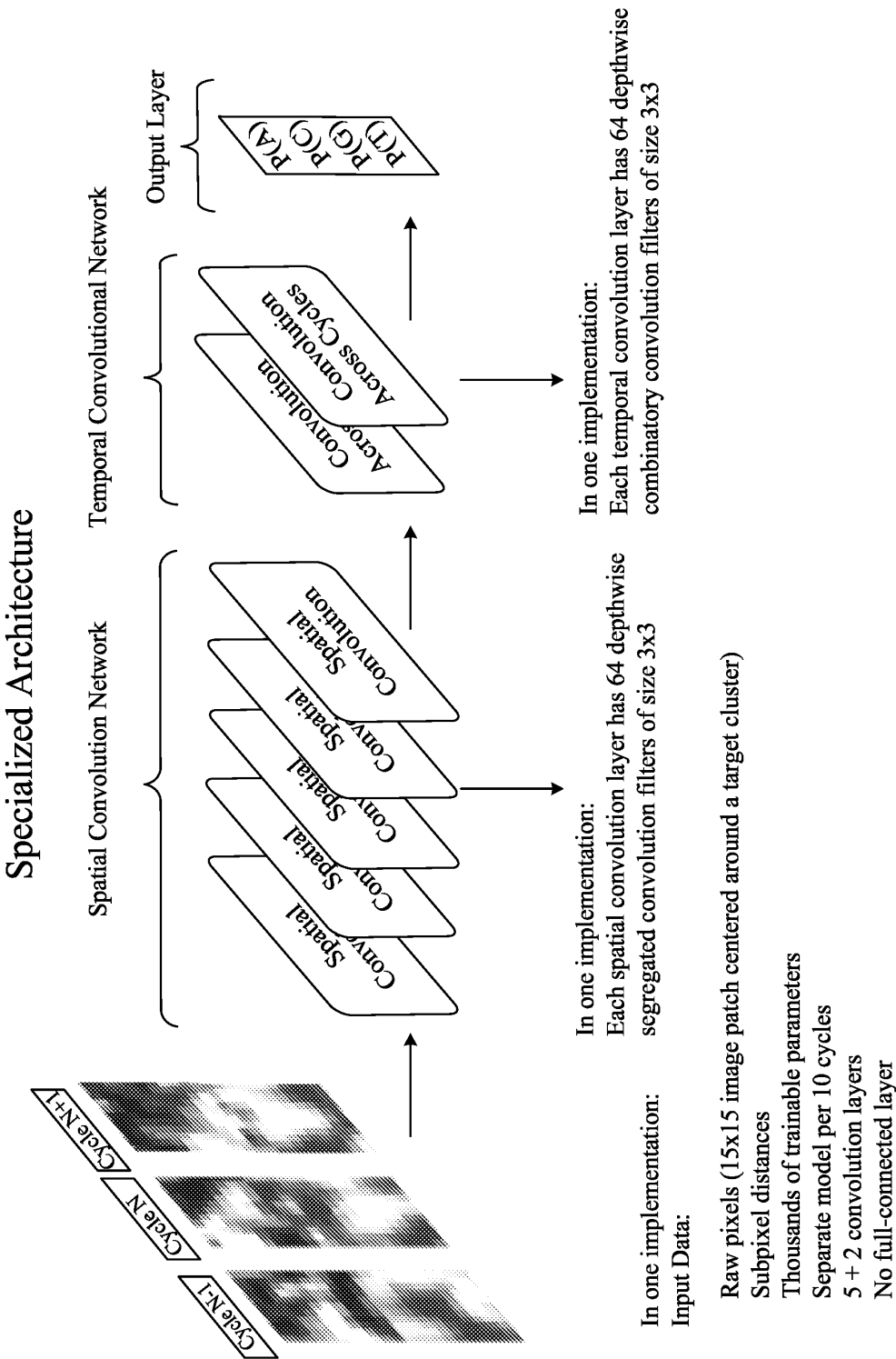
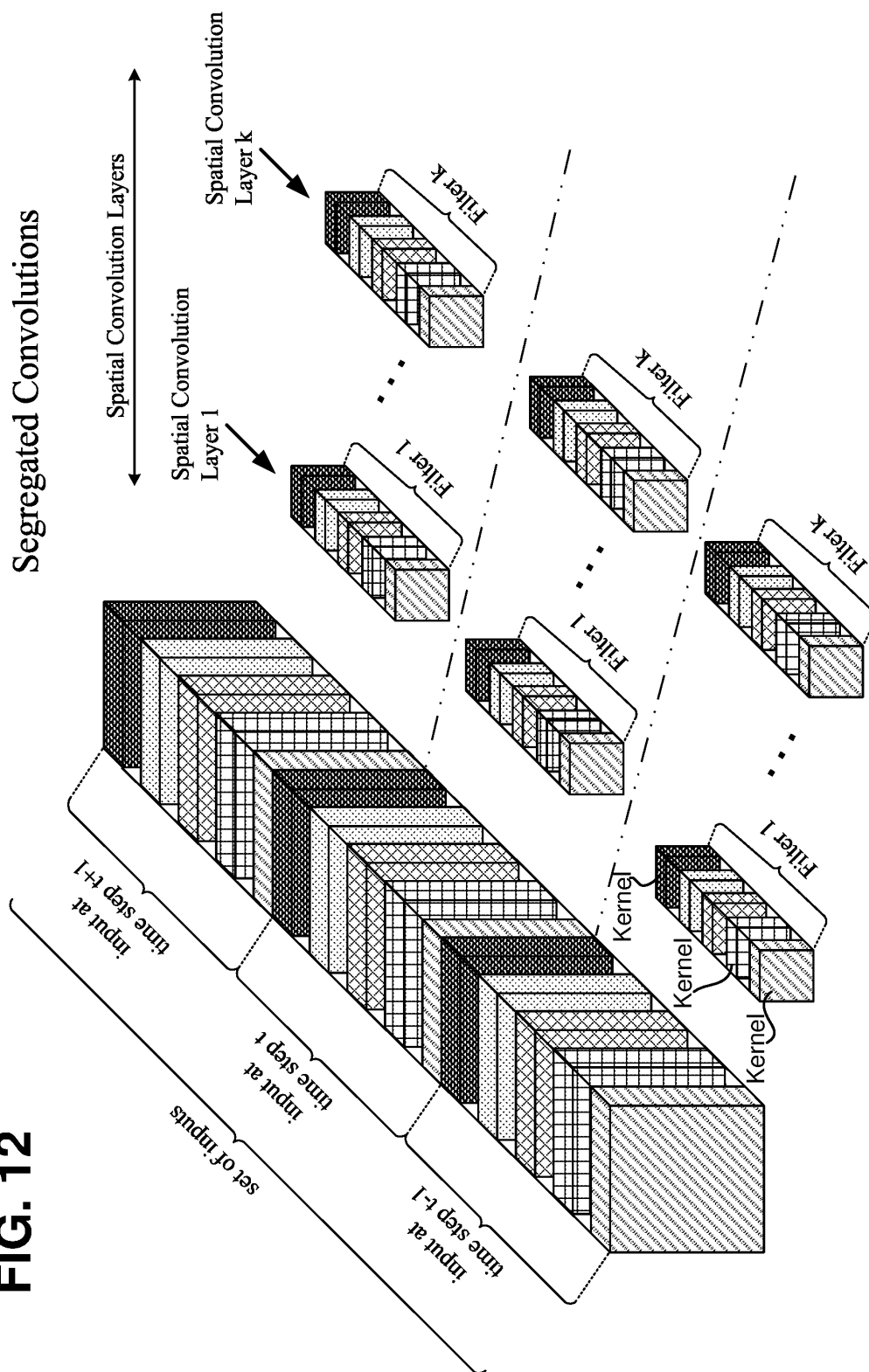


FIG. 12



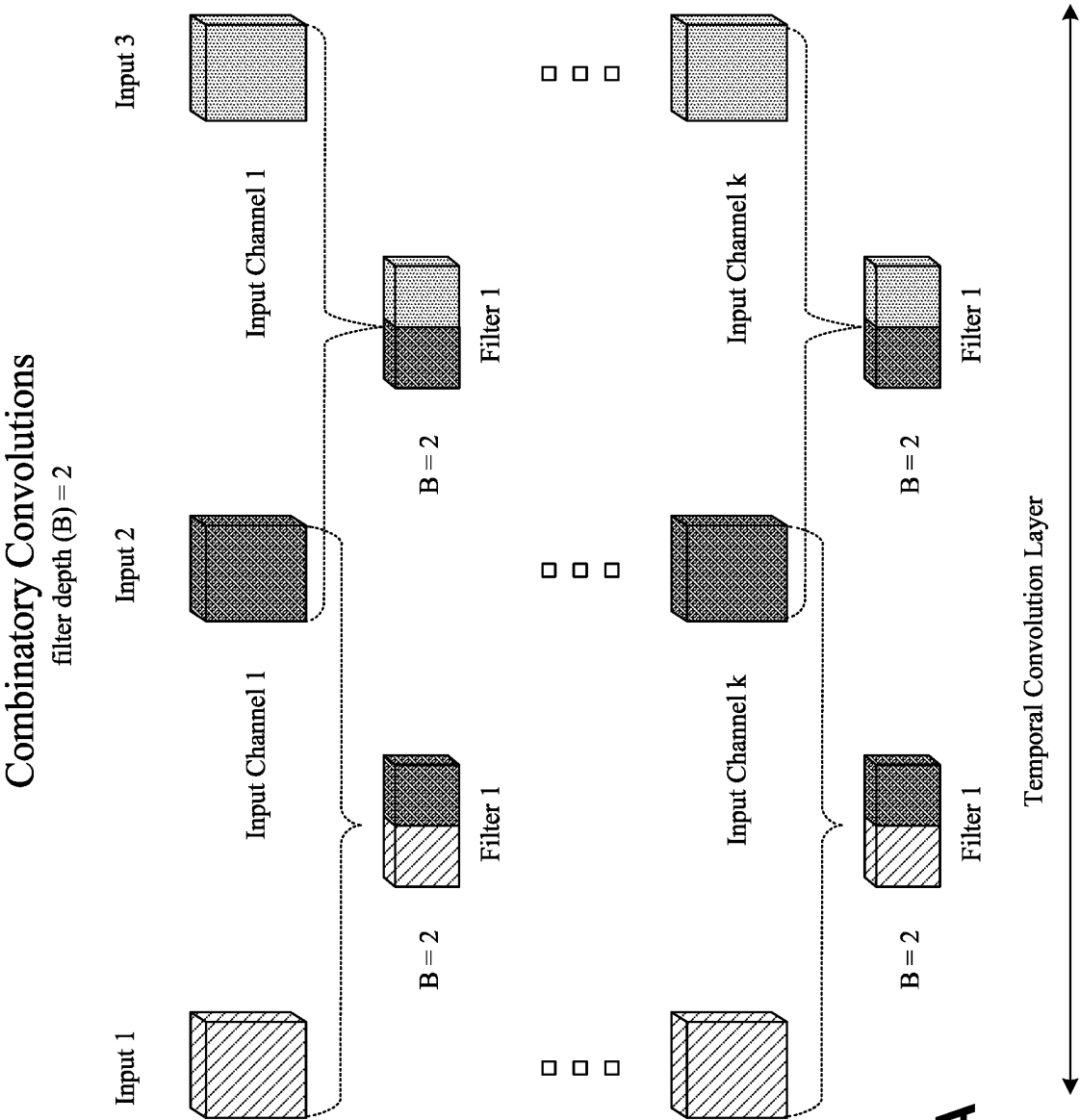


FIG. 13A

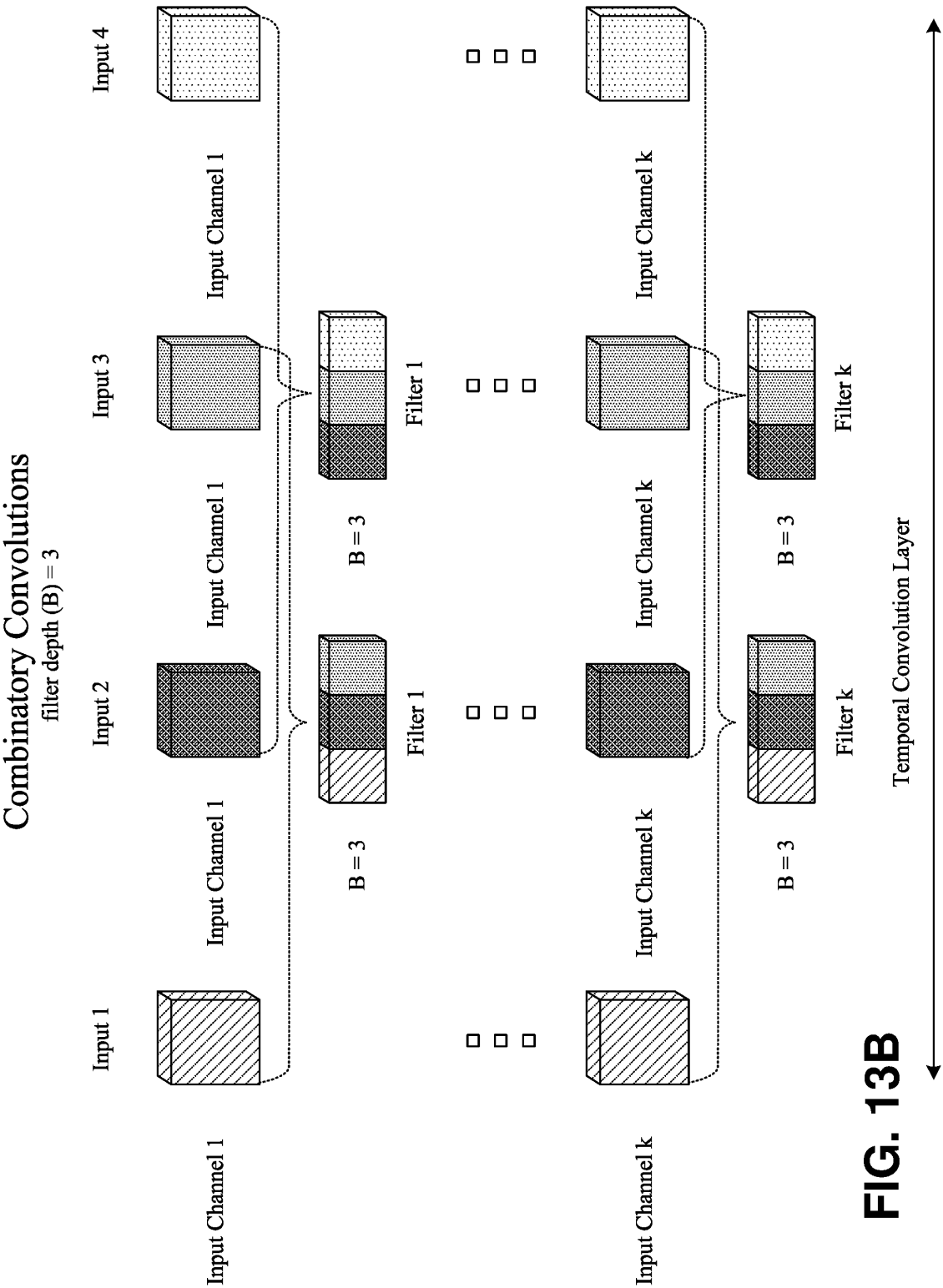


FIG. 13B

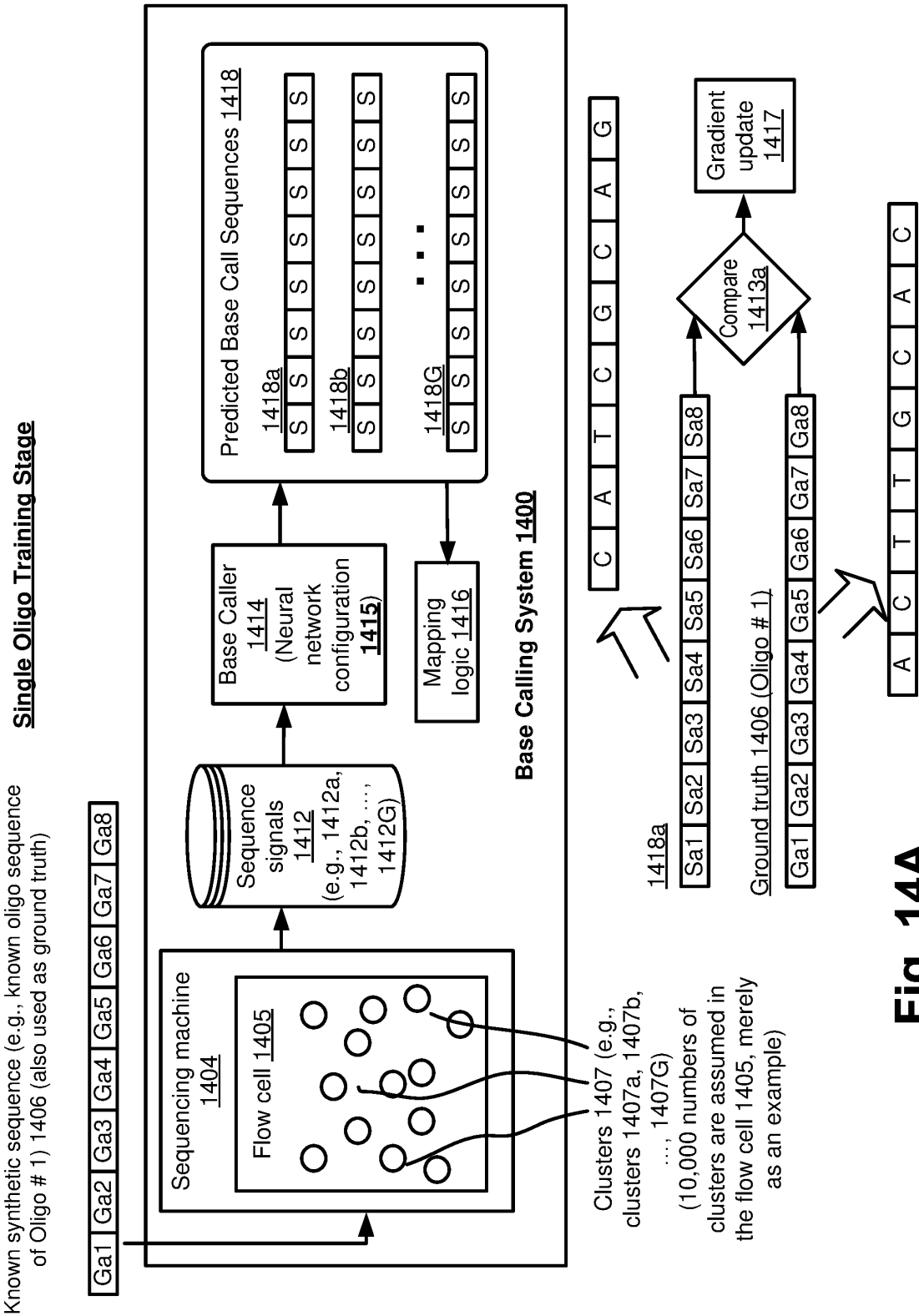


Fig. 14A

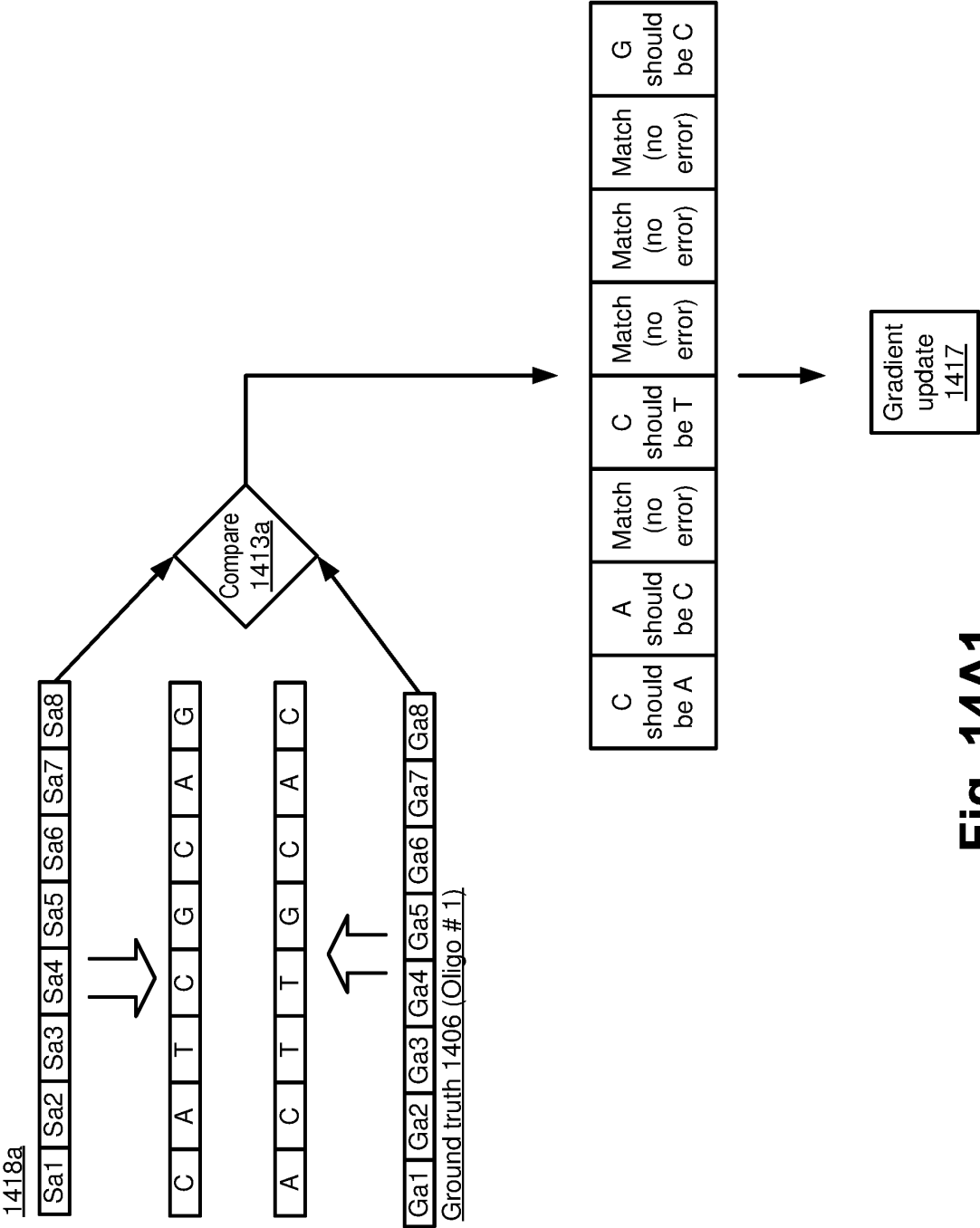


Fig. 14A1

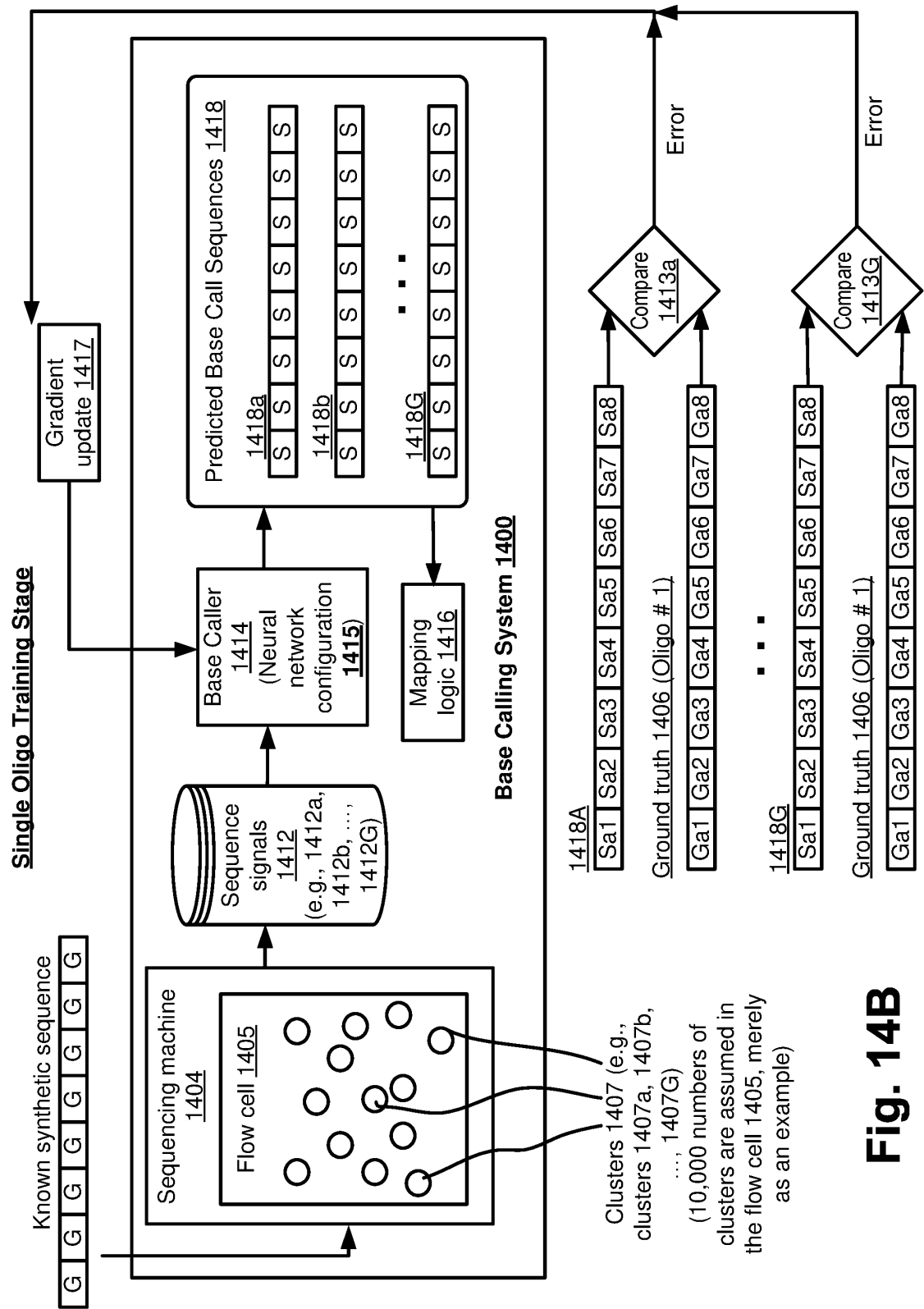
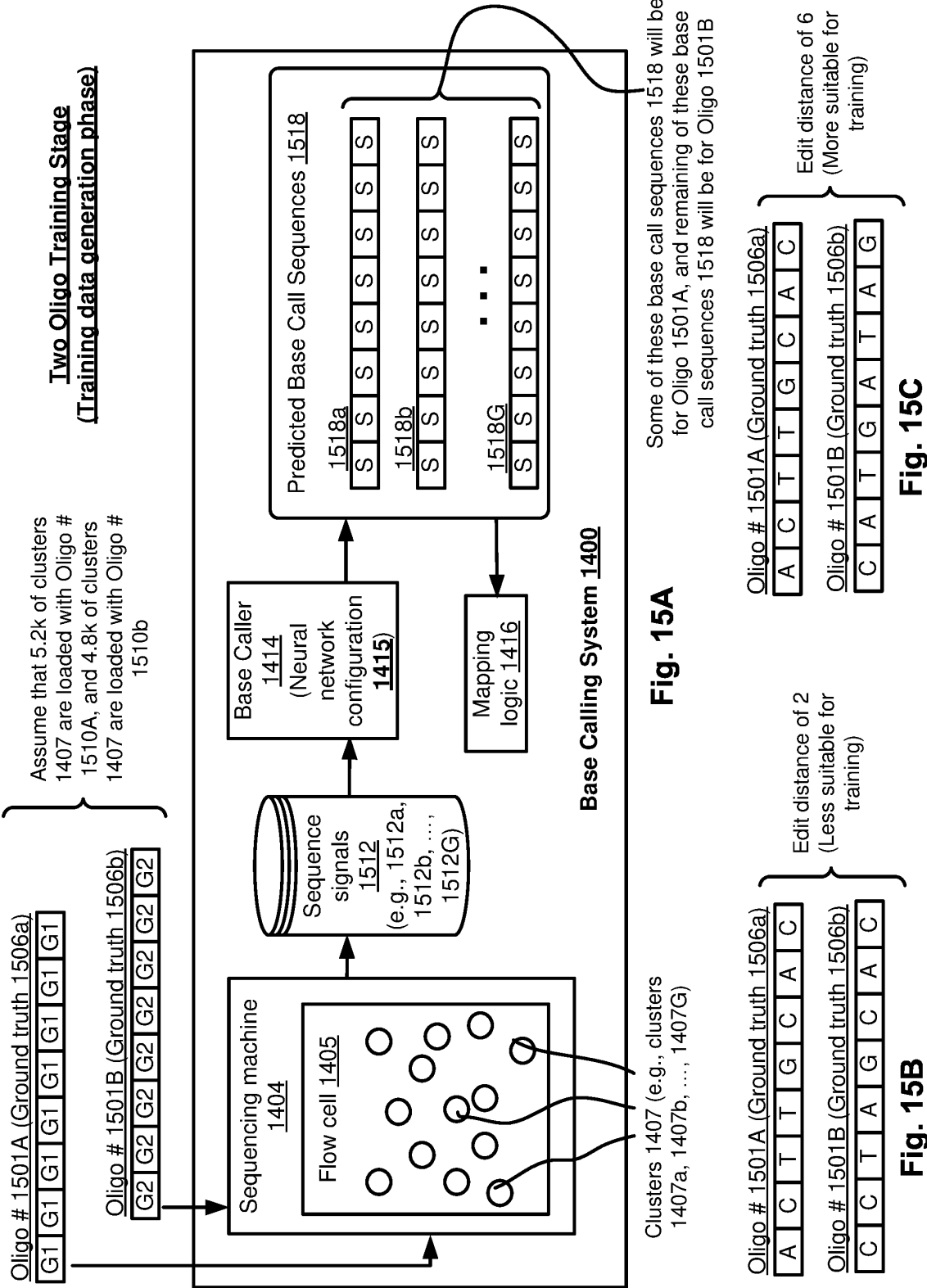


Fig. 14B



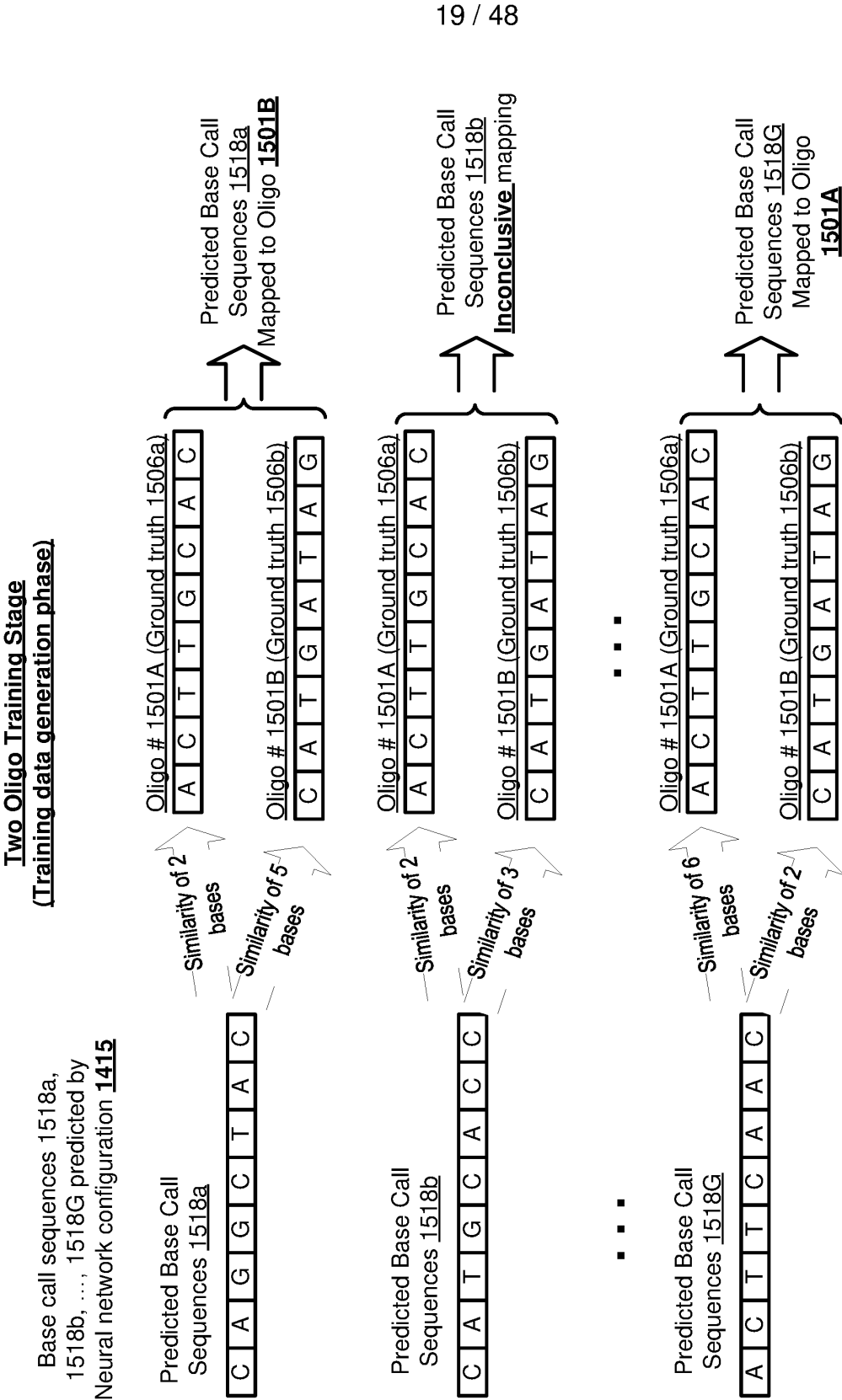


Fig. 15D

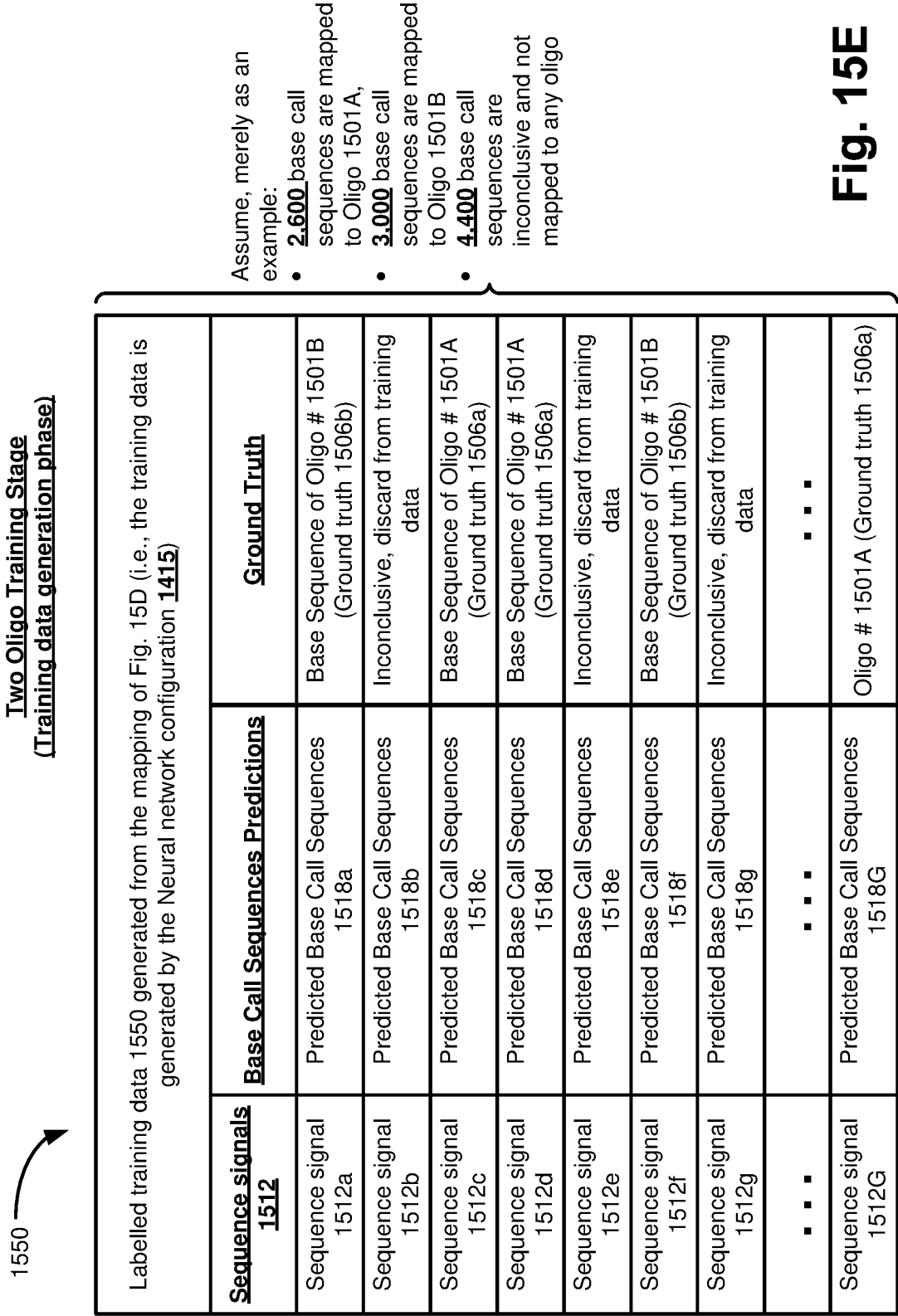
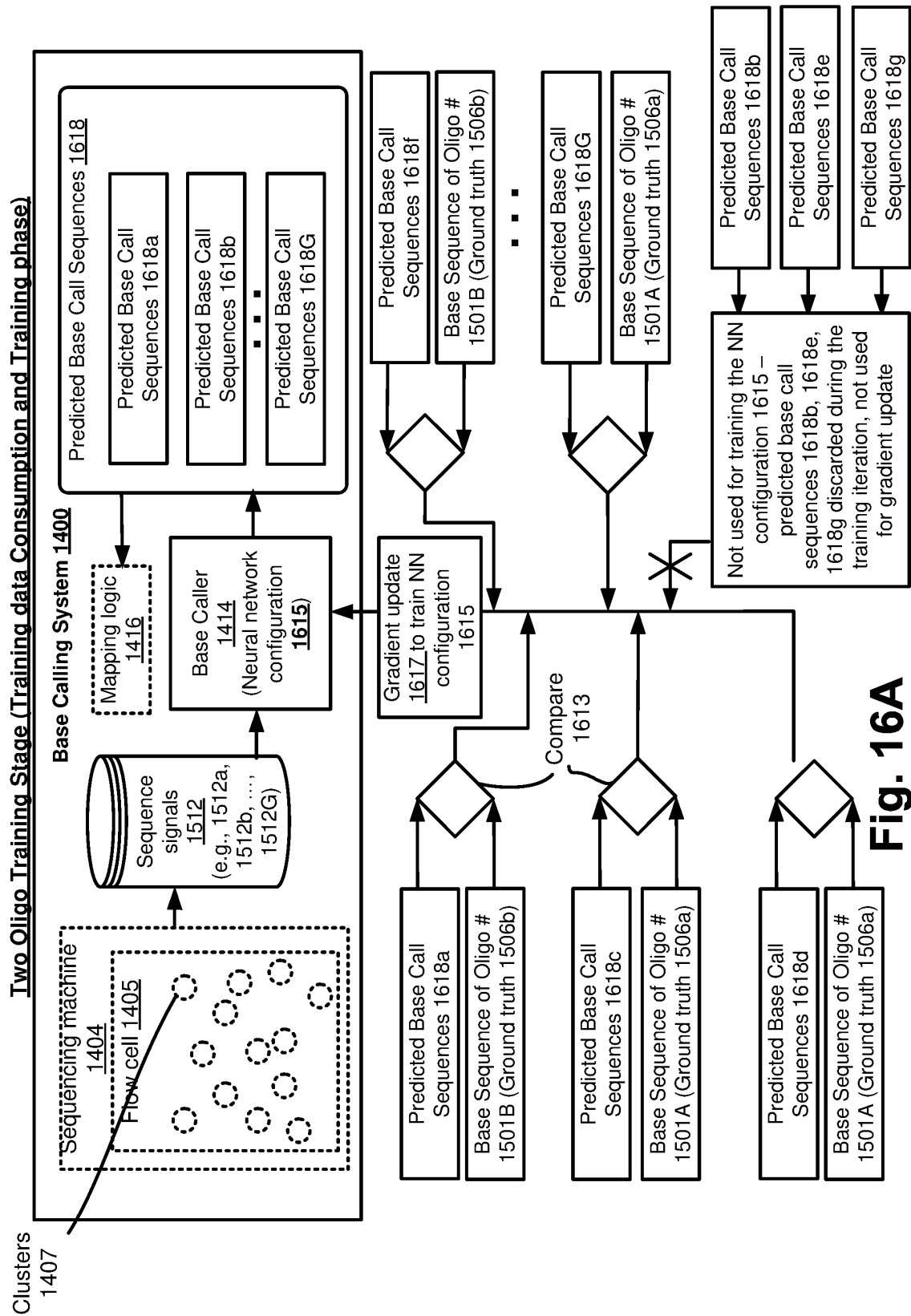
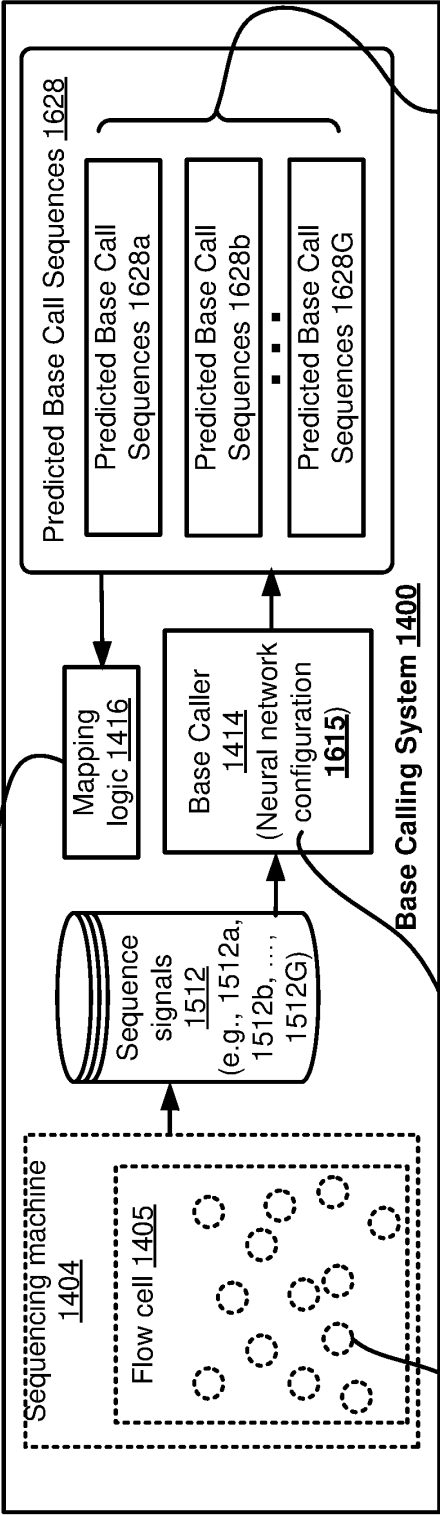


Fig. 15E



Two Oligo Training Stage (Training data generation phase – second iteration)

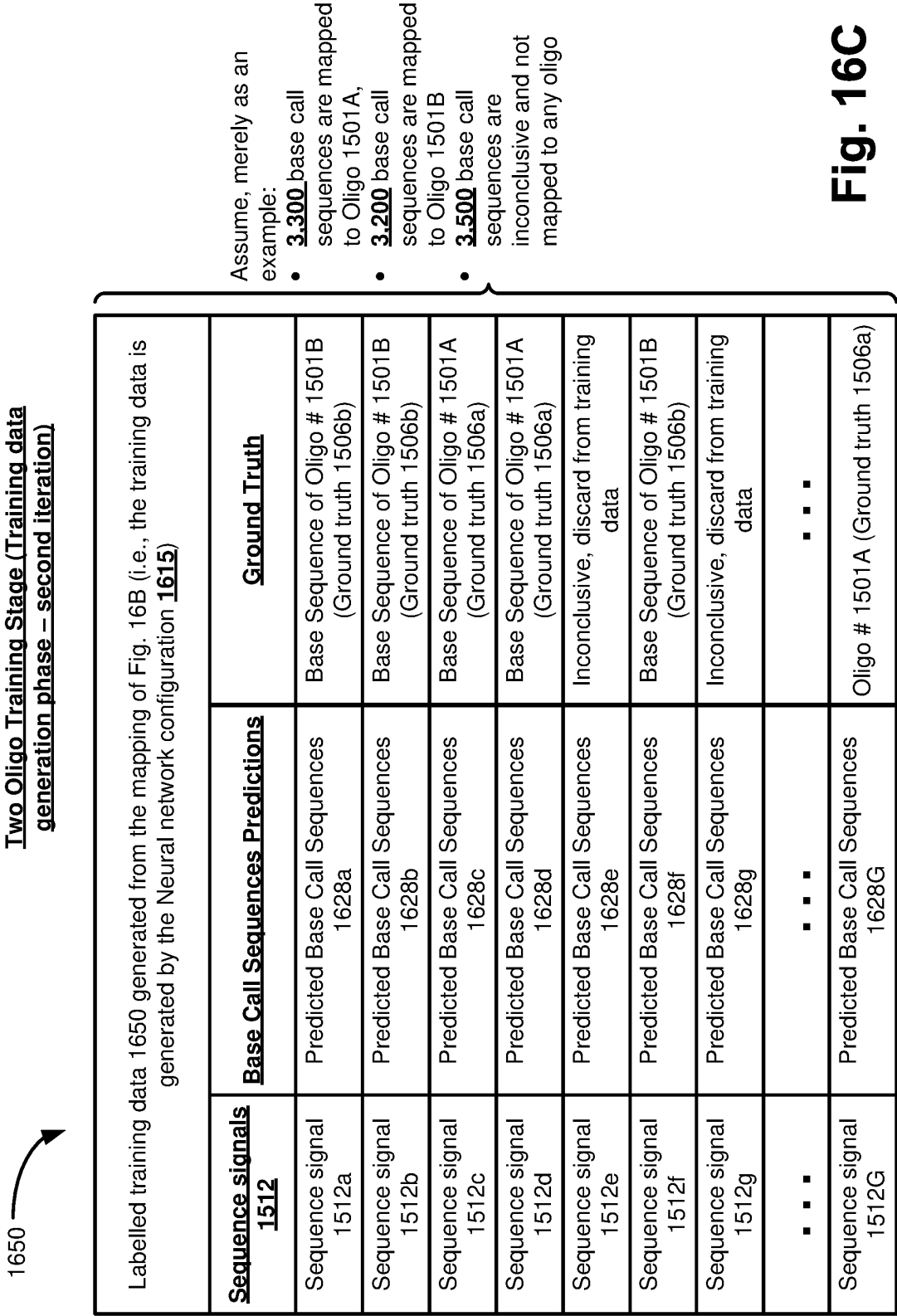
Mapping logic 1416 to map individual ones of the predicted base call sequences 1628 to either oligo 1501A or to oligo 1501B, or declare the mapping of the predicted base call sequence 1628 to be inconclusive (e.g., similar to Fig. 15D)



Clusters 1407 (e.g., clusters 1407a, 1407b, ..., 1407G) Somewhat trained, as discussed with respect to Fig. 16A

The predicted base call sequences 1628 are likely to be relatively more accurate than the predicted base call sequences 1618 of Fig. 16A, as the neural network configuration 1615 is now at least partially trained

Fig. 16B



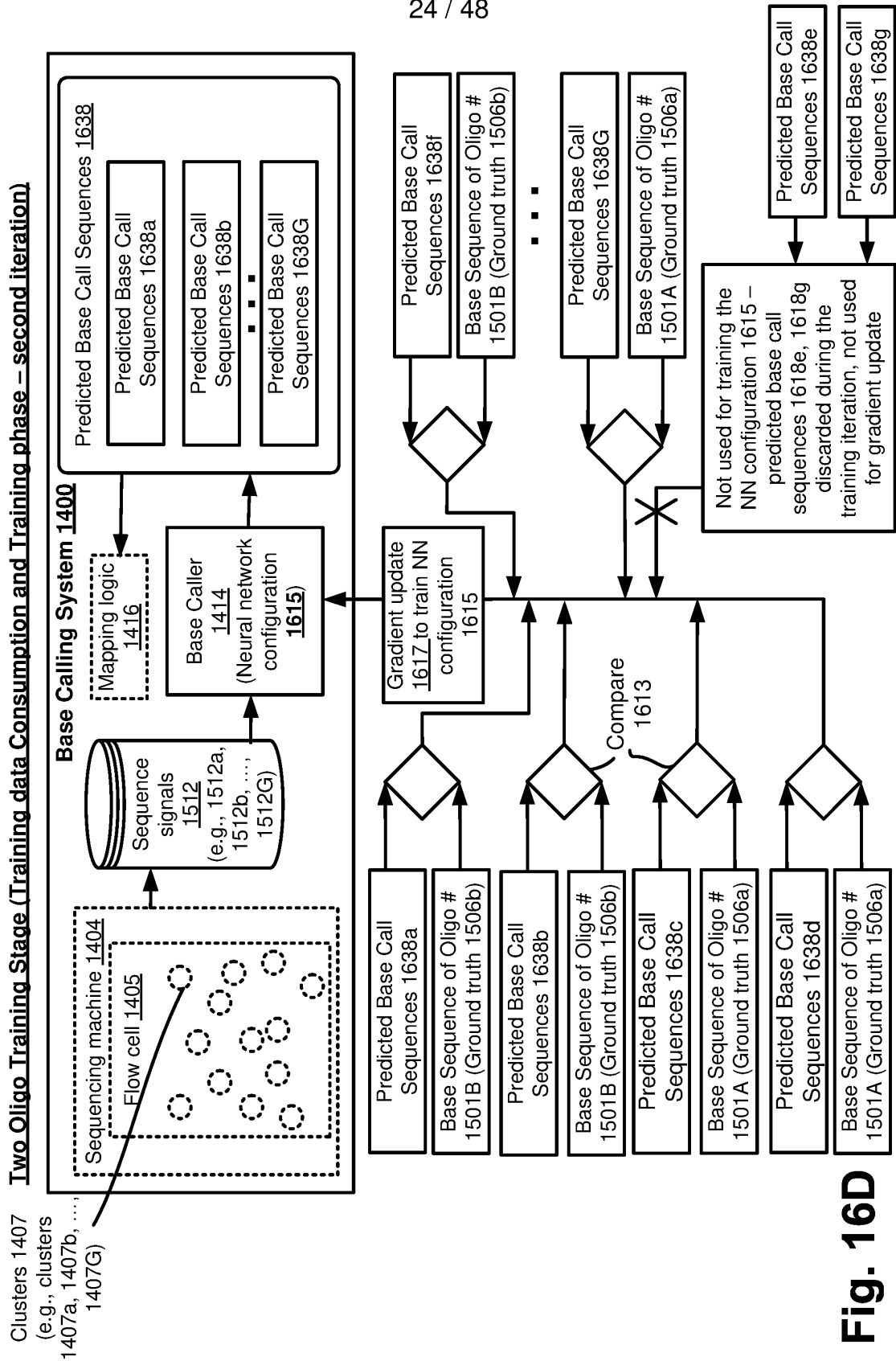


Fig. 16D

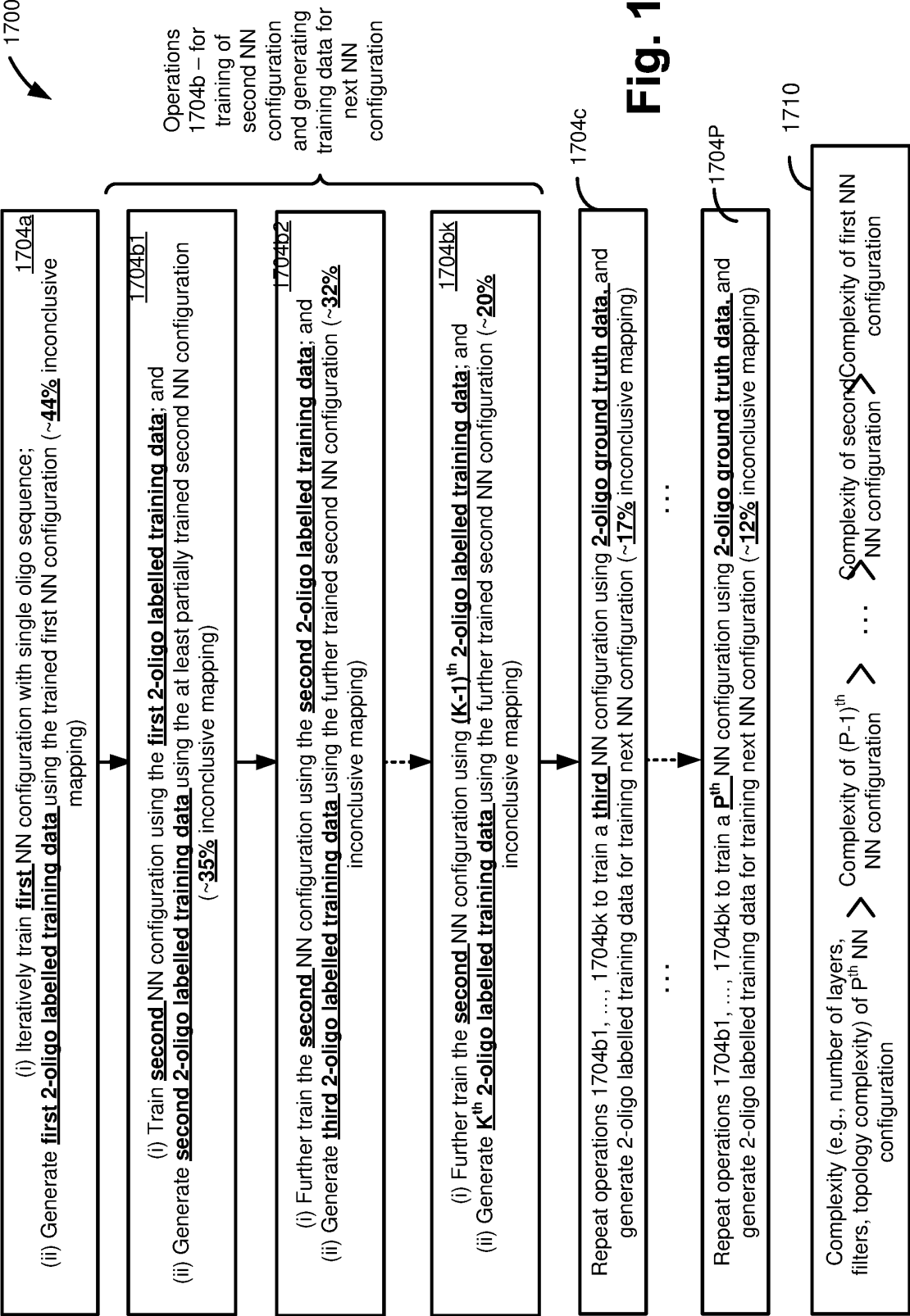


Fig. 17A

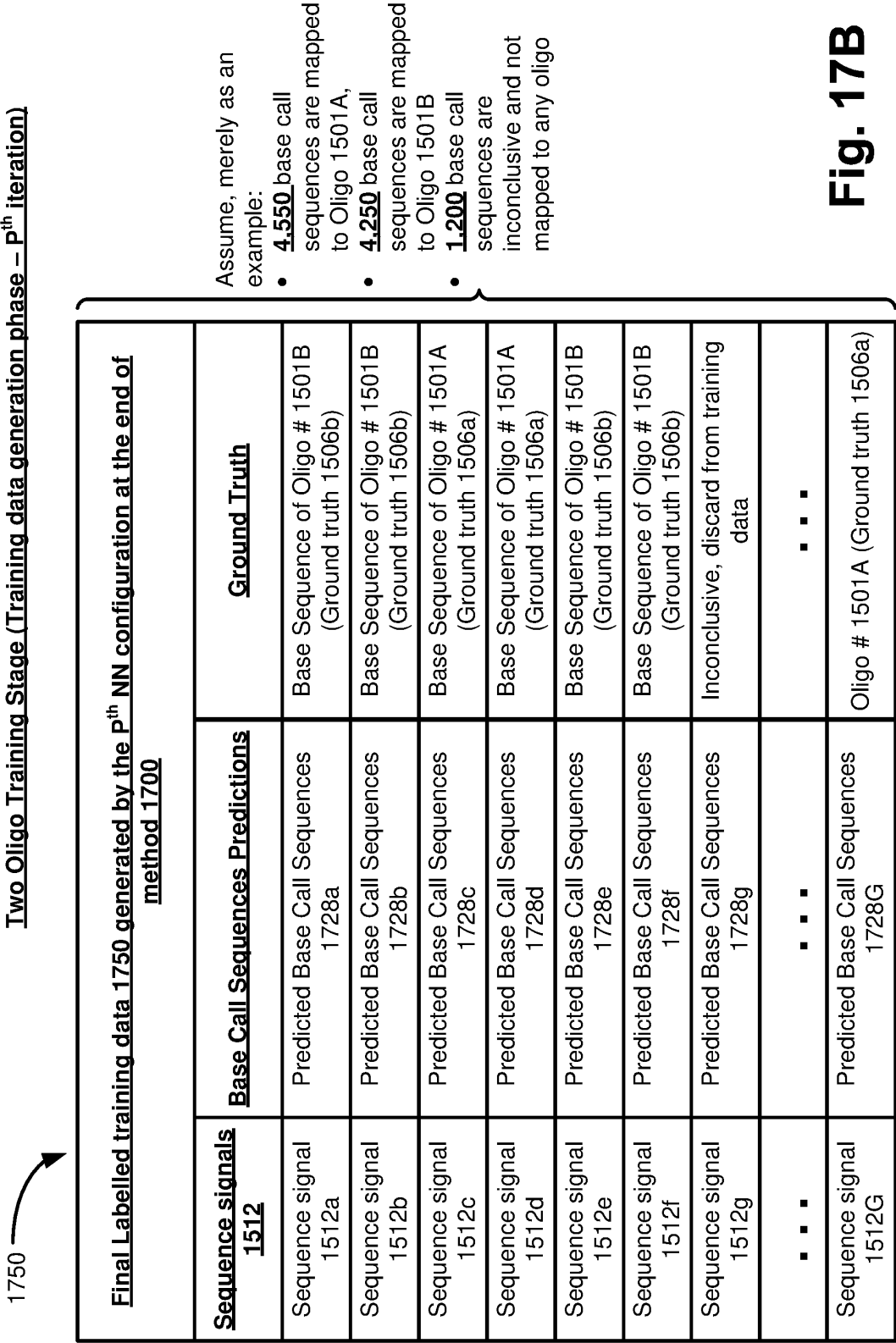


Fig. 17B

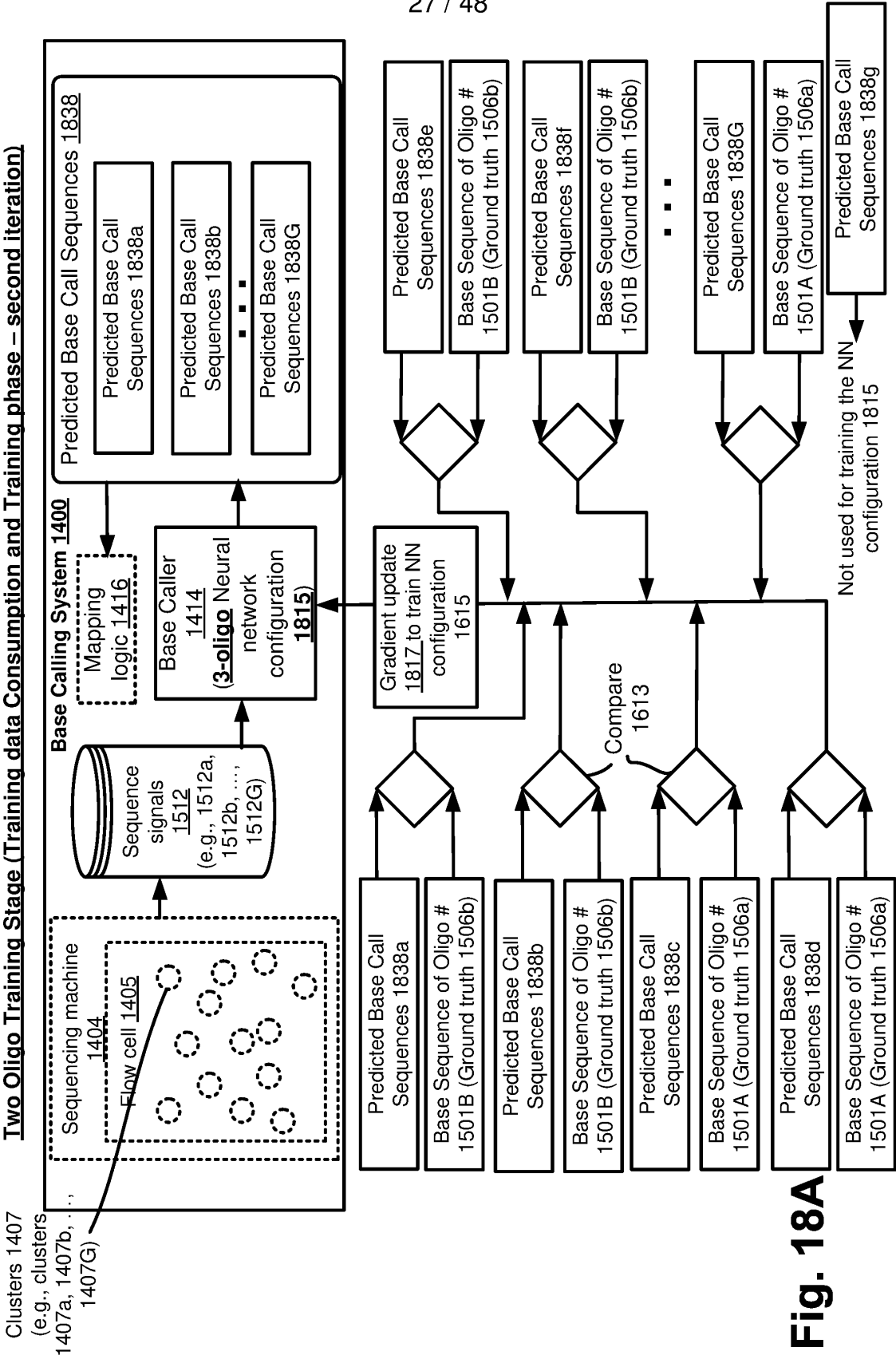


Fig. 18A

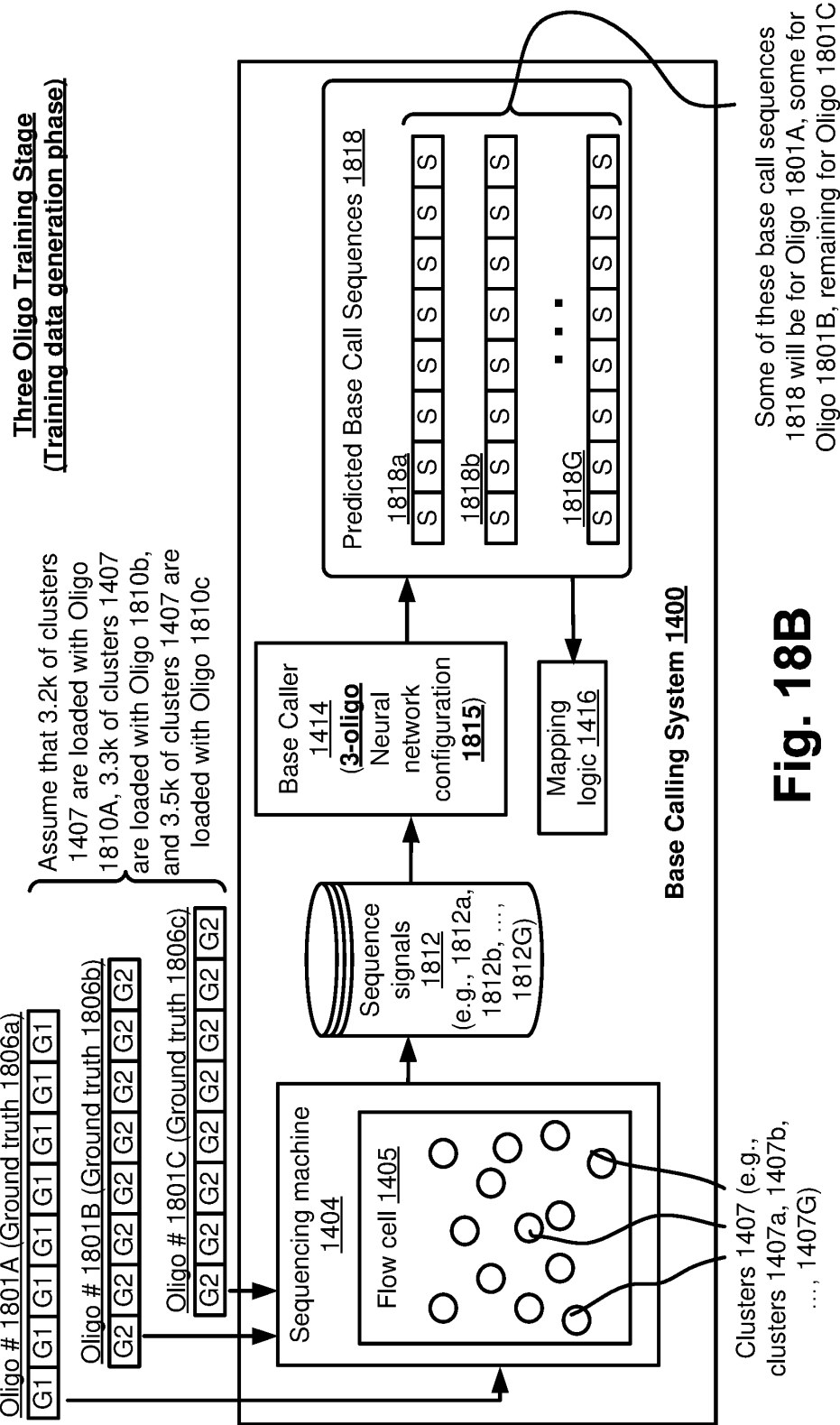


Fig. 18B

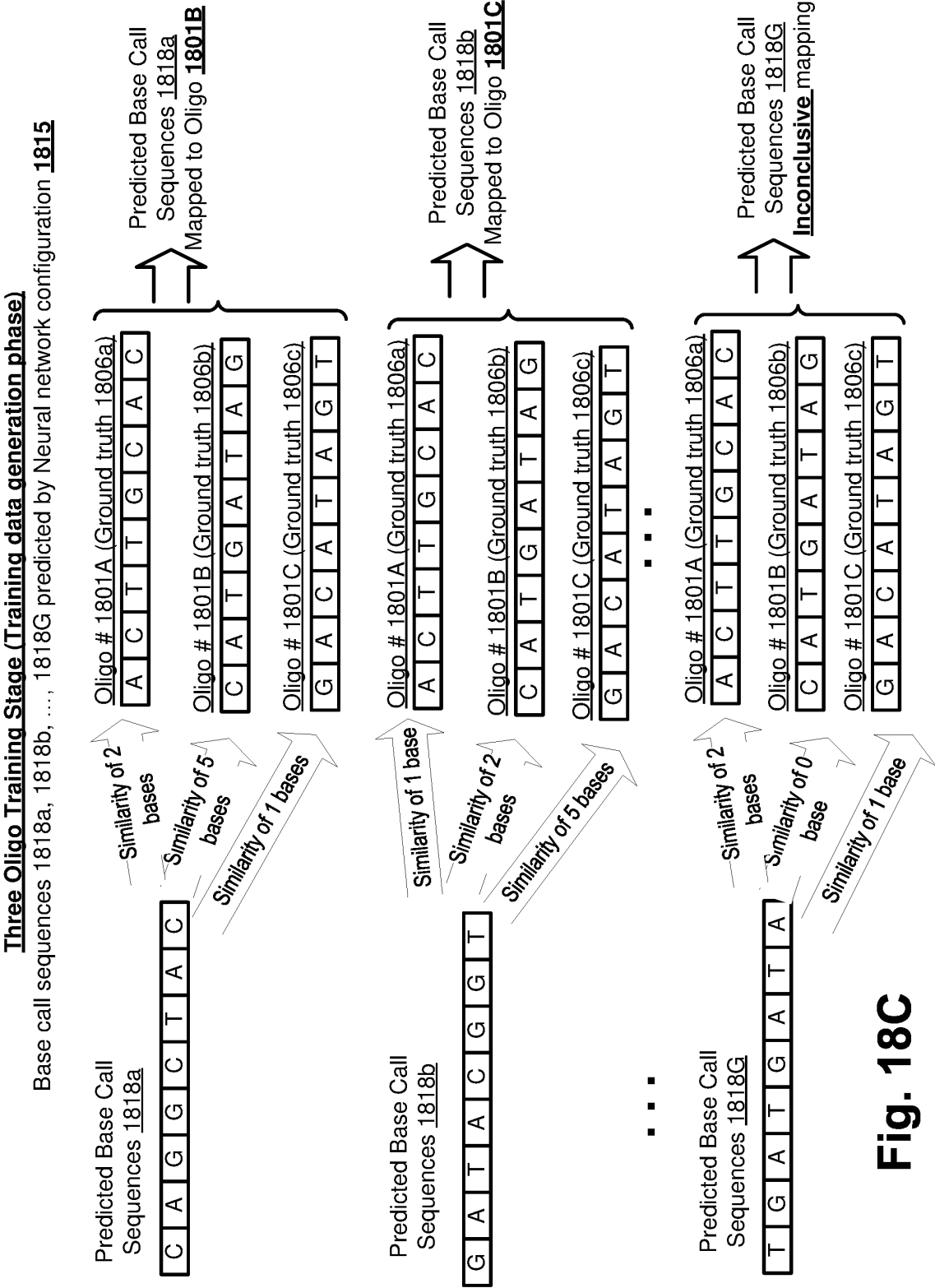
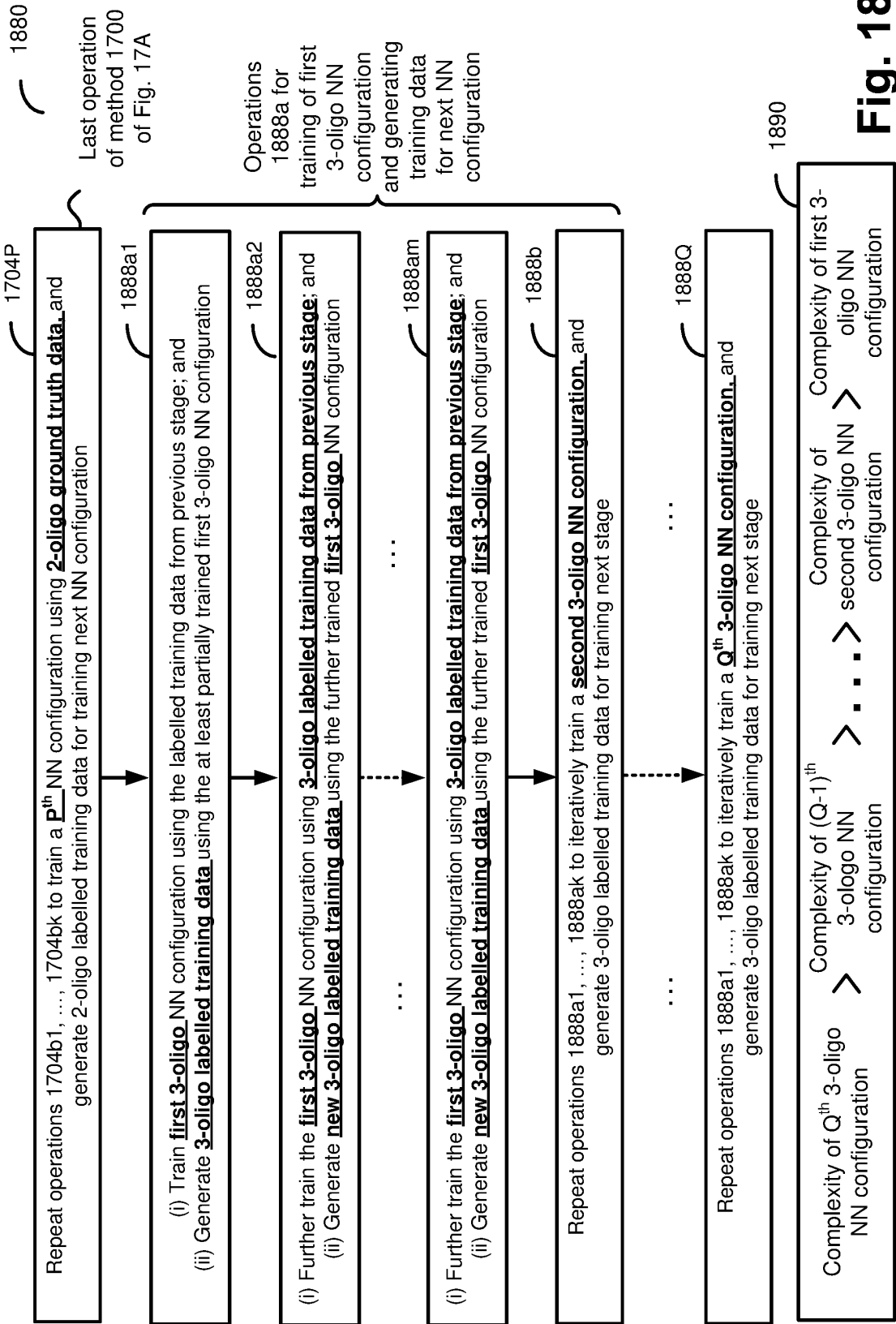


Fig. 18C

1850  Three Oligo Training Stage (Training data generation phase – 1st iteration)

<u>Labelled training data 1850 generated by the 3-oligo NN configuration 1815</u>		
<u>Sequence signals 1812</u>	<u>Base Call Sequences Predictions</u>	<u>Ground Truth</u>
Sequence signal 1812a	Predicted Base Call Sequences 1818a	Base Sequence of Oligo # 1801B (Ground truth 1806b)
Sequence signal 1812b	Predicted Base Call Sequences 1818b	Base Sequence of Oligo # 1801C (Ground truth 1806c)
Sequence signal 1812c	Predicted Base Call Sequences 1818c	Base Sequence of Oligo # 1801A (Ground truth 1806a)
Sequence signal 1812d	Predicted Base Call Sequences 1818d	Base Sequence of Oligo # 1801A (Ground truth 1806a)
Sequence signal 1812e	Predicted Base Call Sequences 1818e	Base Sequence of Oligo # 1801B (Ground truth 1806b)
Sequence signal 1812f	Predicted Base Call Sequences 1818f	Inconclusive, discard from training data
Sequence signal 1812g	Predicted Base Call Sequences 1818g	Base Sequence of Oligo # 1801C (Ground truth 1806c)
• • • •	• • • •	• • • •
Sequence signal 1812G	Predicted Base Call Sequences 1818G	Inconclusive, discard from training data

Fig. 18D



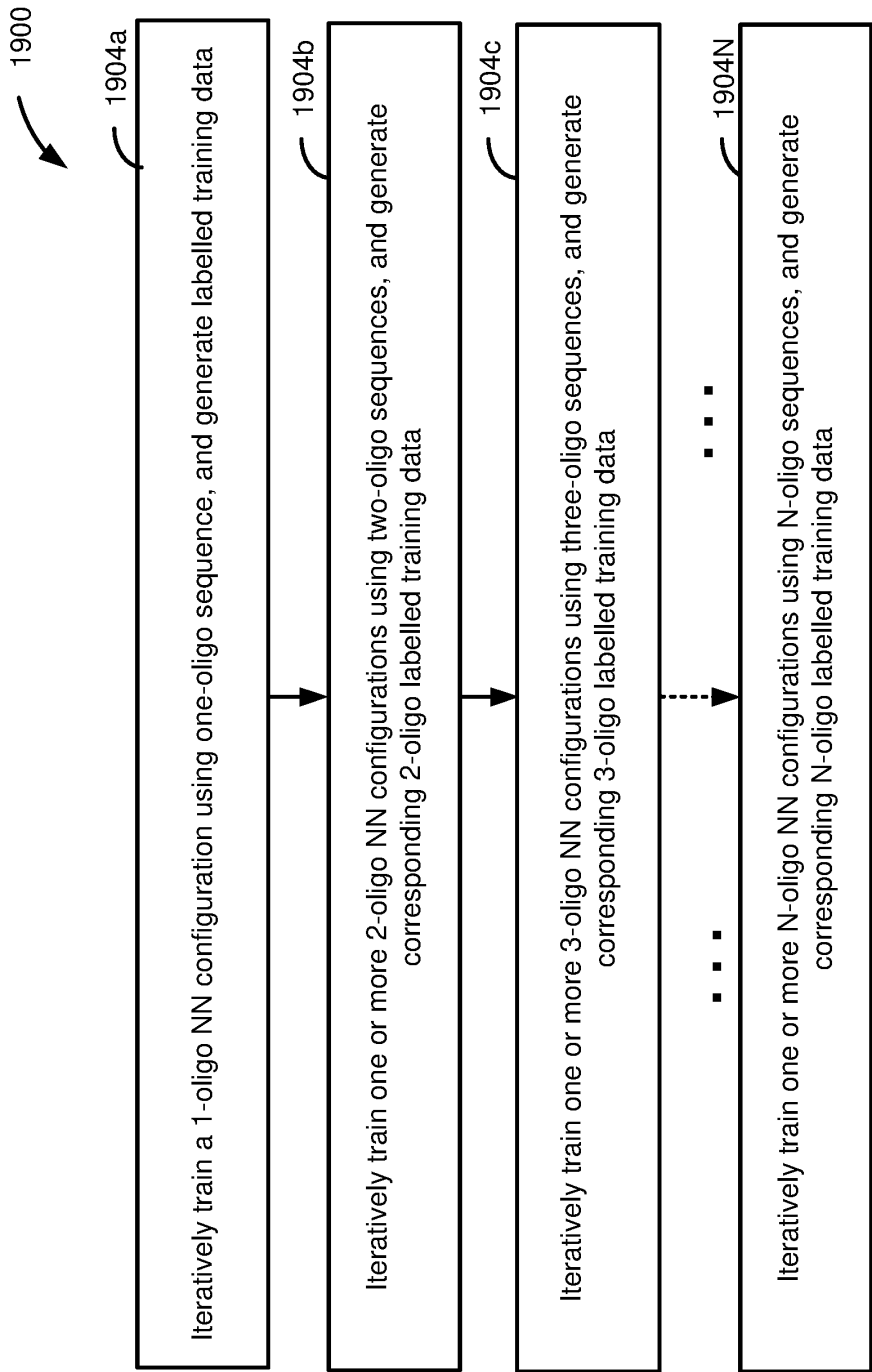


Fig. 19

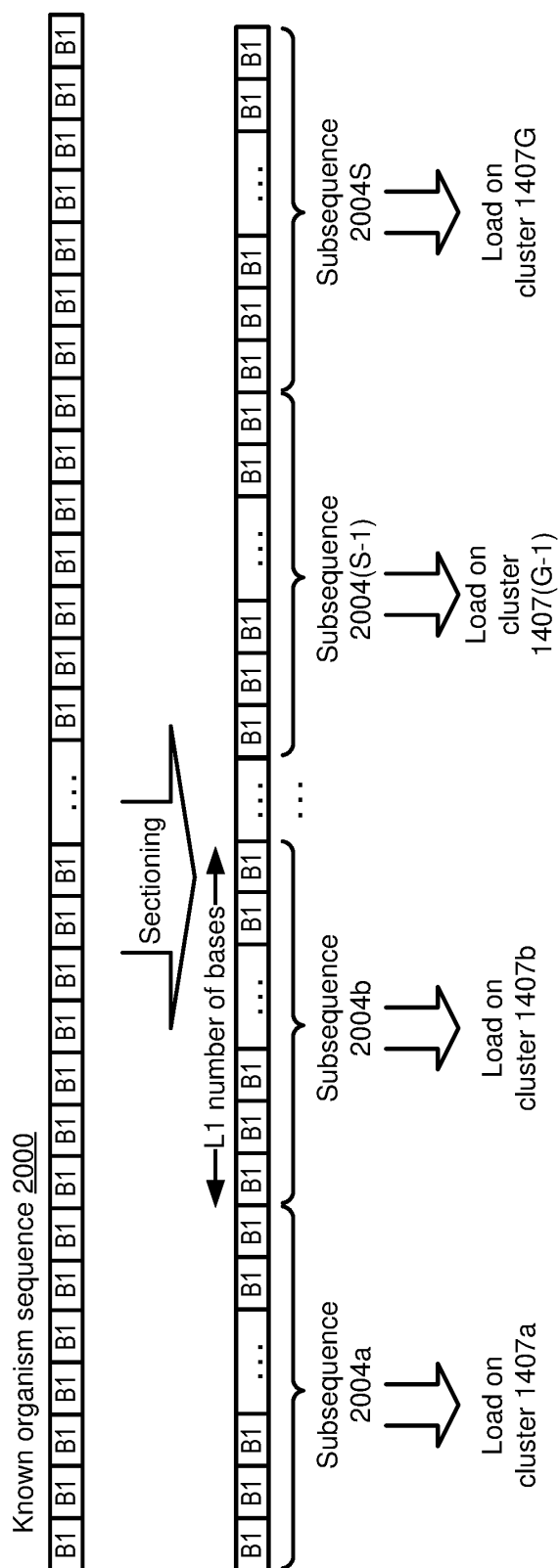


Fig. 20A

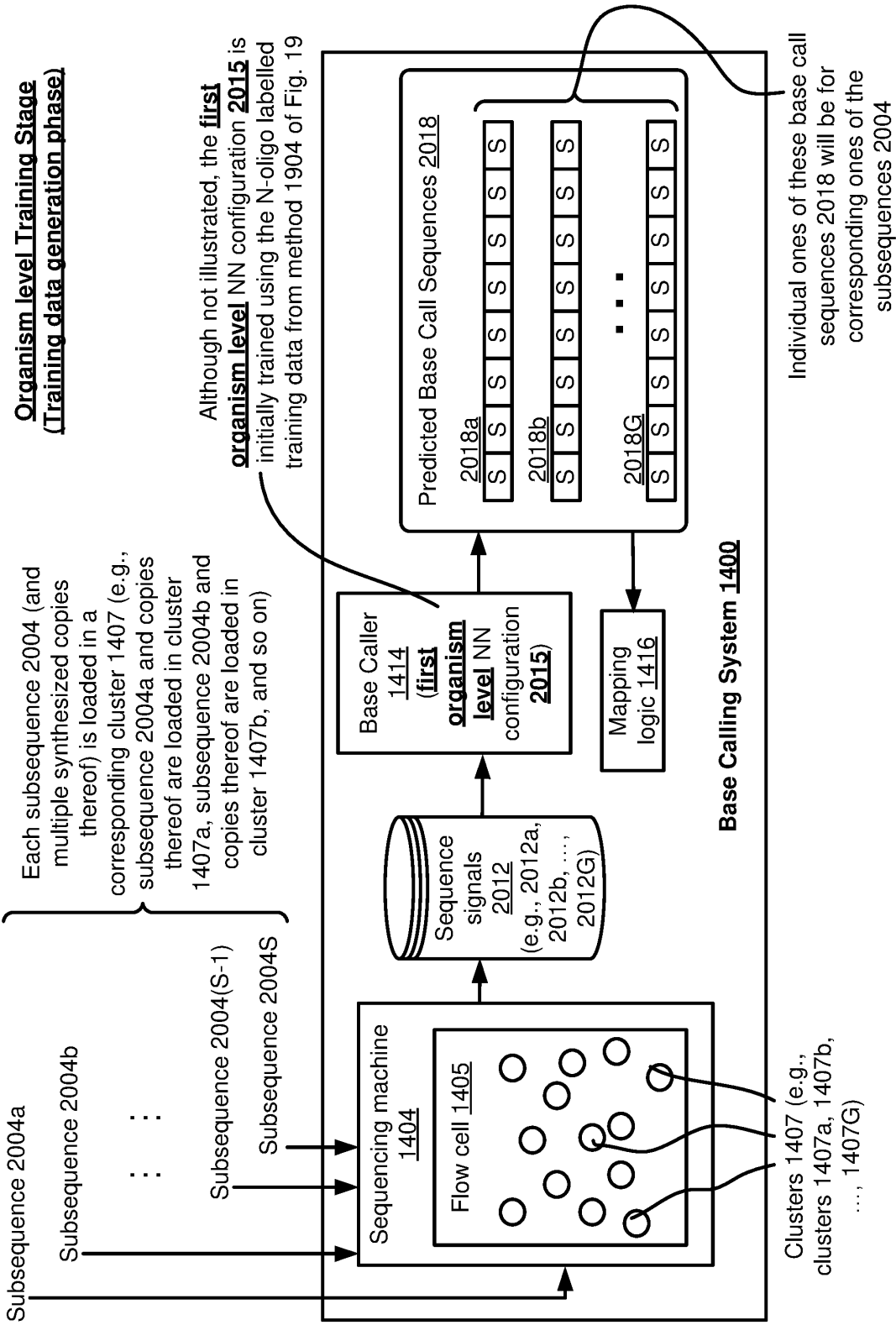
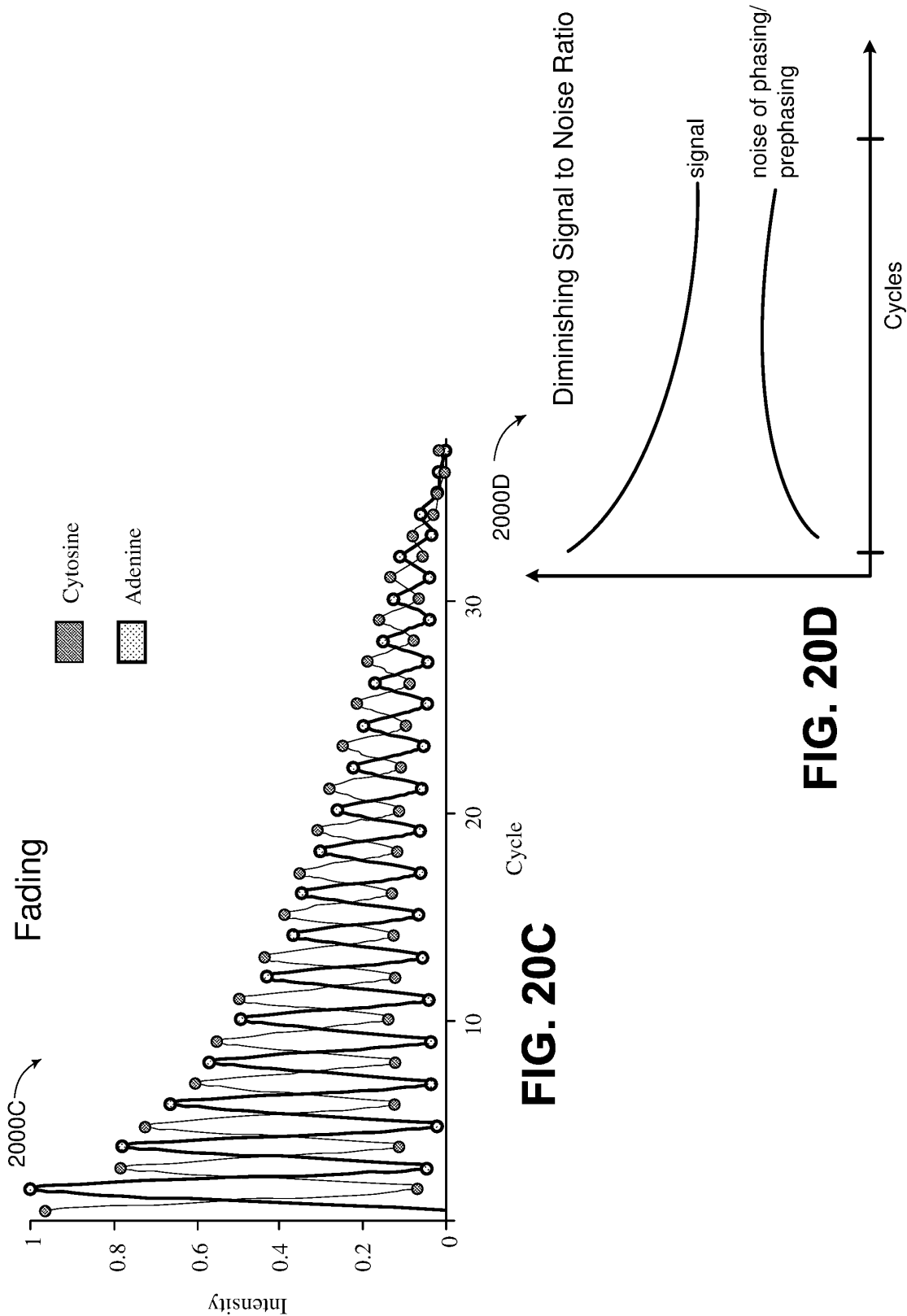
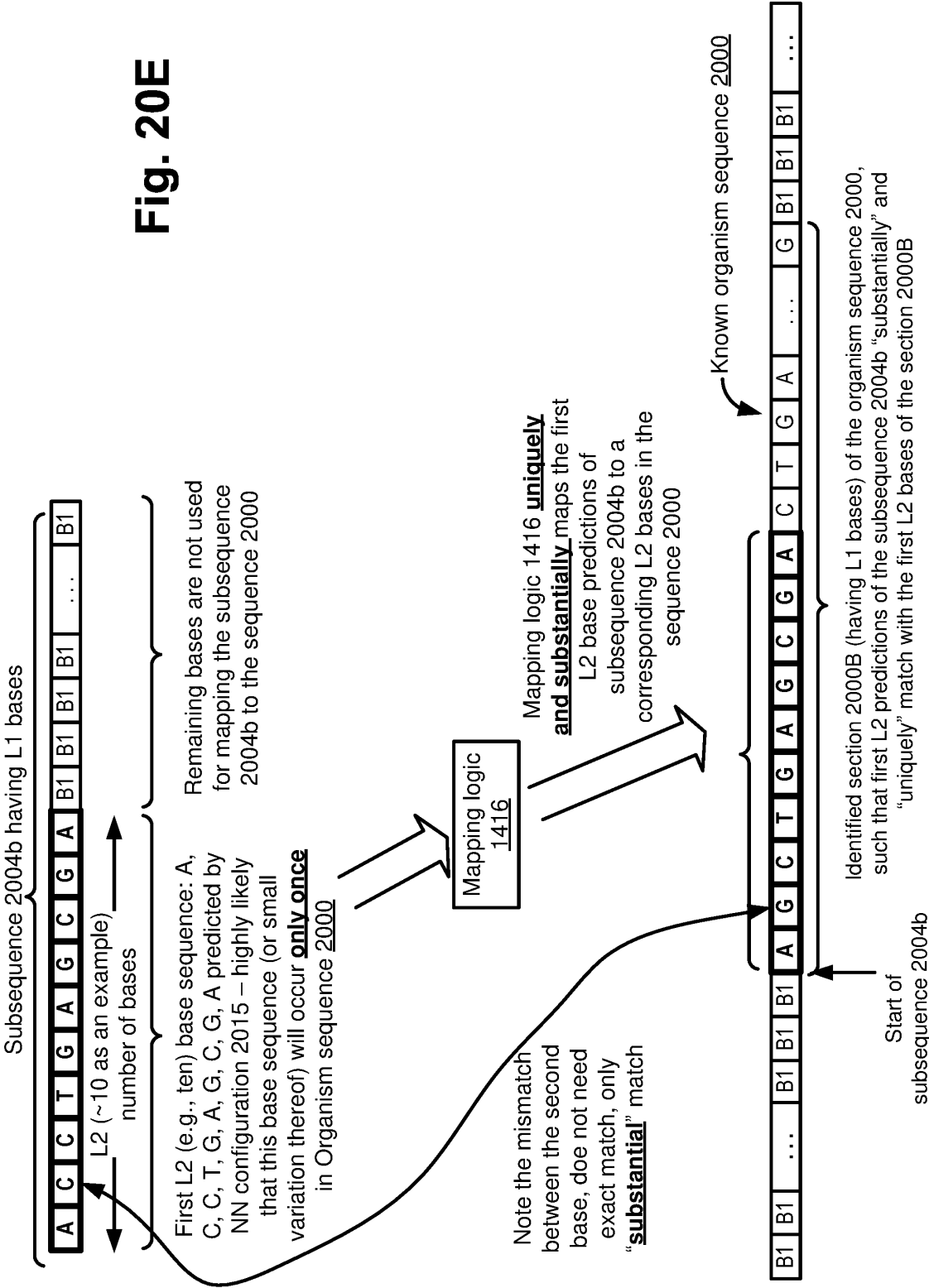


Fig. 20B





Organism level Training Stage

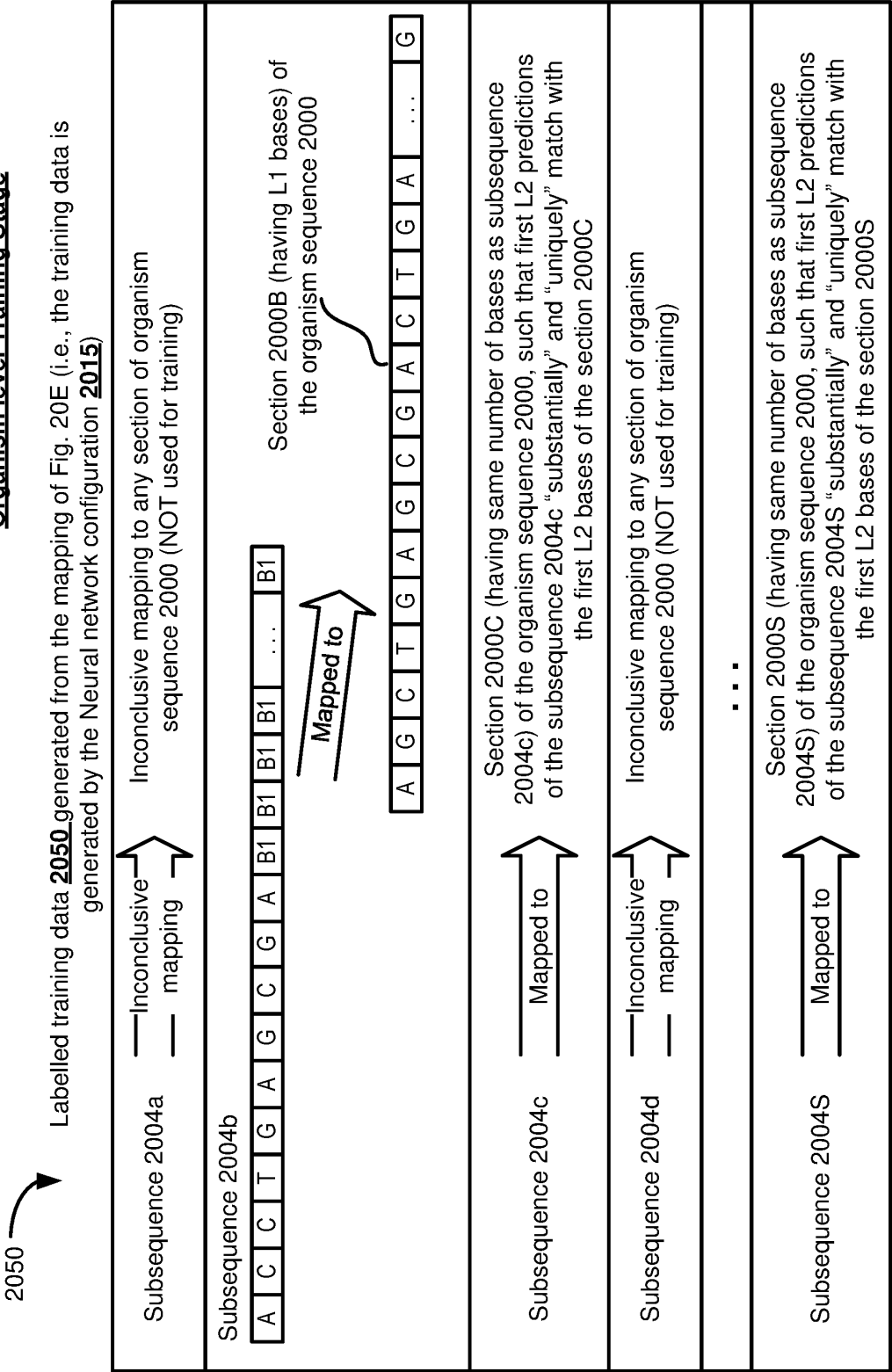


Fig. 20F

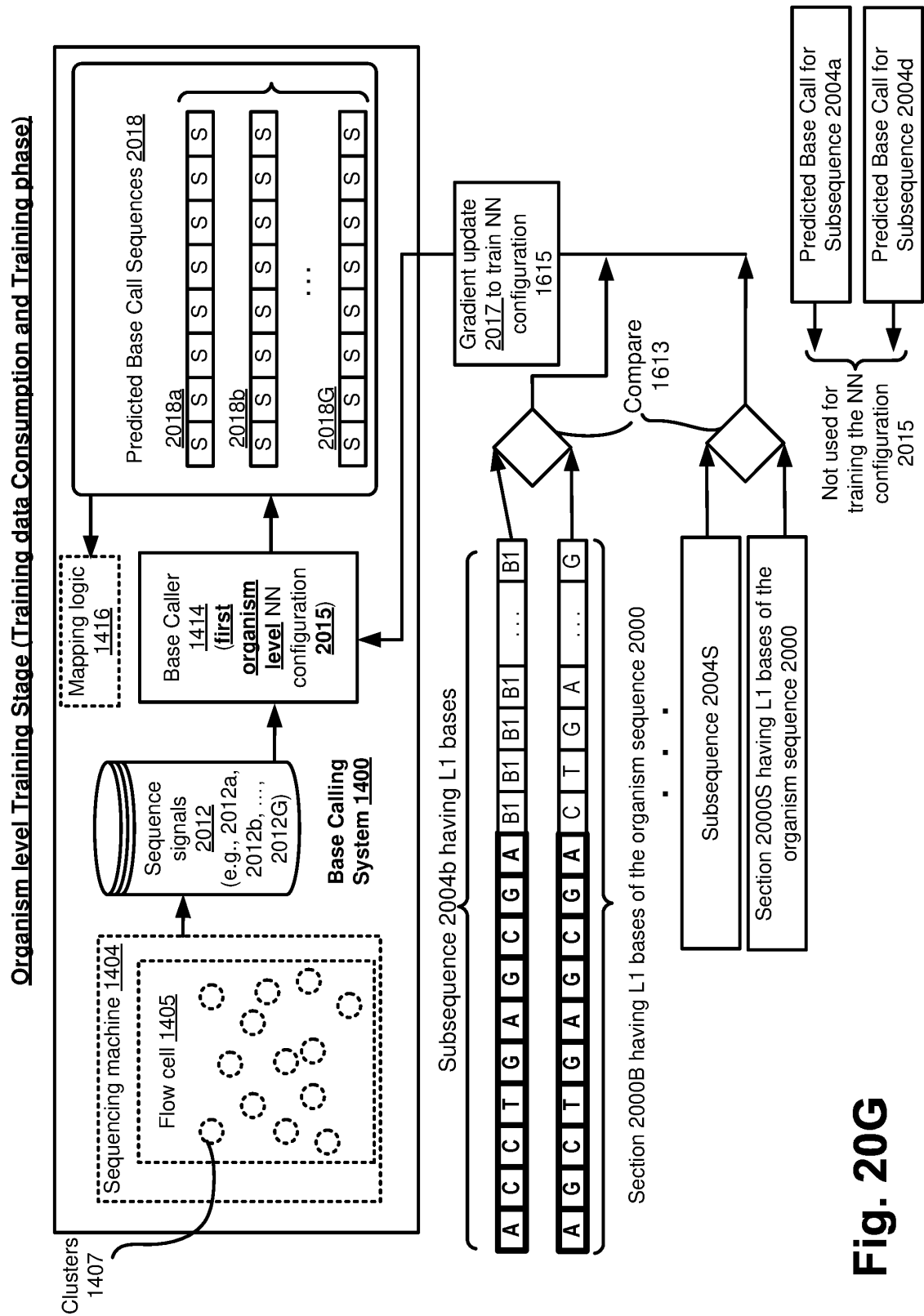


Fig. 20G

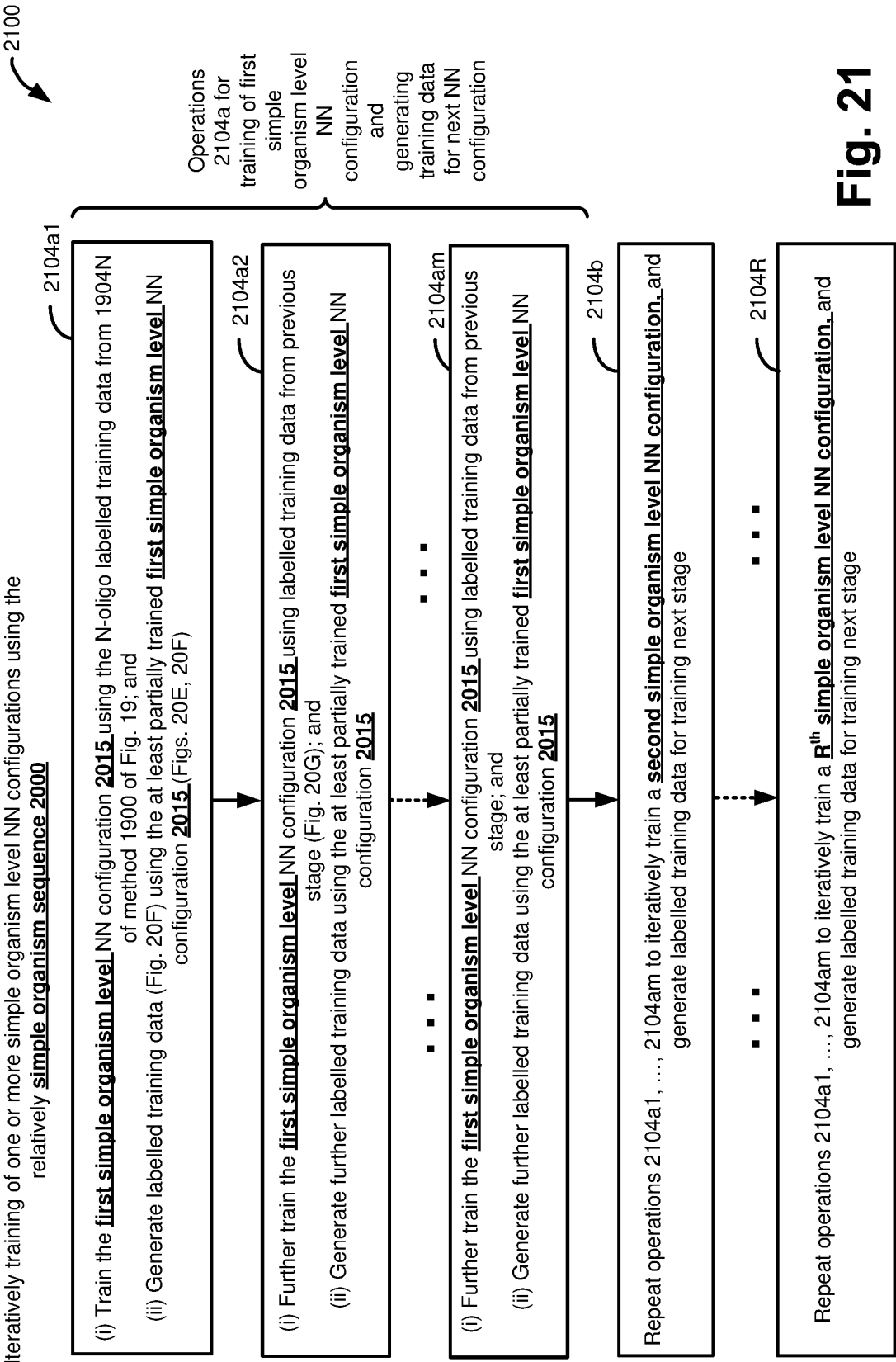


Fig. 21

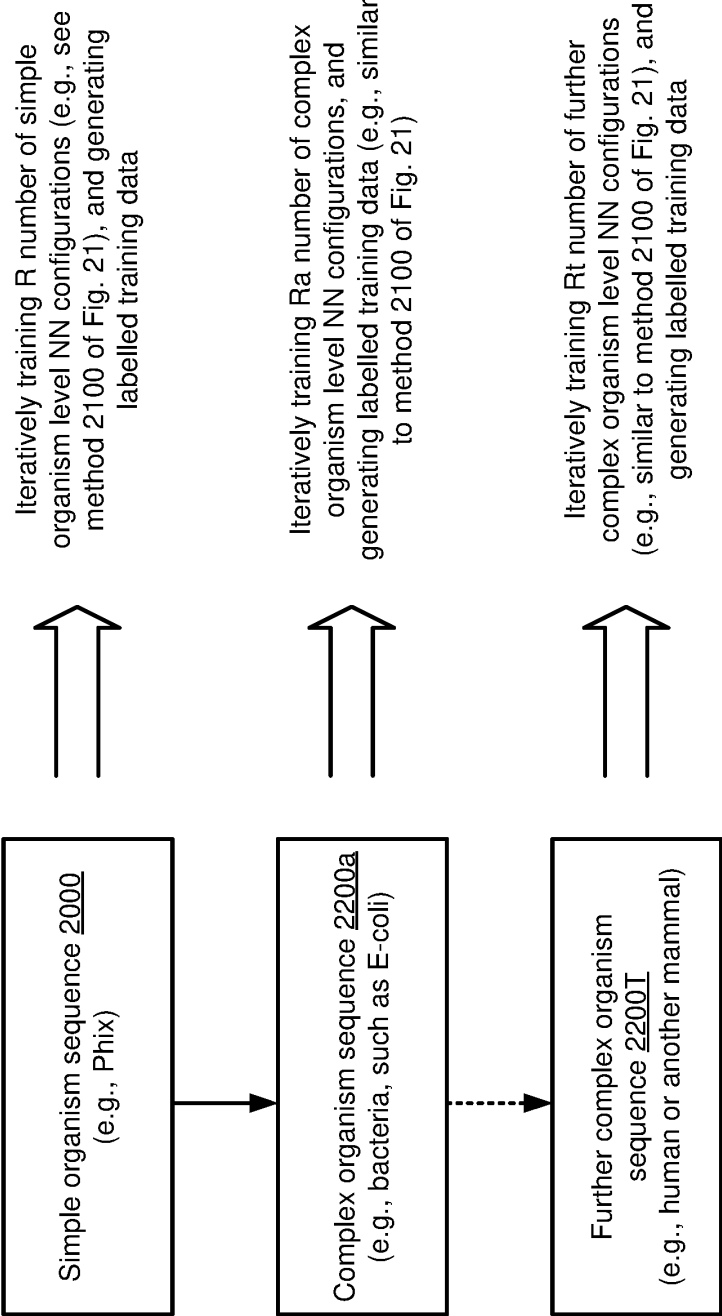


Fig. 22

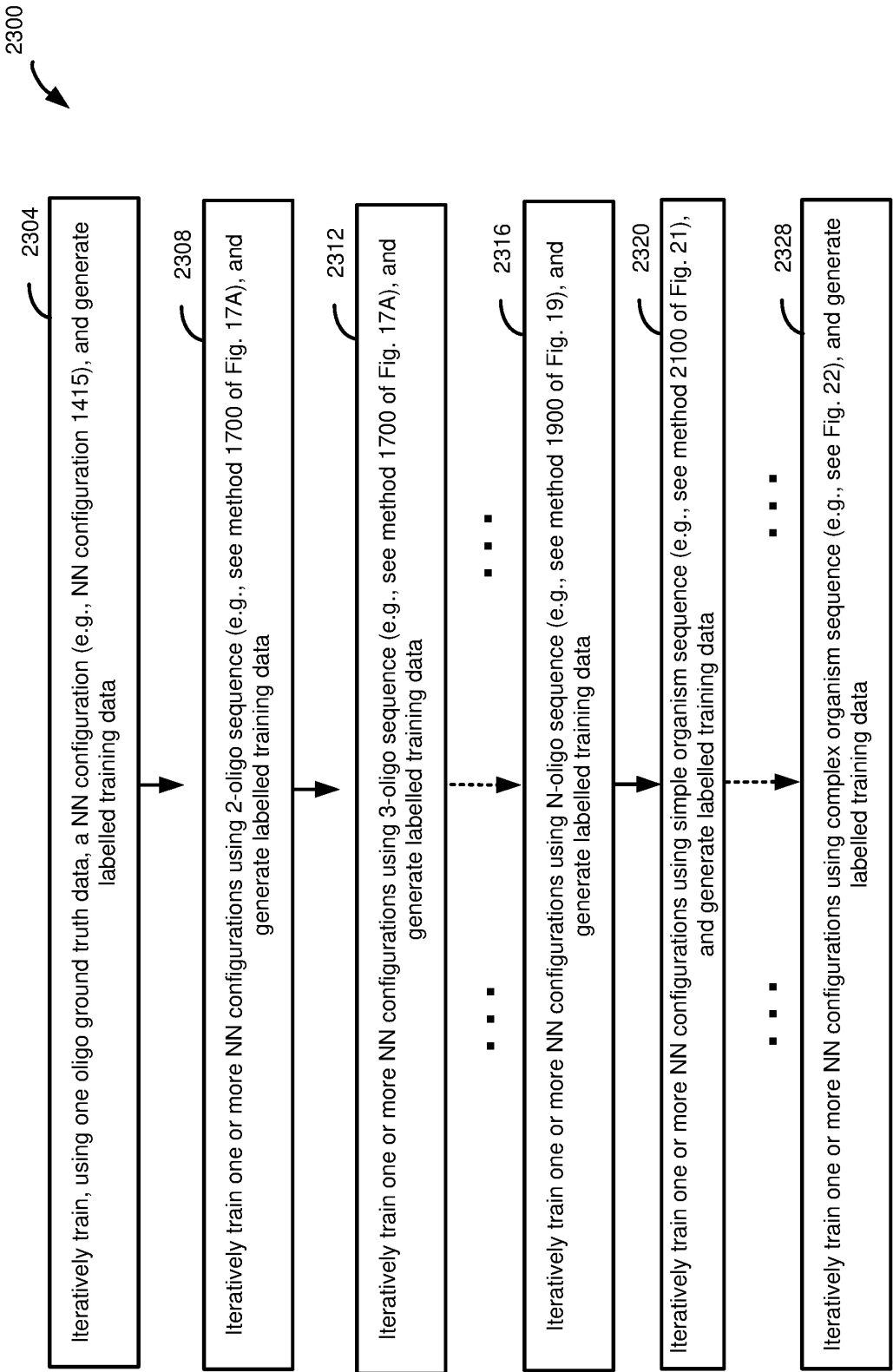


Fig. 23A

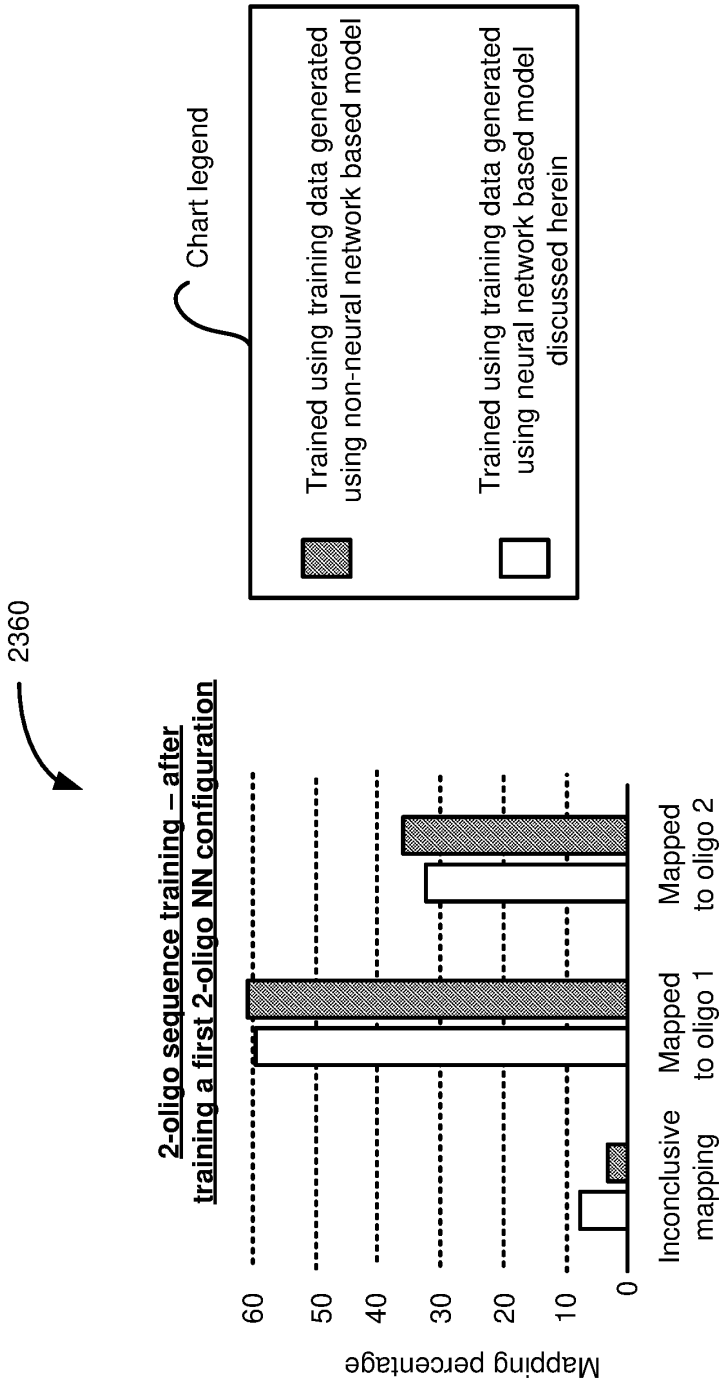


Fig. 23B

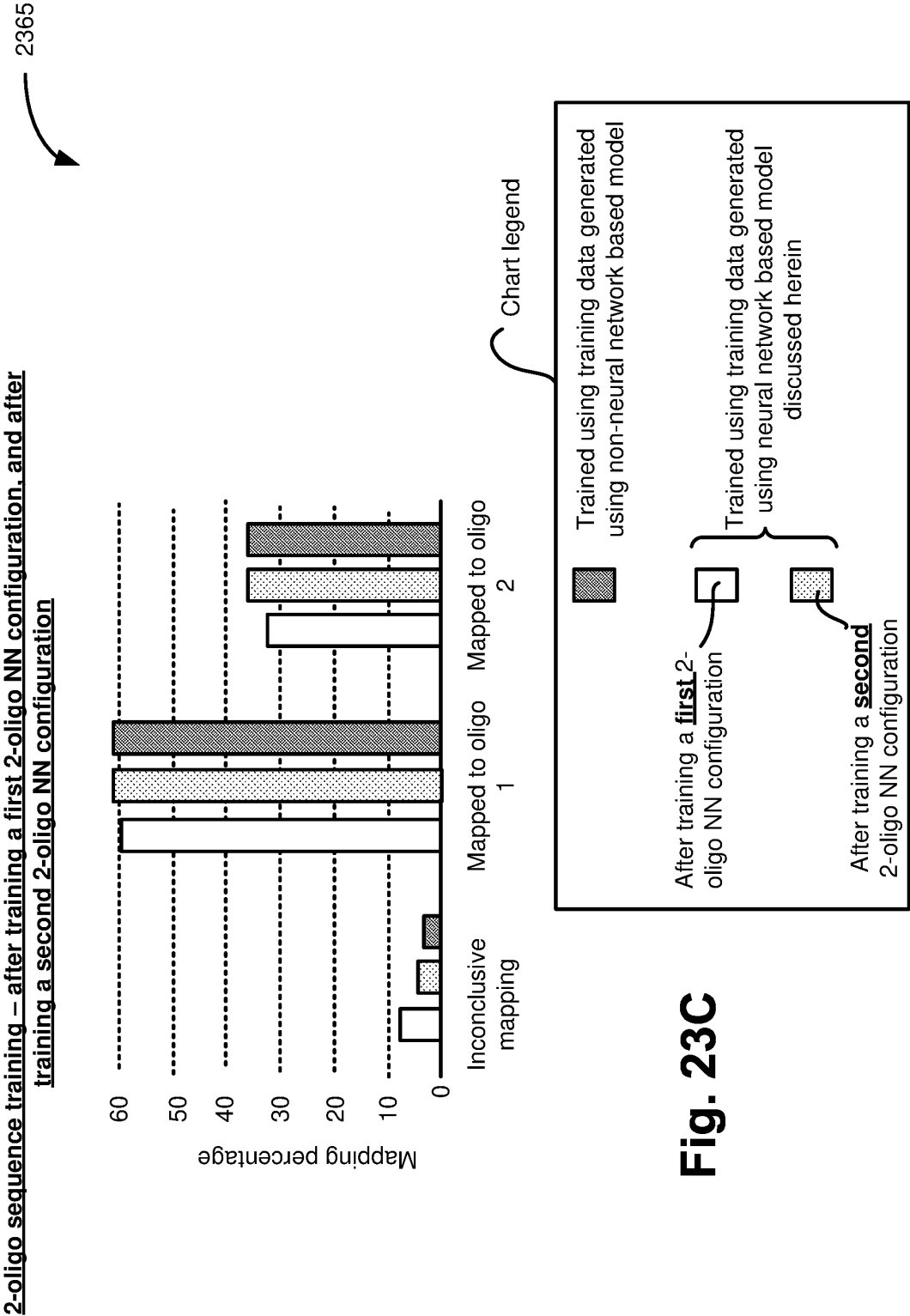


Fig. 23C

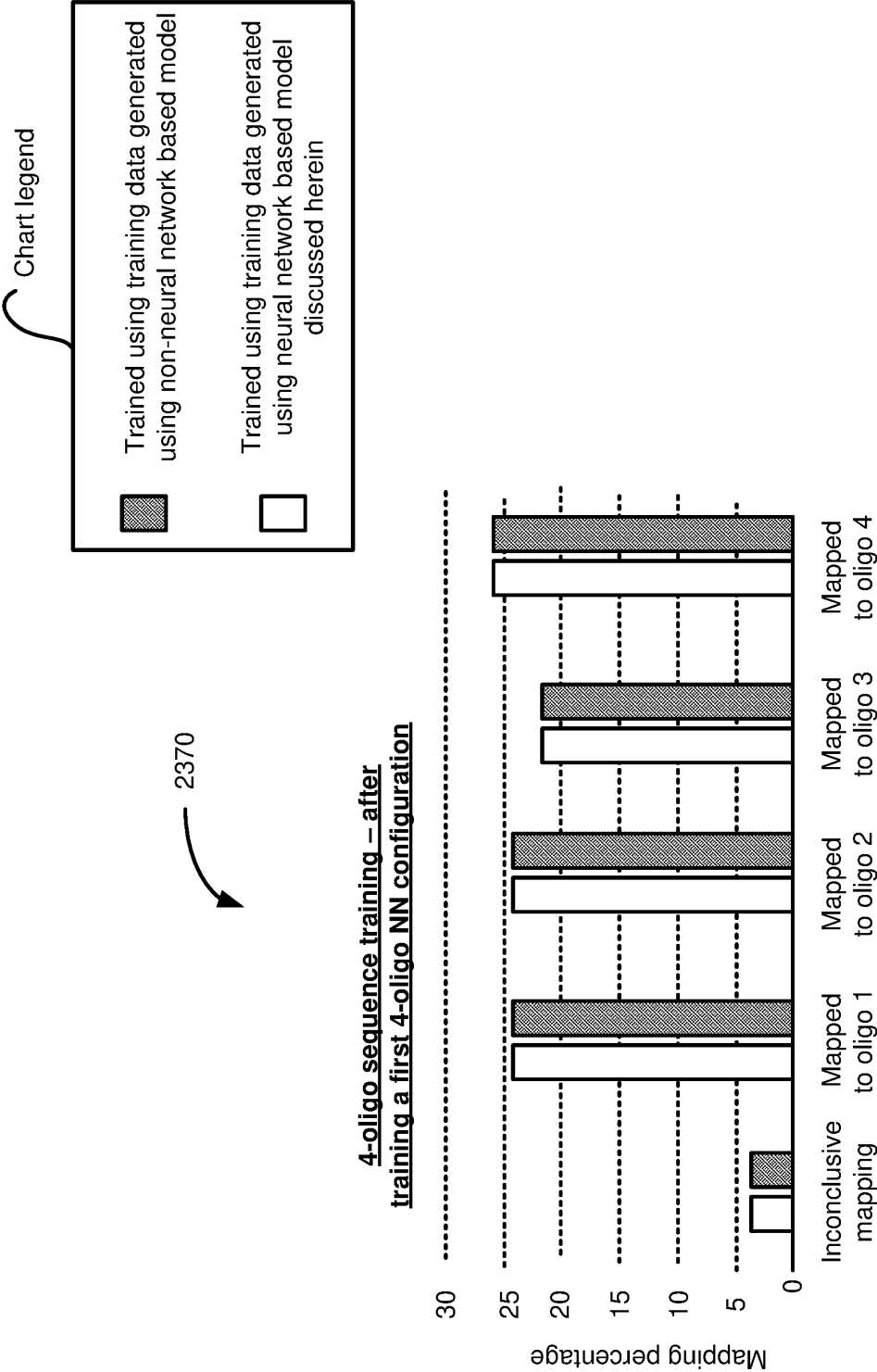
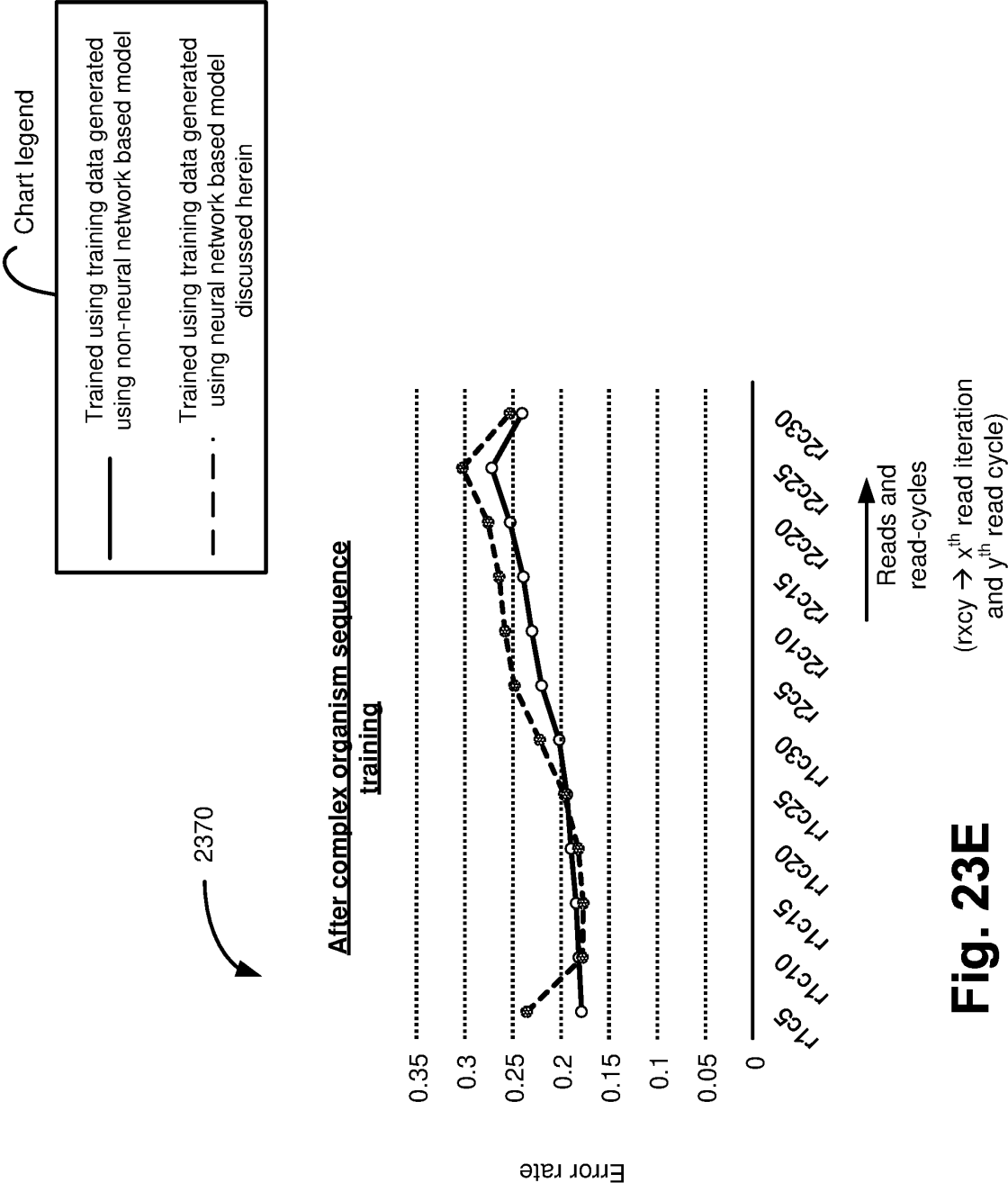


Fig. 23D



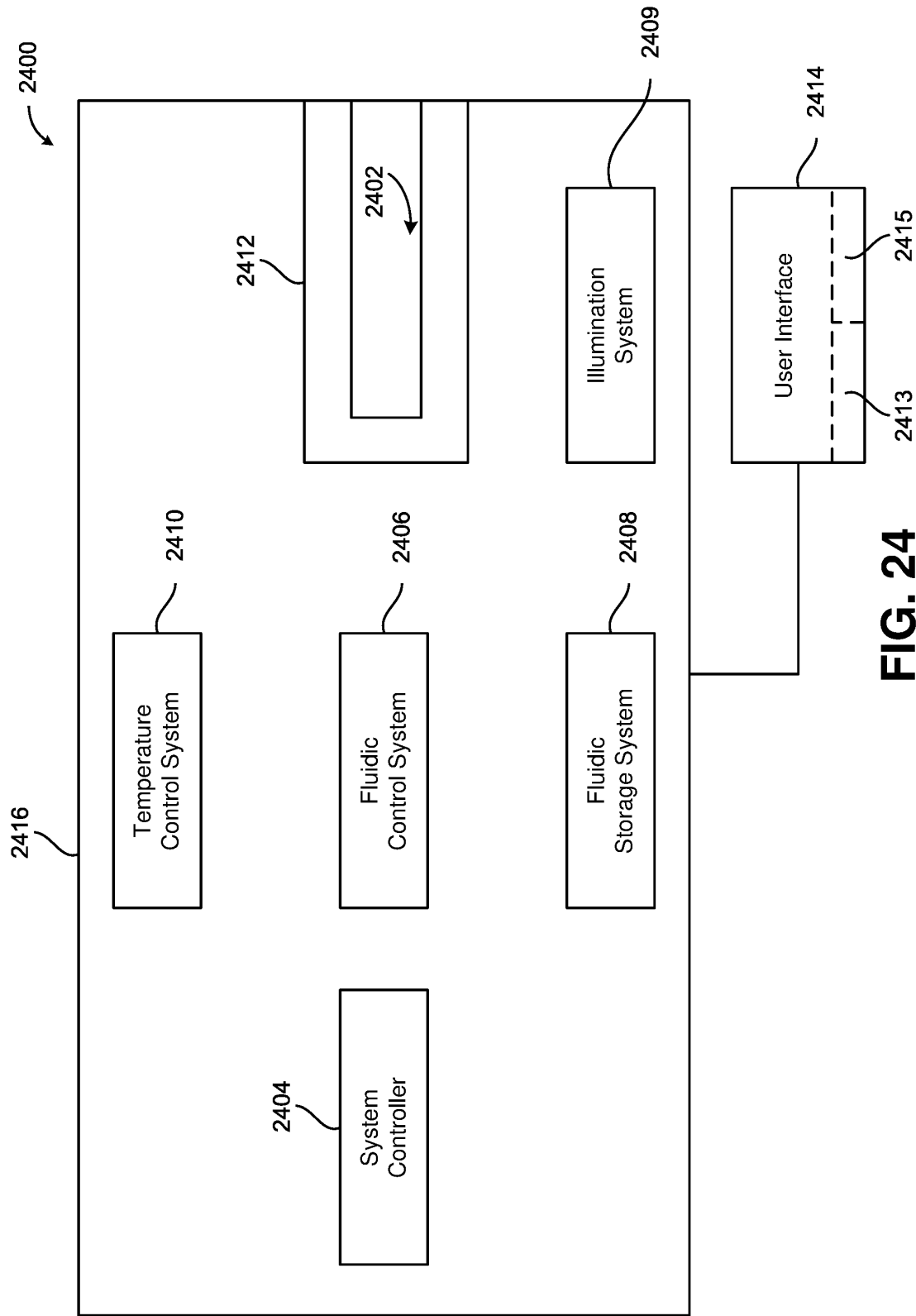


FIG. 24

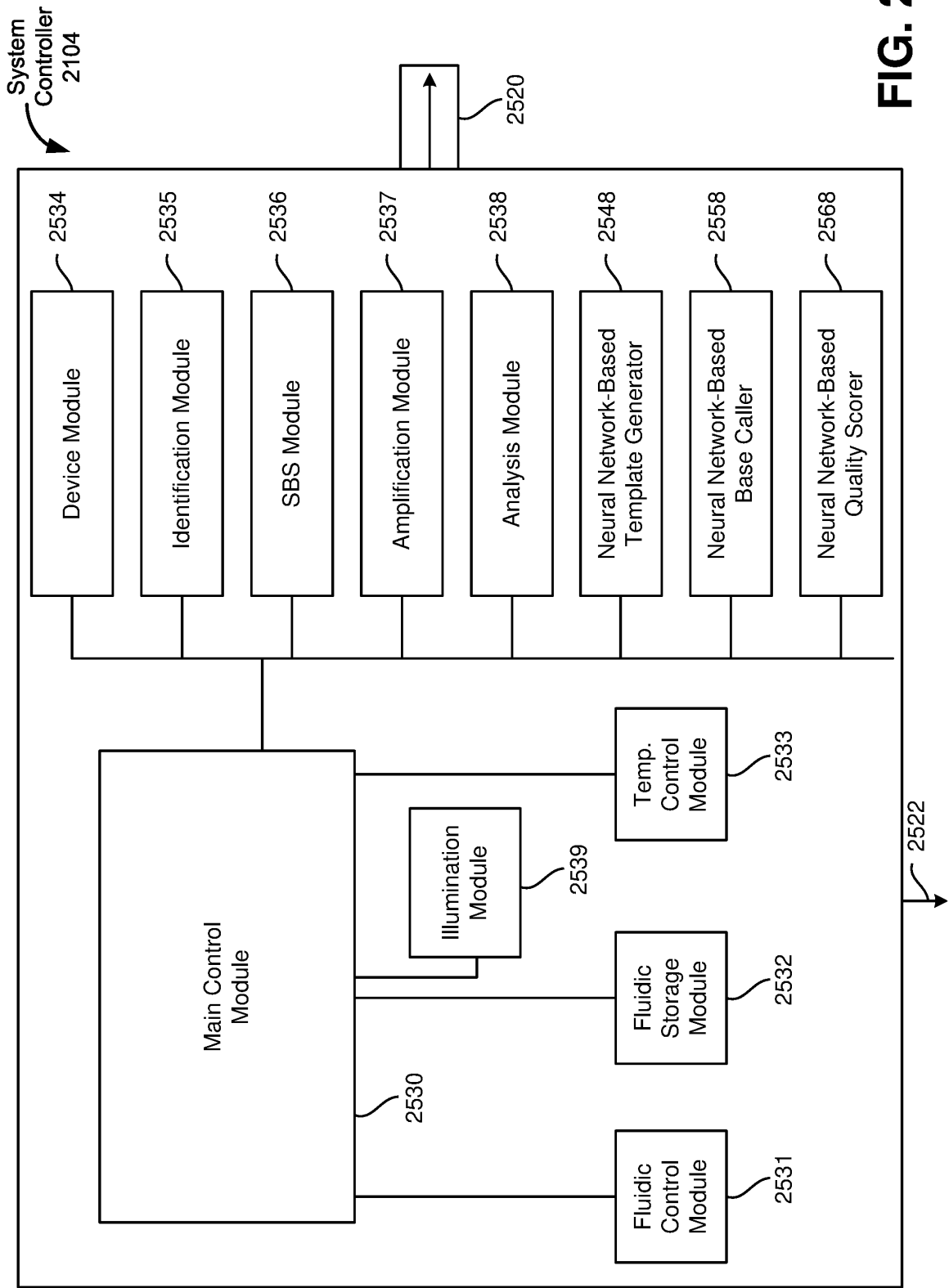


FIG. 25

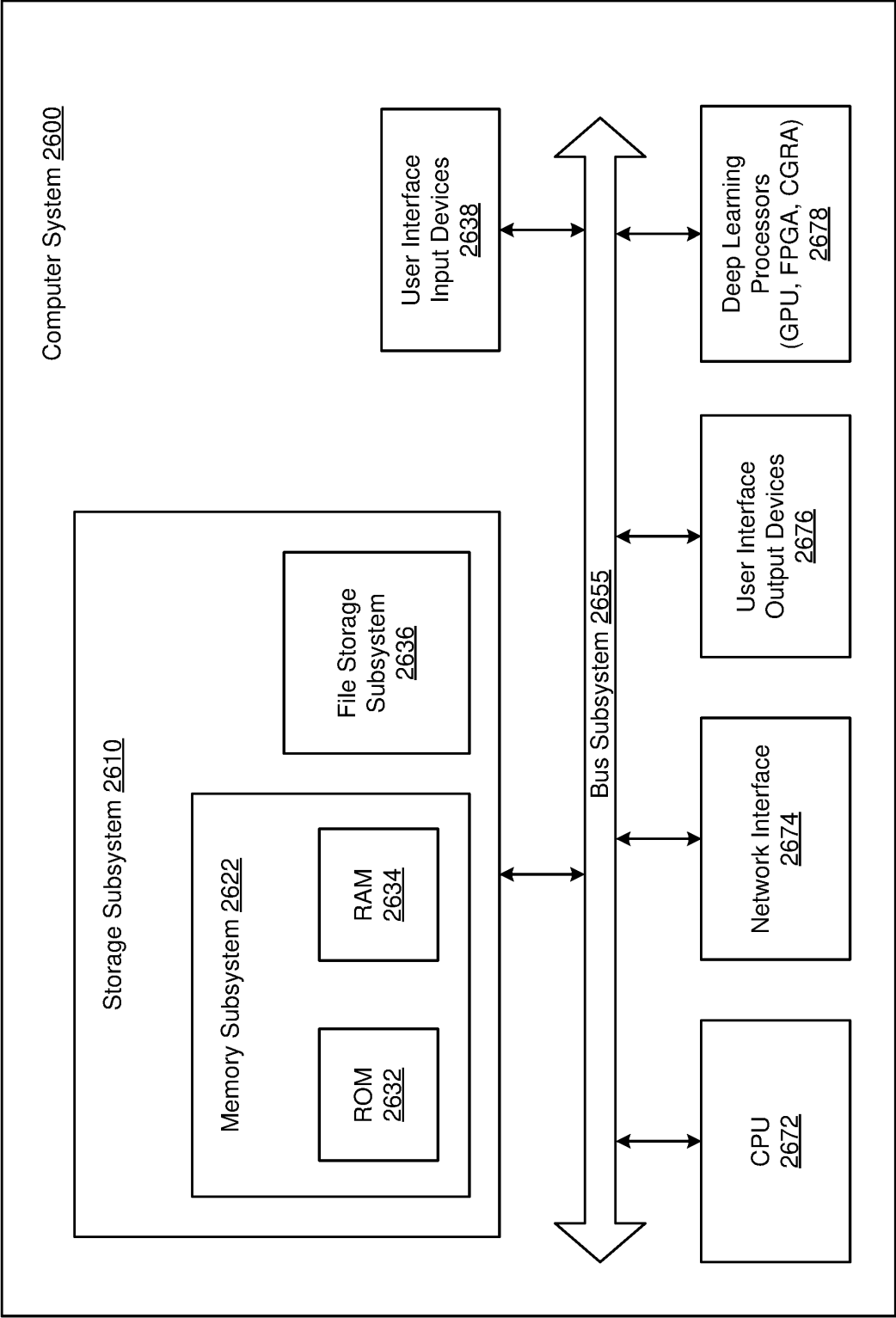


FIG. 26