



THE PUZZLING SIDE OF CHESS

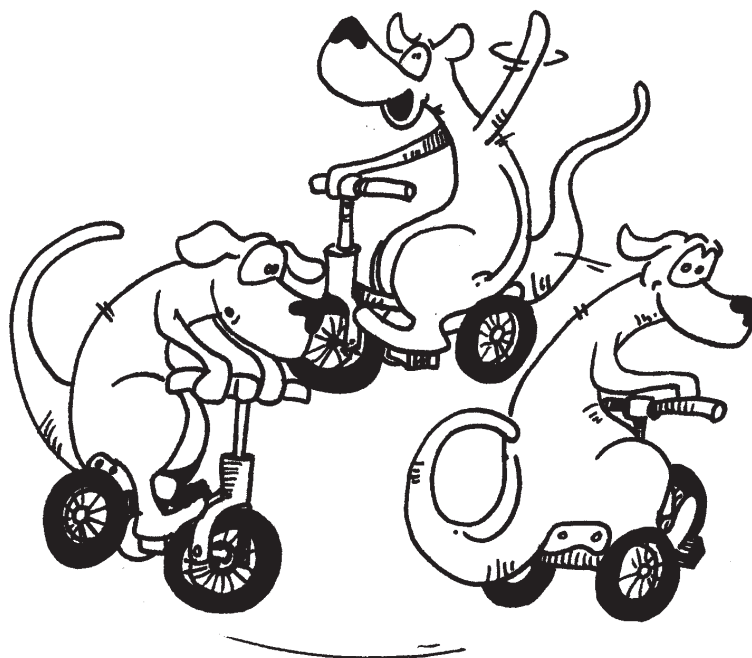
Jeff Coakley

CYCLOTRONIC OVERDRIVE: SPINNING ON

number 92

May 15, 2015

This column continues from where we left off last month, with seven more puzzles for your cycling pleasure.



A *cyclotron* is a three-way switcheroo. Instead of switching two pieces, we switch three. Here are the rules.

CYCLOTRONS

Switch the position of three pieces so that Black is in checkmate. No actual chess moves are made. The pieces simply swap squares.

The pieces trade places in a “cycle”. Piece A goes to square B, piece B goes to square C, and piece C goes to square A.

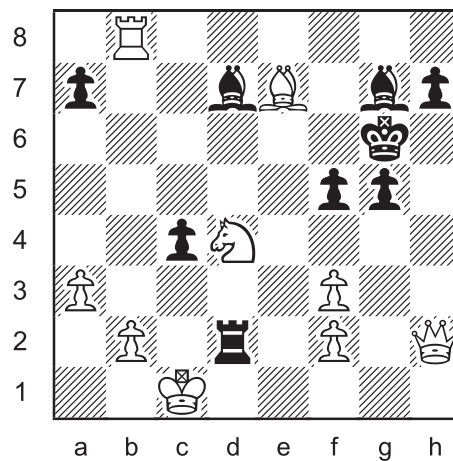
Any three pieces can trade places. Colours do not matter. The cycled pieces can be all white, all black, or a mix of both. Cycling the black king is a common trick.

The position after the cycle must be legal. This rule implies several things.

- a) A pawn cannot be on the 1st or 8th rank.
- b) Both kings cannot be in check.
- c) There must be a way to reach the position with a legal white move. Impossible checks, especially double checks, are a frequent “violation”.
- d) In some cases, retrograde analysis is required to decide if the position after a cycle is legal.

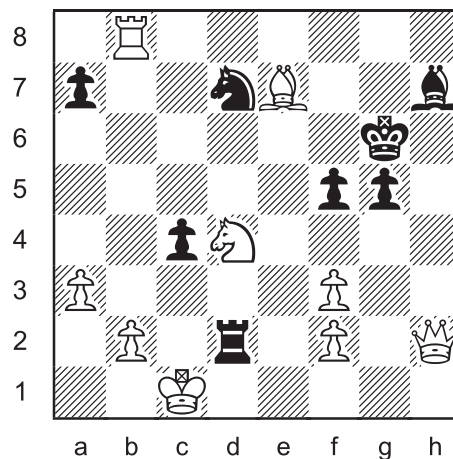
For more information on cyclotrons, see column 55.

Cyclotron 23



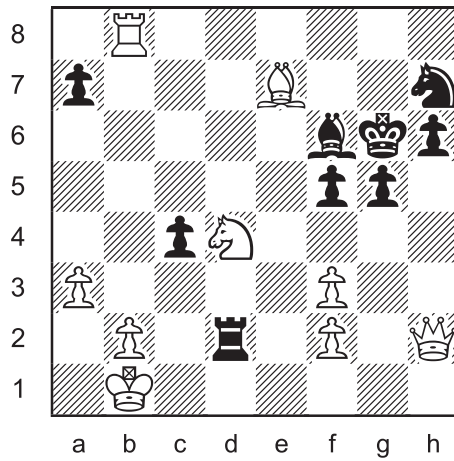
Cycle three pieces so that
Black is in checkmate.

Cyclotron 24



Cycle three pieces so that
Black is in checkmate.

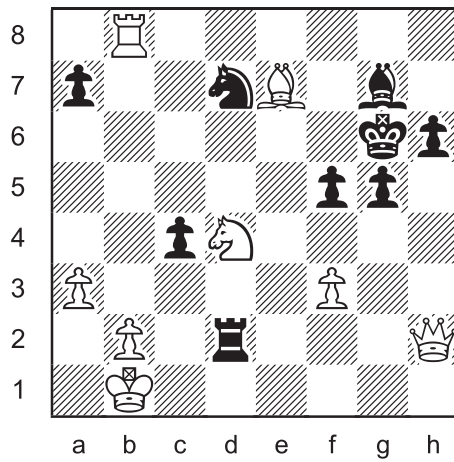
Cyclotron 25



Cycle three pieces so that
Black is in checkmate.

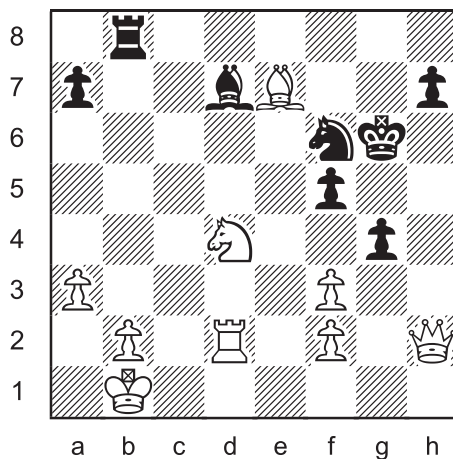
For more cyclotrons with the same “zero position”, see *Gearing Up* (column 89).

Cyclotron 26



Cycle three pieces so that
Black is in checkmate.

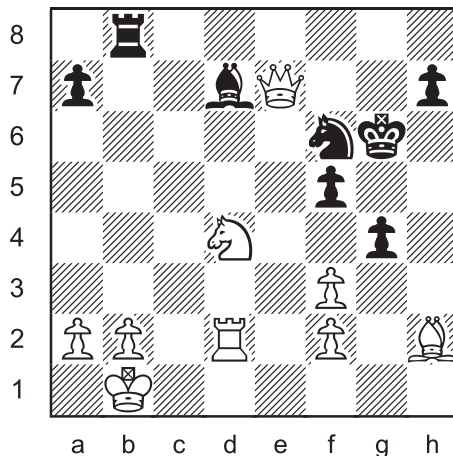
Cyclotron 27



Cycle three pieces so that
Black is in checkmate.

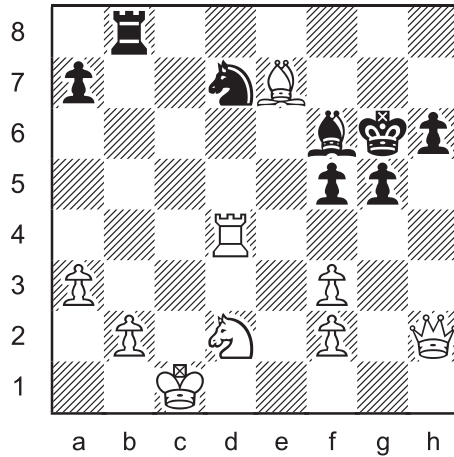


Cyclotron 28



Cycle three pieces so that
Black is in checkmate.

Cyclotron 29



Cycle three pieces so that
Black is in checkmate.

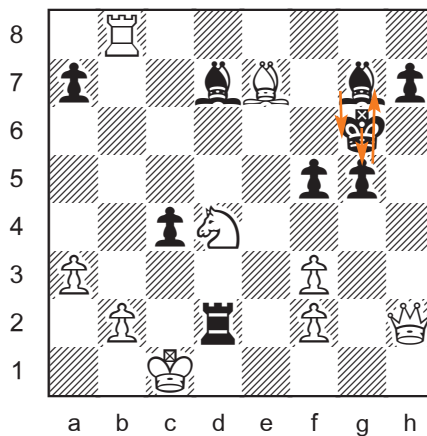
The puzzles in this column are from a set of 21 approximate twins. The final installment of Cyclotronic Overdrive is on its way next month. [... or as it turned out, next year.]

SOLUTIONS

All cyclotrons by J. Coakley. *ChessCafe.com* (2015).

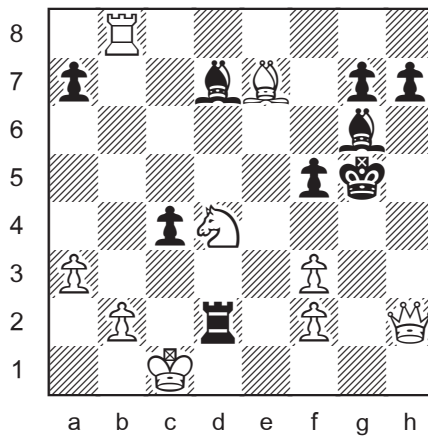
PDF hyperlinks. You can advance to the solution of any puzzle by clicking on the underlined title above the diagram. To return to the puzzle, click on the title above the solution diagram.

Cyclotron 23

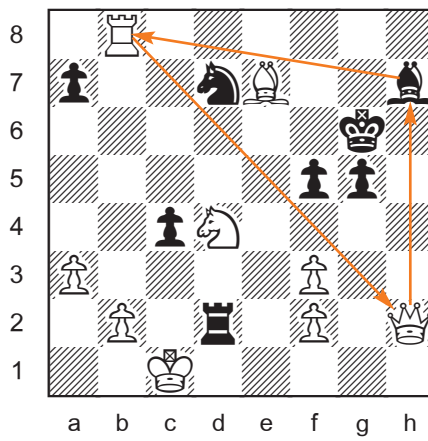


$g5 \rightarrow g7$ $Bg7 \rightarrow g6$ $Kg6 \rightarrow g5$

The diagram below shows the position after the cycling of pieces.

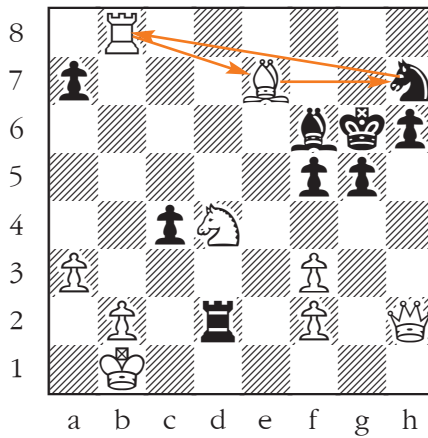


Cyclotron 24



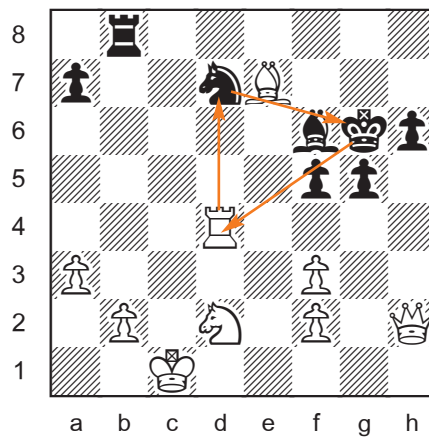
Rb8→h2 Qh2→h7 Bh7→b8

Cyclotron 25



Rb8→e7 Be7→h7 Nh7→b8

Cyclotron 29



Rd4→d7 Nd7→g6 Kg6→d4

Until next time!

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