



THE PUZZLING SIDE OF CHESS

Jeff Coakley

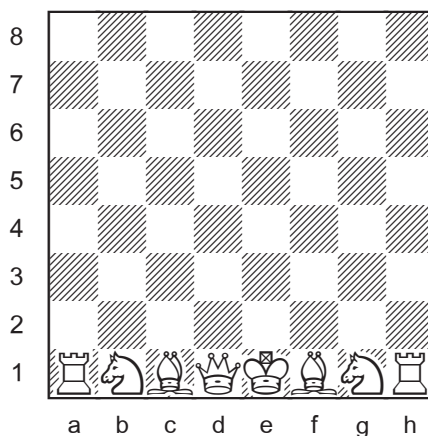
EIGHT OFFICERS: FIRST RANK

number 18

December 1, 2012

In this column we return to a theme from last month and present another set of puzzles involving eight officers.

The *officers* are the “non-pawns”. All of these puzzles begin with the white officers on the first rank in their normal game formation, but without a wall of pawns to limit their mobility.



On the first rank, the eight pieces attack 41 squares, including six that are occupied. There are 23 squares which are not attacked, including a1 and h1. A piece does not attack the square it stands on.

Eight Officers 06a

Rearrange the eight pieces along the first rank so that the most squares are attacked.

Eight Officers 06b

Rearrange the eight pieces along the first rank, with the bishops on opposite-colour squares, so that the fewest squares are attacked.

For problems 1-5, see column 15 in the archives.

Eight Officers 07a

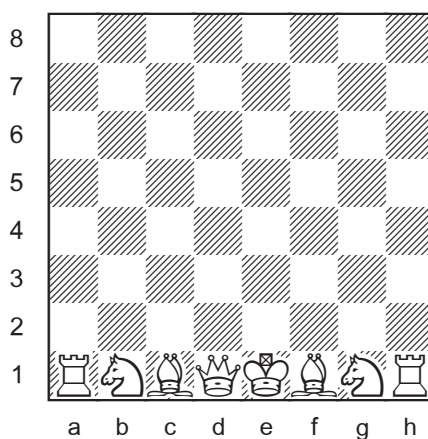
Move each piece once so that the most squares are attacked.

Eight Officers 07b

Move each piece once so that the fewest squares are attacked.



On the first rank, the eight pieces have a total of 51 possible moves. (K3, Q14, R14, B14, N6)



Eight Officers 08a

Move each piece once so that the eight officers have the most possible moves in the resulting position.

Eight Officers 08b

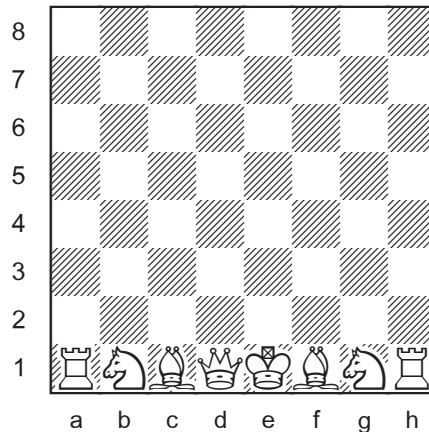
Move each piece once so that the eight officers have the fewest possible moves in the resulting position.

Eight Officers 09

(defensive loop 02)

Move each piece once so that each piece is defended exactly once and each piece defends exactly one other piece.

The defensive chain should form a continuous *loop*. The first piece guards the second piece; the second guards the third; the third guards the fourth; ...; and the eighth guards the first.



In the following three-part puzzle, the black king must be placed on the board so that he is not in check. There are 21 vacant unattacked squares to choose from. On one of those squares, White has mate in one. On ten squares, White has mate in two. On the other ten squares, White has mate in three.

Eight Officers 10a (mate in 1)

Place the black king on the board so that White has mate in one.

The ten squares where White has mate in two can be divided in half. Five of them are on the last rank (part 10b). The other five are more interesting (part 10c).

Eight Officers 10b (mate in 2, back rank)

If the black king is placed anywhere on the back rank (b8, c8, e8, f8, g8), White has mate in two. On four of those squares, White has a choice of first moves. On which square does White have only a single move that forces mate in two? In other words, on which square is the *keymove* unique?

Eight Officers 10c (mate in 2)

On which five squares, not on the back rank or g3, can the black king be placed so that White has mate in two?

On which two squares (of those five) is the *keymove* unique?

On which square (of those five) can White mate in two with a discovered check?

SOLUTIONS

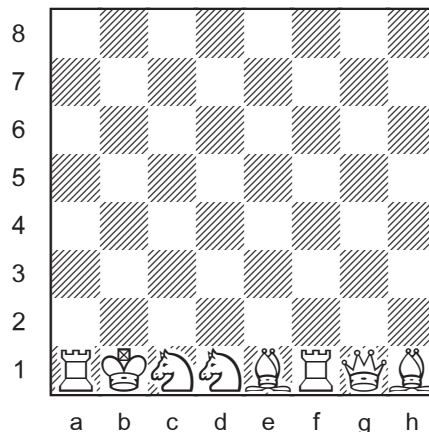
All puzzles by J. Coakley. Numbers 6 and 7 are from *Winning Chess Puzzles For Kids Volume 2* (2010). The others are *ChessCafe.com* originals (2012).

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.

It has not been proven that the solutions given here for puzzles 6, 7, 8 are the maximum or minimum achievable. Can you beat the current records?

Eight Officers 06a

(most squares attacked)

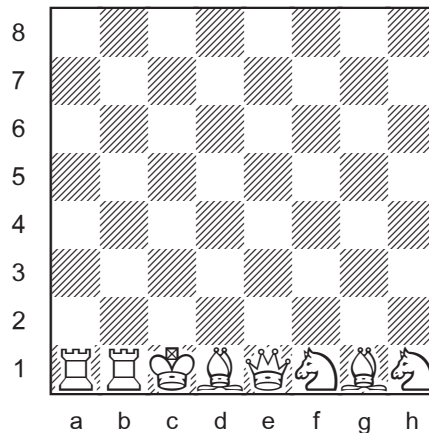


46 squares are attacked.

The only unattacked square on the first rank is d1.

Eight Officers 06b

(fewest squares attacked)



38 squares are attacked.

The unattacked squares on the first rank are e1, g1, h1. In both parts of this puzzle, the pieces could be placed in the reverse order.

With bishops on the same colour, the number of attacked squares can be reduced to 36, as shown by Romanian composer Octavian Laiu.

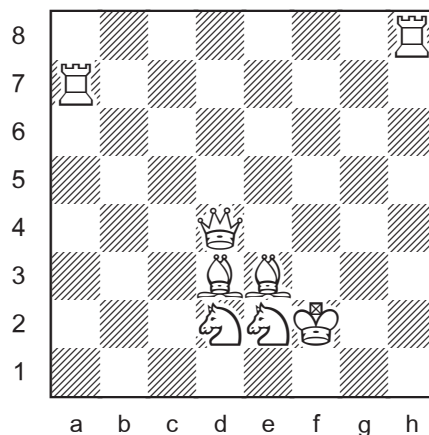
Ra1 Kb1 Qc1 Nd1 Be1 Nf1 Bg1 Rh1

Ra1 Rb1 Kc1 Qd1 Ne1 Bf1 Ng1 Bh1

[The original column gave Ra1 Nb1 Qc1 Nd1 Be1 Kf1 Bg1 Rh1 with bishops on the same colour and 37 squares attacked.]

Eight Officers 07a

(most squares attacked)



1.Ra7 2.Rh8 3.Qd4 4.Bd3 5.Be3 6.Nd2 7.Ne2 8.Kf2

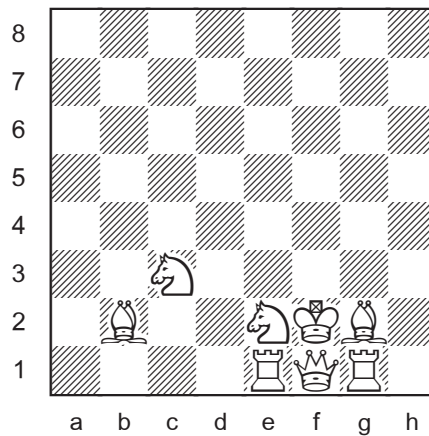
61 squares are attacked.

The only unattacked squares are c1, d1, e6.

Another position with 61 attacked squares is 1.Ra7 2.Rh8 3.Qd4 4.Bd3 5.Bb2 6.Nd2 7.Nf3 8.Kf2.

Eight Officers 07b

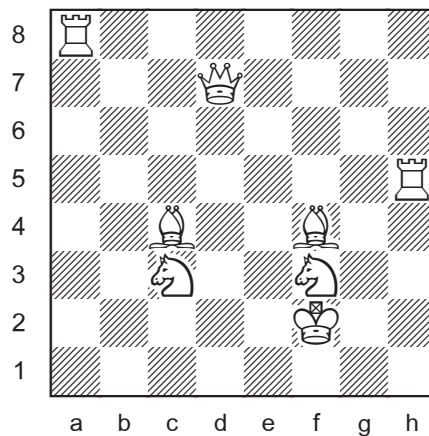
(fewest squares attacked)



1.Bb2 2.Bg2 3.Nc3 4.Ne2 5.Kf2 6.Qf1 7.Re1 8.Rg1
27 squares are attacked.

Eight Officers 08a

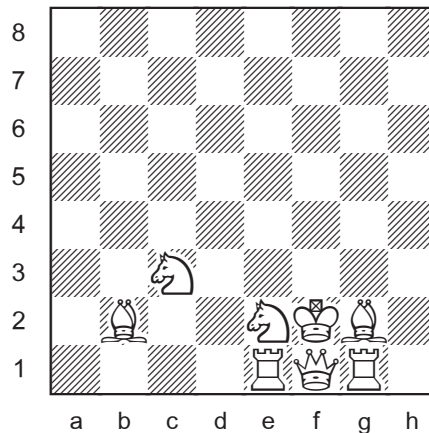
(most moves)



1.Ra8 2.Nc3 3.Bf4 4.Qd7 5.Kf2 6.Bc4 7.Nf3 8.Rh5
The pieces have **96** possible moves.
(K7, Q23, R28, B22, N16)

Eight Officers 08b

(fewest moves)



1.Bb2 2.Bg2 3.Nc3 4.Ne2 5.Kf2 6.Qf1 7.Re1 8.Rg1

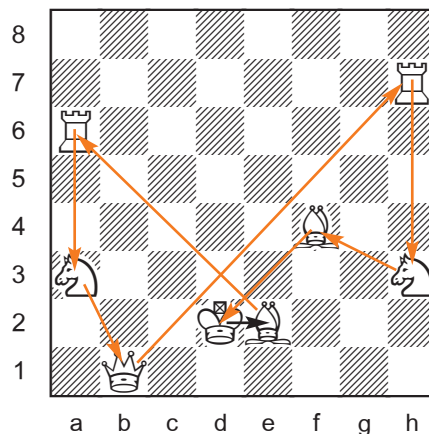
The pieces have **30** possible moves.

(K3, Q0, R5, B11, N11)

Yes, it is the same position as puzzle 07b.

Eight Officers 09

(defensive loop 02)



1.Ra6 2.Rh7 3.Na3 4.Nh3 5.Bf4 6.Be2 7.Qb1 8.Kd2

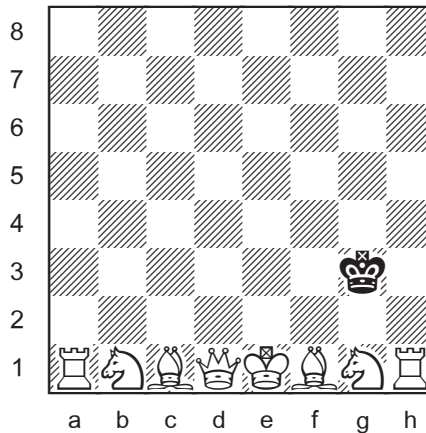
A “reflected” alternative is 1.Ra7 2.Rh6 3.Na3 4.Nh3 5.Bd2 6.Bc4 7.Ke2 8.Qg1. I would be interested to know if anyone finds a different solution.

Bonus: **Eight Officers 09b**

Make four moves so that no piece is attacked by another.

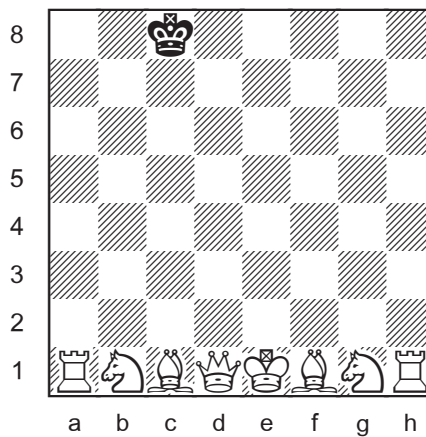
There are many solutions to this simple puzzle, but all involve moving the queen, king’s bishop, and both rooks. For example, Qd6 Bc4 Ra7 Rh8.

Eight Officers 10a (mate in 1)



With the black king on g3, White has three mates in 1.
1.Ra3#, 1.Qf3#, 1.Rh3#

Eight Officers 10b (mate in 2, back rank)



With the black king on c8, there is a unique dual-free solution.
1.Rh7 Kb8 2.Qd8#

With the black king on b8.

1.Qd8+ Kb7 2.Bg2#

1.Rh7 Kb8 2.Qd8#

With the black king on e8.

1.Ra7 Kf8 2.Qd8# (or 2.Rh8#)

1.Rh7 Kf8 2.Qd8# (or 2.Ra8#)

With the black king on f8.

1.Ra7 Ke8 2.Rh8# (or 1...Kg8 2.Qd8#)

1.Qd7 Kg8 2.Ra8#

With the black king on g8.

1.Ra7 Kf8 2.Qd8# (or 2.Rh8#)

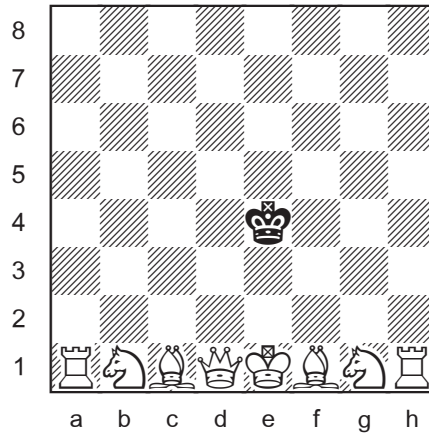
1.Qd7 Kf8 2.Ra8# (or 2.Rh8#)

Eight Officers 10c (mate in 2)

The five squares are b4, b7, c5, e4, f5.

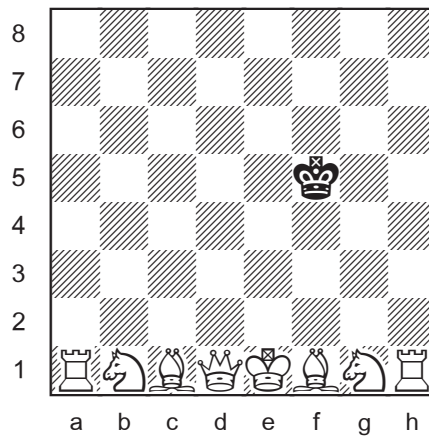
There is a unique keymove for e4 and f5.

On b4, there is a mate by discovered check.



With the black king on e4, the unique keymove is 1.Qh5.

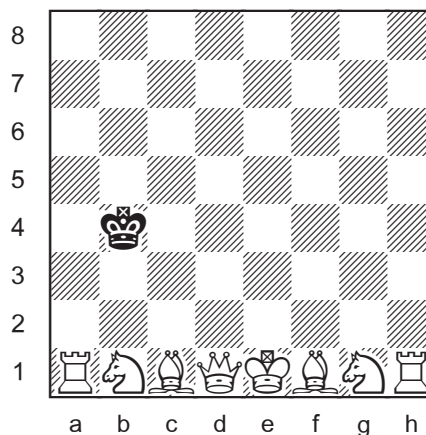
1...Kd4 2.Ra4# (or 2.Rh4#)



With the black king on f5, the unique keymove is 1.Qd6.

1...Ke4 2.Bd3#

1...Kg4 2.Qf4# (or 2.Qg6#)



With the black king on b4, there are five keymoves.

1.Ba3+ leads to mate by discovered check. 1...Ka5 2.Bc5#

1.Bf4 Kc5 2.Qd6#

1.Ra6 Kc5 2.Qd6# (or 2.Ba3#)

1.Rh6 Kc5 2.Qd6# (or 2.Ba3#)

1.Qd4+ Kb3 2.Qa4# (or 2.Qb2# or 2.Qc3# or 2.Qc4#)

With the black king on b7.

1.Qd6 Kc8 2.Ba6#

1.Qd7+ Kb6 2.Be3# (1...Kb8 2.Rh8# or 2.Bf4#)

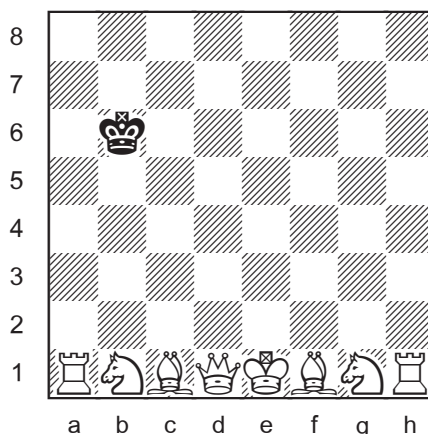
With the black king on c5.

1.Ra6 Kb4 2.Ba3#

1.Qd7 Kb4 2.Qb5# (1...Kb6 2.Be3#)

Bonus: **Eight Officers 10d**

With the black king on b6, find twelve different keymoves that mate in 3.



White can mate in three with 1.Qc2, 1.Qd5 1.Qd6+, 1.Qd7, 1.Qd8+, 1.Ra6+, 1.Rh3, 1.Rh4, 1.Rh6+, 1.Rh7, 1.Be3+, or 1.Bf4. A lengthy exercise in analysis that will surely exceed the patience and curiosity of most earthlings.

Until next time!

© Jeff Coakley 2012. Illustrations by Antoine Duff. All rights reserved.