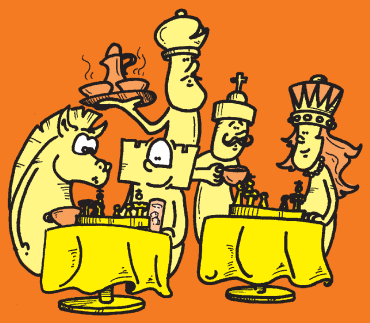


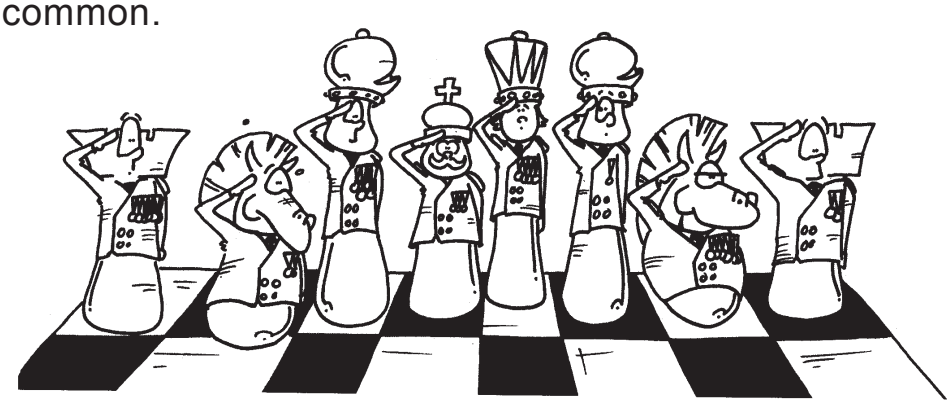
THE PUZZLING SIDE OF CHESS

Jeff Coakley

REBUS PIECES part 1

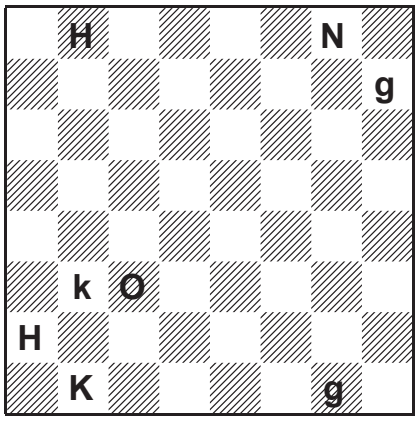
number 234 April 24, 2024

This column is the first in a series about the kind of pieces used in rebuses. The majority of rebuses include all 6 piece-types. There are also many problems with 5 piece-types in which the unused piece is either a queen or a pawn. Other 5-piece groupings are possible, but far less common.



Rebus 107

"*Hong Kong*"



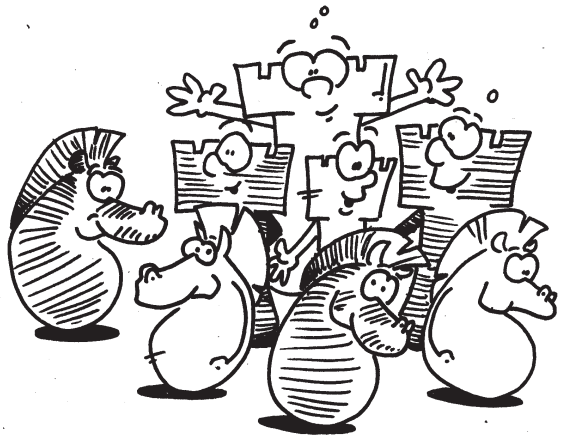
Each letter represents a different type of piece.
Uppercase is one colour, lowercase is the other.
Determine the position and the last move.

Since we began our collaboration in 2016, Andrey Frolkin and I have published 259 chess rebuses. Here is a breakdown by piece-type.

6 piece-types		
171	KQRBNP	
5 piece-types		
24	KRBNp	-Q
17	KQRBN	-P
3	KQRNP	-B
1	KQRBP	-N
0	KQBNP	-R

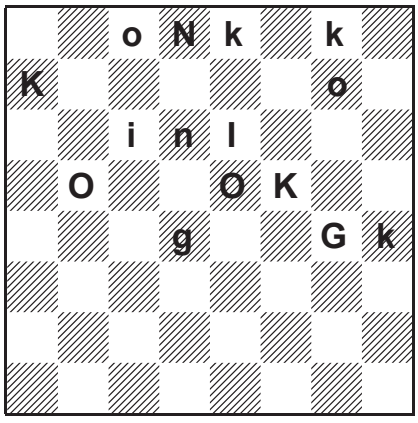
4 piece-types		
9	KRBN	-Qp
3	KRNP	-QB
3	KRBP	-QN
2	KBNP	-QR
1	KQRB	-NP
0	others	
≤ 3 piece-types		25

The previous problem, a 5-piecer without bishops, was first published in 2017. It is the rebus record for fewest pieces with an *en passant* capture. Guess which pieces will be left out in the next two puzzles?



Rebus 108

"*King Kong*"

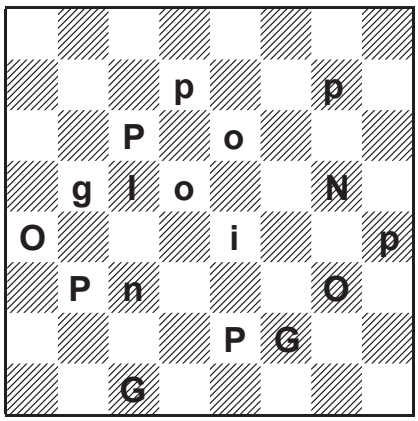


Each letter represents a different type of piece.
Uppercase is one colour, lowercase is the other.
Determine the position and, if possible, the last move.

(*The letter on e6 is a capital i, not a small L.*)

Rebus 109

"*ping pong*"



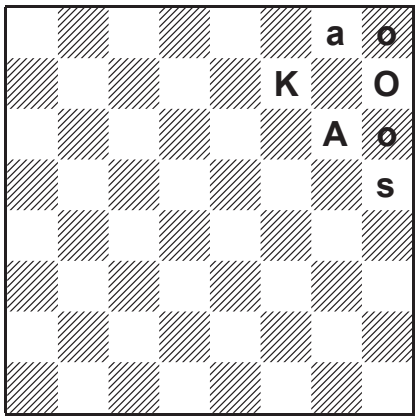
Each letter represents a different type of piece.
Uppercase is one colour, lowercase is the other.
Determine the position and, if possible, the last move.
(*The letter on c5 is a capital i, not a small L.*)

That concludes our coverage of 5-piece rebuses. The following four problems have 4 pieces without any queens. Each position is also missing one other type of piece. Part 2 in this series will cover 4-piece rebuses that include queens.

Have you tuned into radio KAOS?

Rebus 110

"*KAOS*"

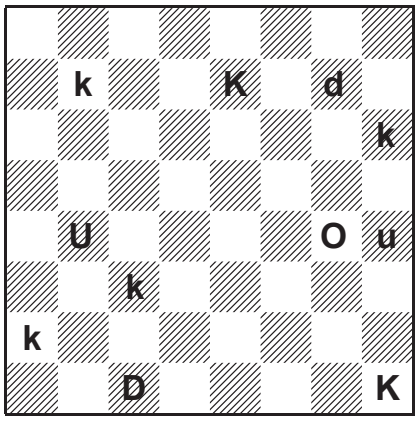


Each letter represents a different type of piece.
Uppercase is one colour, lowercase is the other.
Determine the position and, if possible, the last move.

The following rebus is a bit tougher to solve. An expanded version with 6 pieces is also given after the solution. As you may know, increasing the complexity of a problem from a simpler setting by adding more pieces is a typical compositional trick.

Rebus 111

"*kudo*"

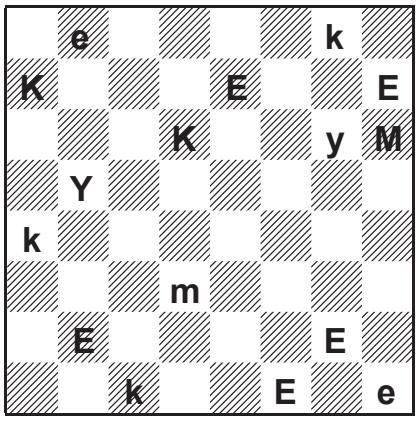


Each letter represents a different type of piece.
Uppercase is one colour, lowercase is the other.
Determine the position and, if possible, the last move.

The final two rebuses are especially challenging. Kudos to those who solve them. They were both published previously in 2016. The first is from a Jubilee Tourney dedicated to German composer Werner Keym, a leading authority on retro chess problems. See column 191.

Rebus 112

"*My Key & Me*"



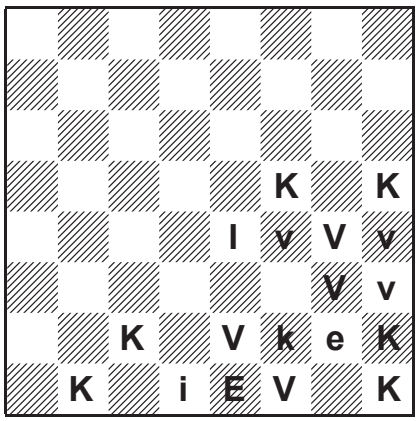
Each letter represents a different type of piece.
Uppercase is one colour, lowercase is the other.
Determine the position and the last 6 moves.

The following rebus is named for Andrey Frolkin's hometown. Perhaps the trickiest thing in solving this problem is the assignment of colours.

As we all know, life in Kiev during these troubled times is difficult and disheartening. Hopefully peace and prosperity will somehow soon return.

Rebus 113

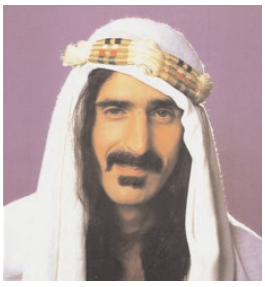
"*Kiev*"



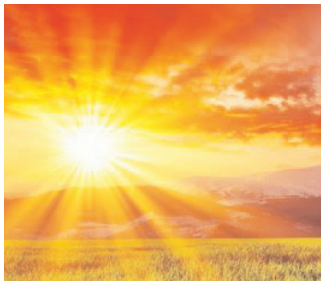
Each letter represents a different type of piece.
Uppercase is one colour, lowercase is the other.
Determine the position and, if possible, the last 3 moves.
(*The letter on e4 is a capital i, not a small L.*)

To finish the column and fill some empty space, here's one more puzzle for any fans of picture rebuses who may be reading.

Riddle: "*Why did the female employee work from home?*"





SOLUTIONS

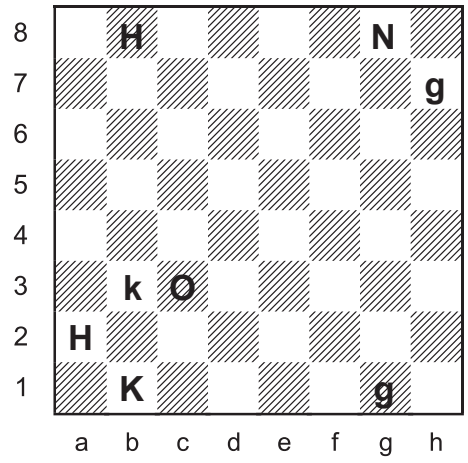
All chess rebuses are joint compositions by Andrey Frolkin and Jeff Coakley. Rebuses 107,112,113 were published previously as noted. The others are *Puzzling Side of Chess* (2024).

Archives. Past columns are available in the *Puzzling Side* archives.

Rebus 107

Andrey Frolkin & Jeff Coakley

Chessproblems.ca Bulletin issue 11, April 2017

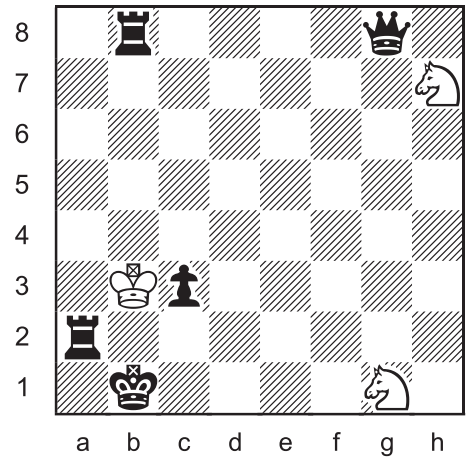


"*Hong Kong*"

H = rook
K = king
O = pawn
N = queen
G = knight

caps = black

last move:
1...b4xc3 e.p.++



(3 + 5)

Five piece-types with missing bishops.

K = ♔ Letter with one uppercase, one lowercase.

GHN ≠ ♗ On 1st or 8th rank.

G = ♘ G ≠ ♕ Impossible double check (g1 h7).
G ≠ ♗ Impossible check (h7).
G ≠ ♖ If G = ♖ Check (g1).
HN = (♕♗♘) One will be queen or bishop.
Both kings in check (a2 or g8).

H = ♖ H ≠ ♕ Impossible double check (a2 b8).
H ≠ ♗ Impossible check (a2).

The king on b3 is in check by the rook on b8.

N = (♕♗) Double check (g8).

Last move: **1...b4xc3 e.p.**++ An *en passant* capture by a black pawn is the only way to explain the double check.

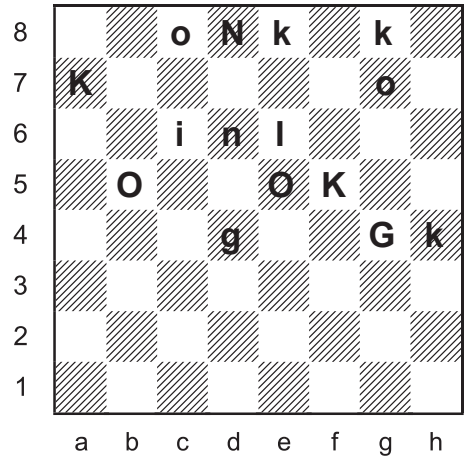
O = ♙ caps = black

N = ♕ N ≠ ♗ On Black's previous turn, before 1.c2-c4 b4xc3+, a bishop check from g8 is impossible.

Rebus record for fewest pieces (8) with last move *en passant*.

Rebus 108

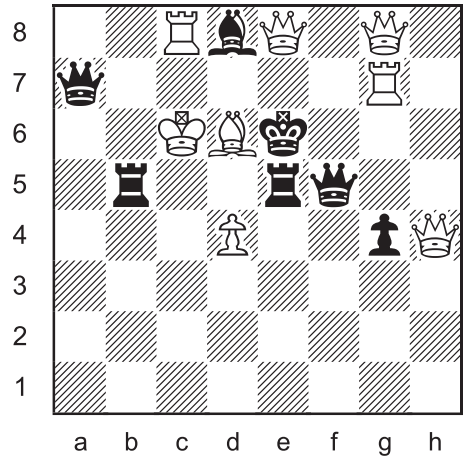
"*King Kong*"



K = queen
I = king
N = bishop
G = pawn
O = rook

caps = black

last move:
1.f7xe8=Q++



(8 + 7)

Five piece-types with missing knights.

♔ = (GIN) Letters with one uppercase, one lowercase.

KNO ≠ ♙ On 8th rank.

G ≠ ♔ If G = ♔ Check by letter O (♕/♖g7, ♗e5, or ♘b5).
Check by letter K (♕/♖h4, ♗a7, or ♘f5).
Impossible multiple checks.

N ≠ ♔ If N = ♔ Check by letter O (♕/♖c8, ♗e5, or ♘b5).
Check by letter K (♕/♖e8, ♗h4, or ♘f5).
Impossible multiple checks.

I = ♔ I am king.

O = ♖ O ≠ ♕♗ Both kings in check (b5 c8).
O ≠ ♘ Both kings in check (e5 g7).

K = (♕♗) K ≠ ♘ Impossible check (a7).

The king on e6 is in check by a queen or bishop on g8.

N = ♗ N ≠ ♕ Impossible double check (d6).
N ≠ ♘ Both kings in check (d8).

K = ♕ Double check by two queens (e8 g8).

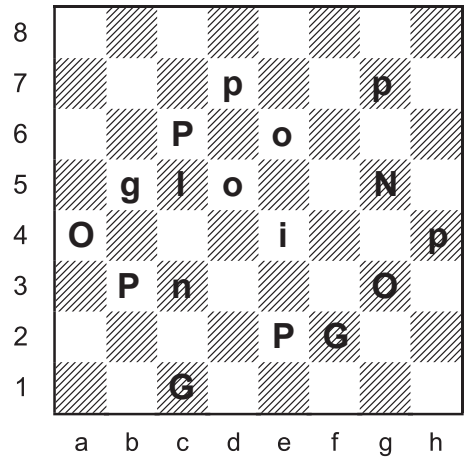
Last move: 1.f7xe8=Q++ The type of piece captured is unknown.

caps = black Lowercase promotion on 8th rank.

G = ♙ G ≠ ♘ Triple check (d4).

Rebus 109

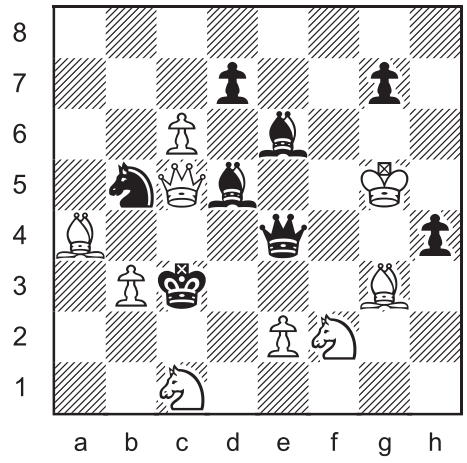
"ping pong"



P = pawn
I = queen
N = king
G = knight
O = bishop

caps = white

last move:
1.Q>c5+



(9 + 8)

Five piece-types with missing rooks.

♔ = (IN) Letters with one uppercase, one lowercase.

If I = ♔

O ≠ ♕♖ Both kings in check (a4 d5).

O ≠ ♘ Both kings in check (e6 g3).

O ≠ ♗ If O = ♗

GNP = (♕♖♗♘) Impossible double check.

One of these three letters will be a queen or rook and give <u>check</u> on a rank or file (b5, c3, or e2).

Regardless of piece assignment, a double check by queen and rook is impossible. So either queen or rook will not be assigned. Which means that <u>knight</u> and bishop must be assigned.

G ≠ ♘ Impossible second check (f2).

N ≠ ♘ Impossible second check (g5).

P ≠ ♘ Impossible second check (d7).

♘ = Ø? No letter can be knight.

So O ≠ ♗

O = ♝

G ≠ ♗ On 1st rank.

G = (♕♖♘) <u>Check</u> by letter G (♕/♖b5 or ♘f2).

N = ♗ N ≠ ♕♖ Impossible second check (c3).

N ≠ ♘ Impossible second check (g5).

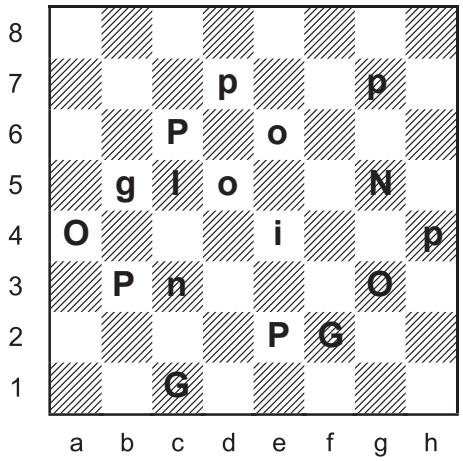
P ≠ ♕♖ Impossible second check (e2).

P ≠ ♘ Impossible second check (d7).

P = Ø? Impossible to assign a piece to letter P.

Thus, I ≠ ♔.

Rebus 109 *continued*



N = ♔

P ≠ ♕♖ Both kings in check (b3 g7).

P ≠ ♗ Impossible check (h4).

P = (♘♙)

O ≠ ♕♖ Both kings in check (d5 g3).

O ≠ ♘ Both kings in check (a4 e6).

O ≠ ♙ If O = ♙

P = ♘ Check (e2).

I = ♗ I ≠ ♕♖ Both kings in check (c5).

G ≠ ♕♖ Both kings in check (c1).

G = Ø? Impossible to assign a piece to letter G.

O = ♗

P = ♙ If P = ♘ Check (e2).

G ≠ ♕♖ Both kings in check (c1).

G ≠ ♙ On 1st rank.

G = Ø? Impossible to assign a piece to letter G.

G I = (♕♖♘)

G = ♘ If G = ♕♖ Check (c1).

I ≠ ♕♖ Impossible double check (c5).

I ≠ ♘ Both kings in check (e4).

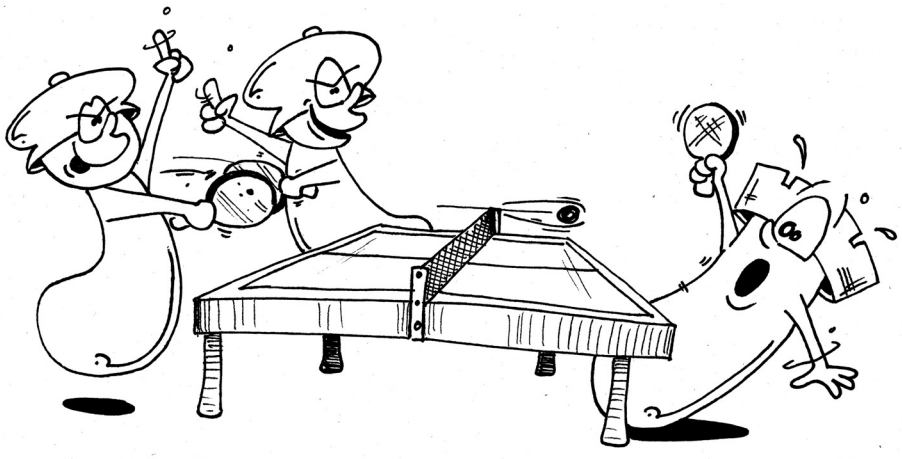
I = Ø? Impossible to assign a piece to letter I.

G I = (♕♖) The king on c3 is in check by the queen or rook on c5.

caps = black Both kings would be in check with a white pawn on h4.

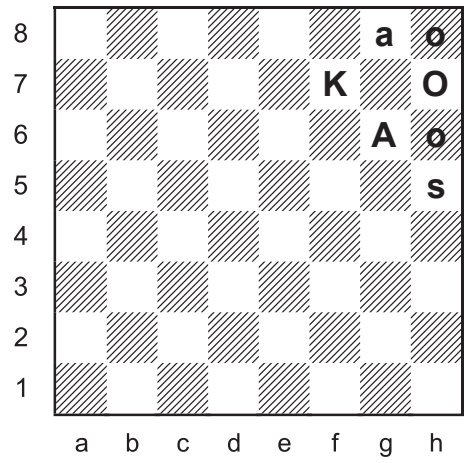
I = ♕ I ≠ ♖ Impossible check (c5). No last move.

Last move: **1.Q>c5+** This move may or may not have been a capture. The departure square is unknown.



Rebus 110

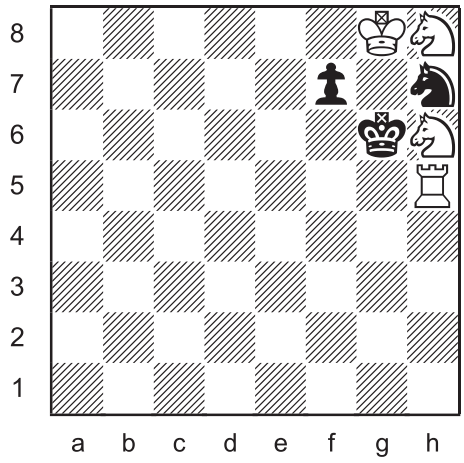
"KAOS"



K = pawn
A = king
O = knight
S = rook

caps = black

last move:
1.g7xh8=N+



(4 + 3)

Four piece-types with missing queens and bishops.

A = ♔ Letter with one uppercase, one lowercase.

O = ♘ O ≠ ♙ On 8th rank.
O ≠ ♖ Impossible check (h6).
O ≠ ♗ Impossible check (h7).
O ≠ ♕ Both kings in check (h6 h7). Impossible check (h7).

The king on g6 is in <u>check</u> by the knight on h8.

Last move: **1.g7xh8=N+** The type of piece captured is unknown.

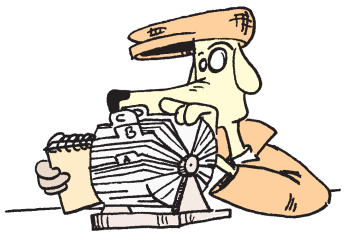
caps = black Lowercase promotion on 8th rank.

S = ♖ S ≠ ♕♗ Impossible double check (h5).
S ≠ ♙ Impossible double check (white pawn h5).

K = ♙ K ≠ ♕♗ Both kings in check (f7).

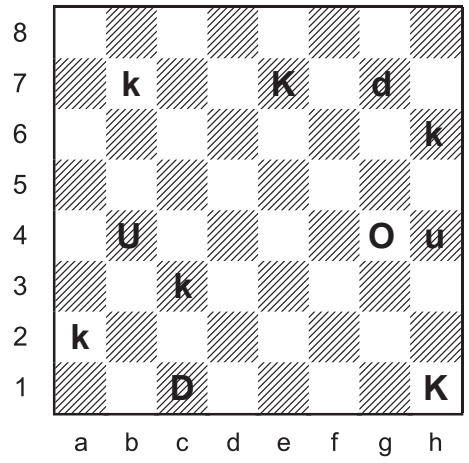
This problem ties the record for fewest pieces (7) in a rebus with four letters. For a summary and examples of other minimalist records, see the ChessProblems.ca *Bulletin*, issue 11, April 2017.

If you are looking for more chess rebuses, check out the *rebus index* in the appendix to column 188. It lists numerous articles and over 250 problems, most of which are readily available online.



Rebus 111

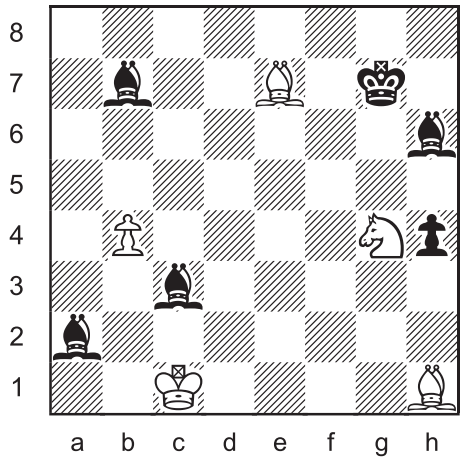
"kudo"



K = bishop
U = pawn
D = king
O = knight

caps = white

last move:
1...g5xh4+



(5 + 6)

Four piece-types with missing queens and rooks.

♔ = (DU) Letters with one uppercase, one lowercase.

D = ♔ If U = ♔
- K ≠ ♙ On 1st rank.
- K ≠ ♕♖ Both kings in check (b7 h1).
- K ≠ ♗ Both kings in check (c3 e7).
- K ≠ ♘ Impossible check (a2).
- K = Ø? Impossible to assign a piece to letter K.

So U ≠ ♔.

K = ♗
- K ≠ ♙ On 1st rank.
- K ≠ ♕♖ Both kings in check (c3 e7).
- K ≠ ♘ Impossible check (a2).

The king on c1 is in <u>check</u> by the bishop on h6.

Last move: **1...g5xh4+** Only way to explain the bishop check.
The type of piece captured is unknown.

U = ♙

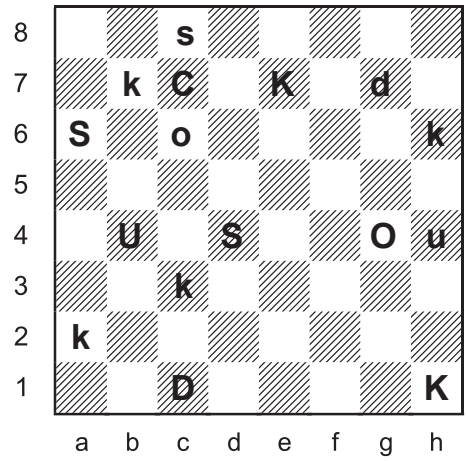
caps = white

O = ♘ O ≠ ♕♖ Both kings in check (g5).

An expanded version of this problem with all six piece-types is given on the next page.

Rebus 111 b

"odd ducks"



Same position with letters D and S added.

♔ = (DUO)

O ≠ ♔ If O = ♔

S ≠ ♙ On 8th rank.

Check by letter S (♕/♖a6, ♗c8, or ♘d4).

K = ♕ S ≠ ♕ Both kings in check (a6 c8).

CDU ≠ ♕ Impossible second check.

The king on c6 is in check by the queen on h1.

S = ♘ Last move: Nf3-d4+. Only possible double check.

CDU = (♖♗♙)

C ≠ ♖ Triple check (c7).

D ≠ ♖ Three checks (g7). Both kings in check.

U ≠ ♖ Three checks (h4). Both kings in check.

♖ = Ø? No letter can be rook.

The analysis for letters DKOU and colours is the same as before.

D = ♔

K = ♗

U = ♙

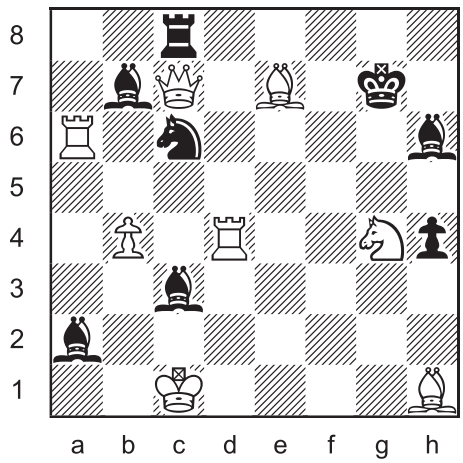
O = ♘

Last move: **1...g5xh4+**

caps = white

S = ♖ S ≠ ♕ Both kings in check (d4).

C = ♕

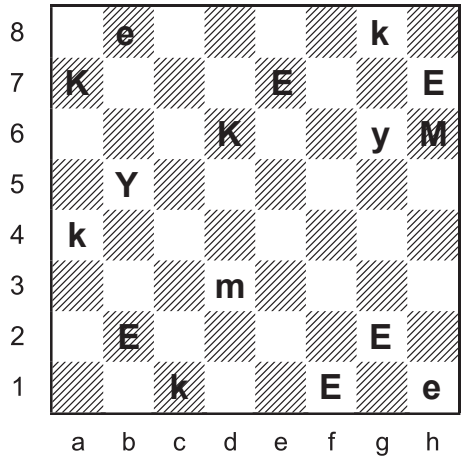


Rebus 112

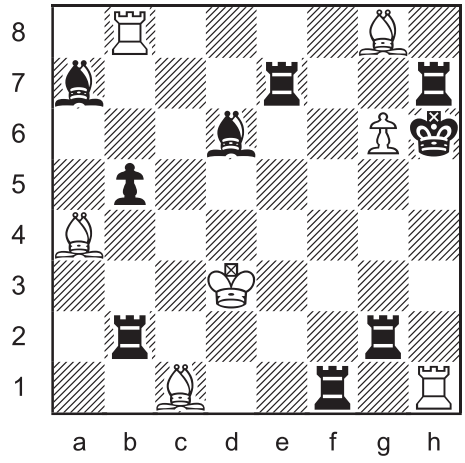
Andrey Frolkin & Jeff Coakley

Keym Jubilee Tourney 2016

"*My Key & Me*"



K = bishop
E = rook
Y = pawn
M = king
caps = black

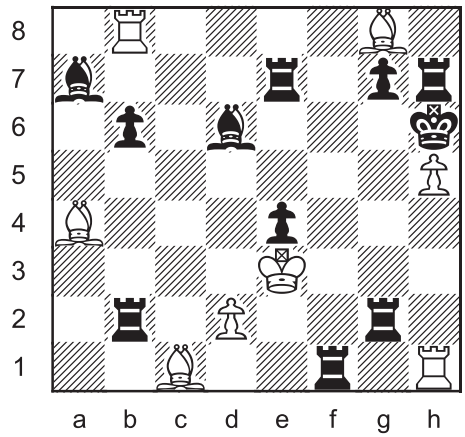


solution

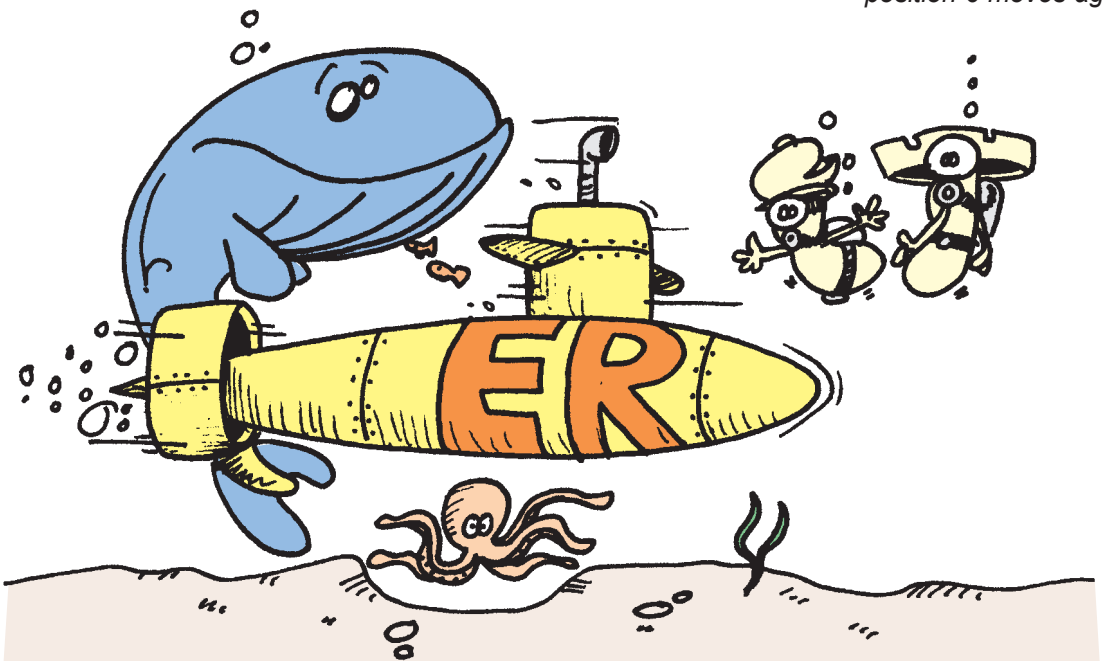
In retro notation, the last six moves were -1.h5xg6 e.p.++ g7-g5 -2.Ke3xd3+ e4xd3 e.p.++ -3.d2-d4 b6-b5+.

If you prefer a forward thinking approach, the moves from the position six turns ago, shown at right, were 1...b5+ 2.d4 exd3 e.p.++ 3.Kxd3+ g5 4.hxg6 e.p.++.

Any way you look at it, we have six exactly determined last moves with two *en passant* captures, one by each side.

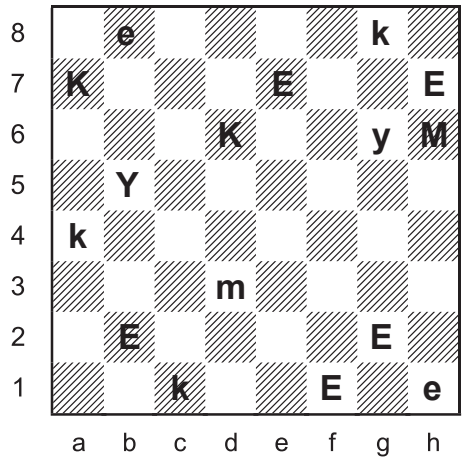


position 6 moves ago



Sub ER. Exploring the depths of reverse logic.

Rebus 112 *continued*



Four piece-types with missing queens and knights.

♔ = (MY) Letters with one uppercase, one lowercase.

EK ≠ ♙ On 1st and 8th ranks.

M = ♔ If Y = ♔

E = ♘ E ≠ ♕♖ Both kings in check (b8 g2).

E ≠ ♗ Impossible check (h7).

The king on g6 is in <u>check</u> from the knight on e7.

K ≠ ♕♗ Both kings in check (a4).

K ≠ ♖ Impossible double check (d6).

K = Ø? No piece can be assigned to letter K.

So Y ≠ ♔

E ≠ ♕ Both kings in check (f1 h1).

K ≠ ♕ Both kings in check (c1 d6).

EK = (♖♗♘)

One king (d3 or h6) is in <u>check</u> by E. (♖h1+, ♗f1+, or ♘b2+)

One king (d3 or h6) is in <u>check</u> by K. (♖d6+, ♗c1+, or ♘g8+)

So there is necessarily a double check. The only way to assign pieces and colours for a legal double check is:

E = ♖

K = ♗

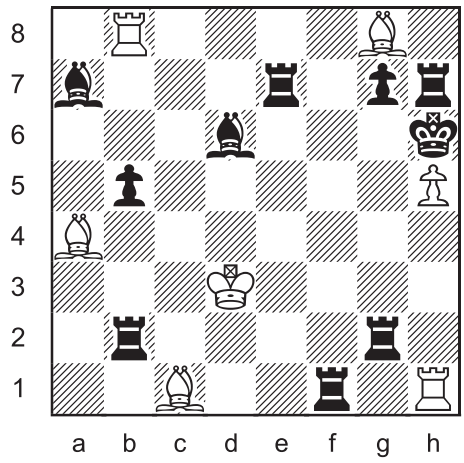
Y = ♙

Last move: **1.h5xg6 e.p.++**

caps = black

continued next page

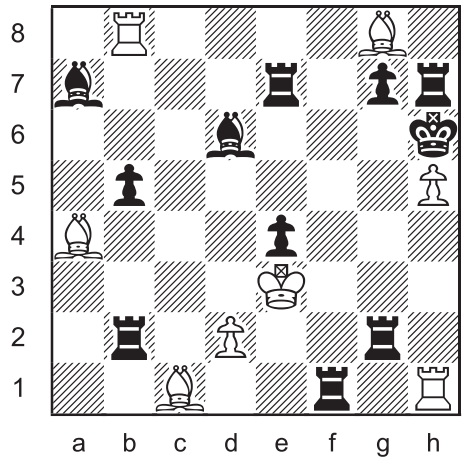
Rebus 112 *continued*



position 2 moves ago

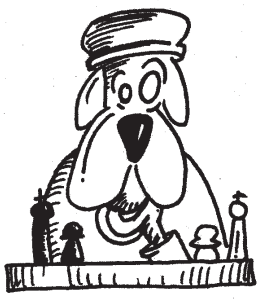
Before -1.h5xg6 e.p.++ g7-g5, the black king was in check from the white bishop on c1. This could only occur by the discovered check -2.Ke3>d3+. Before that move, the white king on e3 was in double check from the bishop on a7 and rook on e7. That could only happen by the en passant capture -2...e4xd3 e.p.++. Which means that the white king captured a pawn on d3.

So the previous moves were -2.Ke3xd3+ e4xd3 e.p.++ -3. d2-d4.



position 5 moves ago

At this point in reverse time, the white king is in check by the black bishop on a7. The previous move had to be -3...b6-b5+.

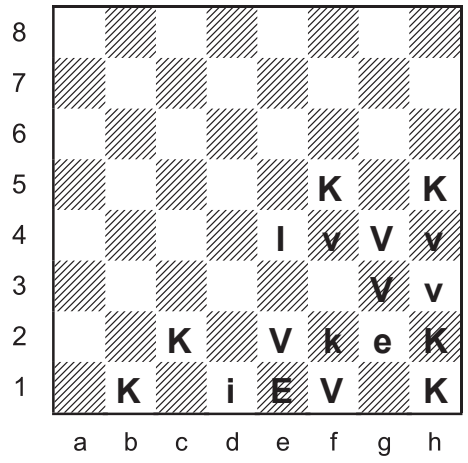


Rebus 113

Andrey Frolkin & Jeff Coakley

Chessproblems.ca Bulletin issue 9, August 2016

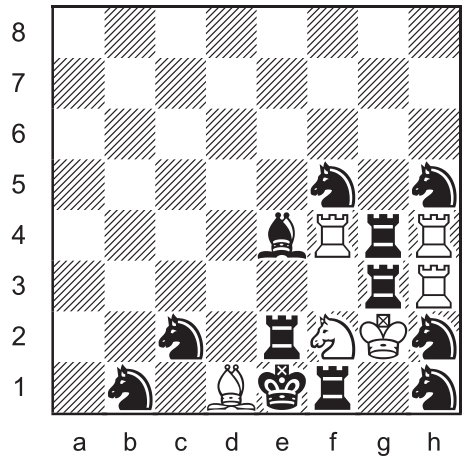
"*Kiev*"



K = knight
I = bishop
E = king
V = rook

caps = black

last moves:
-1...Rf3xg3++
-2.Kg1-g2
-2...g2xf1=R+



(6 + 12)

Four piece-types with missing queens and pawns.

♔ = (IE) Letters with one uppercase, one lowercase.

KIEV ≠ ♙ On 1st rank.

E = ♔ If I = ♔

KEV = (♖♗♘) K ≠ ♕ Impossible double check (b1 c2).

E ≠ ♕ Both kings in check (e1 g2).

V ≠ ♕ Both kings in check (e2 f4).

E ≠ ♖ If E = ♖ <u>Check</u> (e1).

K ≠ ♗ Impossible double check (c2).

K ≠ ♘ Both kings in check (f2).

K = Ø? No piece can be assigned to letter K.

E ≠ ♗ If E = ♗ <u>Check</u> (g2).

K ≠ ♖ Both kings in check (b1).

K ≠ ♘ Impossible double check (f2).

K = Ø? No piece can be assigned to letter K.

E ≠ ♘ If E = ♘ Impossible checks by rook and bishop.

KV = (♖♗)?

If K = ♖ and V = ♗

Impossible double check (b1 e2).

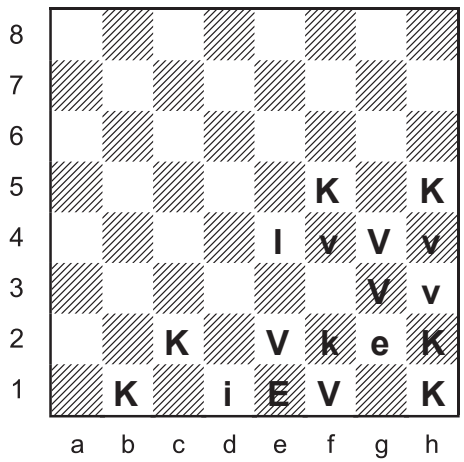
If K = ♗ and V = ♖

Both kings in check (c2 f4).

E = Ø? No piece can be assigned to letter E.

So I ≠ ♔

Rebus 113 *continued*



E = ♔

KIV = (♖♗♘)

K ≠ ♕ Three checks (f2 h1 h2).

I ≠ ♕ Both kings in check (d1 e4).

V ≠ ♕ Impossible double check (f1 g3).

K = ♘ K ≠ ♖ Impossible check (h2).

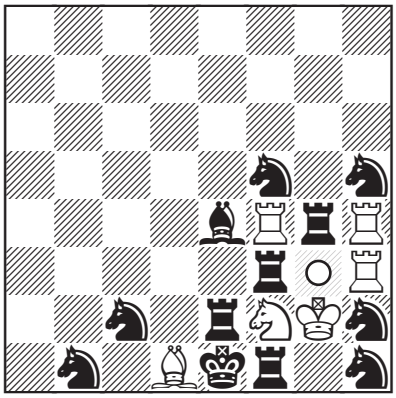
K ≠ ♗ Impossible check (h1). Also both kings in check.

V = ♖ V ≠ ♗ Impossible check (f1).

I = ♗

The king on g2 is in <u>double check</u> by a rook on g3 and a bishop on e4.

Last move: Rf3xg3++. This move had to be a capture.Otherwise the king on g2 would already have been in check by the rook on g4. The type of piece captured cannot be determined.



We still do not know the colours of the pieces. But for the sake of clarity, here is a diagram showing the position one move ago with caps = black. The white circle on g3 is an unknown type of white piece.

Now consider White's previous move.

It was not by a rook because they have zero reverse mobility.

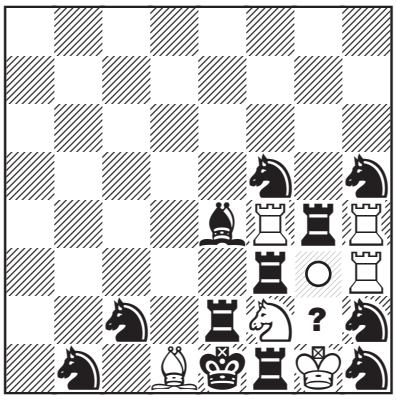
It was not by the bishop because it also has no mobility. And even if colours are reversed, the promotion ...d2-d1=B+ is impossible because a black pawn on d2 would already be checking a white king on e1.

It was not by the knight to f2 because it could only have moved there from d3 where it would be checking the black king. *It cannot be White's turn if Black is in check*.

It was not by the piece on g3 because regardless of piece-type, it had nowhere to move from.

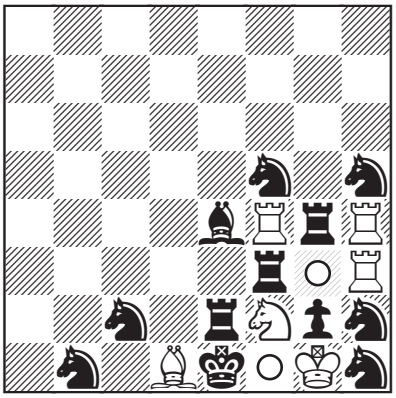
Therefore the last move had to be Kg1>g2. Was it a capture or not?

Rebus 113 *continued*



Colour assignment is still undecided. This diagram shows the position before Kg1-g2 with caps = black. The type of white piece on g3 is unknown and there may or may not be a black piece on g2.

The king on g1 is in check by the rook on f1. This could only occur by the promotion of a black pawn with...g2xf1=R+. Which means that caps are in fact black and that the white king did not capture on g2.



Here is the position three moves ago. The type of white pieces on g3 and f1 are not known. Though the piece on f1 could only be a bishop or knight.The moves going forward were 1...gxf1=R+ 2.Kg2 Rxg3++.

Colouring of the pieces was determined at a retrodepth of 3 plies.

REBUS page 5

"*Why did the female employee work from home?*"

"*She can't make it in person.*"

shiek-ant-Mae-kit-N-purse-sun

Shiek Yerbouti and *Mae West*

Until next time!