



THE PUZZLING SIDE OF CHESS

Jeff Coakley

REBUS UPLOAD 04

number 215

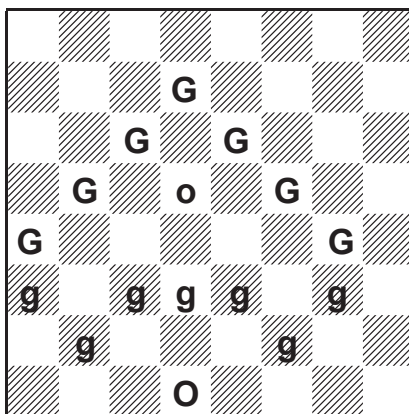
September 29, 2022

Welcome aboard the RE-bus! Have you taken a tour with us before? There are four puzzles on this month's itinerary. Easy, medium, hard, and mind-boggling. Are you ready to go?



Rebus 85

"Go-Go"

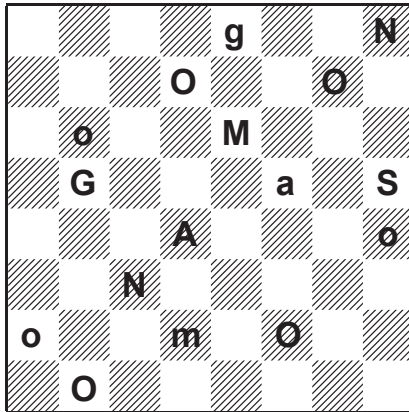


Each letter represents a different type of piece.
Uppercase is one colour, lowercase is the other.
Determine the position.

The second stop on our grand excursion is a tropical grove of mangos, the national fruit of India. Does your country have a national fruit? Canada's is the blueberry.

Rebus 86

"mangos"



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.

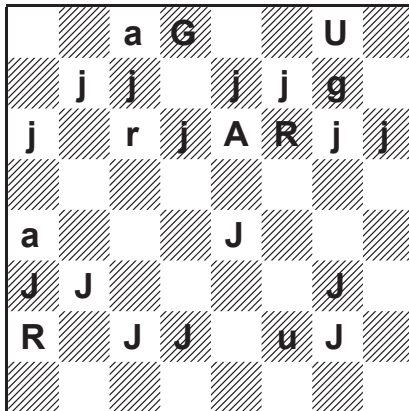


Man comes. Man goes.

In the next attraction, you come face to face with a fierce wild cat. The jaguar is king of the jungle, at least in South America. And this rebus is a beast of a puzzle.

Rebus 87

"jaguar"



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

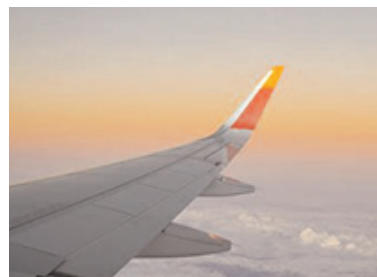


Jaguar. Jag I am.



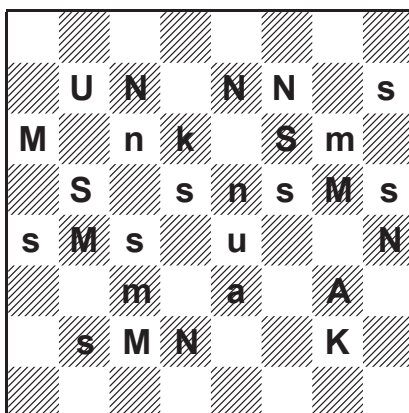
Rebusland tours would not be complete without a picture rebus. If you look out the windows on the right, you'll see one just ahead.

Riddle: "When little things slow you down, ..."

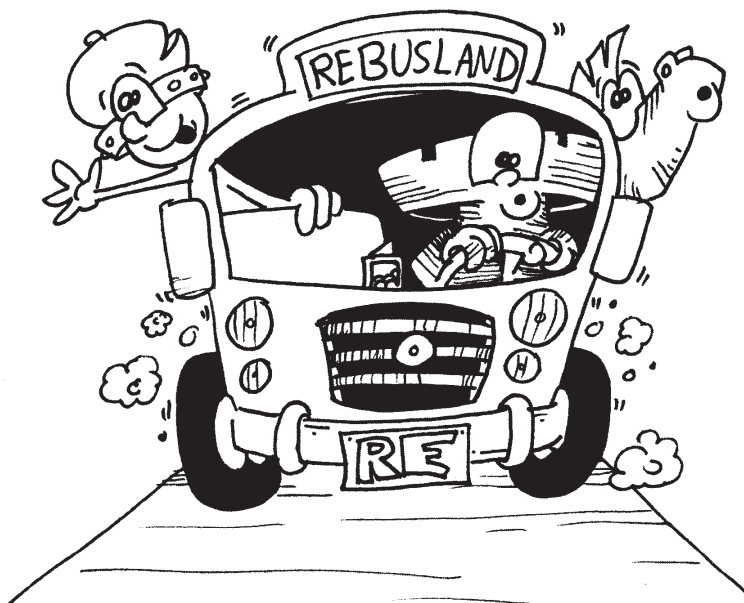


Hold on to your heads, folks. Our final rebus is about to boggle your mind. Congratulations to anyone who unmask the position without suffering significant brain damage.

Rebus 88
 “unmask”



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



If you are looking for more chess rebuses, check out the *rebus index* in the appendix to column 188 (Rebusland). It lists over 200 problems, most of which are readily available online.

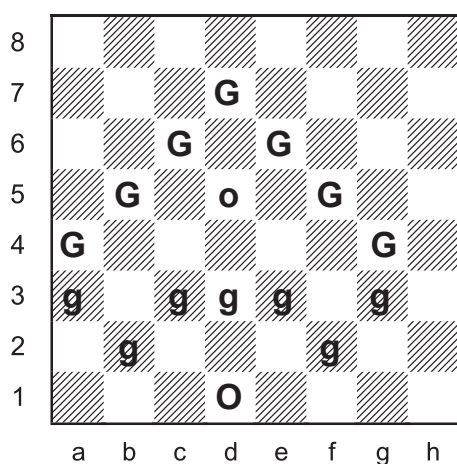
SOLUTIONS

All chess rebuses are joint compositions by Andrey Frolkin and Jeff Coakley, *Puzzling Side of Chess* (2022).

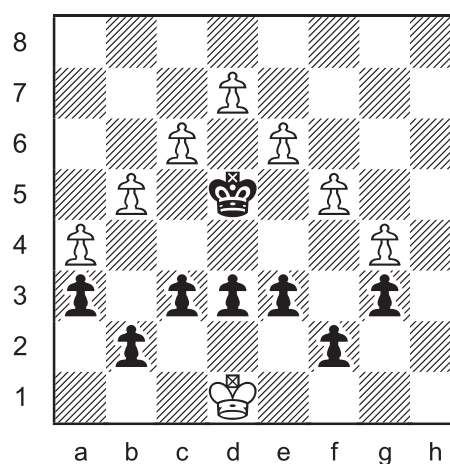
PDF hyperlinks. You can advance to the solution of any puzzle by clicking on the underlined title above the diagram. To return to the puzzle, click on the title above the solution diagram.

Archives. Past columns and an index of problem-types, composers, and side themes are available in the *Puzzling Side of Chess* archives.

Rebus 85



“Go-Go”
 G = pawn
 O = king
 caps = white
 last move: ?



(8 + 8)

O =

G =

Letter with one uppercase, one lowercase.

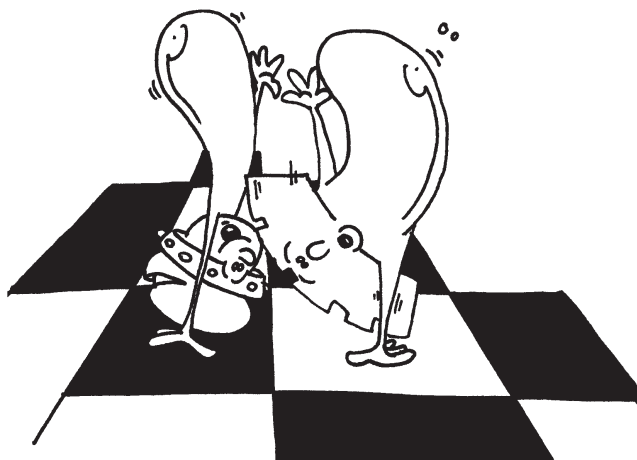
G ≠ Triple check (b5 d7 f5).

G ≠ Impossible double check (c6 e6).

G ≠ Quadruple check (b2 c3 e3 f2).

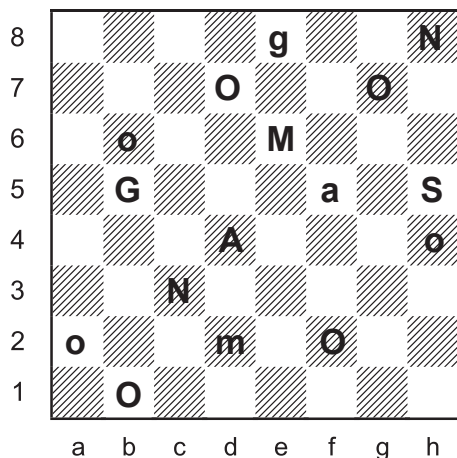
caps = white

If caps = black, impossible double check (c6 e6).



Rebus 86

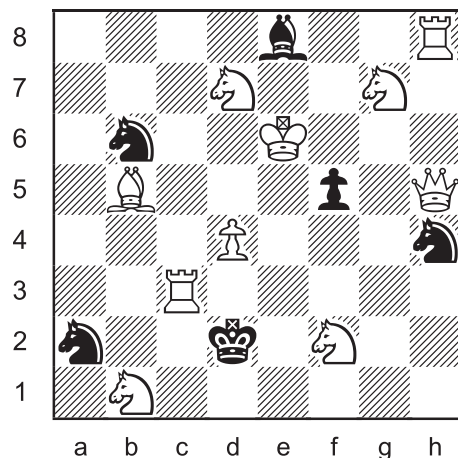
"mangos"



M = king
A = pawn
N = rook
G = bishop
O = knight
S = queen

caps = white

last move:
1.Na3>b1+



GNO ≠ ♖

On 1st or 8th rank.

(10 + 6)

♔ = (AGM)

Letters with one uppercase, one lowercase.

A ≠ ♔

If A = ♔

O ≠ ♔♖

Both kings in check (f2 h4).

O ≠ ♖

Both kings in check (b1 b6).

O ≠ ♘

Impossible check (g7).

O = ∅?

No piece can be assigned to letter O.

G ≠ ♔

If G = ♔

O ≠ ♔

Both kings in check (b6 d7).

O ≠ ♘

Impossible check (g7).

O = (♖♗)

Check (♖b6 or ♗d7).

♔ = ∅?

No letter (AMNS) can be queen.

Impossible second check.

M = ♔

O = ♘

O ≠ ♔♖

Both kings in check (b6 f2).

O ≠ ♖

Impossible check (a2). The last move was not the disco check Rd5-f5+ because if A = ♖, both kings are in check (d4).

The king on d2 is in check by the knight on b1.

G = ♗

G ≠ ♔♖

Both kings in check (e8).

N = ♖

N ≠ ♔

Impossible double check (c3).

A = ♖

A ≠ ♔

Three checks (d4 f5).

caps = white

If caps = black, both kings in check (pawn f5).

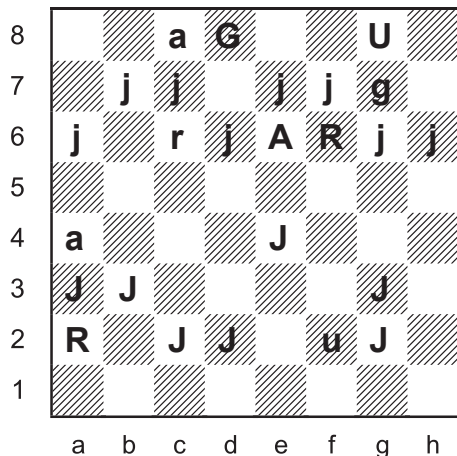
S = ♔

last move: 1.Na3>b1+

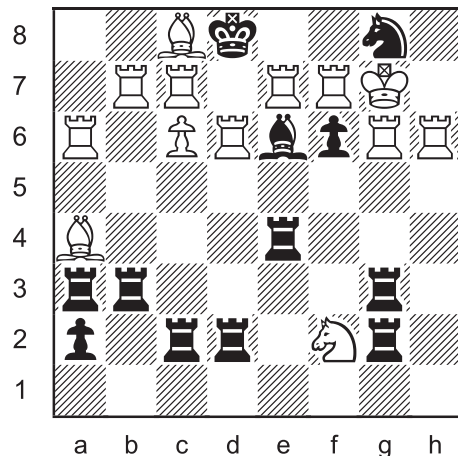
This move may or may not have been a capture.

Rebus 87

"jaguar"



J = rook
 A = bishop
 G = king
 U = knight
 R = pawn
 caps = black
 last move:
 1...Bd7-c8+



(13 + 12)

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

If U = ♔

J = ♖ J ≠ ♔♖ Impossible double check (d2 g2).
 J ≠ ♗ Both kings in check (f7 g3).
 J ≠ ♘ Three checks (e4 e7 h6).

caps = white If caps = black Impossible check (pawn f7).

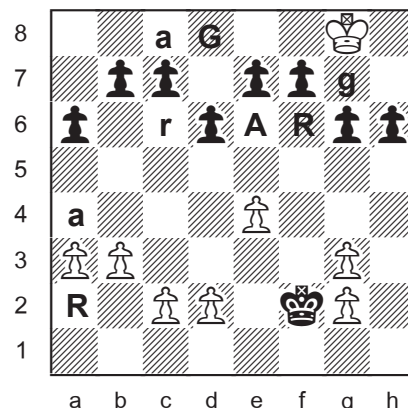
AR ≠ ♖

The white king could only be on g8, behind the black pawns, by going through h6 and g7. Thus, Black played ...g7-g6 and ...h7-h6. Because there was not a cross-capture of pawns on g6 and h6, no black rook can be in front of the black pawns.

G ≠ ♖ If G = ♖ The white rook on d8 is a promoted pawn.

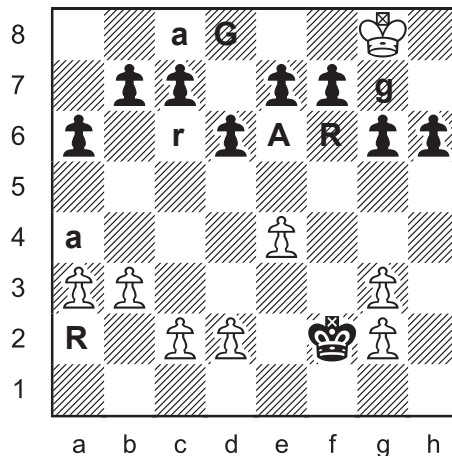
A = ♘ A ≠ ♔♗ With 8 pawns, Black cannot have 2 light-square bishops or 2 queens.
 R = ♗ R ≠ ♔ White cannot have 7 pawns, two queens and a promoted rook on d8.

The bishop on a2 could only get there if White first played a2-a3 and then later b2-b3. This means that the black king did not reach f2 by going through square b2 (before a2-a3 was played). There is no other possible entry for the black king. All squares on the 3rd rank were either occupied or attacked by a white pawn. So the black king cannot be on f2 and therefore G ≠ ♖.



try U = ♔

Rebus 87 *continued*



try U = ♔

Try: U = ♔, J = ♖, AGR ≠ ♖

AGR = (♔ ♘ ♞)

A ≠ ♔ Black cannot have 2 queens and 8 pawns.

G ≠ ♔ Impossible check (g7). No last move.

R ≠ ♔ If R = ♔

A ≠ ♘ Black cannot have 2 light-square bishops and 8 pawns.

G ≠ ♘ If G = ♘, the bishop on d8 is a promoted pawn which is impossible because White cannot have 7 pawns and 2 promoted pieces (QB).

♘ = ∅? No letter (AG) can be bishop.

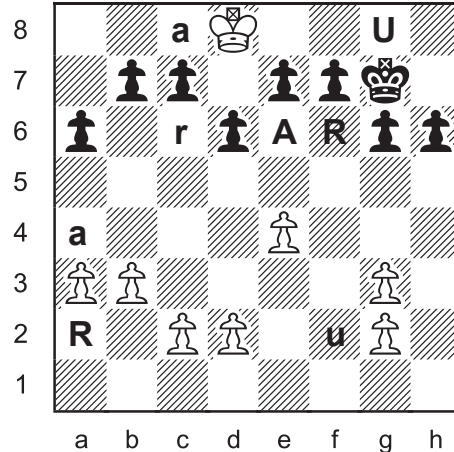
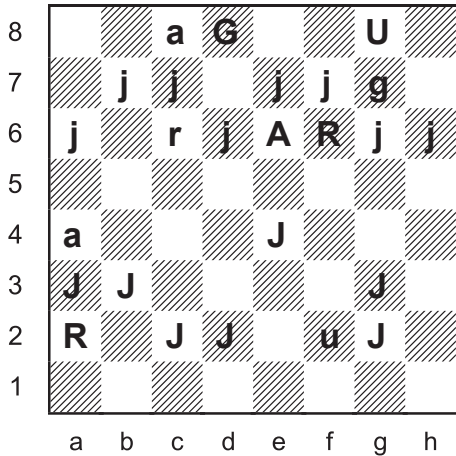
♔ = ∅? No letter (AGR) can be queen.

Therefore U ≠ ♔

G = ♔



Rebus 87 *continued*



try: J = 

G = 

J ≠  Similar analysis to U =  above.









If J =  caps = white If caps = black
 Impossible double check (c7 e7).

Diagram on right.



White king could only reach d8 through g7 (after ...g7-g6).
 So there was no cross-capture of pawns on g6 h6.

ARU ≠  A black rook (a4, c6, or f2) cannot be in front of the black pawns.

ARU = (  )

A =  A ≠   With 8 pawns, Black cannot have 2 light-square bishops or 2 queens.

Check (e6).

R = ∅? No piece can be assigned to letter R.
 If R =   Impossible double check (f6).

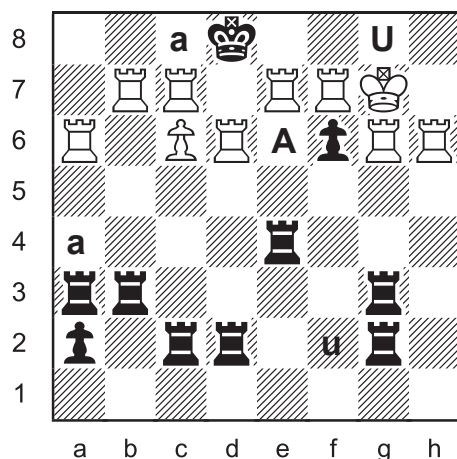
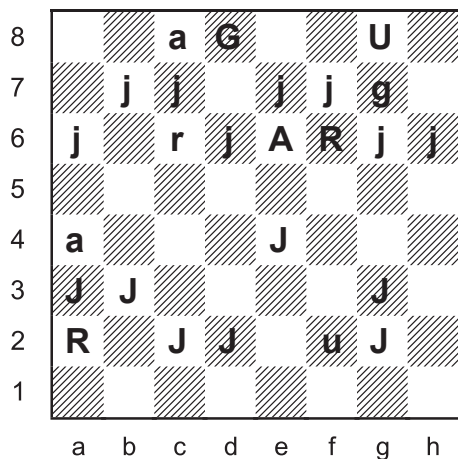
Therefore J ≠ .

J ≠   Impossible double check (c7 e7).

J ≠  Impossible double check (b7 f7)

J = 

Rebus 87 *continued*



G = ♔

J = ♖ Check (d6).

R ≠ ♔ ♗ Both kings in check (f6).

R ≠ ♞ Impossible double check (c6).

R = ♖

caps = black If caps = white Both kings in check (pawn f6).

Diagram on right.

A ≠ ♞ Both kings in check (e6).

A ≠ ♔ If **A** = ♔ Double check (c8).

Last move: d7xc8=Q++

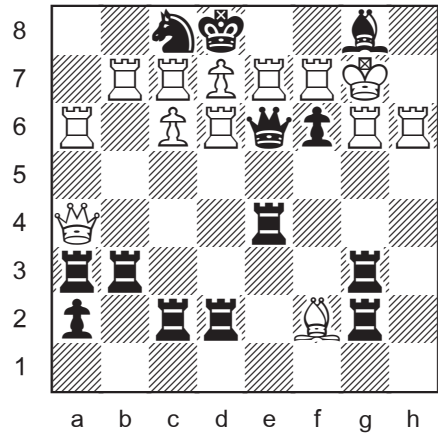
Pro-passer theory shows that this position is illegal.

U = (♗ ♞)

For analysis purposes, the diagram on the next page shows the position before d7xc8=Q++ with **U** = ♗ and a missing black knight on c8. (**U** = ♞ and a bishop on c8 would not legalise things.)



Rebus 87 *continued*



try: A = ♔ before d7xc8=Q++

White has 6 promoted rooks and 2 passed pawns.

Black has 5 promoted rooks and 2 passed pawns.

A total of 15 pro-passers.

White is missing 3 officers.

Black is missing 2 officers and 1 pawn.

The capture of 5 officers and 1 pawn is insufficient to create 15 pro-passers. $(5 \times 2) + (1 \times 3) = 13$

Therefore A \neq ♔

A = ♖

U = ♘

U \neq ♔

Both kings in check (g8).

PRO-PASSER THEORY

Pro-passer theory is an analytic tool for determining the legality of a position based on the number of passed pawns, promoted pieces, and missing pieces.

A pro-passer is a promoted piece or a passed pawn. In this theory, they count as the same thing.

Missing pieces are divided into two categories: pawns and officers.

'Pawn x officer' captures can create 2 pro-passers (one per side).

'Pawn x pawn' captures can create 3 pro-passers (two for capturing side).

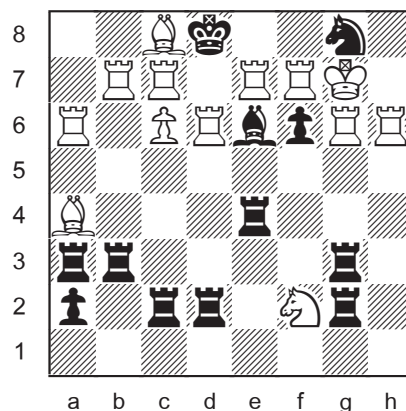
For a position to be legal, there must be a sufficient number of missing officers and pawns to create the required number of pro-passers. If the calculation shows insufficient missing pieces, the position is illegal.

However, a favourable count, with an apparently sufficient number of missing pieces, does not prove that the number of pro-passers is legal. There are numerous situations that can still make the position illegal: doubled pawns, inverted pawns, the colour of promotion squares for promoted bishops, or the need for additional captures. In these cases, deeper analysis is required.

Rebus 87 *continued*

The position is solved, but what was the last move? There are three possibilities:
Bd7>c8+, d7xc8=B+, Rxd6+.

White has 7 promoted pieces (6 rooks and a light-square bishop) and 1 passed pawn. Black has 5 promoted rooks and 2 passed pawns. A total of 15 pro-passers.



The missing pieces are 6 officers and 1 pawn (white QBN, black QBNp). The capture of these 7 pieces by pawns is exactly enough to account for the 15 pro-passers. $(6 \times 2) + (1 \times 3) = 15$ No other captures were made in the retroplay.

Therefore the last move could not be a capture on c8 or d6. It could only be the non-capture discovered check **Bd7-c8+**.



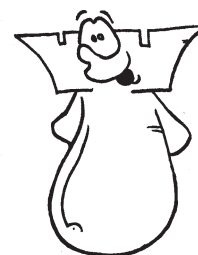
2004 Jaguar XJ Vanden Plas

REBUS page 4

When little things slow you down, ...

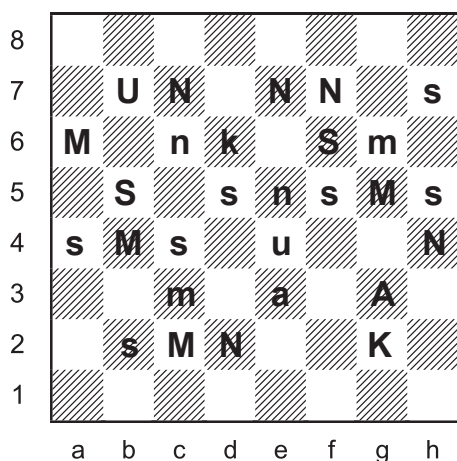
“Be nice and keep on going.”

bean-eye-sand-key-pawn-go-wing

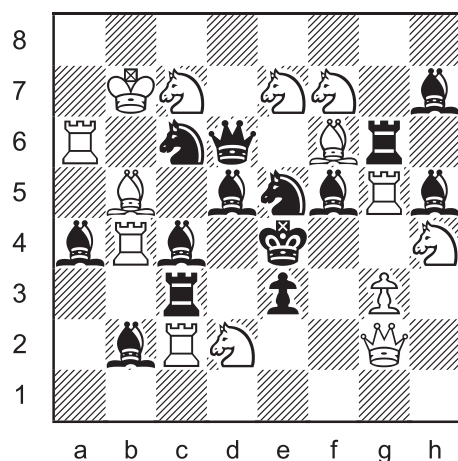


Rebus 88

"unmask"



U = king
 N = knight
 M = rook
 A = pawn
 S = bishop
 K = queen
 caps = white
 last move:
 1.Nf3-d2++



(14+ 14)

Letter count: 2S 5N 4M 1A 1K 1U (14)
 7s 2n 2m 1a 1k 1u (14)

The focus of this problem is the pawns. The first step in the solution is to show that the letters with more than two instances (MNS) are not pawns. The situation is very similar for each of those letters. Here is a general argument that applies to all three cases.

If (MNS) = ♖

There are 10 pro-passers. The missing pieces are 2 officers and 2 pawns. In general, that is exactly enough to account for 10 pro-passers.

$$(2 \times 2) + (2 \times 3) = 10$$

However, in each case, there is one feature in the pawn formation which would require an additional capture, making the position illegal.

S ≠ ♖

If S = ♖

caps = black

If caps = white, there are 14 pro-passers.

Impossible with only 4 missing pieces.

White has 5 passed pawns. Black has at least 5 promoted pieces (3N, 2M). A total of 10 pro-passers.

The 4 missing pieces are 2 officers, 2 pawns.

But one of the missing pieces is the black a-pawn. It could not have been captured to create a pro-passer. (It did not promote to be taken elsewhere because that would require an additional capture.)

So S ≠ ♖

Rebus 88 *continued*

8								
7		U	N		N	N	s	
6	M		n	k		S	m	
5		S		s	n	s	M	s
4	s	M	s		u			N
3			m		a			A
2			s	M	N			K
1								
	a	b	c	d	e	f	g	h

$N \neq \text{♙}$

If $N = \text{♙}$

caps = black

If caps = white, there are 14 pro-passers.
Impossible with only 4 missing pieces.

Black has 3 passed pawns. There are at least 7 promoted pieces (2M, 5S). A total of 10 pro-passers.

The 4 missing pieces are 2 officers, 2 pawns.

This time one of the missing pieces is the white d-pawn. It could not have been captured to create a pro-passer.

(The black pawn on d2 would already be a passer before a possible ...cxd or ...exd capture.)

So $N \neq \text{♙}$

$M \neq \text{♙}$

If $M = \text{♙}$

caps = white

If caps = black, there are 14 pro-passers.
Impossible with only 4 missing pieces.

White has 2 passed pawns. There are at least 8 promoted pieces (3N, 5S). A total of 10 pro-passers.

The 4 missing pieces are 2 officers, 2 pawns.

In this case, the two white passed pawns on the ab-files would require an additional capture.

Each of the two 'pawn x pawn' captures must take place within a separate sector (two adjacent files). In this position, with unpassed pawns for each side on the c-file and g-file, one of the 'pawn x pawn' captures necessarily occurred on the ab-files. (The other could be on the de-files or ef-files.)

However, after a 'pawn x pawn' capture in the ab-sector, the white pawns would be on the same file. An extra capture would be needed to have one on each file.

So $M \neq \text{♙}$

$\text{♙} = \text{(AKU)}$ Several important conclusions can be drawn from this fact.

Rebus 88 *continued*

♙ = (AKU)

Regardless of which letter is pawn, the pro-passer calculation is the same. Each side has 1 passed pawn and 5 promoted pieces (uppercase 3N 2M, lowercase 5S), a total of 12 pro-passers.

That is only possible if all four captures are 'pawn x pawn'. Therefore, the 4 missing pieces are all pawns (2 for each side).

This accounts for all 16 pawns, which means that there are no promoted queens. Thus, the three letters with one uppercase, one lowercase (AKU) are king, queen, and pawn.

(AKU) = (♔♑♙)

(MNS) = (♖♗♘)

Next we show that S = ♗.

N ≠ ♗

If A = ♔

Both kings in check (d2 e5).

If K = ♔

Impossible double check (c7 e7).

If U = ♔

Check (c6).

MS ≠ ♘ Both kings in check (g5 or f6).

♘ = ∅? No letter can be knight.

M ≠ ♗

If A = ♔

Check (g5).

N = ♖ Last move had to be Rf4-h4+.

S = ♘ Both kings in check.

If K = ♔

Check (b4).

S ≠ ♘ Impossible double check (b5).

S ≠ ♖ Impossible double check (f6).

S = ∅? No piece can be assigned to letter S.

If U = ♔

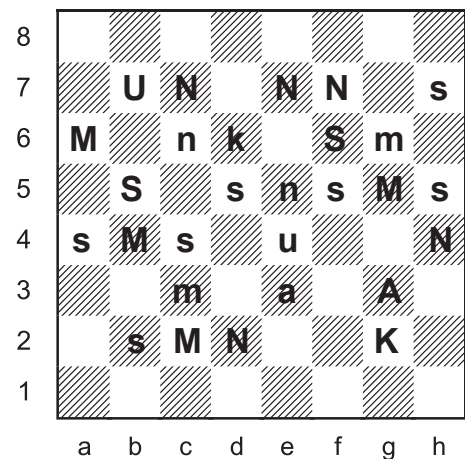
Check (c2).

N ≠ ♘ Impossible double check (d2).

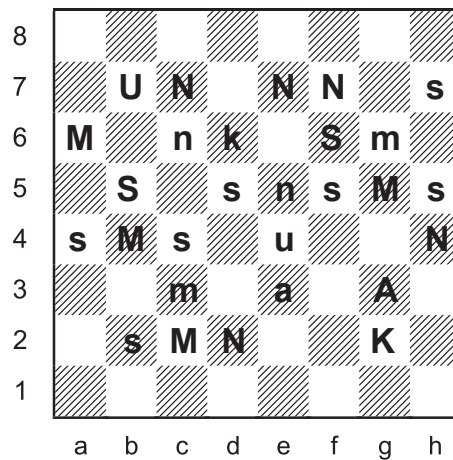
S ≠ ♘ Impossible double check (f6).

♘ = ∅? No letter can be knight.

S = ♗



Rebus 88a *continued*



S = ♗

Lowercase has 5 promoted light-square bishops. This is the deciding factor in the assignment of pawns and colour.

The 12 pro-passers required 4 ‘pawn x pawn’ captures. Each of those captures necessarily occurred in a different “sector” of the board. There are 4 sectors. Each consists of two adjacent files (ab, cd, ef, gh).

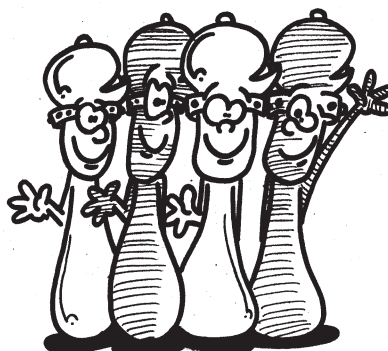
Each side has 6 pro-passers (5 promoted pieces and 1 passed pawn). Lowercase has 5 promoted light-square bishops. Passed pawns are considered light or dark based on the colour of their promotion square (assuming no further captures).

Each side is missing two pawns. Every ‘pawn x pawn’ capture creates three pro-passers: 2 for the capturing side, 1 for the captured side. All three promotions squares are the same colour (light or dark).

There are six possibilities for assigning pawns and colours (3 options for pawn and 2 for colour).

If the uppercase passed pawn is dark, then lowercase could not have promoted 5 light-square bishops. At least one lowercase promotion would be on a dark square. That eliminates three possibilities:

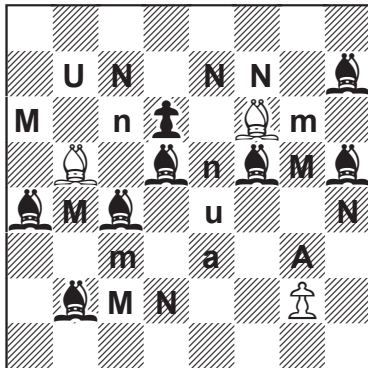
A = ♖ and K = ♖ with caps = black, and U = ♗ with caps = white.



Rebus 88 *continued*

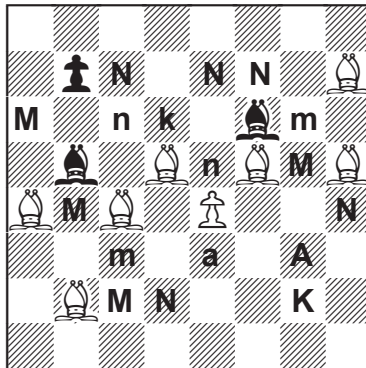
That leaves three possibilities (with a light uppercase passed pawn).

A



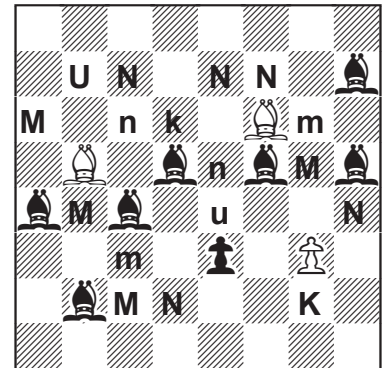
K = ♠
caps = white

B



U = ♠
caps = black

C



A = ♠
caps = white

Position A is illegal because of the unmoved white pawn on g2. With a white pawn on the g-file in the gh-sector, Black could only promote on h1, but a bishop could not then escape from that square.

Position B is illegal because of the unmoved black pawn on b7. With a black pawn on the b-file in the ab-sector, White could only promote on a8, but a bishop could not then escape from that square.

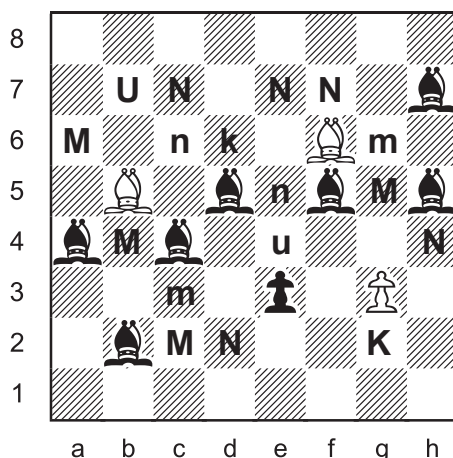
Position C is the only way to assign pawns and colours for a legal position.

A = ♠
caps = white



Can you see the real me?

Rebus 88 *continued*



caps = white

(KU) = (♔♔)

(MN) = (♖♘)

The rest is easy.

K ≠ ♔

If K = ♔

U = ♔

Impossible check (e4).

The last move was not a capture by the queen on e4 because all captures were made by pawns. The last move was not the non-capture ...Qe4+ because the black king would already be in check by the bishop on d5.

U = ♔

K = ♔

Check (g2).

M ≠ ♘

If M = ♘ Double check (g5).

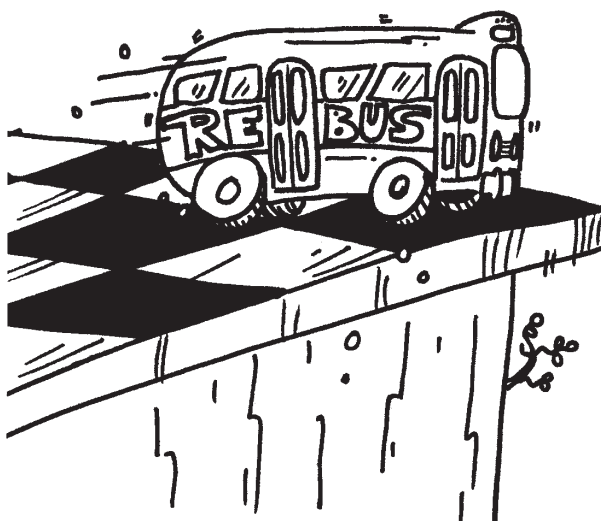
N = ♖ Triple check (h4).

M = ♖

N = ♘

Check (d2).

last move: **Nf3-d2++**



Until next time!