

tions are barred now. You missed on "resonant."

**P.J.Q. (Motueka):** Maintains friendly intentions, but asks us to issue a challenge to R. Martin in the matter of "Time for the Guard" (August 9). P.J.Q. gives his working of the problem. In our last issue we reported his claim that the train was 340 feet long. He said so in a letter dated August 18. In his challenge to R. Martin, he says the length of the train is 1342 feet long. Tut, tut! P.J.Q. also sent some correct answers to other problems, and a problem which we shall use as soon as possible. We expect him to straighten out his challenge in due course.

**S.G.E. (Glenavy):** Has sent a budget in reply to H.G.L., whose last letter we forwarded a week or two back. S.G.E. defends Fermat's theorem, but lets H.G.L. out by admitting that his original challenge (in which H.G.L. was asked to contemplate the theorem for six hours), was faultily worded. We are now sending this interesting news forward to H.G.L., who will probably tear his hair, but start in

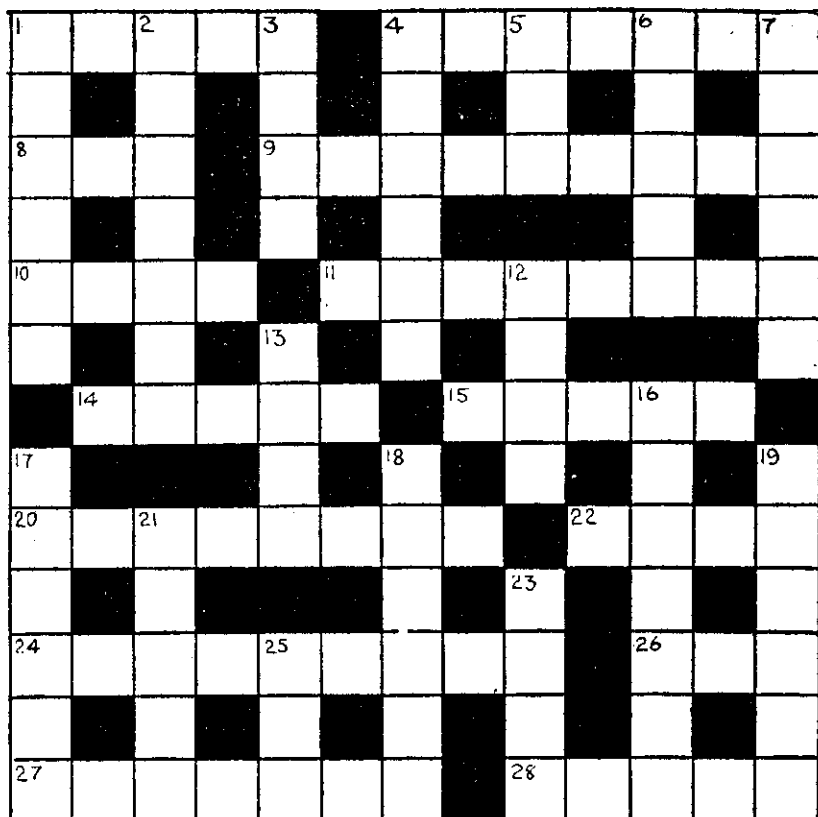
again like a good puzzler. S.G.E. supplies a note on Fermat. He says this was the greatest mathematician of the seventeenth century. He conceived and applied the leading idea of the differential calculus 13 years before Newton was born, and it was, in fact, Fermat's work that provided Newton with the clue to start his own researches in that subject. Fermat invented analytic geometry independently of Descartes, and was the first to apply it to three dimensions. He also laid a large part of the foundation of what we now call the theory of numbers. Thank you, S.G.E.

**G.G. (Hokianga):** Has had considerable success with F.D.B.'s card shifting. He can transfer No. 1 to the place occupied by No. 4 in 66 single piece moves and 44 combined movements. To exchange 1 and 4 takes him 115 single piece moves and 65 combined movements. He also sends a puzzle which will be used when possible.

**G. Tisbury:** Reiterates that the length of the train in "Time for the Guard" was 1356 2-3 feet.

## The Listener Crossword (No. 24)

(Constructed by R.W.C.)



### Clues Across

1. Dilatory.
4. Slaps me as specimens.
8. The reverse of fresh.
9. Dictatorial.
10. An arid foray?
11. Study the margin—this will then come together.
14. Make oil go into an Eskimo dwelling.
15. False steps.
20. Cheat 'til it becomes proficient at sport.
22. A wise man become withered.
24. Heels were in another place.
26. Found in profusion round 14 across.
27. The natural features of a district.
28. "The (13 down) (21 down), the (23 down) (28 across)" (Familiar proverb).

### Clues Down

1. You need to draw a little crookedly for this.
2. Bombastic language from an insect in a circle.
3. Yelps.
4. How sad! (Anag.)
5. When this is the word, silence is evidently to be desired.
6. Alert perhaps, but not so early.
7. Plundered.
12. Unit of electro-motive force.
13. What Oliver Twist asked for.
16. Occupy the chair.
17. Large hornless ruminant long-necked cushion-footed quadrupeds.
18. Excessive ornament.
19. Rely.
21. Speed in heats.
23. See 28 across.
25. Affliction.



"Yes, I'll send it over straight away!"



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