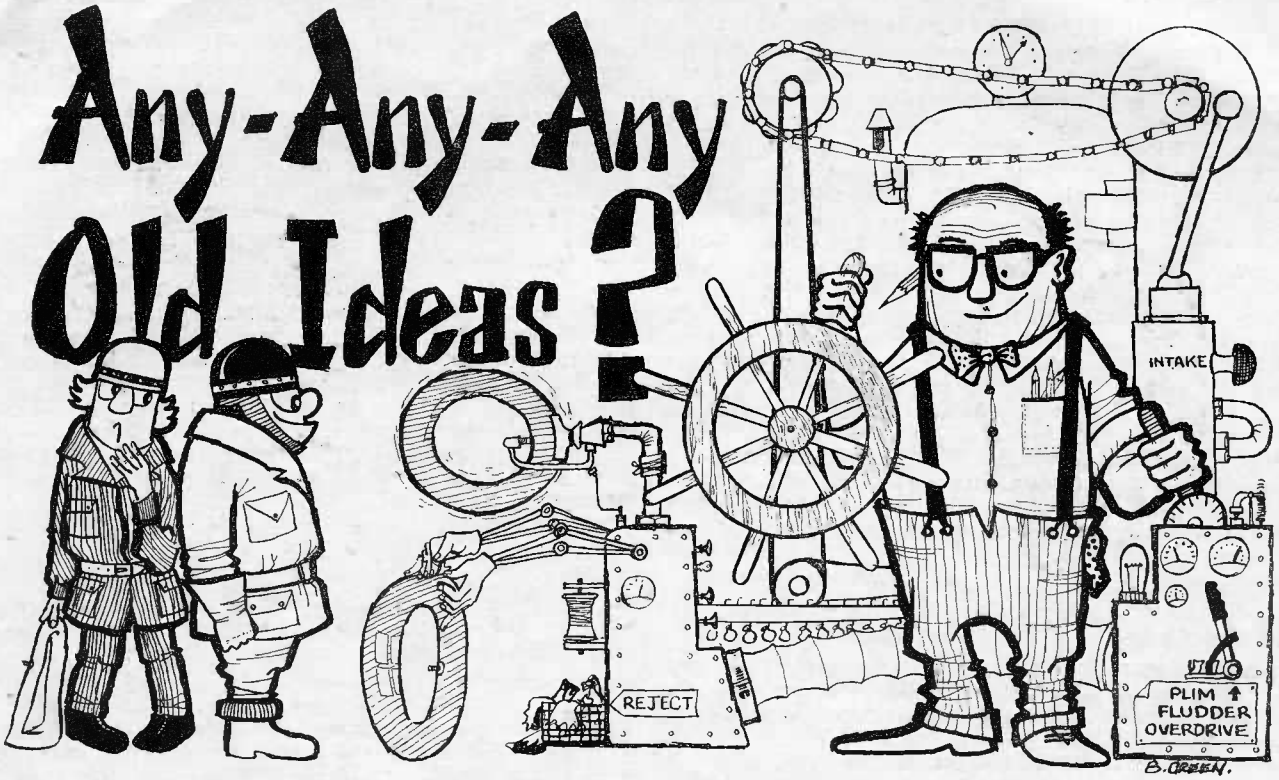
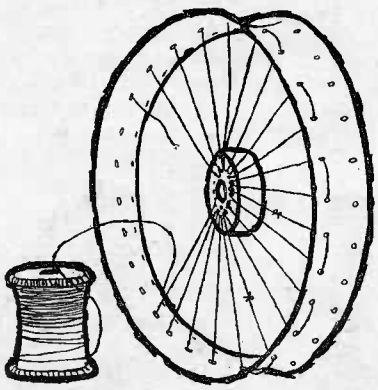
Any-Any-Any Old Ideas?



Phil Irving recalls some which did not reach the production stage . . .

ALL this delving into past engineering history has *really* set me thinking. Perhaps we are all wrong; perhaps many of the ideas either invented or actually used years ago *were* all right even if they looked a trifle bizarre, shall we say? "Never giv 'em a chance, mate, that's wot we didn't do," and who knows what might have happened if people had been a little more tolerant towards new ideas and had really got behind them commercially. Mind you, it is rather more than moot whether success would eventually have crowned such efforts, but here are some features which could have been on the roads by now; believe it or not, they have all been either produced or seriously propounded—even patented, some of them.



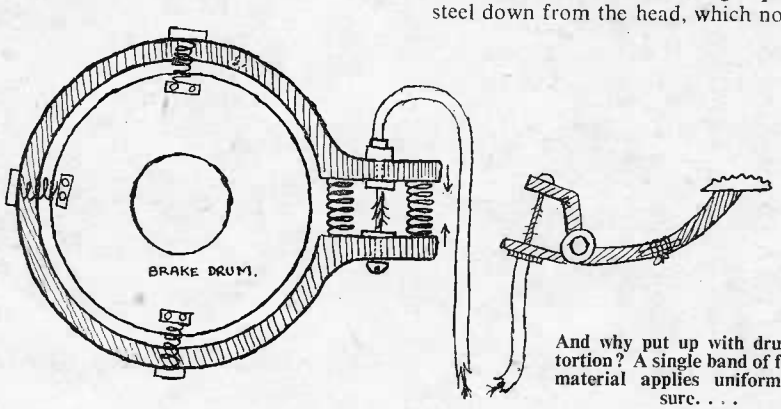
Away with nipples! The single-spoke wheel.

Wheels, now; 40 spokes, 40 nipples. Away with the lot! Simply take two long bits of wire, thread one in and out of the rim and one spoke flange, ditto with the other piece and hey presto! we've got a wire wheel which hangs together—as long as the wires don't pull straight at the bends!

Brakes; drum distortion eliminated! Turn a half-round groove in a disc, wrap a piece of circular friction material round it, fix one end, pull the other one tight and bingo! someone's run slap into you from behind.

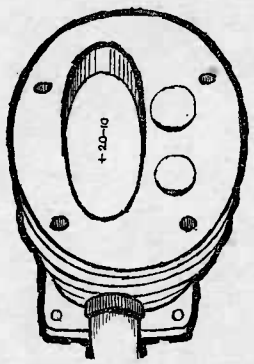
Cylinders; always wear oval, don't they? Got to be rebored to make them round again? Right; make them oval in the first place; besides, if the engine has side valves look at the width you've got to fit them into! (I should like to see Wellworthys' or Hepolites' reaction to an order for rings for this scheme!)

The ignition; why lug a heavy magneto around? All you need do is attach a flint to the piston crown and hang a piece of steel down from the head, which not only



And why put up with drum distortion? A single band of friction material applies uniform pressure. . . .

creates a spark (if you want proof, borrow someone's lighter) but creates it right in the centre of the mixture, not out on the edge like a plug does. Advance and retard? Simplicity itself—just make the piece of steel adjustable for length. Come to think of it, by mounting the steel on a little piston with a strong spring behind it, the ignition point could



Cylinders? Make 'em oval to start with.

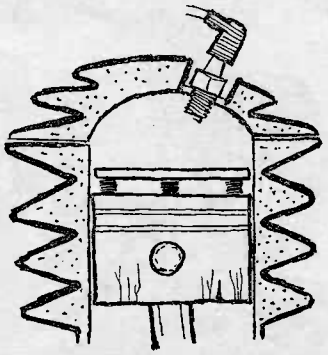
be made automatically variable according to the compression-pressure. This would be A Good Thing; the inventor carelessly overlooked it.

Even with flint-ignition, the piston still gets a bit of a bump all at once, unlike a steam-engined piston which just gets gently pushed. What you do is put a plate across the cylinder, drilled with a lot of small holes; the piston is below the plate, the valves and combustion chamber above. When the bang takes place, the gas just whiffles slowly through the holes and there you are—steam-engine-like smoothness.

Bit complicated, you think? Inefficient, perhaps? Well, leave the plate out of the cylinder, but fix a plain one to the piston crown, resting on springs. This gives a featherbed effect rather than steam-like, but you see the idea? Don't like springs exposed to heat? Well, anyone who doesn't is at liberty to use a normal piston, but make the connecting rod shank like a piece of lattice work, thus softening the blow on the big-end. The inventor didn't think of this, but do you realize that the stroke would get longer and the compression ratio higher, with increasing speed? While the rod kept in one piece, of course.

You don't need a big-end either, not as we know it. Just fix a toothed pinion to the end of the rod, engaging with one on the main shaft. Carry the rod on a light crank, and the gear-teeth do the turning; James Watt thought of this one, but merely to get *round* a patent, not because it was of much use in itself.

Cams? Now, *there's* a poor idea. Little knobs of metal rushing around with high loading and poor lubrication. Better to make a cunningly-shaped groove in the side of the flywheel and run two followers in this to operate long bell-crank rockers. But this would open the valves once per revolution, which is not the way to behave towards a four-stroke engine, so you make the groove with *two* overlapping shapes a little like two-fifths

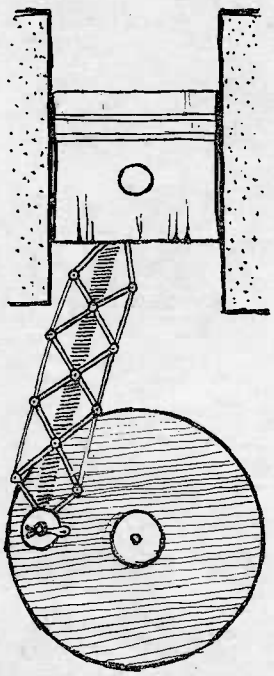


Bump-absorber: the sprung piston crown.

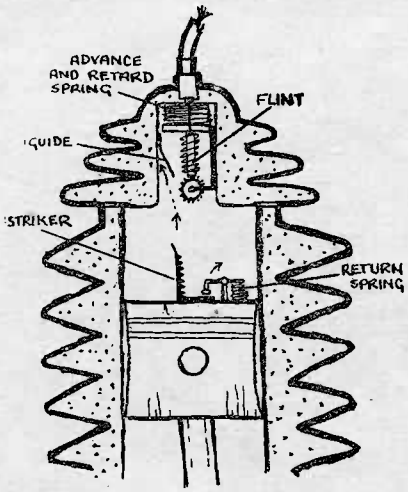
of an Olympic badge. The followers consist of spring-steel blades two or three inches long, which will guide themselves sweetly over the two places where the groove crosses itself, just like a tramcar going over the points but quieter. Sounds fantastic, but this "semidesmodromic" scheme actually will work—in fact it has been used.

Big-end nuts don't often come loose, but they could, you know, they could. But not if you make the crank-webs small and circular, broach hexagonal holes in two discs large enough to act as flywheels, and spigot these on the crank-webs with the holes fitting over the nuts. That way, the wheels lock the nuts and the nuts turn the wheels and what's more, only the veriest oaf would ever succeed in forgetting to put *both* flywheels correctly in place.

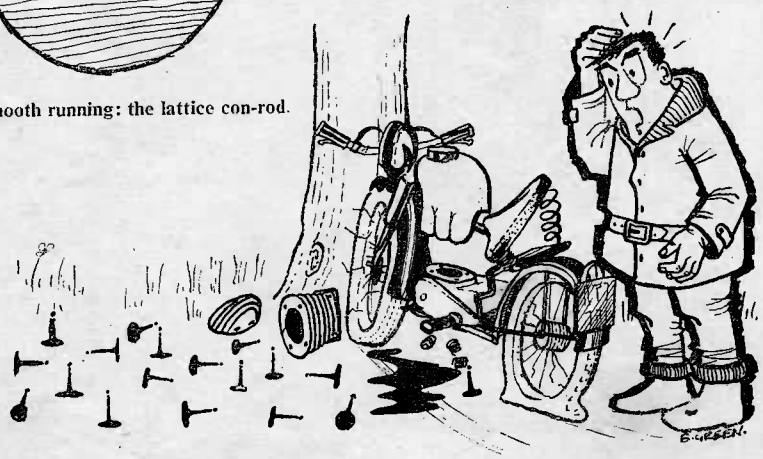
Getting back to reality, one firm held a patent covering the use of "four valves per cylinder," just like that. Someone even fonder of valves took out patents for any number up to eighteen or some such figure; you can find them on record.



For smooth running: the lattice con-rod.



Electrics are eliminated by flint ignition



"Someone . . . took out patents for any number (of valves) up to eighteen . . ."

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