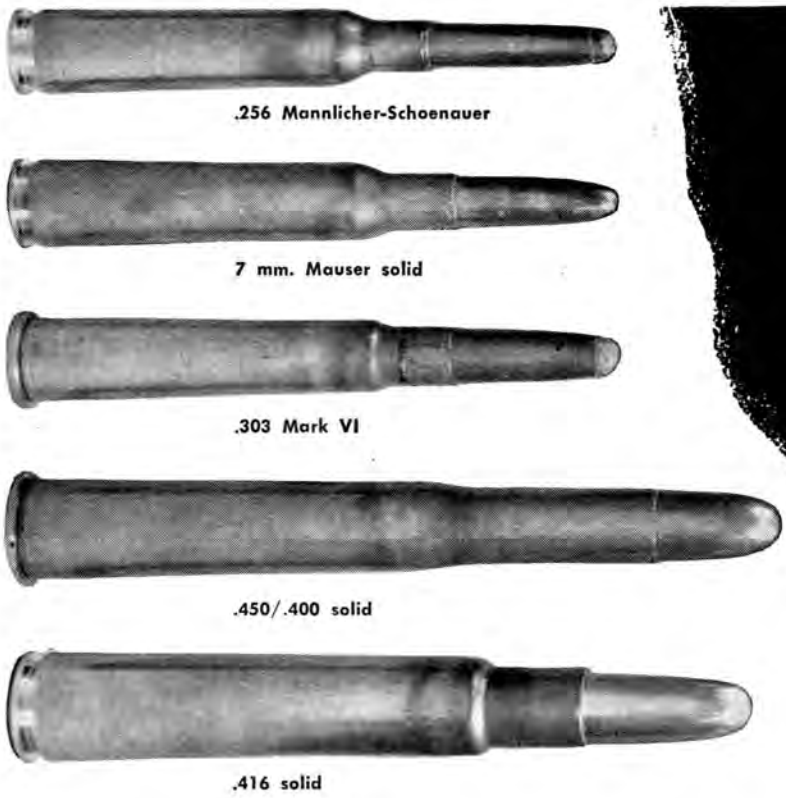


.256 Mannlicher-Schoenauer

7 mm. Mauser solid

.303 Mark VI

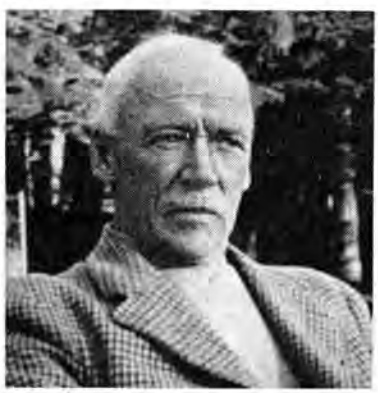
.450/.400 solid

.416 solid

Small Bores Versus Big Bores

By W. D. M. BELL

Terse comments on a controversial subject by one of the world's most interesting big-game hunters



This is perhaps the last article written by W. D. M. Bell—called the first man to use the high-velocity rifle in Africa—before his death late in June 1954. Prepared at THE RIFLEMAN's request, it summarizes Bell's strong opinions on rifles for dangerous game, opinions he developed in 30 years of adventuring. Climaxed by five years of hunting with the natives of the Karamojo district of Uganda-Kenya, this experience earned him the appellation of 'Karamojo'. Bell and the reputation as an advocate of the high-velocity smallbore rifle. Bell was infinitely successful in the use of a .275 Rigby Mauser on elephant, having used this caliber in killing most of his bag of 1011.

I SUPPOSE there are few more hotly contested subjects than that of the caliber of rifles for use against large game, especially against that considered to be dangerous. Ever since man began to walk erect—even before that, I expect—this controversy probably raged as freely as it does now, if not about rifles then about clubs, bludgeons, battle axes, and bows. It may in fact be stated, with fair reason, that bores of all kinds have existed in great numbers since the word go.

It will be observed that it is almost invariably the Big Bore who attacks the Small Bore. Why this should be so is at first glance not apparent. It can be stated with very fair accuracy that the Small Bore does not usually bear any ill will towards the Big Bore. I should say that, on the contrary, the Small Bore rather commiserates with his brother Bore for having to burden himself with his heavy equipment.

On the other hand, the Big Bore will take every opportunity to attack the Small Bore. He will perjure his soul by declaring the smallbore rifle to be unsporting. He will even go so far as to declare that the use of smallbores should be made illegal. Why should the Big Bore get so hot under the collar about the number of thousandths of an inch that constitutes the difference between, say, a .270 and a .375?

Is it that the Big Bore has devoted painstaking, laborious research into the effect on animals weighing several tons of this so important 105 thousandths of an inch? Has he, perchance, stumbled on some important truth hidden from less penetrating eyes? Not a bit of it. He generally knows rather less of matters of moment to riflemen. Usually he will leave the matter of choice of weapon to his chosen gunmaker and should he be successful—as very often he is, for even a .600 caliber 900-grain bullet in the right place will kill as dead as a 100-grain bullet—they forever swear by that particular rifle, and damn all others of smaller caliber as being unsporting. In fact, they show a heat and venom quite unknown to the smallbore addict, leaving him wondering what all the fuss can be about.

It is this curious inner rage—in some respects like the rabies of the canine world—shown for the Small Bore by the Big Bore that forms the subject of this article. Before a positive hatred of this magnitude can be generated there must be deep-rooted forces of great intensity at work. I have known of a man who

wrote a whole book of bitter attacks on smallbore practitioners. Obviously it was intended in some inscrutable way to get his own back, to re-instate himself in his own esteem.

Perhaps this case conceals a clue worth following up. He projected his jet of venom against the .220 Swift in particular. He argued that because a friend of his had fired at a wounded buck at 20 paces, and the .220 had failed to kill, the .220 was not a suitable rifle for the killing of deer. No word, be it noted, where the bullet struck or even if it hit the buck at all. That spotlights my allusion to the canine rabies-nature of these attacks in no uncertain fashion. Using a telescopic sight and shooting at the neck, I have found the .220 Swift 48-grain bullet with a muzzle velocity of 4150 feet per second beyond compare for country where a shot clear of obstruction and where the prone position can be used. Nothing could surpass it, or, I venture to say, join the same class. Anyone who denies this has either failed to zero his rifle properly—for Scottish red deer it should be on the dot at 220 yards—or he suffers from some defect and should see a specialist or something.

Similarly when it comes to big game. The argument here is that the small caliber often wounds and loses game where the large bullet kills. This is a very attractive proposition much favored by the Big Bore school. When they quote the striking energy in foot pounds, it becomes almost irresistible. The weight of the piece, the size of the cartridge, the noise it makes, and the cost of it all, quite overcome the totally inexperienced man or those of naturally weak reasoning powers.

Of course, it must be recognized that some of the very finest of craftsmanship goes into these heavy weapons. They are things of entrancing beauty and have an attraction quite apart from their utility as killers. I myself once on a time fell under their sway.

I bought myself a double .450/.400 hammerless ejector first grade rifle by Daniel Fraser of Edinburgh. I knew Fraser well and often fired his heavy pieces on his regulating range. In fact, he tried to persuade me to have a monstrous double .577 in place of the .400 but I thought the latter would serve my purpose all right.

It fired 60 grains of cordite behind a 400-grain bullet in each barrel and I thought that if I wired the two triggers together I would get the equivalent of 120 grains of cordite pushing 800 grains of bullet. This seemed near enough to the 900-grain bullet and 100 grains of cordite of the .600, or the 750-grain bullet and 80 grains of cordite of the .577, to convince me whether there was anything to this big stuff or not. As well as the .450/.400, I acquired a Magnum Mauser Rigby .416 four-shot magazine rifle with their own design of steel-jacketed bullet drawn so that the metal in the nose-end was very thick. At the same time I had my .303 ten-shot, the .275 Rigby Mauser, and the meat-providing .256 Gibbs Mannlicher. Whether the newly acquired .400 double or the .416 Mauser failed me or not, I was still adequately armed. Thus equipped, I left for the hunting grounds.

Let me say right away that they all killed dead. All rifles using proper bullets do. None kill deader than dead because they can't. But there are other considerations.

.256 Mannlicher-Schoenauer. Weight 7 pounds

.275 Rigby Light Model. Weight 6¾ pounds

The double .400 with its gold-washed locks weighed ten pounds. It carried, or rather you carried, two barrels to do the work of one. The noise of a discharge, especially of both barrels together, was disturbing to a great extent of country. Also, a discharge seemed to be more alarming to game, whether by waves of air pounding them or merely by cracking their sensitive ear drums I do not know. The ammunition was nowhere obtainable away from its place of origin, and it was heavy and costly. Finally, you did not like to use such hard-to-come-by cartridges in mere practice.

Here the Double-Barrelled Bores always bring in their favorite argument about having a much quicker second shot than that of the magazine rifle. All I say to that is that it is possible to fire a second barrel slightly quicker than to do the same from a light bolt-action rifle, but whereas the former will be a shot into the blue, owing to the disturbance of aim of the first discharge, the latter will be a properly aimed shot—into a second victim more than likely. That is how bags are made.

A strong D.B.B.B.

I remember meeting up with a well-known Double Barrel Big Bore at a river crossing. His particular weakness was for double .500's. These come in between the .470 and .475's and the .577 and the .600's. It was the dry season and all the elephant in creation seemed to be gathered in the still-green swamps. All the country away from the river had been burned off and nothing you could do to those enormous herds would induce them to leave the shelter of the high grass (ten to twelve feet).

The great burly D.B.B.B. seemed very discontented with things in general, in fact he was in a slow-motion simmering fury. It appeared that his boys had struck at swimming the river—it was really an arm of the Upper Nile and full of crocks—and had actually refused to mount a raft the B.B. had had made for their transport. This filled the Big Bore with fury. But they weren't such fools, those boys. They knew perfectly well that the wood used in the raft would not float, as the B.B. found when he launched it with some of his loads on board.

I had been doing pretty well with my light rifles at this swamp hunting, just having had 15 head of bull-stuff on two consecutive days. I was feeling pretty good, and as I had some whisky I asked the hunter to have a drink while I told my very experienced gang to give a hand with getting my rival hunter's boys and gear across.

Over our drinks a mellowed B.B. confided with many curses that his rifles—two D.B. .500's—knocked him tail over tip off the ant heaps or elephant bodies every time he fired them. As he looked a burly sort of beggar, I suggested his rifles might be too light. This set him off. Too light, he roared, try humping them through long grass and you'll soon find them too bloody heavy.

"Why not try a light smallbore?" I asked him. "What do you use?" he

asked. I showed him the modest little .275. "Hell, I wouldn't use a ruddy popgun like that", he declared. But when he saw the proceeds of the .275 in actual ivory, 60 tusks, and I told him they were the result of two days' hunting, he began to think hard.

Was that convincing?

Was he convinced? No! You cannot penetrate the hide of a confirmed, fully adult Big Bore. Catch an immature one and he will at least try out the smallbores. But once the skin has hardened into a shell, no proof, however convincing, stands a chance of being even considered.

In this high-grass hunting, where to see at all you must have some means of at least bringing your eyes level with the thinner tops of the grass, the recoil of your rifle becomes of vital importance. Often the only eminence sufficiently high is the carcass of a slain elephant, especially that of a brain-shot kneeling one. You run quickly up his bent-up foreleg onto the highest point of his back, often with the thumps of his still-beating heart throbbing through the soles of your light shoes. From this vantage point great lines of heads and tops of backs will be discovered, sometimes quite near you. These great herds are making so much noise, belching and what-not, that the report of a .256, 7 mm., or .303 passes unnoticed by the majority of the herd, resulting only in a partial movement.

Although the target is so presented, with the important bulls standing well above the cow-stuff, care must still be exercised. Only the brain-shot is feasible, generally speaking. But close inspection, especially with the binoculars, which should never be absent from the hunter's person, will show that the path of the bullet is cluttered up with the quite strong grass stalks.

As everyone knows, even one of these pests will deflect a light high-velocity bullet but one of the old heavy round-nosed solids, travelling not faster than 2,400 feet per second, will sedately pursue the course entrusted to it by the hunter and a clean kill will ensue to the satisfaction of all concerned.

An interesting rifle built on a 1903 Springfield action has interchangeable barrels, one .30-'06 and one .318

All rules have this in common—they are subject to the exception. I once killed an elephant with a high-velocity .280 solid by the heart shot at 600 yards. Normally the distance for this shot would be from 20 to 100 yards. The pointed abomination had lost most of its superfluous velocity.

Yet one more instance of the utter futility of supposing that the shocking power of the rifle used has anything to do with its killing power.

Strong man, big gun

I happened to be staying with the District Officer of a very wild, backward area. There was a detachment of troops under a white officer. This man was a young, splendid-looking chap and he had ambitions anent the elephant, in pursuit whereof he had acquired a very beautiful double .600.

The day he left we both thought he would be successful. The man was six feet four inches, and broad yet lean, and cheeked the .600 about as if it had been a 12-bore shotgun. Elephant were numerous and native trackers able and keen.

He left at dawn and returned next day having spent the night in the bush. He took forty rounds with him and returned with none. He swore he had put all forty into the same elephant.

The case of this particular man could not be passed off as one of inexperience nor could his guts be queried. As stout a fellow as could be found, as his later exploits proved to the hilt, he said he fired at close range. Knowing the country, I can well believe him. He told us that at first there was plenty of blood spoor but that this tended to diminish as time and the battle went on. How like some of the old hunters' encounters it sounds, where, if you found a suitable bull in the morning, it occupied you fully to get him down by evening by pouring into his body 4-, 8-, 10-, or 12-bore bullets driven by enormous charges of powder.

All the same, and laying aside all prejudice, I am still wondering where those forty 900-grain slugs ended up. As I have before remarked, even a .600 will kill and we know from the presence of blood spoor that some bullets must have found a billet in the elephant. Yet that elephant simply vanished. Never was his body found. He must have been a ghost, if ghosts have blood.

With some 150 to 200 men and women depending solely on a couple of rifles for food and footwear, beer and 'baccy—for all could be bartered for meat — ruggedness of construction seemed to me to be the greatest asset. To get a repair effected would have taken at least three months by foot-runner to the coast even if an armorer could have been found willing and able to do it. So it will be seen how vitally important it was to keep the battery in working order.

.256 Gibbs. Weight 7 pounds

.450/.400 Rigby double-barrel rifle. Weight 10¼ pounds

The best way to do so was to have everything of the simplest and most robust description possible. As the military arms of the various nations are the most highly developed of any, having had more thought, time, and money spent on them than would be possible on any commercial arm, I chose from the start to pin my faith on the .303, the 7 mm. Mauser, and the .256 Mannlicher. These arms formed the backbone on which all depended. Similar remarks apply to their cartridges.

In pursuit of this ideal of simplicity, only one plain, open **V** backsight of very robust construction with plenty of metal was used on the .303 and 7 mm. Mauser. I used to file down the **V** so that the full ivory bead covered the group of shots at 80 yards. In this kind of hunting it is important to always use the full bead as this is the only amount that remains constant. If you start monkeying about with just the top of the bead appearing in the bottom of the **V**, then in poor light your shot will go high as you will unconsciously take more of it.

Whenever I had to do any file cutting, and it was surprising how often you wanted to alter the profile or the width of the backsight, then the whole backsight was heated to a dull red and quenched in vegetable oil or ground nut. This was a quite adequate substitute for bluing and could be renewed at will.

On the .256 there were the usual iron sight leaves for 100, 200, and 300 yards. As at first I got only soft-nosed bullets, this rifle was used exclusively for providing meat. Without experiencing it, no one would credit the amount of buck meat a hundred boys could consume besides having all the elephant meat they could carry off.

Buck game was quite unmolested and in parts was still in countless numbers. It was nothing out of the way for the .256 to slay 15 or 20 buck handy to camp for their meat and for rawhide saddles for the donkey ivory-packers.

Solid steel-covered bullet

It must not be thought that I had any facilities for experimenting with different loads for my rifles. They just had to be content with the military load worked out by the various armies concerned. It was just pure good luck that the bullets with their considerable weight, their round noses, and their moderate velocities proved in practice to be so well suited to the job.

The .303 with its 215-grain bullet (with a muzzle velocity of about 2100 feet per second), the 173-grain 7 mm. bullet (muzzle velocity 2300 feet per second), and the .256 Mannlicher with its 154-grain bullet (muzzle velocity 2200 feet per second), were just about perfect for the job.

When it came to testing the larger bores against these small, handy, light, and deadly rifles with which I had already been so successful, it was almost certain that their imperfections would stand out vividly.

First of all their weight, to a man who habitually carried his rifle, seemed excessive and unnecessary. The .416 Rigby was certainly a grand killer and showed great penetration and true course-holding ability. It was handy too, and well balanced, and did not seem its weight.

In fact, it was only when you had been toting it through the bush for eight hours or so that you began to say, "Why the hell am I carrying this heavy brute around when it kills no deader than the .303 or .275?" That would be when you had reached the stage where you carried the thing on your shoulder, hand grasping the barrel near the muzzle, the hot steel cutting you in two. Weight 9½ pounds. Too heavy. Muzzle velocity 2300 feet per second. Bolt travel too long.

But I can well imagine what confidence those four great cartridges with their steel-coated jackets would inspire in a beginner in high grass or dense bush. It was only that I had begun with the smallbores, and had been convinced of their deadliness, that I looked on the larger calibers with such a critical eye. Perchance had I started with such weapons I might now find myself among the Big Bores or even among the elite, the Double-Barrelled Big Bores. A lot depends on what rifle you begin with and whether you are successful with it or not.

The double .450/.400 suffered from soft-jacketed bullets. Although completely metal covered, they often collapsed. The jacket did not break up but the lead squeezed out at the base. I think it undoubtedly became melted by the heat generated when passing through skin, muscle, and tissue. I think, also, that the solid base of the soft-nosed bullet explains its astonishing penetration. As it seems quite impossible to devise a totally enclosed lead filling for a bullet, it would seem that the next step would be to use a homogeneous brass or Monel metal bullet.

With both triggers of the double-barrel .400 wired together the result on the animal was just the same as from a 173-grain slug from the 7 mm., although the firer was left in a sort of shock-drunk state. You were firing 120 grains of cordite behind 800 grains of bullet from a ten-pound rifle. For a second or two you were off balance and in no condition to select another target and to fire an aimed shot in spite of having braced yourself for the coming explosion.

In case anyone is crazy enough to wish to repeat this experiment, I would like to warn him that it is no easy matter to get the two barrels to go off together. As a result of the construction of these mighty pieces, the recoil is partly reduced by the bend in the stock. This tends to throw the muzzles up. It will be readily understood that the merest fraction of time difference in the fall of the strikers results in the second shot going much higher than the first. Altogether an abomination, these doubles.

Then coming down the scale we reach the .318 with its four-diameter 250-grain bullet. This is a killer. It holds its course through almost anything and is superior in this respect to all other bullets I have tried. For ob-

.416 Rigby. Weight 10 pounds

.303 Lee-Metford 10-shot. Weight 7½ pounds

lique shots into large animals it is quite the best (muzzle velocity 2400 feet per second). Cartridge about the same length as .30-'06. Could be shorter with advantage. Also requires more shoulder on cartridge case. I have a .318 weighing seven pounds ten ounces exactly, when empty. The deadliest weapon of the push bolt type known to me. It is quite sufficiently pleasant to fire in the standing position, and is heavy enough to keep the arm muscles in trim for standing shooting when carried all day.

The .303 British Mark VI round-nose 215-grain solid. The rifle has many advantages. It is light—can be 6¾ pounds. Stock is bolted to action through grip and can hardly be broken, although it may work loose and requires a very long turnscrew to tighten it. By continuous working of bolt smeared with very fine emery powder, bolt can be brought to a fine polished performance. With its ten-shot magazine, a very useful hard-working and efficient rifle. Can hardly be stopped functioning by mud or sand.

A seven-pound rifle empty, .275 (7 mm.) Rigby Mauser. Muzzle velocity 2300 feet per second, 173-grain bullet. The scientist's rifle par excellence. Weight can be 6¾ pounds. A delightful companion with its German D.W.M.-made bullet, it killed over 800 head of large bull elephants. Its diameter to length of bullet and its rather pointed round-nose bullet gave it extraordinary penetration. Its true course-holding quality very good except in extreme conditions as when firing for the brain in elephant from behind—an extremely severe test. Out performed by the .250-grain .318 in this case alone. Bullet may be required to enter at an angle of 20 degrees from body axis. The least deflection cannot be tolerated as brain is presented in least favorable aspect. Bullet has thinnish hide, heavy muscle, thinnish bone to contend with but all at 20 degrees angle. Failure to connect with brain one in three. Human error say 50%. Misses due to deflection say one in four. Similar figures for .318, say one in 3½. I never saw a mangled or bent 7 mm. bullet, possibly because most of them had passed on whistling as they went. An inspiring little rifle, requiring knowledge of anatomy and exact pointing.

.256 Mannlicher and .256 Mannlicher-Schoenauer. Here we are approaching the limit of safety, in diameter to length, for long traverses in heavy game. These long narrow four-diameter bullets bend into the most extraordinary hook-like shapes and this oddity of theirs inevitably brings under suspicion their true course-holding properties. I must say I only once failed to kill the animal

I fired at with the .256 and that was due to a misfire because of a faulty round.

I once had a carbine Mannlicher-Schoenauer 20" barrel down to 5½ lbs. with a hollowed out walnut stock that was simply lightning for the brain shot on elephant. I believe a homogeneous Monel bullet might overcome the bending propensities of the lead-filled bullet even in .256 caliber. It would certainly be stiffer. Once that is overcome the thing is perfect as far as bullet goes.

The bolt action could be improved. The delay between striker release and firing of cartridge is much too long for good off-the-shoulder work from wobbly or insecure stances.

Good word for .30-'06

The .30-'06, I regret to say, never came my way so I cannot speak of it from experience on African game. But coming as it does between .275 and .318, it might well prove to be the ideal caliber, large enough in diameter to resist bending, heavy enough to hold a true course, and with sufficient density to give good penetration. The new short version, the .308, with a suitable bullet may yet prove to be the answer to the hunter's prayer. Sufficient diameter, enough penetration with no bending, is a specification that would answer others' than the hunter's dream.

There is a simple test for bullets suitable for killing large game. It should never be less than four times its diameter in length and should have a short round-nose point and long parallel sides. Its jacket should be of steel of a thickness that will keep it together through any going, however tough. Or it should be of homogeneous metal.

Granted these conditions, let the Big Bores choose their own caliber.

It would be interesting to speculate on what sort of punch such cartridges would give.

Take a .475. I suppose its bullet would measure maybe 1½ or two diameters in length, weighing 500 grains. A bullet to measure four diameters would therefore weigh somewhere about 1,000 grains. Although it would be an adequate killer, the Big Bore school can have it—it would kill at both ends.

Yet another bone to pick with the cannon-worshippers. They often say that smallbores wound when they do not kill, and that the animal goes off to die a lingering death—a favorite phrase this—whereas a large caliber bullet causes such a wide area of destruction that the animal is more likely to die.

But it must not be overlooked that the smallbore, while making a smaller wound channel, also makes a longer one. It is much more likely to be a well-directed shot also, and anyhow with heavy game where the vitals are so

large, there is no excuse for wounding to enter into the question. Any long-range stuff is out of place on these animals.

We now come to what I would take to Africa if I had to go through the whole thing again under the same set of conditions.

I would base my battery on a Winchester .308 Model 70 burning a cartridge loaded with a homogeneous bronze or Monel metal bullet of the form as worked out by Kohlbacker. At the same time, I would have a .318 barrel to fit the same stock and a supply of 250-grain solid conventional lead-filled steel-jacketed bullets, just in case any unforeseen snags arose from the use of homogeneous bullets in the .308.

My reasons for choosing the .308 are that it most nearly meets the elephant hunter's dream—sufficient penetration with no bending.

My reason for preferring the .308 case is because it is shorter than the .30-'06 M2. My only really close calls in hunting African game have come from the too long bolt travel of bolt-action rifles and from firing at very close range into elephant with the body shot in very thick stuff when they were facing me. They launch themselves straight ahead when hit in the heart and they are as likely as not to tangle you up in their legs.

The greatest menace

The too-long bolt is I think the greatest menace a man has to face in African hunting. My own experiences happened with rhino in long grass. With sighting ranges of three yards or so, the backward bolt travel is liable to be cut prematurely. The empty case is not ejected but reinserted in the barrel and you have a misfire at contact range.

A thing I miss very much in the modernized copies of the Mauser bolt-action is the cut-out thumb slot on the left side of the action body. This thumb recess was probably intended to help the thumb press down a cliploat of cartridges into the magazine. In the field I found it suited me for the loading of single cartridges with the left hand holding the light rifle and the thumb pressing the single cartridge down into the magazine, and the right hand extracting a round from the belt. This could be done while the eye remained on the game.

I have tried out these homogeneous bullets in brass on Scottish red deer and on an African buffalo's head and from its performance I feel sure it would probably knock all ordinary bullets right out of the field.

Instead of going back with the old Four Bores and Eight Bores of the last century, I would go forward and form a new school of bores—The Homogeneous or All Metal Bores. ◆ ◆ ◆