The

Small Bore Shot Gun

BY

Parker Brothers

MASTER GUN MAKERS

Meriden, Conn., U. S.

PARKER
Small Bore Shot Guns.

Supplementary to what has previously been published by us on the subject of Parker small bore double shot guns, and with a view of shedding more technical light on this interesting subject, this booklet is placed before the public by the makers of the "Old Reliable" Parker Gun hoping it will meet with the same cordial reception, and in due time be as widely read, as its predecessor.

As a foreword in explanation and to place ourselves properly before the shooting public, it is deemed best to state that no gun maker with an unbroken record of brilliant exploits behind him, could ever hope to benefit his cause by endeavoring to foist on his patrons, any kind, style or gauge of gun that cannot measure fully up to his previous standard of excellence. Therefore whatever may be advanced in the following pages can be accepted as absolutely practical, trustworthy and accurate information, based on knowledge gained in the manufacture of shot guns of all gauges from 8 to 28, during more than half a century of conspicuous achievement.

Reasons for Making Small Bores.

In 1895, when we first brought the 20 gauge gun prominently to the attention of the shooting public, the main idea was to place in the hands of progressive sportsmen a light and yet thoroughly safe and efficient gun—primarily intended to meet the demand for fowling pieces of less weight than could with safety be manufactured in the 12 gauge standard size—small, handy guns, that for all kinds of upland shooting would be found

equal to every requirement reasonably expected of them. It is needless to state that it is almost equivalent to questioning any sportsman's intelligence, to remind him that by no possible contrivance, all things being equal, can ⅞ of an ounce of shot be made to cover as much space and insure as great a killing factor at extreme long ranges as 1¼, or even in some instances 1½ ounces—yet so long as 20 bores are being compared with guns of much larger caliber and pounds more weight—in justice to the little guns, it is thought advisable to make the foregoing statement. To the man who disregards carrying a 7½ lb. gun afield irrespective of its gauge, no other than a 12 can successfully appeal, and for all kinds of shooting, including trap work, no other caliber can so fully and completely meet all legitimate demands.

Therefore, what is advanced in these pages should mainly concern sportsmen desirous of obtaining the maximum of comfort and pleasure with the minimum of physical toil and exertion, especially when it has been a clearly established fact that one does not need so many pounds of metal and ammunition to bag small, soft feathered game birds. The fact of doing something skillful and meritorious invariably comes to the man who with a small, light, trim-built gun cuts down his game, within sporting ranges, leaving him in the enjoyment of sensations quite unknown to the one who supplements his skill by sending showers of shot after the fleeing quarry. To properly and fully realize this he must experience the sensations himself, as they cannot be imparted by proxy or by books, albeit bearing in mind that the strongest recommendations of the 20 gauge double shot gun, come mainly from those who have actually shot them afield putting them to the crucial test of varied service conditions.

Small Bores Beyond Experimental Stage.

Based therefore on so many years of practical experience the Parker small bore double shot gun can be accepted as needing no apology from its makers, nor distrust from the sportsmen, because in its proper sphere it has proved itself fully equal to all claims we have made for it, having indeed in many cases surpassed by far the hopes of its most sanguine advocates. This broad statement is based primarily on the ever increasing number of 20 gauge guns sold, but particularly from the most favorable unsolicited testimonials coming from progressive and alert sportsmen from all parts of the world, wherever guns of this gauge have been fortunate enough to fall into the hands of those who do not expect the impossible, namely—a small gauge, light fowling piece that will excel others of far wider gauge and perforce greater weight which it should be needless to state is obviously a physical impossibility.

Passing of the Large Bore Gun.

From knowledge gained by past experience it is in order to state that when the sportsmen of America discarded their trusty ten bores, and at first reluctantly and with grave misgivings adopted the now standard twelve gauge double gun, they never for a moment were deluded with the fantastic idea that the far lighter and smaller gun would outshoot its predecessor of broader gauge, more weight, and greater capacity, but they did know beyond a peradventure that a 7 to 7½ lb. gun must be more easily carried afield than one weighing from 1 to 3 pounds more, and subsequently experience taught them that what the smaller gun might be losing in killing power at extreme ranges, it more than made up by its portability, greater speed in handling as well as by the diminished weight

of its smaller and more compact ammunition. One day afield revealed all this and subsequent trials plainly proved that it is not necessary to weigh oneself down with cumbersome guns and bulky, heavy cartridges. Nevertheless to recommend a small bore solely on its diminished weight regardless of its efficiency would be a very short-sighted policy and no reputable gun maker could afford to commit such a glaring error, more especially as the cost of making a small bore gun is quite as great as when turning out a larger one.

Featherweight Guns.

Because a small bore can be whittled down to featherweight proportions, is no good reason that it should be done, and while 6 or 8 ounces can some times advantageously be shaved from a heavy, large bore, yet so slight a difference as 2 or 3 ounces may operate to the detriment of one of smaller gauge, and the jumping and kicking of a little gun is just as much to be avoided as the thumping and kicking of a larger one and one of the greatest advantages derived from shooting a small bore is to break away from unpleasant recoil. There can be no valid reason for adopting a gun of any gauge that cannot shoot with safety and comfort the regulation charge suited to its caliber. For instance, if one desires to obtain a very light 12 from which nothing but reduced loads can be fired, it stands to reason that a 16 gauge will answer the purpose fully as well, or even better as there is no sound logic in shooting 16 gauge loads out of 12 gauge guns. The same rule applies with just as much force to the 16 and the 20, so if the sportsman elects to shoot nothing heavier than a 5¾ or 6 pound gun, by all means let it be a 20 gauge—but one weighing a few ounces more will prove itself better as then the 2½ dram ⅞ ounce loads in 2¾ inch cases can be shot

with perfect safety and freedom from recoil. These remarks apply to guns with 28 to 30 inch barrels and stocks of average lengths—say 14 to 14⅛ inches.

Longer Range Twenty Bores.

When much of the shooting will be at duck, the 32 inch barrel gun weighing 6¾ pounds full choke, chambered for 2¾ to 3 inch shells capable of holding 2½ drams of bulk nitro powder, and ⅞ of an ounce of shot with a full complement of wads to hold back the gas and cushion the charge, is recommended. The main advantages in having such guns are that the recoil is practically negligible and the better alignment for all long range shooting is quite noticeable when using these long barrels. Beyond 32 inches there is nothing to be gained for any gun of this gauge, and the same remark applies to the 16 gauge, which by weighing about 7 to 7½ pounds, chambered for 3 inch cases and regulated to shoot 3 drams of bulk nitro powder and one ounce of shot, when bored full choke, is an excellent long range gun.

Specially built 20 gauge guns regulated to shoot at long range, chambered for 3 inch shells make splendid guns for all kinds of duck shooting over decoys. By using long shells 2⅝ drams of bulk nitro powder can be used, and by placing three ¼ of an inch wads on it, and then ⅞ of an ounce of shot, one obtains a first class high velocity load. The main object in recommending long shells for heavy powder charges is to allow a thicker column of wads between it and the shot, thereby diminishing the breech pressure, and at the same time obtaining more regular and steadier shooting at long distances. If, however, short shells are to be used it is better not to have long chambers, as underlength shells do not perform as well in long chambered guns as when cases of the proper length

are used. The 2¾ inch case loaded with 2¼ to 2⅜ drams of bulk nitro powder, and ¾ or ⅞ of an ounce of shot makes a very good load, and for all kinds of upland shooting will be found to answer every requirement as it allows sufficient space for the wadding. When using more powder, one is less apt to get occasional wild shots by increasing the length of the shell, thereby giving room for more wadding, which cushions the shot at the time of explosion. All powders referred to on these pages are of the bulk nitro kind ranging from 12 to 13⅓ grains per dram according to kind used.

One of the main reasons why Parker guns of all gauges are so effective at extreme ranges is the great care bestowed in shaping the chamber-cone with relation to the true bore of the barrel, also shape of the choke, more especially as relates to all small bore guns where the greatest care and skill are required to ensure the steady, uniform shooting which has made the "Old Reliable" famous. In fact, to the chambering and choking of Parker guns is attributable the victories gained by those using them over such a world wide field, for it is quite obvious that beyond the individual skill of the marksman, there must be some latent force in the

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THE PARKER GUN, strongest and best shooting Gun in the world has stood the test for over fifty years.

It leads in Perfect Scores, Straights and World Records.

gun itself in order that such consistent shooting is obtained year after year against such keen competition.

Spread of Shot in Small Bores.

Realizing that many sportsmen are under the erroneous impression that all small bore guns shoot extremely close patterns, a table is shown which very clearly proves that it is the boring of the barrels and in some cases the loading which regulates the spread of shot, regardless of the gauge, so that the degree of choke and its shape are the factors which control the distribution of the shot at any given range. The following table illustrates that at 25 yards there is very little difference in the actual killing circles of 12, 16, 20 or even 28 gauge guns, but at the same time the more pellets there are in the load the thicker will be the fringe of the pattern, so much so indeed that much of the game shot in cover at close range is riddled and smashed, and therefore wasted, when shot with large loads of shot in guns of wider gauge, say for instance—when using the regular 1⅛ ounce charge in the standard 12 bore game gun.

The Greatest Scores Ever Recorded were Made with the Parker Gun.

1919

The Winnings, Perfect Scores and Records made this year were too numerous to mention here. The Parker Gun maintained its reputation as being the Best Shooting Gun in the World.

1920

Fred Gilbert, of Spirit Lake, Ia., again demonstrated the shooting qualities of a PARKER GUN when he scored in competition 589 straight. A WORLD'S RECORD 589 without a miss.

Table Showing Size of Spread of Shot at 25 Yards from Parker Guns of Different Gauges and Degree of Choke.

Make of Gun.	Gauge.	Drams of Powder.	Quantity of No. 9 Shot in Ounces.	Killing Circles in Inches of Cylinder Barrels at 25 Yards.	Averrge in Inches of Cylinder Barrels.	Killing Circles in Inches of Modified Choke Barrels	Average in Inches of Modified Barrels.	Killing Circles in Inches of Full Choke Barrels at 25 Yards.	Average in Inches of Choke Barrels.
Parker	12	3	1⅛	29, 30	30	22, 22, 22, 23	22	16, 16, 17, 18	17
Parker	16	2¾	1	28, 28, 28	28	. . . . .	. . .	18, 19, 17	18
Parker	20	2¼	⅞	28, 30, 28	29	. . . . .	. . .	20, 19, 21	20
Parker	28	2	¾	24, 26, 26	25	. . . . .	. . .	20, 19, 18	19

The 28 Gauge Double Gun.

The sportsman who desires to eliminate every ounce in weight from his gun and its cartridges, should by all means give these little pieces his careful attention, bearing in mind at all times that his ⅝ of an ounce of shot comes to its ultimate limits of efficiency very soon after passing the 35 yard mark. For all kinds of shooting in the brush, however, this should form no particular handicap as most of it will be done well inside of that distance. A glance at the table of ballistics will show that pressures are very high in small bores, and to avoid any possible chance of mishaps it is far wiser to have the barrels of all guns of sufficient thickness at the breech to insure safety. The Parker 28 gauge double gun can be made as light as 5 pounds and 4 ounces if of high grade steel but one at 5½ to 5¾ pounds of the **medium** grades is recommended. These weights are for guns with 26 to 28 inch barrels, normal stocks, the lighter ones being chambered for 2½ inch shells whereas the 5¾ to 6 pound gun can be chambered for 2⅞ inch cases if so desired. For purely snap shooting in the brush such as one usually does at woodcock, quail and ruffed grouse a 26 or 28 inch barrel 28 gauge is a perfect revelation to one who has never tried it, and by having the right barrel modified choke and the left full, the sportsman can bring to bag many a bird that would stand a far better chance of escaping when a heavier and slower gun is used. The 28 gauge should not be bored a true cylinder as so small a quantity of shot as ⅝ of an ounce, cannot afford to stand any waste in its pattern, there being so few pellets to the load.

In comparison with the 20 gauge, the 28 does not measure up as well as does the 20 to the 16 gauge, and its only legitimate field should be confined to short range shooting where speed in handling is the essential fea-

ture combined, of course, with its extreme lightness, as well as the reduced bulk and weight of its ammunition.

As it may be interesting to note the effect produced on the velocity of various charges of shot according to the amount of powder used, and in order to further simplify matters, we will take as example a kind of powder that weighs 12 grains to the dram. When the 3 dram load weighing 36 grains propels 1 ounce of shot, each eighth of an ounce is being driven by 4.50 grains of powder, which according to the following table, gives a velocity of 924 foot seconds in the 16 gauge gun with a mean pressure of 4.01 tons per square inch. When, however, 2¾ drams and ⅞ ounce are used we have 4.71 grains behind each ⅛ of an ounce with a velocity of 929 feet and pressure of 3.14 tons. While the velocity of the two loads is to all purposes the same, yet the efficiency of the former charge in a gun regulated to shoot it, with weight enough to absorb the recoil and chambered long enough to take 3 inch shells, is quite noticeable as the increased ⅛ of an ounce of shot is telling, especially at long distances where pattern as well as penetration means so much.

Taking the 20 gauge load for instance with 2½ drams and only ¾ of an ounce we have 5 grains of powder to each ⅛ of an ounce of shot with a velocity of 922 feet per second pressure 4.73 tons as against a velocity of 920 feet per second and 5.65 tons pressure when using a 2½ drams and ⅞ of an ounce of shot, and while the proportion of powder is reduced from 5 grains to the ⅛ of an ounce of shot, to only 4.28 grains in this load, yet the increase by ⅛ of an ounce of shot is of decided advantage in all long range shooting, when the gun in question has been bored, chambered and regulated to shoot it.

It will also be observed that the 2¾ and ⅞ load in this gauge gives the extremely high

pressure of 6.10 tons per square inch, which under certain conditions might easily prove disastrous to both gun and shooter. Hence, we do not recommend abnormal charges, knowing them to be excessively dangerous and worse than useless for any kind of shooting, for while the velocity attained reaches 973 feet per second yet the pattern is so wide that less powder will accomplish more, put far less strain on the gun, and from every angle, prove a more effective charge.

Table of Ballistics.

Tests of 10 rounds each to determine pressures and velocities over 120 feet range of various loads of Dupont Powder in 12, 16, 20, and 28 gauge guns.

Gauge of Gun.	Charge of Powder, Drams.	Charge of Shot, Ounces.	Mean Pressure, Tons.	Velocity Feet, Seconds.
12	3½	1 No. 7	4.00	973
12	3½	1¼ " 7	4.42	959
12	3¼	1 " 7	3.17	940
12	3¼	1⅛ " 7	4.00	930
12	3	1⅛ " 7	3.62	900
16	2¾	⅞ " 7	3.14	929
16	3	1 " 7	4.01	924
16	2½	⅞ " 7	2.56	885
20	2¾	⅞ " 7	6.10	973
20	2½	¾ " 7	4.73	922
20	2½	⅞ " 7	5.65	920
20	2¼	¾ " 7	4.41	887
28	2⅛	⅝ " 7	5.39	934
28	2	⅝ " 7	5.10	910

The foregoing table illustrates that the 20 bore when loaded with 2½ drams of powder and ⅞ of an ounce of shot, attains about the same velocity as the 12 gauge with its normal charge of 3¼ drams and 1⅛ ounces of shot of same size. But there is this very pronounced difference, the 20 gauge loads can be fired in a 6¼ and 6½ pound gun all day long, whereas the 12 gauge to shoot as much powder and shot as above will have to weigh at least one pound more, added to this is 1½ pounds in weight of 50 twelve gauge shells as compared to the same number of twenties.

Relative Patterns of Large and Small Bore Guns.

So long as charges of shot are scaled down ⅛ of an ounce at a time, the reduction at once becomes very apparent when it is applied to small bore loads, the more so as small bores do not, as a rule, account for as great a percentage of their charge in a given circle at 40 yards as full chokes of wider caliber. Bearing this in mind a glance at the following table should prove interesting as well as instructive, and should furthermore emphasize the fact that there are guns and guns, and that the style of boring that has brought victory to those shooting Parkers at the trap, winning year after year the most coveted prizes, has been followed to the minutest detail in the boring of all of our guns with such modifications as experience and practical tests have proved to be best.

Table Giving Number of Pellets Put In 30 Inch Circle at 40 Yards from Full Choke Guns.

12 gauge load, 1¼ ozs., counting 374 pellets No. 7 shot, 75%, means 280 in 30 in. circle.

12 gauge load, 1⅛ ozs., counting 336 pellets No. 7 shot, 75%, means 252 in 30 in. circle.

16 gauge load, 1 oz., counting 299 pellets No. 7 shot, 75%, means 224 in 30 in. circle.

16 gauge load, ⅞ oz., counting 262 pellets No. 7 shot, 75%, means 196 in 30 in. circle.

20 gauge load, ⅞ oz., counting 262 pellets No. 7 shot, 70%, means 183 in 30 in. circle.

20 gauge load, ¾ oz., counting 225 pellets No. 7 shot, 70%, means 157 in 30 in. circle.

28 gauge load, ¾ oz., counting 225 pellets No. 7 shot, 65%, means 147 in 30 in. circle.

28 gauge load, ⅝ oz., counting 184 pellets No. 7 shot, 65%, means 120 in 30 in. circle.

The Fit of the Gun.

So many good guns have been cast aside and declared worthless by their owners, simply because they were misfits, and from no inherent defect whatever, that too much stress cannot be put on the great importance of securing a perfect fit in the gun, and the only safe and sure way of getting this, is to be fitted by some competent person equipped with a PARKER TRY GUN. The stock of these guns can be put to any bend, length, cast off, or on, pitch, in fact can be so twisted and adjusted that any one can easily determine the shape of stock best suited to his figure and fancy. As these guns can be fired with full charges just as an ordinary one, it is of the greatest advantage to avail oneself of such a device and the time so spent will never be regretted as then the novice starts off right from the beginning.

Too much stress cannot be laid on the vital importance of securing a perfect fit in any gun, but above all in such fowling pieces as will be used in thickets and covert where snap shooting is the rule, and where small bores are seen at their best. Bruised arms or shoulders, injured fingers and bumped jaws can be avoided by securing a perfect fitting gun, and many a man, even after many years of practical experience has greatly improved his shooting by being properly fitted by the aid of the Try Gun.

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