MANUFACTURE D'ARMES DE CHASSE A CANONS FIXES

1909

R. DARNE

71-73, Cours Fauriel

Rue de la Cotencière

SAINT-ÉTIENNE

TÉLÉPHONE : 4-62

MAGASIN A PARIS

4, Place du Théâtre-Français

(AVENUE DE L'OPÉRA)

TÉLÉPHONE : 279-65


Le
Fusil DARNE

Darne 4-gauge Wildfowl Shotgun

"Fusil de caliber 4 canardier"

Made in Saint Étienne, France in 1905.

Weight: 14 lb, 3 oz.; bore diameter is 0.920 in.

Barrel length is 47-1/2 inches; chamber length is 3.98 inches.

Gun is proofed for black powder at 14,200 psi.

Recommended charge: 8 drams black powder and 2-3/4 ounces lead shot

Gun described in the *Double Gun Journal*, Autumn 2015, 26(3):153-160.

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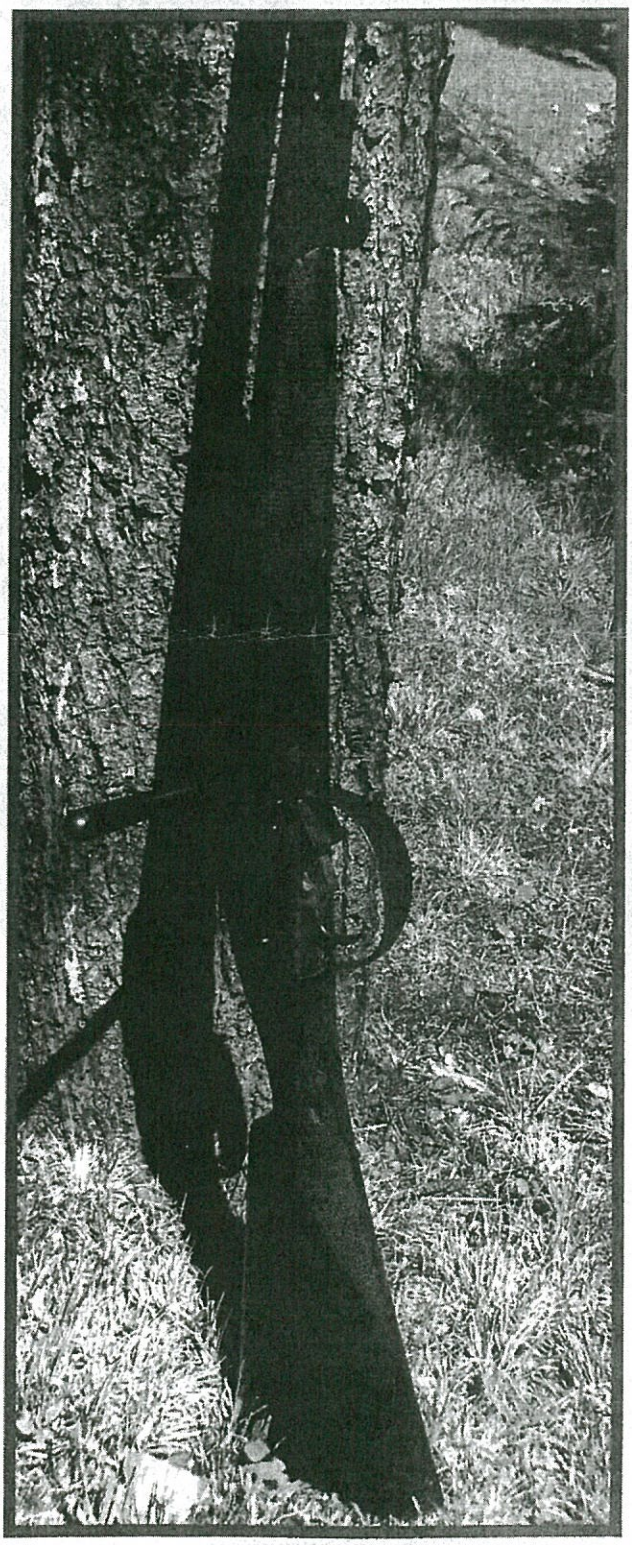
A Curious Darne 4-Gauge "Canardier"

Everything has its beauty, but not everyone sees it ~ Confucius

Written & Photographed
by
Leon Robert & Jason Barden

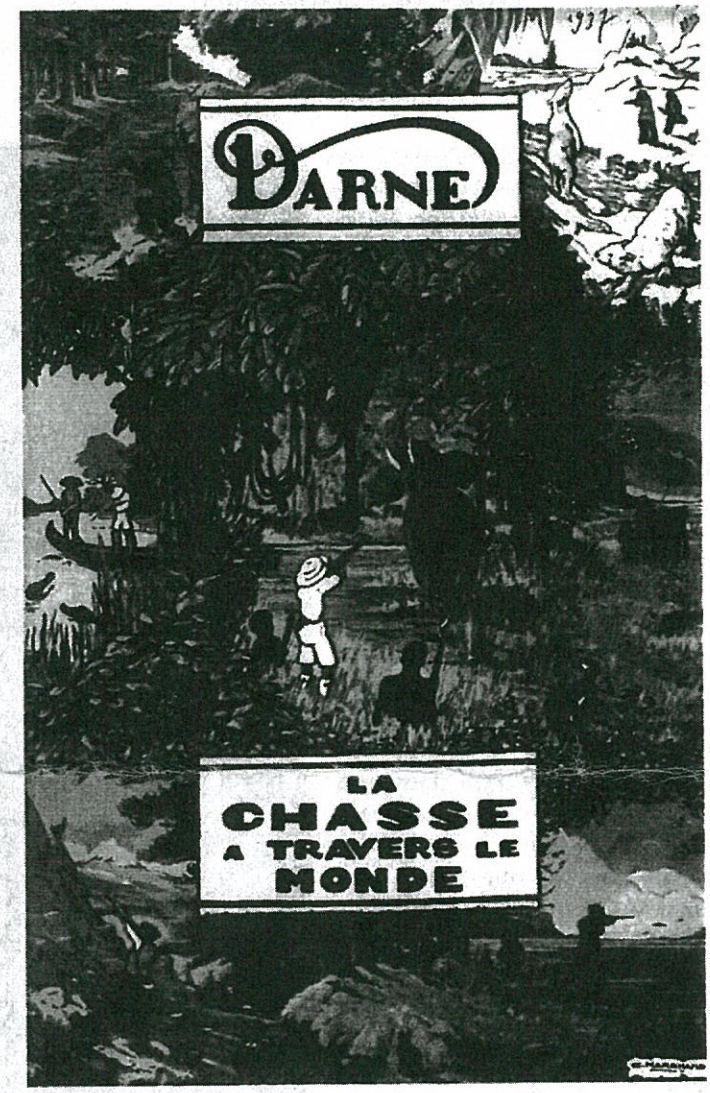
As will soon become quite obvious, the authors have a love of large-gauge smoothbores and you might even say an obsession with unusual or "curious" four-gauge shotguns. To us, unusual four gauges are those that are rare and hence rarely seen or those that have unusual actions or locking mechanisms. Unusual you say? Yes, even amidst the *rarified air* of four gauges, there are guns that really stir curiosity and inspire the imagination when you see or hear of them. Sherman Bell's excellent article "Quarter-Pounders" (*DGJ*, Volume 21, Autumn 2010) eloquently described several of these monster shotguns and really got us thinking. After carefully reading and thoroughly enjoying his article, your authors decided to share with readers an example of a "curious" French *canardier* four-gauge shotgun (best translated as "wildfowl gun") that is fascinating and has some real intrinsic beauty . . . at least in our eyes. The gun described in these pages is a Darne (pronounced *Dar-nuh*) four-gauge (*fusil de caliber 4*) single barrel smoothbore shotgun with a rolling block action. This shotgun was purchased in the spring of 2012; it is both a rarity and has an unusual and curious locking mechanism, at least for a waterfowl gun. We wish to share with *DGJ* readers what we have learned about the history of this gun, how the unusual breech mechanism works, and how our efforts to bring this piece of French history back to life has made the gun altogether more curious—at least in our eyes. This leviathan of French waterfowling is simply massive by all criteria. It is certainly not a sleek and streamlined Darne with a distinctively French style that you may be accustomed to. To the contrary, it is big, bold, robust, and plain, all hallmarks of a utilitarian market hunter's "working" gun. However, the quality of workmanship, the metal-to-metal fit, jointing of wood and metal, and polishing and finish of all components is of the typical Darne's highest quality. The authors believe that the greatest beauty of all is the elegant contour of this working gun; it is proportionate in every part, well-designed, and skillfully executed. This gun certainly is a tribute to the skilled Darne gun craftsmen working at the turn of the 20th century in Saint-Étienne, France.

Darne has a long history of making unusual and interesting shotguns; indeed, they are almost *avant-garde* and each successive model is both progressive and intriguing. Régis Darne, a gunsmith from Saint-Étienne, began work in 1881 and quickly patented a new and different type of shotgun with a fixed barrel and a rotating breech system (the C Model). This was much different than the famous sliding breech system of the R or V Models that we know today. The sliding breech action is very strong and has also been used for big-bore rifle cartridges like



The Darne 4-gauge shotgun as acquired.

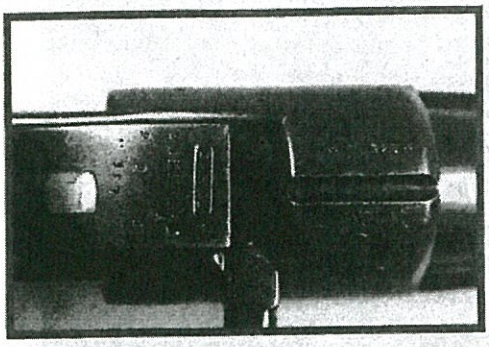
the .500 Eley and the .375 H&H magnum. Not surprisingly, the gun described here is yet another unique Darne action. According to email information obtained from Geoffroy Gournet, a former representative of Darne USA, these guns were manufactured between 1905 and 1930 in both 8 gauge and 4 gauge. These smooth-bore guns were prominently advertised in the Darne 1909 catalogue (reprinted by Cornell Publications). Darne guns are broadly described in the catalogue as "quick handling," having "superior elegance," and being of "great value," certainly words to get the attention of French sportsmen. The catalogue goes on to extol the virtues of safety, reliability, proper weight, and good form and balance. It is no wonder that in 1909, Darne boasted that 35,000 hunters had adopted their guns for use and not one had ever had a problem! The catalogue provides great detail as to the metallurgical methods used in manufacturing their guns. They boast that the very best steel available was used that provided great consistency and hence quality. The metal was drop-forged (hammering metal into dies) and then quenched which is the rapid cooling of metal by the sudden immersion of a heated metal into cold water or oil to obtain certain desired material properties such as increased strength and hardness. Perhaps there is truth to the legend that the water at Saint-Étienne possessed mysterious qualities which helped temper the iron. The catalogue also describes the Darne method of tempering that is usually performed after hardening to reduce some of the excess hardness, and is done by heating the metal to a much lower temperature than was used for hardening. The exact temperature determines the amount of hardness removed, and depends on both the specific composition of the alloy and on the desired properties in the finished product. It is apparent that Darne was proud of the materials and the manufacturing processes used to produce their guns. The catalogue prominently invited clients to visit the Darne factory and see the precision craftsmanship and modern machinery for themselves. The gun has an impressive overall length of 65 inches with an equally impressive barrel length of 47-1/4 inches (or 1 meter and 20 centimeters as described in the 1909 Darne catalogue). These guns were also manufactured in a shorter barrel length of 90 centimeters (35-1/2 inches). The nominal bore diameter of "*23.3 MM*" (0.920 inches) is stamped on the barrel reflecting a "smallish" bore diameter, if there is such a thing for a four gauge. The bore diameter of 0.920 inches actually qualifies as a slightly large 6 gauge (0.919 nominal bore diameter). The barrel has 0.060 inches of choke at the muzzle and hence is adeptly suited for long-range shooting, and there is an enormous brass front bead installed some two inches back from the muzzle to allow for easy aim. The gun weighs 14 lb. 3 oz. which is a bit light for a four gauge—at least according to W. W. Greener who recommended that four gauges weigh between 15 pounds and 18 pounds in his 1910 ninth edition book, *The Gun and Its Development.*



Darne poster "Hunting Around The World"
Used with permission, Darne USA

The proof law of 1868 in France was the most demanding one in Europe at that time: half the barrel was filled with black powder, the rest of the barrel was filled with #9 shot and the gun was fired. It would be assumed that guns with weak chambers and or barrels did not survive this violent assault! The top of the barrel bears the original Saint-Étienne proofs for finished black powder guns and an "*F*" surmounted by one crown showing that the gun is proofed for a pressure of 960 kg/cm^2 (or 14,200 psi). There is no doubt that this is a strong gun since it was originally proofed in France and reproofed in London in 2012. The barrel reflects London definitive black powder proof marks for shotguns of "*GP*" surmounted with a crown and "*LR*" over "*12*" reflecting its reproof in 2012. The marks "*NOT NITRO*" and the chamber length of "*101 MM*" (3.98 inches) are also boldly stamped on the barrel. A faint "*100*," indicating a 100 mm chamber length, is also stamped on the top of the frame.

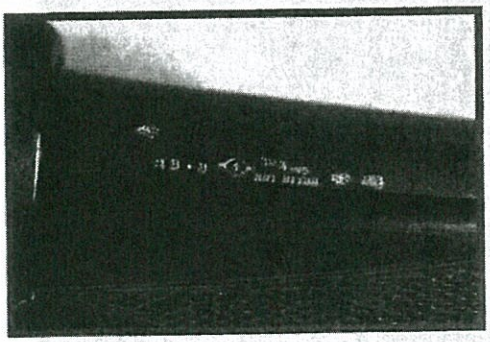
The barrel is not overly heavy compared with other 4 gauges. The outside diameter at the muzzle is 1.09 inches with a barrel thickness of 0.11 inches. There is a rectangular metal block with an integral ring attached (we believe it to be tin-soldered) to the bottom of the barrel immediately forward of the forearm. The purpose of this ring is for rope-breeching, which was the simplest and most common method for taking the recoil of such a gun. Manila rope was commonly used since it takes up the recoil well. Through its use, the recoil of large punt guns was tamed and made manageable. The general rule is that the longer the breeching, the easier the recoil is managed. Thus, this gun could either be shoulder-fired or used as a punt gun with the rope securely fastened to the gun.



Original St. Étienne barrel proof marks.

The oil finished straight grip buttstock can best be described as a piece of unsophisticated French walnut with its characteristic open, straight grain with broad streaks of black and well-veined wood. The wood is rich in color, light in weight, open-grained, and has simple lines. There is a rust-blued steel buttplate with a spur, yet another distinction of a fine gun. The stock is fastened to the breech-action by a long stock bolt passing through the center of the wrist and screwing into the back of the breech-action, thus firmly securing the butt to the action. The buttstock is held in place with a large one-inch nut; it is neither dainty nor subtle, but it certainly does the job. This robust securing mechanism does well in strengthening the weakest part of the stock at the wrist. The wrist and forearm checkering is simple with 20 lines-per-inch with a mullard border. This type of border is made using a convex cutting tool such as a curved rat-tail file slightly larger than the normal pointed checkering used for the body of the pattern. Interestingly, this style of boundary line at the edge of the checkered area is typical of better English guns and fine American guns built in the English style. This unexpected mark of fine craftsmanship speaks to the pride and talents of the gunsmiths at the Darne factory. The wood certainly has all the "character" of a true working gun. It shows ample nicks and small dings; however, how could you expect otherwise from a working man's gun that was simply a tool of the trade . . . nothing more, nothing less? The 13-5/8 inch length of pull is certainly short by today's standards and the drop at the comb of 2.5 inches and the drop at the heel of 3-1/4 inches are certainly more than most shooters would accept today, but they were not out of the norm at the time the gun was built. The fore-end is 10 inches long and 1.7 inches wide in the middle and is securely fastened to the barrel with a single turnscrew.

Darne 1909 catalogue cover and reloading tools. London reproof marks (below).



After taking possession of this wonderful old Darne, we decided that a full restoration was neither necessary nor desired because of its honest, original condition. Instead, a full disassembly, inspection, and cleaning with minor repairs was the best course of action. The buttstock and fore-end wood were removed, cleaned, and lightly steamed to raise some marring. Then, they were very lightly sanded to "freshen" the wood's overall appearance. The inletting was scraped and cleaned. The checkering was not recut but rather was cleaned with brushes as best as possible. However, a rather unsightly gouge in the wrist checkering area was milled out and an oversized piece of walnut was secured in place with epoxy; it was then shaped to fit, re-checkered, and darkened to match the original stock. The mullard borders were recut giving the wood a fresh and lively look. CCL Traditional Gunstock Oil Finishing Kit was used on the wood. Generous applications of the polishing compound, hardener, and sealer worked nicely to bring out the figure in the wood. This method gave back life to that imperfect worn finish on this fine old shotgun.

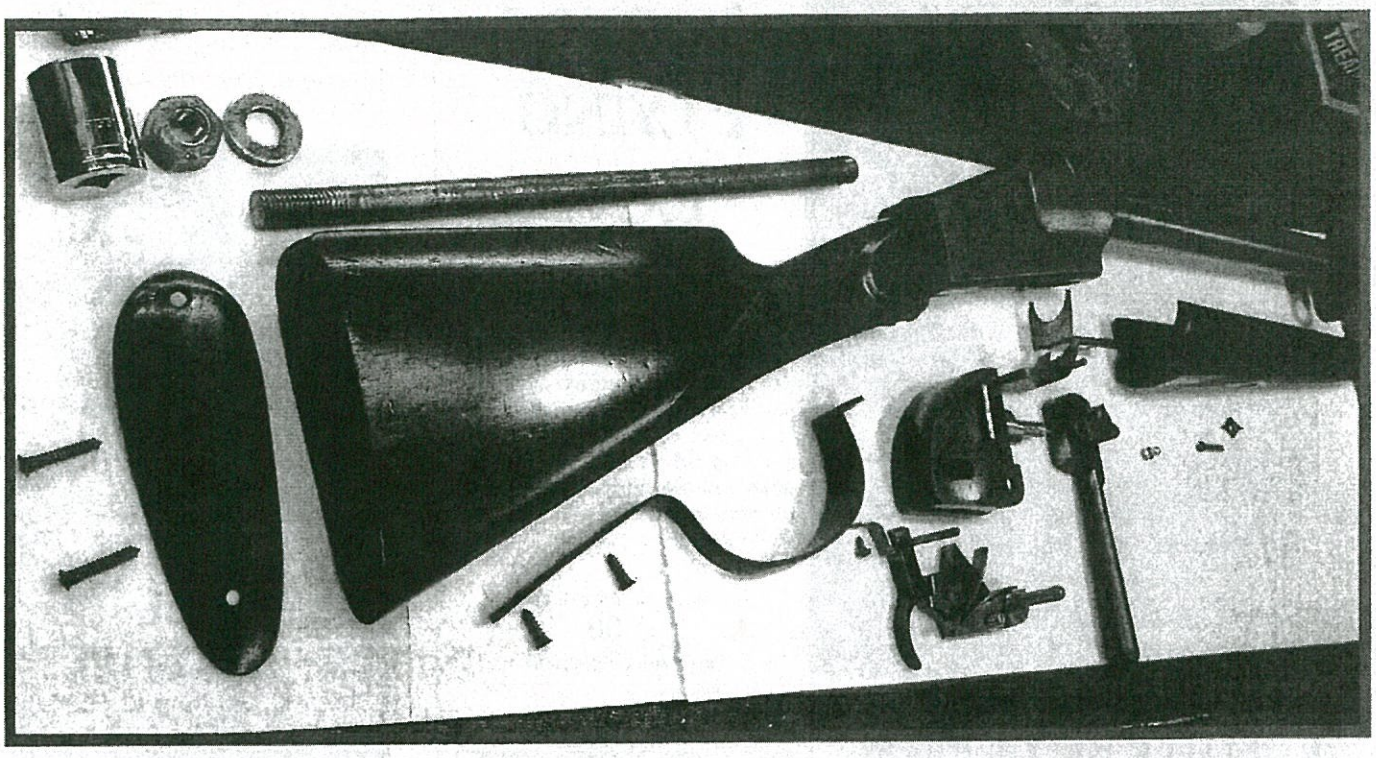
Disassembling the gun was not difficult, but was certainly educational. The main components of the action are held in place by three simple tapered pins. There is an action set screw for aid in takedown; this is a thoughtful piece of engineering since it keeps the gun cocked during disassembly. There is also an interesting extractor "plate" that works off the lowered breech block which in turn activates the extractor, a simple and functional engineering design. The simple action cocks on closing.

Largely, the gun is in excellent mechanical condition and performed well during test-firing; more about this later. All metal parts of the gun were completely disassembled,

cleaned, and inspected. All exterior metal parts of the gun (frame, buttplate, and barrel) have their original rust-blued finish, the most durable and utilitarian finish available. All exterior metal surfaces were then carefully cleaned with kerosene and *0000* steel wool and then treated with rust preventative and mineral oil to preserve and protect the beautiful old patina. Five screw slots were peened and redressed to bring them back to original condition. Slight damage at the muzzle was reduced by blending in the damage with surrounding metal without lathe turning or polishing. The bore is in rather good shape for such a utilitarian gun. However, there was a little evidence of "frosting" a few inches ahead of the chamber. The internal parts of the action are "in the white" and are in good shape. Only the firing pin needed some mechanical attention; this consisted of reshaping and lightly polishing the firing pin tip.

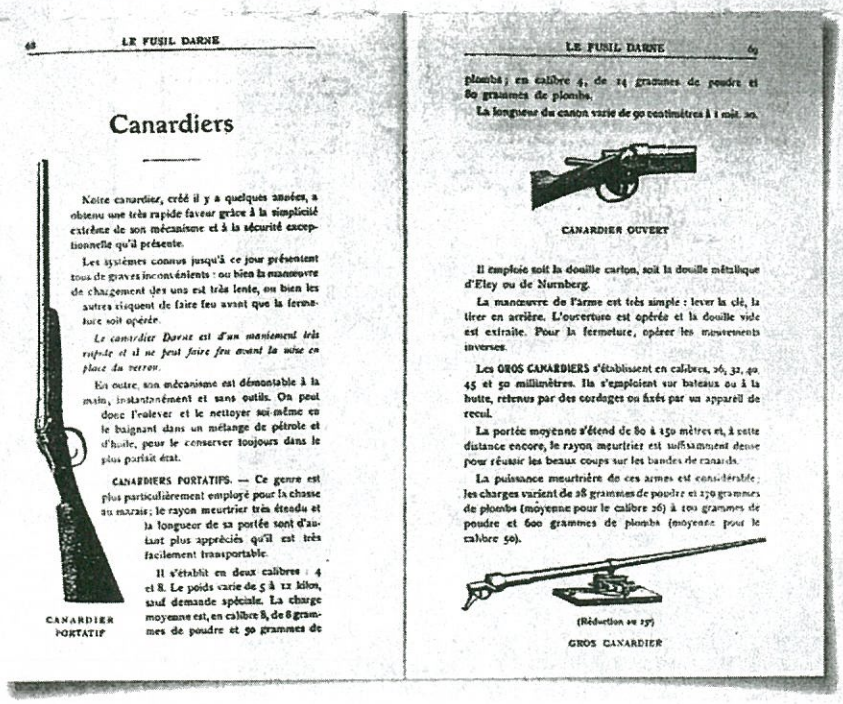
Market hunters of the past wanted to kill the maximum number of ducks and geese possible in the shortest amount of time, and this gun was designed to do exactly that. The large action body is 5.5 inches long and 2.15 inches wide, and it was milled from a rather bulky block of steel to withstand the pressure exerted by repeated firing in market hunting situations. The action works smoothly and locks up solidly. It has a real feel of stoutness and security. The immense rolling block action necessitates an inordinately large triggerguard. This allows the underside of the breech block to rotate down and forward when the action handle is pulled rearwards. The action handle is large (3.75 inches long) and rather impressive looking. The rolling block was an American invention and it was first patented by Leonard Geiger in 1863. The design was later improved in 1865 by Joseph Rider, the plant supervisor at Remington Firearms factory in Ilion, New York.

Preparing shotshells to fire in this Darne was another interesting voyage of discovery. Only twenty French paper cases (both *Gevelot* 4 and *Cartoucherie Française* 4) came



The completely disassembled gun and an open 1909 Darne catalogue (below).

with the gun at the time of purchase, so we knew that we would eventually have to buy or make some more. The French cases have a 26.5 mm diameter brass base, 28.4 mm rim diameter, and a 1.7 mm rim thickness. The only other cases that I found appropriate for the Darne are German *WM Fabrik Bischweiler* cases that have case dimensions quite similar to the French cases. These French and German cases fit the chamber nicely; however, they are smaller in diameter than most other 4-gauge cases that we own (Alcan, Eley, Fiocchi, R. W. S., U.M.C. Co. and Winchester) that have a 27.2 mm brass base, a 29.9 mm rim diameter, and a 3.8 mm rim thickness. Interestingly, all the cases, regardless of manufacturer, have a similar diameter of the paper body of 26.2 mm. Darne's catalogue recommends a charge of 14 *grammes* (216 grains; approximately 8 drams) of black powder behind 80 *grammes* (2-3/4 ounces) of lead shot. It also recommends cardboard or metallic cartridges from Eley or Nurmberg.



68 LE FUSIL DARNE

Canardiers

Notre canardier, créé il y a quelques années, a obtenu une très rapide faveur grâce à la simplicité extrême de son mécanisme et à la sécurité exceptionnelle qu'il présente.

Les systèmes connus jusqu'à ce jour présentent tous de graves inconvénients : ou bien la manœuvre de changement des uns est très lente, ou bien les autres risquent de faire feu avant que la fermeture soit opérée.

Le canardier Darne est d'un maniement très rapide et il ne peut faire feu avant la mise en place du verrou.

En outre, son mécanisme est démontable à la main, instantanément et sans outils. On peut donc l'enlever et le nettoyer soi-même en le baignant dans un mélange de pétrole et d'huile, pour le conserver toujours dans le plus parfait état.

CANARDIERS PORTATIFS. — Ce genre est plus particulièrement employé pour la chasse au marais; le rayon meurtrier très étendu et la longueur de sa portée sont d'autant plus appréciés qu'il est très facilement transportable.

Il s'établit en deux calibres : 4 et 8. Le poids varie de 5 à 12 kilos, sauf demande spéciale. La charge moyenne est, en calibre 8, de 8 grammes de poudre et 30 grammes de

CANARDIER PORTATIF

LE FUSIL DARNE 69

plomb; en calibre 4, de 14 grammes de poudre et 80 grammes de plomb.

La longueur du canon varie de 90 centimètres à 1 mèt. 20.

CANARDIER OUVERT

Il emploie soit la douille carton, soit la douille métallique d'Eley ou de Nurmberg.

La manœuvre de l'arme est très simple : lever la clé, la tirer en arrière. L'ouverture est opérée et la douille vide est extraite. Pour la fermeture, opérer les mouvements inverses.

Les GROS CANARDIERS s'établissent en calibres, 26, 32, 40, 45 et 50 millimètres. Ils s'emploient sur bateaux ou à la hutte, retenus par des cordages ou fixés par un appareil de recul.

La portée moyenne s'étend de 80 à 150 mètres et, à cette distance encore, le rayon meurtrier est suffisamment dense pour réussir les beaux coups sur les bandes de canards.

La puissance meurtrière de ces armes est considérable; les charges varient de 28 grammes de poudre et 170 grammes de plombs (moyenne pour le calibre 26) à 100 grammes de poudre et 600 grammes de plombs (moyenne pour le calibre 50).

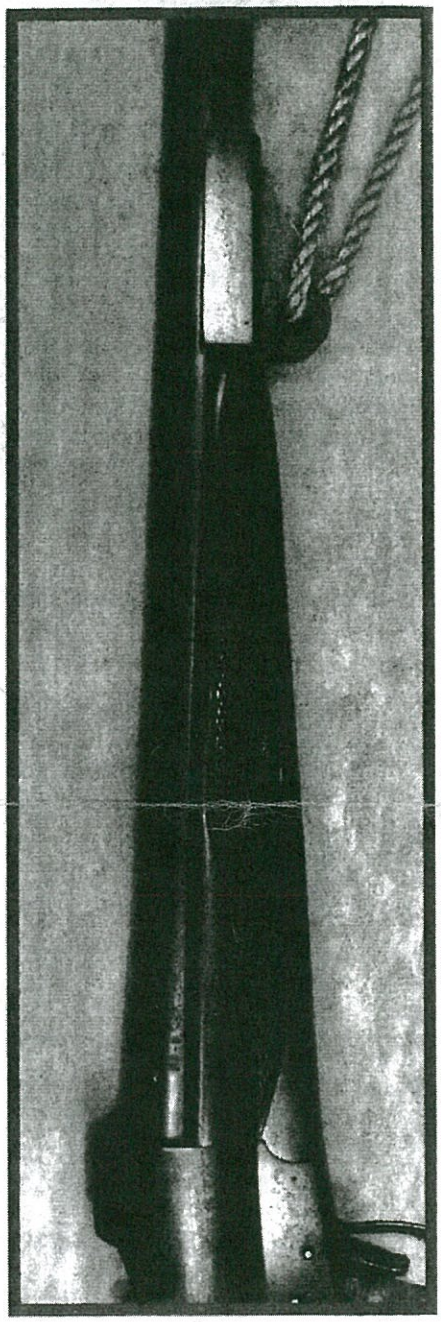
(Réduction au 1/7)

GROS CANARDIER

There are certainly many other 4 gauges that shoot heavier loads. W. W. Greener's book recommends charges varying from nine to ten drams of powder and 3-1/4 to 3-1/2 ounces of shot. However, the lighter load recommended for this gun in the Darne catalogue will certainly provide excellent results on waterfowl at respectable distances. This recommended load is also rather pleasant to shoot, as we have determined on several occasions. The authors sincerely thank W. David Powell, at *gunsinternational.com*, for providing us with a variety of different diameter wads and cards, which fit the French Gevelot cases that came with the gun.

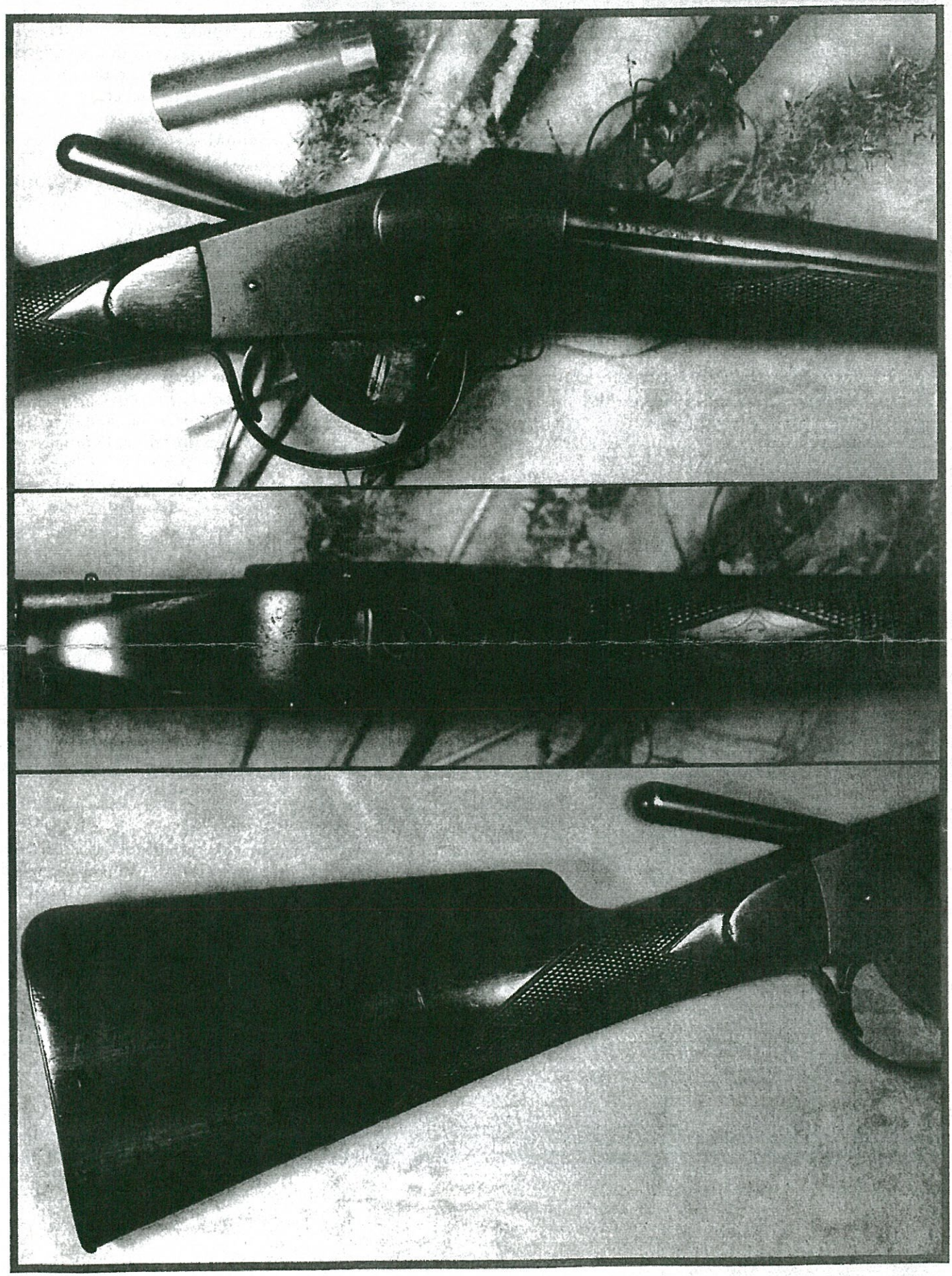
We can only dream of being on a French marsh shooting waterfowl over live decoys and listening to the intoxicating

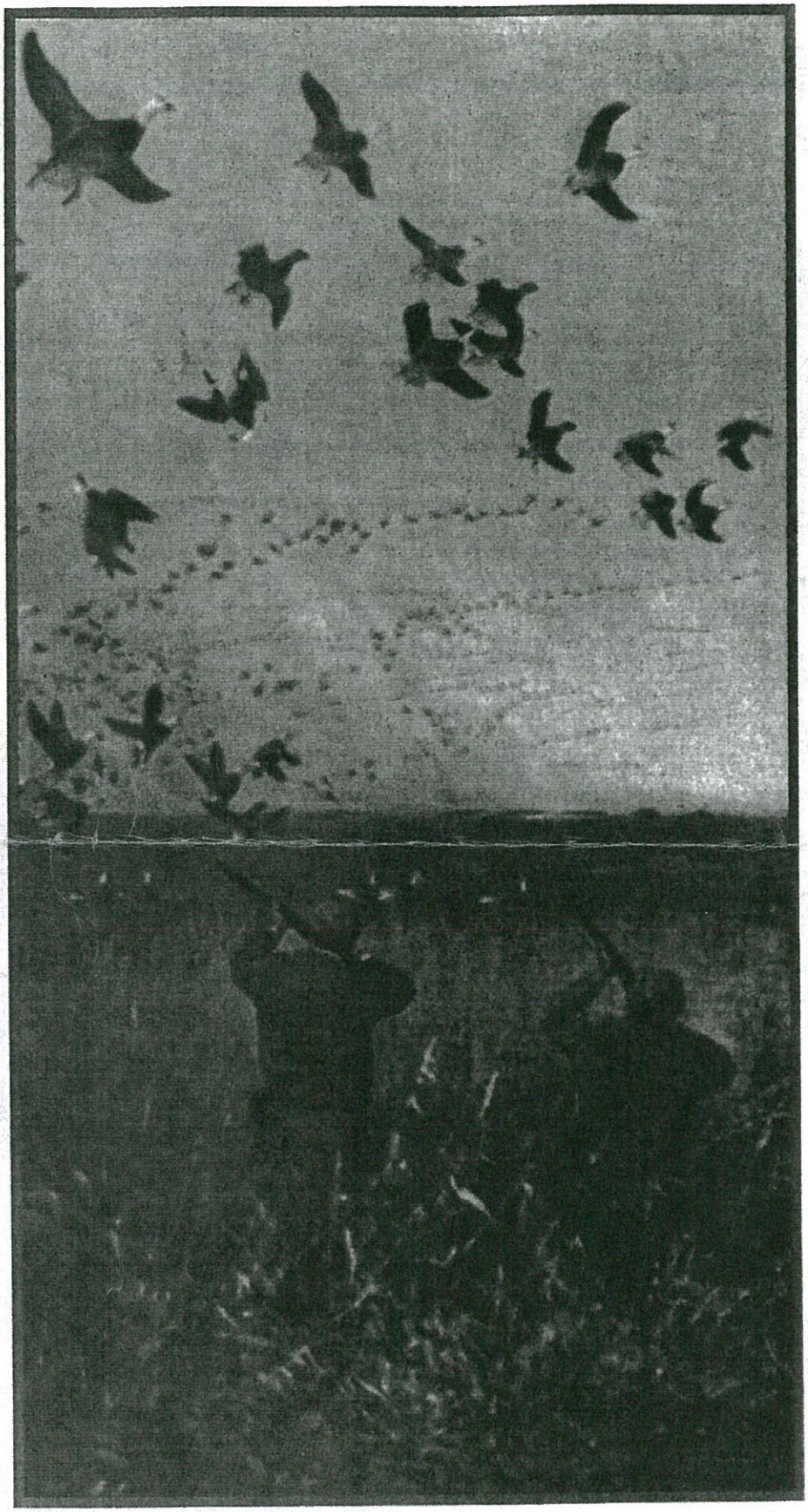
sound of ducks and geese mixing together as they approach our blind. We might even bring along a French poodle, since it was the retrieving dog of choice for late-nineteenth and early-



Rope breeching, and from top right: rolling block action in open position and buttstock of French walnut and checker pattern with mullard border.

twentieth-century European waterfowl hunters. H. H. Hunnewell, Jr., a long-past president of the American Kennel Club, wrote in 1894 that French market hunters used them extensively for





Blue Geese On The Vermilion Marshes
by Lynn Bogue Hunt
Illustration From *Duck Shooting* by Van Campen Heilner

retrieving, as they have "good noses, take to water readily, and are strong runners and beautiful jumpers."

We especially like the idea of adding waterfowl hunting to the long list of passions of the French. We are sure that many readers are aware of the rich waterfowling history in France and the remarkable virtues of *foie gras*. We certainly want to add the Darne four bore to that awareness. In handling, it is a dream and brings us to a day wildfowling *a la francaise* in *"hutte"* on the Bay of Somme in Picardy, northern France, watching for gray geese (*oie cendrée*) and listening to the sound of ducks across the purple water backlit by a rising moon. What a sight it would be to see these migrating "long-range travelers" looking for a brief rest from their travels originating as far north as Russia or Scandinavia and ending in the far south of Africa. Oh, what a vision of the past—and perhaps a vision of a future hunt on our "bucket list"!

The adventure of purchasing, inspecting and "refreshing", shooting and learning about an old Darne gun has been a grand experience for both of us. We've learned a lot as we explored its history and its craftsmanship; we certainly love the history of old guns almost as much as shooting them, and we hope that you can agree that not every gun has to be a "London best" to be interesting or instrumental in unravelling the history of firearm evolution.

Bibliography

J. L. Gras, *Historique de l'armurerie stéphanoise* (History of the arms trade in Saint-Étienne), Saint-Étienne, 1905.

Lee Kennett, "A History of Proof Marks: Gun Proof in France" *Gun Digest*, The Gun Digest Company, Chicago, IL, 1970, pp. 116-125.

Marcel Arbogast, *L'Industrie des armes à Saint-Étienne* (The arms industry in Saint-Étienne), Saint-Étienne, 1937.

Author's Note

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