

TEXAS Game AND Fish

JANUARY 1949 TEN CENTS



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TEXAS Game AND Fish

A MONTHLY MAGAZINE DEVOTED TO THE PROTECTION AND CONSERVATION OF OUR NATIVE GAME AND FISH; AND TO THE IMPROVEMENT OF HUNTING AND FISHING IN TEXAS.

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COVER—By Orville O. Rice

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ROGER M. BUSFIELD
Editor

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These two little peccaries certainly don't look dangerous but in a very short time they will grow tusks and develop a ferocious attitude when molested or attacked.

Javeline Is in the Blue Book But It Is Still Not High Class Game

gun. This distress call was alarming enough, but our fright ended when we saw the pack in full stampede, crashing the underbrush with no thought of molesting any one.

As the dead animal lay before us we contemplated the mighty deed (?) and wondered if any one would believe our report. There was just one way to convince an unbelieving world; it was to cut off a ham and bring it home. Had we known how heavy a ham would become in a several mile trek, we could have cut off an ear or other appendage to carry home, but we did neither, and the ham was finally left in the brush to feed the coyotes or other carnivores. The folks at home accepted our report after a season of cross-questioning, and why not? No skill was involved in firing into a herd of animals peacefully attending to their own business.

One of the stories going the rounds of those days was that a hunter, after wounding a javeline, was attacked by the animal which rushed upon the hunter as he swung his gun violently at the maddened hog. The man and the javeline were both found dead, and the supposition was that the man was killed by the accidental discharge of his own gun. To make the narration more laconic, and at least half true, according to the rumor, the man shot the hog and the hog shot the man. No one can doubt that when a hog shoots a man, it's news, though it may be harder to believe than that a man bit a dog. In our hunt we shot a lady javeline, but

Is the Peccary Dangerous?

THE javeline in recent years moved up into the rank of a protected game animal. Notwithstanding this elevation in rank, the animal has not been able to get its name in the blue book of high class game. Fourteen counties, where they are most abundant, and the counties west of the Pecos, have no closed season.

Javelines were once abundant over a greater part of Texas, but are now confined to the south and southwest areas where the population has been greatly reduced. Outside the State they range in southern New Mexico, southern Arizona and southward far down in South America.

They are not an animal of the open country and are not often seen unless the hunter is actually looking for them. Only on one occasion did the writer attend a hog hunt. A band was flushed

in a dense mesquite woodland in Frio County, a few miles east of the little town of Moore. The original name of the settlement was Moore's Hollow, which took its name from a Hollow or Draw in which Moore was killed possibly by the Indians.

The hunting party consisted of three teen-agers armed with one shot gun, so when the band was flushed, the lone gunner let go with a charge of buckshot, and we all prepared to take to a tree; for there was a common belief that if a javeline were wounded, the entire pack would rush upon the hunter. The shot was effective and the wounded animal with chattering teeth made a noise not unlike the rattle of a machine

none of the males were gallant enough to intervene.

There is no doubt that the *domesticated* boar will sometimes go to the rescue of the mother hog and her little ones. The black bear, though a vegetarian by preference, will attack livestock, and especially pigs. There is the story of a desperate encounter between a boar and a bear. Raiding a farm yard, the bear was in the act of grabbing a young roaster (I repeat roaster) when the old sow sounded a squealing alarm which brought to the rescue a lusty boar. It had every appearance of a finish fight. The bear made a rush at the boar, grappling him with his powerful claws, and tearing his flesh; while the boar, with gleaming tusks, ripped the bears throat with deep

By J. G. Burr

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Tips from An Old Timer

ALL through the year come scattered reports of accidental shootings, downings, broken limbs, maimed for life, and unpleasant experiences of all kinds connected with the greatest recreation on earth—fishing, hunting and camping in the great outdoors, more especially in our great Southwest—accidents that in the opinion of old-timers like myself are 90 per cent plain foolishness and could have been avoided by the most ordinary common sense.

But it has occurred to me that we so-called old-timers who feel that we have thumbed through the book of nature at least to the third grade and know something about the primary rules of the game, are partly to blame for many of these accidents for the reason that we should remember that there are thousands of youngsters setting out on their first big game hunt every year and also many thousands who have possibly hunted in States where only rabbits, quail and other small game prevail but have never hunted in the mountains, know nothing about the great Southwest, and are as green on a big game hunt as any 12-year-old boy on his first trip, and it would have been so easy for us to have given a little advice while sitting around the camp fire the night before the season opened or while driving to where the first camp is to be pitched, giving to these newcomers or these young fellows a little lecture on the primary principles of hunting and explaining something about what to take with them and how to act. Therefore, I will attempt to set out a few rules and offer a few suggestions which may be of some use to the beginner.

You old-timers who read this need go no further as you will no doubt be fully aware of all the matters that are hereinafter referred to, but this article is not for you anyway. It is, as stated above, for the youngster and the tenderfoot.

In the first place, what should the hunter carry with him in his hunting coat or jacket? In hunting in the great Southwest, which comprises, roughly, West Texas, New Mexico, Arizona, and Northern Old Mexico, there will be a combination of desert, rolling land, mesas, mountains and timber. The climate during the season, except in the higher altitudes and mountains, will be,

if anything, on the warm side during the day. The nights will be cold, and while nine-tenths of the time it will be dry, I have seen some of the most torrential rains come up with little warning, and by the same token, a beautiful day turn into a howling blizzard in the higher altitudes in a very short time. Therefore, the hunting coat or jacket should not be one of those heavy furlined affairs but should be light, water-repellent, and for protection against cold weather, sweaters, heavy underwear, etc., can be taken along to contend with same when necessary.

But what should go into this hunting coat? There are a variety of articles that might appear foolish or silly but may turn what would otherwise have been a pleasant experience into an endurance contest, an extremely unpleasant affair, or even a fatality. In the first place, I always carry in the game pockets of my hunting coat a handfull of shoe strings—the longer and stronger they are the better. Boot-

By H. L. McCune

laces are the best but ordinary shoe strings will help a great deal. I carry a few feet, say 8 or 10 feet, of the lightest, toughest rope available. Sash cord will do very well if nothing else is available. Next, some buckskin or whang leather thongs, anywhere from 3 to 4 or 5 feet long and about the same width or a little wider than the shoe strings—anywhere from 4 to 6 of these. A piece of red or white cloth about the size of a large handkerchief; a small compass, a small waterproof match case, plenty of ordinary paper matches, a pencil, and a few sheets of paper, a roll of adhesive tape about half an inch wide; one small carborundum whetstone about a half inch wide by 3 or 4 inches long; a piece or two of orange peel and a small pair of tweezers such as your barber uses to pull out ingrown hairs. All of these articles when distributed around in various game pockets of your coat will constitute no noticeable bulk whatever and the whole assortment would hardly weigh one pound. You won't know you have them with you until you need them. Put them in your hunting coat at the beginning of the season and never take them out.

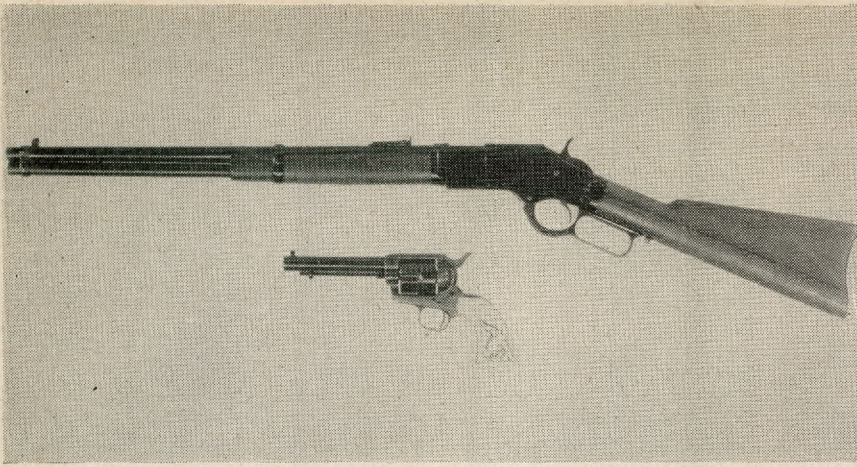
The next question is, what good are

these various articles? To start with, the shoe strings will come in handy in a great many various kinds of emergencies. They are a great help in tying poles or guns together to make an improvised stretcher. They can be used to help tie a deer to a saddle. They can help in binding an arm or leg to a gun or pole in case a limb is broken, can be used to sew together bad rips in clothing, and a hundred and one other uses that will come in mighty handy.

The whang leather thongs can be used for all the purposes above referred to, also in repairing broken guns, replacing bridle reins, etc. On one occasion one of my friends tore the whole sole off of one of his boots so that it was fastened at the heel but flapping the rest of the way. He was on foot and about five miles from camp and in this southwestern country the prospect of walking with one foot bare, over the sharp rocks, Spanish daggers, thorns, etc., was far from promising. It wasn't a fatal experience but it could have been awfully unpleasant. Instead, he took one of the whang leather thongs referred to and by punching holes with his knife in the toe and edges of the flapping sole he bound the sole to the boot and while it was a little awkward and not a work of art, he continued his hunt clear back to camp in perfect comfort.

The rope could be used for many of the foregoing uses and in addition, in the event of a broken saddle girth would be useful to replace same and could also be used in connection with an improvised windlass to pull a large deer high up in a tree or windmill away from reach of coyotes. Just the other day there was an account of where two young women and a guide took a hiking trip up Truchas Peak in New Mexico. One of the young women slid down an icy slope and lodged just on the edge of a precipice, injured but not dead. The guide and her friend worked themselves down to where she was but according to the guide's own statement she could not be extricated from her perilous location on the ledge without a rope and it was necessary for him to go for help and a rope in order to move her. The other girl insisted on staying with her injured companion and by the time the guide returned both girls had become so numbed from cold

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**Two Guns and One
Kind of Cartridge
Was Plainsmen's
Rule in Days When
West was Being Won**

The famous Winchester Model 73 Repeating Rifle (top) became so popular after its inauguration in 1873 that Samuel Colt decided to chamber his single action Frontier Model or Peace-maker to carry the same 44-40 cartridge. The Model 73 is no longer made but 1,000,000 rounds of the 44-40 are manufactured each year.

THEY call it the gun that won the west. It spoke the most convincing language then understood on our wild and woolly frontier.

This year marks the seventy-fifth anniversary of the birth of this famous gun, the Winchester Model 73 repeating rifle, and brings to mind the vision of a bygone pageantry of man's fight to push civilization into the farflung outposts of a rugged and savage territory.

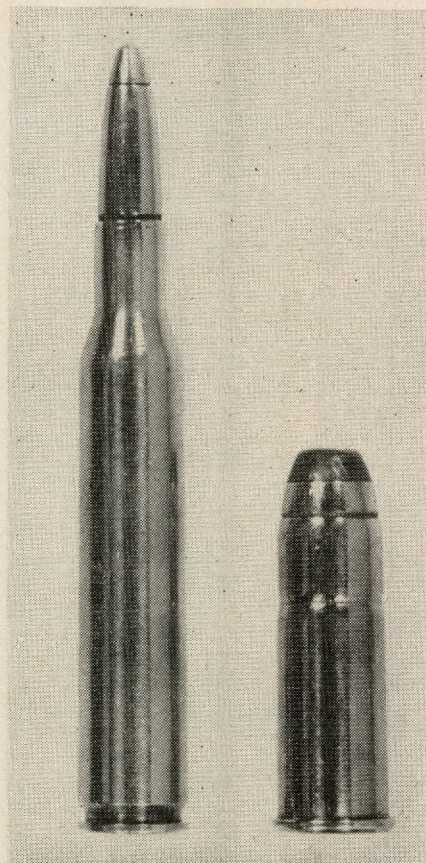
The Winchester Repeating Arms Company introduced this gun in 1873—hence its name—to fill the need of a more powerful firearm to take the new type center fire cartridge then developed. But it happened that it came out just at a time when it could fill a more important need.

These were stirring times on our frontiers. Gold had been discovered in the Black Hills; wondrous tales were told of the far west and pioneers were streaking across the plains of Kansas; the Cheyennes and the Sioux, embittered at being crowded into reservations, were making their last desperate stand which was to have its climax in the Custer Masacre; and the buffalo herds were being scattered as the railroads threaded their iron feelers through the canyons, over the rivers and across the prairies.

In those hard-riding, fast-shooting, and Indian-fighting days the Winches-

Comparison of size of 270 Winchester rifle cartridge (left) and a 44-40 cartridge. This is the 75th anniversary of the 44-40 cartridge as well as the Winchester Model 73 repeating rifle for which it was originally made. While the rifle is no longer manufactured, more than 1,000,000 of the cartridges are made each year.

**The Gun
that Won
the West**



ter 73 was just the gun that was needed. It quickly took its place beside the Colt revolver as one of the favorite two weapons of the plainsmen and the frontiersmen. It was ideal for short range and Indian fighting. Its rapidity of fire, rugged construction and dependability in all kinds of weather together with the 44-40 cartridge it used made it especially adaptable for the plains. The word "repeater" became synonymous with the word Winchester. And even youngsters whose eyes bulged and hair stood on end knew what the author was talking about when he said "—crack went his trusty Winchester and six injuns bit the dust."

The association of the 73 carbine, which was carried in the saddle scabbard of every fighting rider, and the Colt revolver grew into an affinity when in 1874 Colt brought out his famous single-action Frontier Model 44-caliber revolver. This revolver was chambered to take the same 44-40 ammunition of the Model 73 and the frontiersman thus had to carry but one type of cartridge for both guns.

Like the 73 carbine, the 44-40 cartridge, with its 40 grains of black powder, bullet of 200 grains and muzzle velocity of 1,325 feet per second, also is in its seventy-fifth year. While pro-

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Fisheries Picture Brightens

Texas Shrimp Harvest Falls Short of Record

Red Snapper Fishery Which Declined Rapidly During the War Stages Remarkable Comeback and Is Now Second Ranking Fishery on Coast; Trout, Redfish and Drum Production Off

TEXAS shrimp producers had the third largest year in their history during the season of 1947-48.

Shrimp production for the entire year amounted to 18,262,358 pounds, a figure that has been surpassed only twice in our history. In 1946-47 we produced 19,011,820 pounds for our second largest year, and in 1942-43, reached an all time high of 19,022,873 pounds. Other years have varied, but in all of them production has been considerably smaller.

The Aransas area led all the rest of Texas in shrimp production, producing 5,883,921 pounds of Gulf shrimp and 8,269,462 pounds from bay areas. The Galveston-Freeport-Port Arthur section of the coast produced 5,836,642 pounds from the Gulf and 234,436 pounds from the bays; the Matagorda area produced 1,333,453 pounds of Gulf shrimp and 2,111,394 pounds from the bays; and Port Isabel only 615,039 pounds altogether. The total production of 18,279,658 pounds was, however, a little over three quarters of a million pounds less than last year.

The red snapper fishery, which declined rapidly during the war, has now become the second ranking fishery in the state, producing 1,119,217 pounds during the past year. This is a rise of 311,742 pounds over 1946-47, and is partially accounted for by increased landings in the Rockport-Aransas area. Landings here in 1946-47 were only 13,151, but during the past year this took a sharp upswing to 67,348 pounds, a good deal of which was caught while boats were awaiting the outcome of an early season shrimp strike. Port Isabel landings were up to 160,486 pounds against last year's 119,938 and the Galveston catch of 891,383 exceeded last year's catch in that area by 217,000 pounds. As a matter of fact, Galveston alone produced more red snapper in 1947-48 than did all of Texas the preceding year.

The fishery for trout, redfish and

drum was off tremendously over 1945-46, our last normal year, and the effects of the disastrous cold weather in January 1947 on the bay fish crop is still readily apparent. Redfish declined 31,664 pounds over 1946-47, producing only 494,899 pounds; trout dropped 72,994 pounds to 491,388; the drum declined from 674,961 pounds in 1946-47 to 459,857 pounds in 1947-48. These totals are matched in recent years only by those of the year 1940-41 when the coast suffered another spell of exceedingly cold weather. In that year the redfish catch was only 119,445 pounds and drum was down to 447,327. Part of this decline is due to an increased emphasis on shrimp, fishermen being unwilling to fish for finfish other than snapper.

Flounder, whiting and gafftops all showed a decided rise in poundage over last year's catch. Flounder went from

103,056 in 1946-47 to 108,305 pounds in 1947-48; whiting produced 48,351 pounds last year, and 76,104 pounds this year; gafftops produced 54,158 pounds, a 17,686 pound advance over last season. The great proportion of the gafftops catch came from the Rockport-Aransas area.

Sheepshead, pike and kingfish all declined. Sheepshead dropped from 15,471 to 10,132 pounds, a loss of 5,339 pounds. Pike which produced 62 pounds last year, produced none at all this year, while the kingfish production went from 2,668 pounds in 1946-47 to none at all in 1947-48.

This kingfish production is odd, considering the fact that Florida can, and will readily absorb from 2,000,000 to 3,000,000 pounds of this fish annually, if it can be obtained and that Florida operators such as Max Swartz, of Miami, have expressed their willingness to take any amount up to that figure. The kingfish population of Texas offshore waters is at times very heavy, but, except during the war, this fish has been little utilized.

Groupers, warsaw and jewfish all showed increased poundage this season. Jewfish went up 438 pounds for a total of 3,550; warsaw advanced 8,065 pounds to 22,703; and groupers rose from 75,684 pounds last year to 94,616 this. As usual the Aransas area produced the most jewfish, the jetties at Port Aransas being a favorite spot to catch them, and almost the only place where many of them are taken. 2,678 pounds came from there and 872 pounds from Port Isabel.

Part of the 8,000 pound advance in warsaw poundage was accounted for at Galveston, where boats took 14,569 pounds against last year's 12,559; but by far the greatest advance came from the Rockport-Aransas area. As we mentioned earlier, an early season shrimp strike sent several of the boats from this area into the Gulf for snapper, with the result that 54,197 pounds more snapper were landed there this year than last. Along with the increased snapper landings the warsaw catch went up some 3,000 pounds. The Port Isabel catch was 4,783 pounds, or 2,986 pounds more than last year.

The increased grouper catch of 94,116 pounds (or 18,932 pounds above last year) was mainly accounted for by the Galveston snapper fleet, which brought in a total of 92,534 pounds. This is 17,500 more than came from that area last year. Minor catches were 902 pounds from Port Isabel and 1,186 pounds in the Rockport-Aransas area.

The Texas mullet fishery has always been an uncertain proposition, not because there were no mullet, nor because there was no market for mullet after they were caught, but because it was difficult to get any of our Texas fishermen to catch them. However, during the war, under the intensive efforts of

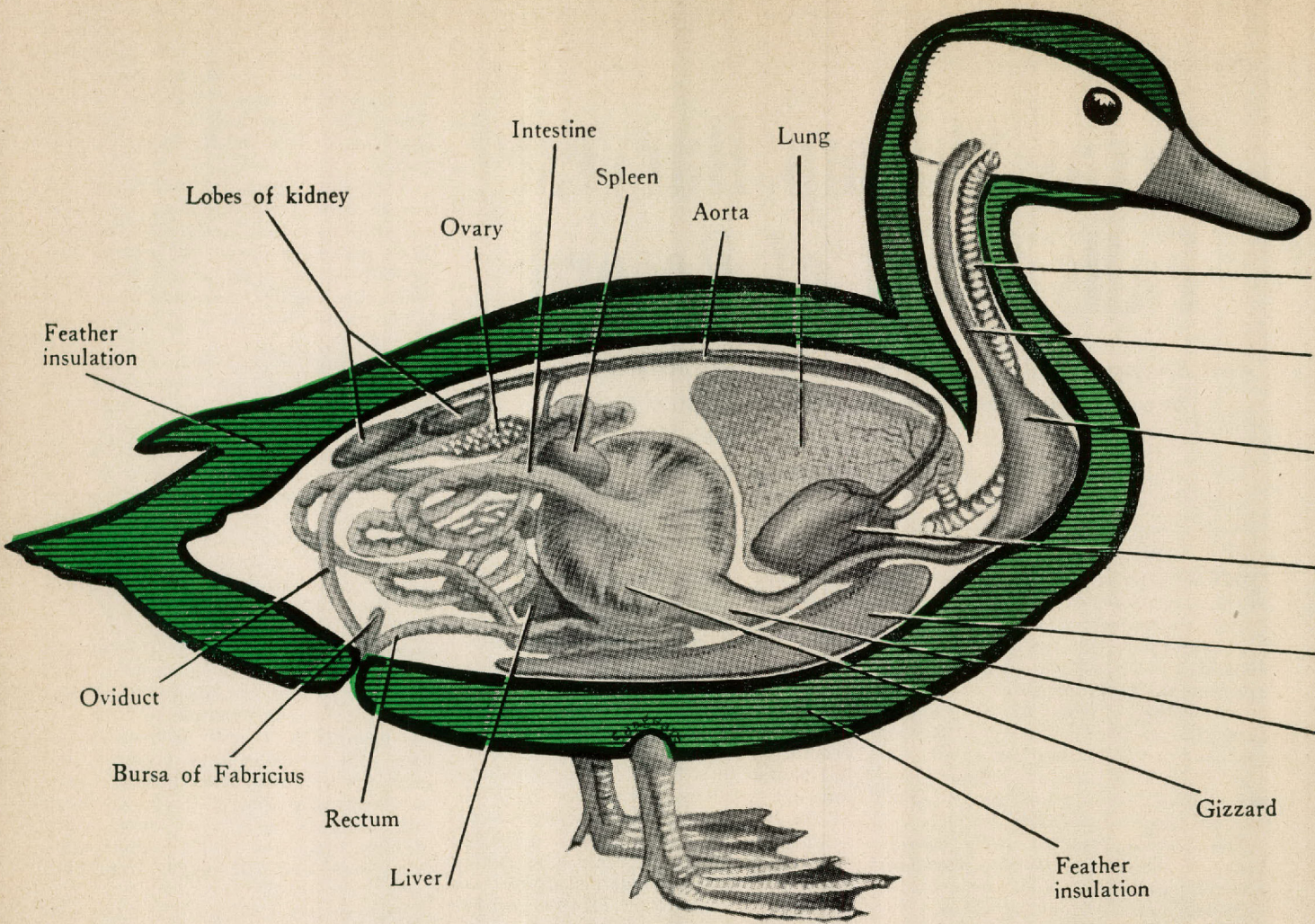
Common Salt Ends Epidemic

Common stock salt has ended a mysterious ailment which threatened to wipe out the fantail (Sonora) deer in the Big Bend National Park.

Capt. Ray Williams, state game warden at Alpine, came across the first clue when he came across an accumulation of pebbles in the stomachs of two deer which has mysteriously died. Williams then found that the deer in the Park had acquired the habit of pawing deeply into the ground and devouring dirt and pebbles in search of salt-bearing soil.

A supply of stock salt was then placed in the Park and the deer ceased to die.

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Anatomy of a Duck

ALMOST all of us are thrilled by the flight of a duck. But how many have ever stopped to ask what makes a duck tick? And how many, finding a duck floating on a pond in mid-summer, dead for no apparent reason, have asked what it was that made him stop ticking?

A knowledge of the duck's anatomy often provides the answer to both questions. During recent years I've been peering inside hundreds of ducks and have at last begun to know my way around through their stuffy and often oderiferous interiors. My interest has been that of the "friendly undertaker," but even an undertaker learns a few things worth passing on to the living.

Before going into the internal furnishings, let us consider the duck's feathers. The body feathers are labeled "insulation" on the illustration because that is perhaps their most important function. One of the more common dis-

ruptions of this insulation comes from contamination in oil-slicks along coastal waters and on the larger lakes. The oil gums up the feathers so that they do not fluff, flight is impaired, and the birds may starve, or in the winter, cold air and water may reach the skin and result in fatal chilling. Again, some birds may become so badly water-logged that they drown.

Beneath this feather insulation and protected by it are the viscera. The digestive tube is designed to extract nourishment from all that enters, and it consists of a gullet, crop, glandular stomach, gizzard and intestines. The liver, also a part of the digestive system, secretes bile which aids in the digestion of fats. It is likewise an important storehouse for reserve food in the form of glycogen starch. The pancreas (not pictured) is a tan-colored gland resting in the first loop made by the intestines as it leaves the gizzard.

This organ secretes enzymes for the digestion of fats, proteins and carbohydrates, and also produces a hormone called insulin which regulates the quantity of sugar in the blood.

A black duck's digestive canal is approximately three feet long, but when one examines it—inch by inch and from stem to stern—for all the parasites and diseased conditions that can and have been found in it, its length seems never ending. Through this food canal the duck acquires most of its "uninvited guests" including round worms, tapeworms, spiny-headed worms and flukes. And occasionally ducks pick up lead shot in the course of collecting grit. As the lead pellets are ground down in the gizzard the lead is absorbed and a fatal case of lead poisoning may result.

Botulism likewise gains access with food or water. In warm, sluggish, shallow water areas, certain bacteria which grow best where little oxygen is pres-

Knowledge of Duck's Anatomy Provides Answers to Questions Such as What Makes a Duck Tick?

— Windpipe
— Gullet
— Crop
— Heart
— Keel bone
Glandular
stomach

Female Black Duck —

ent produce a powerful poison known as botulinus toxin. A very small quantity of this toxin in the water may prove fatal to ducks. It is of considerable danger to migratory waterfowl resting over on the alkali flats in some of the western states, and as a matter of fact this disease was first known as "alkali poisoning" or "western duck sickness."

The respiratory system is composed of the windpipe, bronchial tubes and the lungs, and is also connected to air spaces in the body cavity and wing bones. It is no exaggeration to state that a bird can breathe through the end of a broken wing bone. Worm parasites are sometimes found in the air passages of ducks, but perhaps one of the more common ailments of the respiratory apparatus is aspergillosis, an expensive word which refers to a fungus infection caused by inhaling spores of a common black mold. The spores start growing in the lungs or air sacs, and the resulting symptoms are those of a wasting disease very similar to those usually observed in tuberculosis.

A small fraction of the duck's blood system is pictured on the opposite page. The heart and great artery called the "aorta" are indicated, but from there on the imagination must fill in the arteries, arterioles and capillaries which feed all the tissues of the body. Also left unpictured are the venules and veins which carry the stale blood back to the heart, whence it is pumped to the lungs for refreshing. The blood then resumes its endless course through the body.

I imagine very few ducks (wild that is) die from hardening of the arteries or a "stroke." There is, however, a malaria-like disease of the blood which must be mentioned as one of those things that can upset a duck's internal organization. This disease is transmitted by the bite of a common blackfly just as malaria is given to man by the bite of the anopheline mosquito. Fatality of this disease among mallard and domestic ducklings may run as high as 100 per cent. We have evidence that indicates, however, that those species of wild ducks which commonly nest in blackfly areas (wood ducks, blackies, mergansers, etc.) tolerate this disease without too much trouble. Most can also withstand the slender flat-worms (flukes) that often inhabit the blood vessels of ducks, although occasionally an artery leading into a vital organ becomes blocked. If the blockage continues, the results may be fatal.

The reproductive system is composed of the sex glands (ovary or testes) and the tubes which convey the eggs or sperm to the outside (oviduct in the female, sperm ducts in the drake). During the season of heavy egg-laying things sometimes go wrong with the ovary and oviduct. Tumors, bacterial infections or mechanical obstructions in the egg canal are not uncommon.

The excretory system consists of a pair of elongated, lobed kidneys, each provided with a tube (ureter) leading the wastes to the outside. Unlike mammals, birds eliminate very little water through the kidneys, and as a consequence they have no urinary bladder. Their kidney wastes are composed primarily of whitish salts very rich in nitrogen and suspended in just enough water to allow their flow through the ureters. Small flat-worms are sometimes found in the kidneys or their tubes, but I have seldom observed any illness in this part of the duck's anatomy.

To be noted is the small, blind pouch extending forward from the top side of the intestine near the anus. It is labeled "bursa of Fabricius" and is a temporary structure whose usefulness to the duck is questionable. It is, how-

ever, of value to the game investigator who wishes to gather information concerning the age of captured wild ducks. The bursa is present only during the first nine or ten months of the duck's life and is therefore useful in separating "birds of the year" from older ones in the fall and winter seasons when ducks are being banded during migration. The presence or absence of the bursa is determined by use of a blunt probe without injury to the live bird.

This is indeed a sketchy presentation of a duck's anatomy. He has much more, and as is true of any living thing, there is more to him than the sum of all his parts. But to more thoroughly understand some of his needs and problems in life one must get under his skin and explore a little.— E. L. Cheatum, Senior Game Pathologist, New York Conservation Department in the New York Conservationist.

Karnes Forms Game Preserve

A game management preserve has been organized covering the northwestern section of Karnes County. The preserve takes in some 70,000 acres of land with boundaries starting at the underpass on US Highway 181, outside Karnes City, and continuing north to Wilson County line and following Wilson County line, south to Atascosa County line. The boundary continues along the New Nichols Ranch farm-to-market road out of the Atascosa County line, then to Wilson County line.

John C. Mutchler, Falls City, was elected president of the preserve association, and Howard Loehmann, Hobson, was made secretary-treasurer. The organization was named the Mill-Falls Management Association.

Eighty-nine landowners have signed up their property for the association. The group voted to assess a membership fee to cover expenses and to have uniform signs posted on all property in the game preserve.

General objectives of an organization of this type are (1) to provide adequate protection for game and other desirable wildlife. (2) To establish and maintain the game management area for the increase of all game birds and game animals. (3) Improve cover and food conditions for wildlife. (4) Properly stock and manage farm ponds in the area. (5) Regulate the taking of game to insure an adequate supply of seed stock.

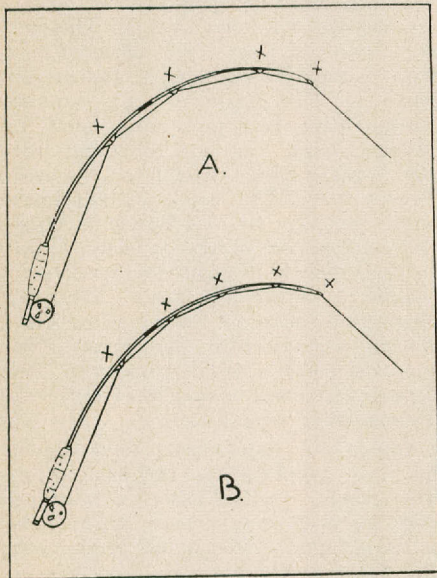
Building Your Rod

AMONG the many items necessary to make up the equipment for good angling is the rod. In most angler's opinion, this one item leads to more fish in the creel and of greater size, as well as more enjoyment.

Did I say, "more fish of larger size in the creel?" yes, and what down to earth truth this statement contains. The proper rod may be the answer to this, and a solution to many problems.

On the rod depends much: the distance of a cast, the ease in which the fly or bait is cast, and the sense of feel when fighting a fair size fish.

Take this one factor, the distance and proper placing of a cast. How many of us have seen a trout rise, and in our own bungling way, scared him by a poor cast? But if we would have pre-



Why and when guides should be placed on the rod. A—X's show strain points. B—Strain distributed more evenly since more guides have been added.

sented the lure in a more natural manner, chances are, we might have creeled him too.

To be able to present the lure the best possible way, where does our trouble, or part of our trouble lay?

Anglers are no different from any other craftsmen who endeavors to follow some art. Good tools are a necessity for full accomplishment, skill, and in the end, pleasure. A good rod, a line the correct weight to bring out the rod's action, and you, makes the finest combination in the sport as we know it today.

I'm sure most of us would not have chosen angling as our life long sport, if we had to be content using a limb from the neighbor's apple tree or some other "pole."

In my opinion, anyone who wishes to follow wholeheartedly, and get the most satisfaction from angling should own a good rod. Few anglers regard cost or limit their assortment of lures, but to complete this, something with backbone is needed to present these lures to the fish.

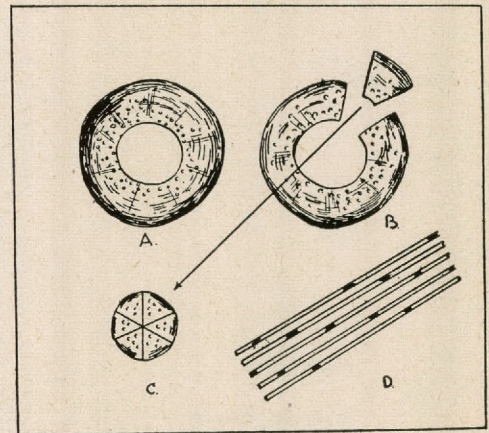
In selecting a rod, cost should be disregarded. This does not mean purchasing the highest priced rod merely because it costs a great deal, this is indeed foolish. But choose one that will give years of service, possess action suited to you and one that feels well balanced in your hand.

Many of us do not have pocket books which are able to stand the drain when buying a rod, and must be content with a low priced one. This article is intended for those of us who are in this category and who are interested in selecting a rod, or material to build or assemble a rod which will do the work with the pleasing feel of a good rod.

First, I will endeavor to explain what constitutes a good rod from a poor one. All good rods can quickly be recognized by its ferrules. Good rods have strong flat edged (not rounded) ferrules, usually hand-drawn German or nickel silver. Over a period of time ferrules wear and become loose fitting and will wobble or vibrate when casting.

These ferrules should fit smoothly

and should have a decided "pop" when the rod's sections are taken apart. They should be of the split or serrated variety, that is, the ends which fit down over the rod section, is notched, or sawed, and contain numerous slits. When the rod is arched, these ferrules give with the bend and there is no one place where



Strips are split from the cane tubes. A—Hollow cane tube as it comes from the Orient. B—Strip is split from cane tube. C—6 strips are then glued together. D—Important feature is to stagger the nodes.

the strain ends abruptly as in the case of solid ferrules.

Notice if the rod sections are thinner than the diameter of the ferrules. If this is the case, in a short time the ferrule will be come loose, and will be pulled off. Of course, in an inexpensive rod, this is to be expected since time and money doesn't allow good workmanship.

Another thing to look for in a good rod is that it should be well balanced. That is, no matter what horizontal position the rod is held in (reel facing ground-ward or sky-ward) the tip and butt should have the same amount of drop from a straight horizontal line. If the drop stays the same when the rod is rolled around in one's hands, the rod was constructed properly.

A good grade reel seat should be in-

By Donald S. Shiner
Pennsylvania Angler

• Continued on Page 18

Duck Inventory Coordinated

The waterfowl inventory program for the Northeastern States has been unified and coordinated. From now on census work conducted by the U. S. Fish and Wildlife Service and the individual states in the region will be operated on a cooperative basis. This will permit unity of activity and give a complete fall and winter check over intervals of two weeks.

Much of the new program will be modeled after New York's inventory methods which have proved to be highly productive of information. New York makes an aerial survey over established waterfowl concentration points at two-week intervals and, under the new program, it is hoped that similar coverage can be extended to all parts of the region. This method gives accurate data on bird populations and the dates of the heaviest duck concentrations. By means of the systematic flight checks made every two weeks, population trends and the effects of hunting and weather conditions on flocks may be determined. All of this will be extremely important in planning future waterfowl developments and in settling kill regulations.

Things You May Not Know

A red salmon, marked by the U. S. Bureau of Fisheries in Alaskan waters in May, and caught 44 days later in a Siberian stream, was found to have traveled 1,300 miles in that time.

* * *

In the bee family, the worker has 3,000 to 4,000 lenses in its eyes, the drone 7,000 to 8,000, a queen about 5,000.

* * *

Honey-bees weigh about 5,000 individuals to the pound. The average weight of a honey-bee is less than one three-hundredths of an ounce.

* * *

Several species of plant aphids are known as "ant cows." The ants carry them about and protect them, consuming a secretion of fluid which they yield.

* * *

Snakes and fish have ears but these ears have no outside openings. They "hear" mostly through vibrations in the ground or water.

* * *

In its original unbroken, unmelted form, every snowflake has its structure and shape built in units of six. These take on an almost endless variation of design.

Snapping Turtle Control

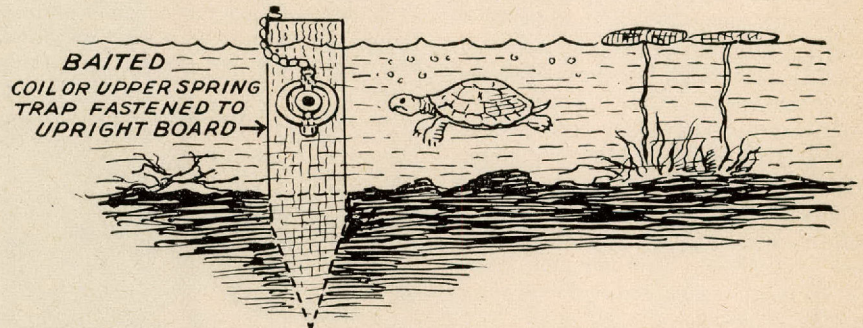
By R. A. "Doc" Jenkins

THE common snapping turtle and the giant alligator snapper found in the lakes and rivers throughout the country can be classed as Predator Enemy No. 1 to game fish spawn, game fish, young wild ducklings and even young muskrats. Snapping turtles grow to an enormous size, some weighing up to 100 pounds. The record is said to be

of the upper part of the board. Fasten a No. 2 under-spring or coil-spring trap securely to the board by means of a short length of wire run through the two holes, twisting the ends of the wire tightly together on the opposite side of the board. Staple the trap chain securely to the top. For a lasting and tough turtle bait either beef heart or

STATIONERY TYPE TURTLE TRAP

FIG. 1



220 lbs. It is a fact that wherever turtles are allowed to increase game fish decrease. Keeping turtles under control is an easy matter if trapping is carried on regularly. I have used many types of turtle traps but have discarded all of them in favor of the two simple types shown in the accompanying drawings. Both are easily and quickly made. STATIONERY Type Trap (Fig. 1)

Use only old, weathered lumber for making traps. This because turtles are shy of bright, new lumber. Any weathered boards 1-foot wide and 3 feet long will do. Sharpen a foot of one end to push into the mud bottom. Bore two small holes 3 inches apart in the center

beef melt can be used. Pieces of dead chicken or rough fish are also good baits. If the bait has been "aged" in the sun so much the better. Use a piece of bait the size of a pool ball and wire it to the trap pan. Set the baited trap and force the pointed end of the board down into the mud of an open channel through the weeds a few yards off shore. The stationary type trap is more often used in rivers where the current would carry the floating traps downstream.

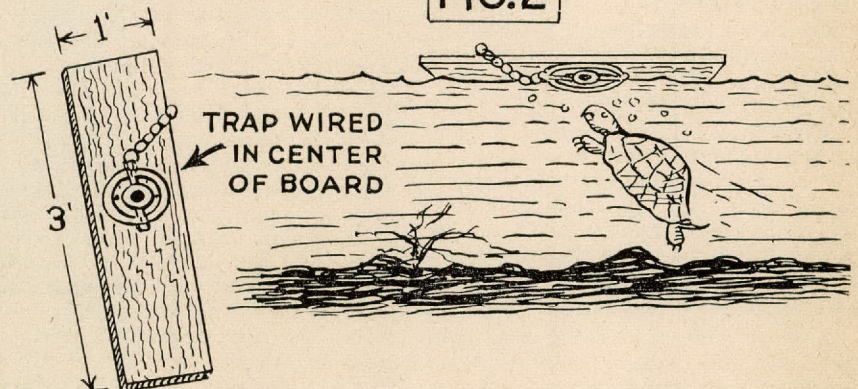
FLOATING TYPE TRAP (Fig 2)

The floating type trap can be used with still better results than the sta-

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FLOATING TYPE TURTLE TRAP

FIG. 2





ARMS AND AMMUNITION

By Adam Wilson III
Gun Editor

Care for Ol' Betsy

IN MOST sections of our country the big game seasons have drawn to a close, which means that the majority of American hunters will be putting away their big bore, high-powered rifles for ten to twelve months. The care Ol' Betsy gets just before she receives that last gentle caress and admiring glance as she is tucked away will have much to do with her accuracy and desired performance next fall. Remember that more present day firearms are "worn out" by neglect and improper cleaning than by shooting!

Of course in many territories of the United States that bull or buck rifle keeps right on serving its owners—through spring, summer, and back to fall and winter again. Where predatory animals and birds are numerous, .30-06's, .270's, .348's et cetera do not cease firing just because the big or medium game seasons come to an end. Shooting the year through is wonderful practice, and pays off in a great many ways, but the most of our modern nimrods either do not have time, or just don't get around to taking their favorite big bore rifle out for a barrel warming between January 1st and October 1st, or later. These are the fellows—the once-a-year hunters—who must give their rifles extra care and attention after that last day in the woods, because during the long lay-away period there will be many changes in the weather (especially if you live in Texas) that can effect the metals and woods which make our arms of today the precision shooting pieces that they are.

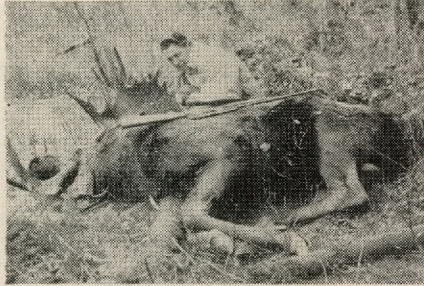
If the arm has had prompt and proper attention after each firing and outing during the fall months, comparatively little time, material, and effort will be needed to prepare it for its long period of hibernation in the gun case.

The following equipment will take care of ordinary cleaning problems:

A good straight cleaning rod, light gun oil, gun grease, solvent, brass brush, patches or soft flannel cloth, lin-

seed oil, neat's foot oil, and an old tooth brush.

Elaborating briefly on some of these items, the rod can be a solid or jointed one. Generally the jointed rod accom-



The reward is great for the hunter who gives his rifle the proper care. Adam Wilson III stood by as C. D. Martin bagged this fine bull moose with two 220-grain slugs from his well-kept .30-06 rifle.

panies the hunter out to camp, as it breaks down simply and requires a minimum amount of room. Solid rods usually have their places in the gun case for fireside home cleaning. Whether jointed or solid, the gun cleaning rod should by all means be a *straight* one. Warped and crooked rods scrape and scratch the bore walls, and in a short time *cleaning* will do a lot more harm to delicate rifling and lands than the actual *shooting* of the piece.

Never buy sewing machine, bicycle, or so-called household "all-purpose" oil for use on a good firearm. True, many available oils have a label pasted on their containers reading "for guns," but the hunter who values his arms and their proper operation will keep such oils far away from the prized pieces. Some kinds evaporate and leave exposed surfaces of metal to rust, while other grades and brands congeal, thereby gum in the mechanism to the point where the rifle can not be fired, or at least not function as it should. Hunters of the colder regions must be extremely

particular about their lubricate and rust preventive. There have been cases where a gummed firing pin failed to permit the arm to fire during critical moments when a quick shot meant life or death.

Do not over oil any firearm mechanism—especially the auto-loading type. This can not be over emphasized! When applying oil to a gun, it certainly is not a case of "if a little does a little good, a lot will do a lot of good." In sub-zero temperatures gunners remove *all* oil from the gun action, and apply graphite or a graphite preparation. In the south-land's warm climate, where oil will remain a liquid all year long, an over-oil action will cause the shooter to receive a fine, stinging spray of the lubricant in his face when the weapon is fired. Tain't funny either. Besides, too much oil is just plain messy.

After a day of shooting of non-corrosive ammunition, bring Betsy in and run a dry patch first down the bore—breech-end if possible. Muzzle-end cleaning can be harmful to the ends of the lands. However, some solid frame arms have to be cleaned from the muzzle in order to avoid complicate stripping, or dismantling. The dry patch pushes out loose residue and particles of fouling. Put a few drops of solvent on the next patch and give the bore a first class

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TRAPPERS HUNTERS and FUR BUYERS

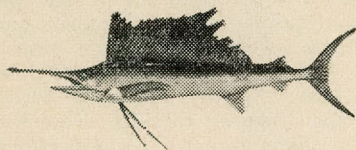
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ATLANTIC SAILFISH
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TO THOUSANDS of sportsmen the supreme thrill of salt-water fishing comes when the angler is engaged in a spectacular tug-of-war with the glamorous sailfish.

Here, to many, is the most graceful fish that swims in any kind of water and for sheer beauty it is surpassed only by the dolphin.

Mere words cannot convey the breath-taking experience that comes when an angler feels the hook sink home on his first sailfish and then watches those inspiring leaps, the amazing "greyhounding"—or walking on its tail—and the frenzied, high-speed dashes in trying to shake the hook. When the battle, won or lost, is finally over, there is much that never will be forgotten.

However, it is only within the past four decades that the sailfish has been taken on rod and reel, for the rather peculiar method of hooking it was not discovered prior to that time.

In the first part of this century, anglers trolling off the Florida coast with strip bait as a lure, would get strikes which would mangle the bait but even though they struck back vigorously, they could never hook the fish. Finally it was discovered they were sailfish, then called "spikefish."

The reason for the failure to hook the sailfish was due to its unusual method of striking. The sword, or bill of the sailfish, is not used to pierce its prey, but rather to stun it. It will approach a smaller fish with considerable speed, strike or tap it sharply with its bill, and then pause a few seconds to

see if its victim is stunned. Before it recovers, the sailfish will then seize it in its mouth. When anglers felt this tap, which was the effort of the sailfish to disable the bait, they struck, therefore losing the sailfish, as they pulled the bait away from it.

Once this peculiar striking habit of sailfish was discovered, a method to catch them was developed. Immediately upon feeling the "tap" or strike of a sailfish, the angler allows slack line to run from the reel which fools the sailfish into believing that it has killed or crippled its prey. When it rushes in and seizes the bait in its mouth, the angler sets the hook and the battle begins.

NAMES . . . Aguja Prieta, Aguja Voladora, Bannerfish, Bookoo, Guebucu, Pez Vela, Sail, Spearfish, Spikefish and Voilier.

CHARACTERISTICS . . . The splendor of the sailfish, either inert or in action, is a pleasure to behold. The high sail-like dorsal fin is a vivid, dark purplish blue, usually with darker spots. Balance of fins and tail are blue-black and the spear is very dark, almost black. The general overall appearance of the body is a dark blue on the upper sides, shading into bright silver below. Occasionally, lavender-gray lines of dots run from the ridge of the back down across the lateral line.

RANGE . . . Atlantic sailfish are found from the West Indies north along the Atlantic Coast to North Carolina and stragglers have been reported as far as Massachusetts. They are rarely caught north of Florida, however they also frequent the Gulf of Mexico, and here, in recent years, numerous catches have been reported. The sailfish is a fish of the open sea, and is usually found near and over underwater reefs. They are most plentiful in the Gulf Stream off the Florida coast, particularly at the edge of the stream.

SIZE . . . The world's record Atlantic sailfish, caught on rod and reel, was taken by Wm. Bonnell, off Miami, Florida, during 1929. It weighed 106

pounds. The average size of the Atlantic sailfish is from 35 to 50 pounds.

FLAVOR . . . Most sportsmen release the sailfish they catch, but occasionally one is saved to be smoked. When prepared in this manner, they are a real delicacy.

FOODS . . . The main diet of the sailfish consists of balao, mullet and other small fish.

LURES . . . The preferred lure is strip bait but occasionally, and probably accidentally, sailfish are caught on feather jigs.

METHODS . . . Practically all sailfish caught on rod or reel are taken by trolling. The most popular sailfish tackle is known as the "6/9" outfit. This means a rod with a tip made of split bamboo or tubular tapered steel like the "Pal," not less than 5 feet in length and not over 6 ounces in weight. The detachable butt varies from 18 to 21 inches in length which gives the rod an overall length of approximately 6½ feet. With this is used a 3/0 or 4/0 reel with adjustable drag and free spool, holding from 400 to 500 yards of 9-thread linen line. To the line is attached a wire leader 6 to 9 feet in length at the end of which is a 7/0 to 9/0 O'Shaughnessy hook. The strip bait, which is cut from the side or belly of a light-colored fish, is usually about 11 inches in length and 1½ inches in width at the center. This end tapers to a point. Great care should be exer-

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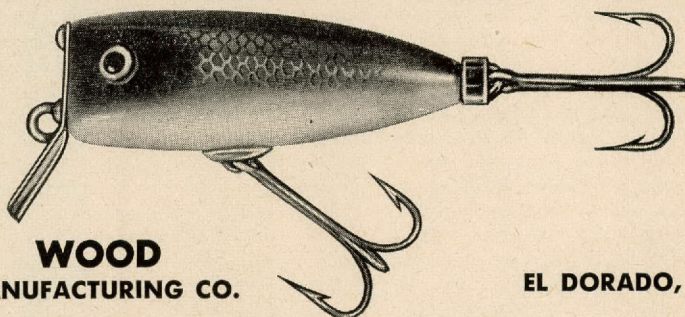
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IS THIS THE END OF A CYCLE?

EVERY school boy thrills to the exploits of Robin Hood, almost legendary character of Sherwood Forest in old England. The accomplishments of strong-muscled Frain Tuck and fleet footed Allen a dale as they took the "King's deer" in the royal preserve served as a rallying call for stout hearted yoeman and ultimately constituted one of the contributing forces which overthrew the feudal system. Hunting controls imposed by royal decree and enforced by soldiery of the king created resentment in the hearts of the people of the countryside and poaching on the royal preserves for pheasant partridges, deer, became an accomplishment in which the lower classes were almost constantly engaged.

When the western continent was discovered and the early voyagers in their short journeys into the wilderness came upon great quantities of game which could be taken without any thought of the anger of the King's constabulary, the word was passed from person to person and created a desire to leave the oppression of their homeland and try their fortunes in a new country.

To the ample abundance of game in the new country the early colonists owed their ability to exist while cabins were erected, crops planted and harvested. This feeling of great abundance of game persisted through the years when the colonies advanced in wealth, commerce and culture. The sudden transition from a country where no one save the high and mighty was allowed to seek the wild game of the forest to a land of plenty where game was to be had for the taking, and indeed provided the bulk of the food placed on the tables of the colonists, did not serve to create in the minds of our forefathers a feeling of protection for the

game. There was magnificent abundance on every hand.

Some of the great family fortunes of the new world were established on the foundation of plentiful supplies of fur bearing animals. The early settlers in what is now New York trapped beaver in huge quantities and shipped their pelts to Europe where they brought high prices in the fur markets of fashionable Amsterdam, Paris and London. Fur bearing animals of the great north woods caused the establishment of the Hudson's Bay Company, one of the greatest organizations the world has ever known. One of the reasons for the exploratory marches of the Lewis-Clark expeditions in the great north west region of what is now the United States was to seek new routes to the habitats of fur bearing animals.

Just a few short decades back thinking people of the United States began to realize that hunting was not what it used to be. Many of the wealthy banded together and bought great tracts of land which they protected from anyone hunting save their own friends or members of their clubs. This practice expanded along with the rapid decrease in public hunting areas to the point where thousands of private land owners all over the country began to post their land against hunting. A return in principle, to the privilege hunting allowed by the lords, the earls and barons of four hundred years ago in England and on the continent.

The United States, restless with its new found wealth and its growing importance among the nations of the world, took little note of the controversy building up to a rapid climax. The courts of the land from the high court in Washington down to the lower courts in the states and counties have consistently held that game is the property of

the commonwealth. Therefore the commonwealth has the right to establish game management laws and enforce hunting regulations. But the owner has the right to prevent ingress or egress on his private property.

Where then are we headed? Is this the end of a cycle? Have we returned to the custom of hunting privileges for the few? Have we once again embarked on a policy of permitting only the great and near great to participate in the pleasure of the chase?

There are many who believe that we have and hold forth one answer. Since the game is the property of the commonwealth, then it is incumbent upon the commonwealth to provide hunting areas where the commoner may hunt. Some states are attempting to accomplish this purpose through acquisition by the commonwealth, as represented in its game and fish conservation departments, of areas that are suitable for development into public hunting grounds. Such hunting, of course, to be administered fairly and equitably for the benefit of all.

In the state of Ohio there are 31 public hunting preserves comprising a total of 273,000 acres. One of these is large, with a 100,000 acres. Leaving this one out of the total there are thirty preserves with an average acreage of 5,750. Regulations vary for the different hunting preserves. Daily hunting permits in addition to the regular state hunting license are required on one preserve while on others the hunting is seasonal. Checking stations are maintained on the areas and hunting permits for the refuge must be obtained. Some are for pheasant, some are for squirrel and others are maintained for waterfowl hunting. All hunting is under the supervision of the State Department of Conservation.—Mississippi Game and Fish.

Tips From An Old Timer

• Continued from Page 5

and exposure that they had lost their grip on the ledge and fallen into the precipice and both were killed. A few feet of the rope I have just referred to would have saved one and possibly both of the girls' lives.

Another thing that the whang leather thongs or rope could be used for would be to improvise a bridle. Practically all of the big game hunting in the Southwest is a combination of horseback riding and walking. Only last season a friend of mine while hunting in New Mexico, rode his horse to the top of a table land or plateau, tied him not too securely, and went pros-

pecting on foot. The horse, for some reason or another, broke loose and disappeared through the thick brush and off the rimrock into a deep canyon. My friend had visions of walking back to camp, some eight or ten miles over the mountain, but hoping against hope, moved over to the edge of the canyon to see if he could locate the horse. To his great joy he beheld a windmill and a little corral and watering trough in the bottom of the canyon not more than half a mile away, and the saints be praised, the runaway horse was in the corral getting a drink from the trough. Of course the gate to the corral was

down but if my friend could get there before the horse took a notion to leave the corral he wouldn't have to walk back to camp. Luck was with him and the horse seemed to be contented in the corral. Imitating an Indian scout, he sneaked up and hastily closed the gate, went in to get his horse and then discovered that the horse had no bridle.

In the Southwest the bridle very commonly in use is what is called an ear bridle, the horse's ears being thrust through the top band, and the bridle has no throat latch. Therefore, it is very easy for same to be pulled off by a loose horse in heavy brush or woods and that is what had happened, and as my friend didn't know the exact course the horse had taken it would be quite an undertaking to attempt to find the bridle. The horse was rather on the

skittish side, could not be ridden without a bridle, so what could he do? He was something of an old-timer himself and very resourceful, found some baling wire, worked feverishly for some time on an old dried-up cowhide and by hard efforts and much ingenuity, finally finished something that would do for a bridle and managed to get back to camp with it. One or two lengths of the light rope would have answered the question and with practically no trouble at all a hackamore or makeshift bridle could have been easily arranged.

The small tweezers referred to may not be used often but if you ever have the misfortune of getting a Spanish dagger, a mesquite thorn, or any one of the various thorns that exist in the Southwest in your foot or toe you will

certainly appreciate those tweezers, as the misery of cutting one out with an ordinary knife must be experienced to be appreciated, and with the tweezers same could be extracted at once with a minimum of pain, and you will bless the day that you put those tweezers in your pocket, if the occasion ever arises, and it arises quite frequently.

Another experience that I witnessed was when a hunting companion had the bad luck to fall down in a boulder-strewn arroyo and put a long splintery break running from the pistol grip to the butt of his rifle. It was unuseable in its condition and it was only about nine o'clock in the morning and the day's hunt would be ruined as far as he was concerned. However, I produced the whang leather thongs referred to

from my hunting jacket and by carefully winding them around and around the splintered parts it made a rather crude and slightly awkward grip for the gun but made it useable and he continued to hunt with it during the day and incidentally killed a fine ten-point buck about four o'clock that afternoon. He would never have bagged that buck had it not been for the humble whang leather thongs.

I could go on at great length giving various illustrations of how these humble articles could be used, but even a newcomer or a green horn will get the idea and could, no doubt, think of many other ways they could be used when necessary.

As to the carborundum whetstone, it is sad but true that the ordinary knife

Fish Killing Insects

IT IS a well-known fact that insects form the principal diet of many fish, and we have learned to distinguish the types that are most valued as bait, but, contrary to this usual order of things, here are a few insects that are known to kill fish.

Fish-killing insects spend most of their lives in the water. They secrete themselves beneath stones and debris, or partially conceal themselves in the mud on the bottom of the stream or pond, whence they dart out and seize their victims with their jaws or claws and suck the juices. Also, some of them feed upon the eggs of fish and prey upon aquatic insects, frogs and tadpoles.

The extension of fish culture is assuming greater proportions each year. In hatcheries and ponds where large numbers of small fish are assembled we find conditions favorable to the increase of these fish-destroying insects. They also do considerable injury in carp ponds and in artificial pools where fish are kept for ornament.

The retiring habit of these marauders stands in the way of a better understanding of their fish-killing propensities and it is hoped that this brief outline will help somewhat to call attention to them.

The water tiger is a long, slender, ferocious creature that has this blood-thirsty habit. Equipped with curved, sharp-pointed, hollow jaws, it pierces its victim and sucks the blood or juices through these jaws into the mouth.

Water tigers are the younger stage or larvae of water beetles, known as *Dytiscus*.

The adult *Dytiscus* has an oval, flattened, smooth and polished body, black in color, with lighter margins. The long hind legs are flattened and fringed with stiff hairs and are used

like oars. The adults and young of this group are fierce and voracious, consuming great quantities of aquatic forms of life.

The largest and probably the most destructive fish-killing insects are the giant water bugs; these are true sucking bugs, of which there are a number of North American species and several others that are confined to the tropics.

During the warm evenings of mid-summer and autumn, among the swarms of insects attracted to the arc lights we are likely to encounter them in great numbers. They come out of the water for a short time at night, flying about in pursuit of mates or enroute from one pond to another.

Giant water bugs attain a length of nearly three inches, have flat, greenish to brownish bodies, more or less oval in outline. The powerful hind

leisurely sucks the blood of its victim. It is said that a considerable amount of poisonous secretion enters the wound made by the beak of one of these bugs that aids in overcoming its prey.

The beak is also used as a means of self defense, and a painful and severe wound may result if one of them is handled carelessly.

The eggs of the giant water bugs are usually placed on plant stems or beneath rubbish along the shores of streams. The young, upon hatching from the eggs, immediately begin their predacious life, often feeding upon eggs of aquatic creatures or young snails.

A most curious and peculiar egg-laying habit is known of one of the species of giant water bugs. The female deposits her eggs upon the back of the unwilling male, to be carried until they hatch.

Water scorpions, like the giant water bugs, lie in wait for their prey, trusting to their color and to partial concealment on the bottom to hide them from their approaching victims. They search for and suck out the contents of fish eggs and often attack young fish. Their two front legs are fitted for seizing their prey, while the other four are adapted for walking. There are two distinct types in this family. In one, *Nepa*, the body is oval, flat and thin; in the other, *Ranatra*, long and cylindrical.

Back-swimmers swim upside down, their backs being shaped like the bottom of a boat. They have sharp beaks with which they suck the juices of their prey. They are also furnished with wings and fly from pond to pond.

The back-swimmers and water scorpions are true bugs, and are classified as being closely related to the giant water bugs.—*Pennsylvania Angler*.

By A. B. Champlain

*Principal Entomologist, Pennsylvania
Department of Agriculture*

legs are flattened and oar-like for swimming, the front ones curved and fitted for seizing and holding their prey. They spend most of their lives at the bottom of ponds, creeks, or rivers, where they lurk behind stones and rubbish, watching for unwary victims. Fish do not recognize these bugs which match in color the muddy bottom of the pool in which they are found.

One of these bugs will attack a fish three or four times its own size. Darting with sudden rapidity the giant bug grasps the fish with its strong curved forelegs, then plunging its large, sharp and powerful beak deep into the body,

will become more or less dull in dressing out a deer and when it is necessary to dress one out with a dull knife it is certainly much harder to do a good job, and with the little carborundum stone you can put your knife in shape in three minutes where it will keep on cutting in a satisfactory manner.

I need not enlarge on the necessity of having a small container that is water and air tight, to hold a few matches, as everyone knows the result of being caught in a storm or lost in cold weather without matches. It is hard to start a fire without matches although it is possible to do so. Another thing, never use the matches that are in the waterproof container except in an emergency. Always use your paper matches or others first.

With reference to the compass referred to, it is all very well for us old-timers to claim that we never get lost, that we know our directions, etc., etc., but the best of us can get lost. I have been lost myself, much to my disgust and embarrassment. And furthermore, when you are in strange territory and a fog settles down, or on a dark night, there is no use to try to kid anybody, you simply are lost and there is no way in the world to tell your directions. If the stars are out you can tell, yes, but a dark rainy night or fog does not produce stars. That's when your compass comes in handy. If the sun is shining and you become mixed up in your directions you can locate north and south very easily by remembering the simple rule that in the morning if you will point at the sun with your right hand you will be facing north; in the afternoon if you will point at the sun with your left hand you will be facing north—that is, in a general direction. It sounds silly that anyone should become confused about directions in the daytime but it has happened, especially if you are on your first hunt and are a little jittery and become a little confused when you find that you have lost your bearings and don't know just where you are.

As to the white or red cloth, as stated above, it is customary to ride a horse to good looking deer country, tie him to a bush or tree and work through a small area on foot; if nothing is found, ride on to another suitable area, etc. Many old-timers will laugh at the idea that you would be confused as to just where you left your horse, but this can happen to the best of them. Three or four seasons ago one of my friends who has hunted in this Southwest all his life tied his horse to a bush, hunted out that locality as above described, shot at a deer, thought he wounded him; worked down over a couple canyons and back, went to where his horse was supposed to have been tied, and his horse was gone. Consequently he walked about six miles over rough mountain country to where the camp was and reported the loss of his horse. As his horse didn't come into camp by dark,

the next morning he borrowed another horse and one of the cowboys went with him. They went back and looked the territory over where the horse was supposed to have been tied and lo and behold there was the horse still tied to the bush. He had simply made a mistake as to which little ridge he had tied the horse on and it's a mistake that can be very easily made where there are hundreds of ridges and all twins. You can say he might have discovered it was the wrong place because of the tracks but in most of this southwest area there are plenty of loose horses, cattle, etc. So it would be quite a job to tell just which horse tracks belonged to the one that was missing. I have a little rule that I follow. Some of my friends laugh at me but it is foolproof. When I tie my horse to a bush I take a little strip a few inches long of the red or white cloth and tie it to the bush also. If I come back and find the horse gone and the little piece of cloth tied

to the bush I don't have to guess whether or not I have looked at the right place. I know the horse is gone and I know that I haven't made any mistake as to which bush I tied him to.

Another thing. A man on another hunt who had hunted all his life in this southwestern country, killed one of the biggest bucks I have ever seen, about 3 o'clock one afternoon. He was on foot and returned to camp to get a horse to bring the deer in. He went back and rode around until dark and couldn't find that deer. The next morning two others went with him and they worked that territory over until 2 o'clock in the afternoon before they ever found the deer. By that time, it being an unusually warm fall, the deer was fly-blown, the meat was ruined, and we lost all that venison because he couldn't locate the deer he had killed and dressed out. If he had tied a little red or white string to the bush or Spanish dagger near the deer, put one

A Fable

Which Men Are Lost?

(with apologies to Monsieur Voltaire)

By Dan Saults, Editor

Missouri Conservationist

ONCE upon a time, three men were lost in a deep wood. It was a frightening experience, in a way, because they weren't particularly good woodsmen. But they had matches and some food and one of them had a pocket knife; berries were ripe. They knew nothing about making a snare for game and had no guns but they had courage. They decided to force their way out of the forest—they were men, the highest creation of earth!

It was very difficult, yet there were ways. They followed down the slopes until they found a stream and worked their way along it, on the theory that this clear, wooded creek would seek a river and that men would live along the river. It was a good theory but it made for rough going. They were afraid to leave the stream, though—it was so easy to get lost.

Their food supply would last several days. Water was certainly no problem: their creek was very clear and little springs rose at intervals along the bank. Birds called from the trees above them. Once a heron flapped lazily away as the men stumbled across a small draw; again, a wood duck family scuttled up the bank. Squirrels bickered from leafy boughs and sometimes they heard quail calling. A mist rose from the

stream at dawn, while haze lapped the evening hills.

When the sun grew hot, these men would swim in the deeper holes of the little stream or lie in the shade of a great tree, while the life of the forest stirred about them. They exulted in the deer that came down to drink from their creek; they watched fish lazing in the limpid pools.

At night, these men built up a fire and lay about it, listening to the owls hunting and the soft passage of nocturnal creatures. The ripple of the stream lulled them to sleep. Almost, they were happy.

One day the trees thinned out and the creek widened; there were no more pools but only a broad sheet of shallow water. Then the forest was gone; there were sun-burned fields slashed by deep gullies. The creek became muddy and still wider; ahead of them, suddenly, they saw a big river that carried a load of silt between caving banks.

These men waded through the slime of a recent flood, stumbling across a sand bar that receding waters had left in a cornfield, to gaze on the river. Dead carp floated along the bank and perfumed the air, an oil slick coated certain unmentionable objects that drifted with the current.

"Thank Heaven!" cried the men. "We have returned to civilization!"

at the bottom of the ridge the deer was left on, he could have backtrailed those little red rags and we wouldn't have lost the deer.

Some of you old-timers laugh about this if you want to, but it did happen and it can happen again. I recommend the use of the red cloth rather than white for the reason that if your hunting costume doesn't comprise enough red it is very easy to tie some of this red cloth on your cap and give a little extra notice to fellow hunters that you are not a ten-point buck. However, a white rag can be seen just as well as a red one and either one will answer the purpose.

With reference to the pencil and paper, it often comes in handy in case of an emergency where you wish to leave a note at a point where you were supposed to meet a fellow hunter, where it is necessary to break camp and take a wounded or sick member of the party to town, and similar emergencies. It doesn't take up any room, doesn't weigh anything, and comes in mighty handy once in a long time.

With reference to the orange peel, I have observed that if you are suffering for water and your mouth is so dry you could light a match on it, if you will chew a little piece of orange peel, no matter how dry or hard it is, it helps stimulate the flow of saliva.

There are various other little personal necessities that the individual hunter can decide for himself whether or not to put in his hunting coat or jacket. He can also decide how much water he wants to carry, and I recommend it be kept down as low as possible. Of course, a first aid kit, or part of same, should be carried. Oftentimes the kits that are on sale as a unit are too bulky and heavy to bother with. I have found that some gauze, a little vial of disinfectant, such as iodine, and one or two similar aids distributed around through the coat are more satisfactory than the prepared kit. There is one must, however, and that is some sort of anti-venin or kit which should be carried by every individual hunter in the Southwest. There are many rattle snakes and they are out during the hunting season, and there is no use to have an anti-venin kit in the chuck box or at campsite for any individual who is bitten by a rattler several miles over that rough mountainous country will probably never get to the chuck wagon or campsite, without a lot of help, at least, unless he has an anti-venin kit to use immediately.

If you are subject to occasional acute attacks of indigestion a little vial of aromatic spirits of ammonia can be placed in the jacket, and if you have room, a small bottle of malted milk tablets is a great help in case of an emergency. Even a small flashlight comes in mighty handy if you are lost at night. However, these are left to the discretion of the individual and, of

course, make up that much more weight.

This about covers the hunting coat and its paraphernalia and we now come to the question of hunting knives. The first thing a tenderfoot does in outfitting himself for a big game hunt is to go into a sporting goods store and buy a great big thick heavy butcher knife with a fancy handle and scabbard. These knives as a rule are fairly good to cut bacon, but as skinning knives they are just this side of nothing. In the first place, they are too straight along the edge. They are too thick. It takes hours with a file to put an edge on them. They are heavier than necessary and are just a general nuisance. If you have to have a hunting knife at all get a light one with the cutting edge very much curved, as the skinning is done on the curve of the knife and not next to the handle. Also, get as thin a blade as possible for a thin blade sharpens very easily and you can keep an edge on it with the little carborundum stone heretofore referred to. Personally, I carry an ordinary (what we call, in the Southwest) stockman's knife, which is a large pocket knife with three blades, and I wouldn't trade it for all the fancy heavy hunting

Fish Jumps Into Prof's. Boat

Dr. W. M. Longnecker, professor of science at SMU, is known as an artful angler, but he's having a hard time convincing his friends of this story.

Longnecker was fishing recently at Bluebonnet Lake, near Grand Prairie. The wind was high and his boat blew into shore.

The professor laid down his rod and began paddling. He said he was startled at that point when a bass, trapped between the boat and shore, leaped into the boat.

The bass weighed around four pounds and was the largest fish the SMU professor bagged during 1948.

knives I have ever seen when it comes to dressing out a deer, skinning out a head, or any other use connected with big game hunting. I understand that in hunting moose or elk in the north it is necessary to have a larger, longer knives, but for anything up to deer my stockman's pocket knife is as good as anything that can be used.

With reference to water. You can carry, of course, a good sized canteen on the saddle when you are riding and a much smaller canteen on your belt if you are on foot. Most of the craving for water is what the Indians call "throat hunger" for water and really is not a necessity for use in the body. If

you will fight down the inclination to take a drink early in the morning you will soon find that you can go from morning until noon with very little discomfort from lack of water. Drink a small amount of your supply with your lunch, if any, or if you have no lunch, a little water about noon and under ordinary conditions you can go well into the afternoon without suffering much for want of water but some should always be carried.

Space does not permit a thorough discussion of equipment but very briefly, I have tried every kind of hunting coat or jacket from home-made canvas to sheep-lined coats and in my judgment the greatest jacket in the world is the one made of light water-repellent poplin or similar cloth padded with goose or duck down and feathers. This jacket is exceedingly light, will take care of your requirements to even below zero and when left open it is not exceedingly warm, or, if it must be taken off entirely, is so light it is very little trouble to carry. The same holds true of sleeping bags made of the same material.

Never go on a hunt in the Southwest with leather soles and heels on your boots or shoes. After you have walked over pine needles and similar footing for a few hours your leather bootsoles and heels will be as smooth as glass and you will slip and slide like you were on roller skates. Any of the ordinary composition soles, with rubber heels, obviate this nuisance.

Anyone who thinks it is an easy job to put a mule deer on a horse by himself has never tried it, especially if the horse is a little skittish, and nearly any of them are more or less restless around a fresh killed deer. If your horse won't stand still, blindfold him with your hunting coat or jacket or any other article handy. You will find it to be a great help.

In hunting in the Southwest men should work in pairs. It is much safer and generally brings about more success in getting game. And remember this—when you make an arrangement with your hunting partner to meet him at a designated place about a certain time, by all means be there. There is a reason for this. If your partner doesn't meet you some time near the time and at the designated place you have reason to believe he has been hurt, is lost, etc. This is an old rule of the woods that can not be too deeply impressed on the newcomer or tenderfoot. If you become hopelessly lost, fight the tendency to hurry faster and faster over the next hill because it won't do you any good and the first thing you know you will be running through the woods and that is the beginning of the end. If you are sure you are lost and night comes on or is about to come on, get out on an open point, reasonably high over the surrounding country, pile

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The Whooping Crane Winters In Texas Again

The whooping crane, North America's tallest and rarest bird, again is wintering on the Aransas wildlife refuge on the Texas coast. The first two arrivals are shown above.

The whooping crane once was an abundant species but it was unable to adapt itself to the conditions of agricultural and community development and is now almost extinct. Thirty-three of the white-plumaged, red-crowned birds were counted early this year on the Aransas refuge. The few thousand acres of coastal salt flats in the refuge are the only known regular whooping crane wintering grounds.

The whooping cranes arrive regularly each year at the Aransas refuge in late October. Peak numbers are reached in November and December. The majority of them leave in late March and early April for their mysterious nesting grounds, believed to be near the Arctic Circle.

The whooping crane is an unusually impressive looking bird. It is long-necked, spindly-legged, stands up to five feet in height, and has a wingspread of seven feet. Long feathers on its back curl down over the ends of black-tipped wings. In flight, its neck and legs are completely outstretched. Amplified by its extremely long windpipe, the bird's blaring, horn-like call can be heard as far as three miles.



Building Your Rod

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incorporated in the rod. Either a skeleton, wood, metal, or plastic screw locking reel seat, so that the reel can not work loose while casting. The type of reel seat adds greatly to the final finished weight of the rod.

Weight of the rod — this brings to mind so much that could be discussed. We are all at fault in wanting a 3-oz. rod, light and strong, when today, after much propaganda is thrown at us by tackle manufacturers, do we realize what this really means.

Bill has a 4-oz. rod, Leonard has a 3½-oz. and some other person has a 3-oz. and each claim that it's the rod of rods. But can they explain the weight, why it was made so, and what causes it?

Weight today means little. Some manufacturers merely weigh the bamboo strips, others weigh the finished

rod, and that weight depends on its finished equipment: ferrules, reel seat, guides, etc.

Weight increases with the rod's length, so it is only common sense to realize a rod 9 foot, definitely must weigh more than a 7½ foot rod of the same action.

The following table may be viewed with this in mind and the one important feature is, that in direct proportion, the weight of the rod increases with its length.

7½ feet.....	approximately 4	oz.
8 feet.....	approximately 4½	to 4½ oz.
8½ feet.....	approximately 4¾	to 5 oz.
9 feet.....	approximately 5	to 5½ oz.
9½ feet.....	approximately 5½	to 6 oz.
10 feet.....	approximately 6	to 9¼ oz.

This is with skeleton reel seats, add about 1¼ oz. for those rods with metal reel seats. Of course, this table is not infallible and many rods may vary one way or another, but these weights were

established after exhaustive examinations of the best rods.

A rod used entirely for wet fly fishing should be more limber than the snappy stiff dry fly rod. These should weigh approximately ½ oz. less than a dry fly rod.

The angler who wishes to use the rod for both, should get one of medium stiffness. These are calibrated in the following actions:

Type of Action	Rod Length	Correct Line
Extra Light Trout	7½ or 8 ft.	HEH or F
Light Trout	8 or 8½ ft.	HDH or E
Standard Trout	8, 8½ or 9 ft.	HDH or E
Bass-Trout	8½ or 9 ft.	HCH or D
Power-Plus	9 or 9½ ft.	HCH, GBG or D
Salmon or Heavy Duty	9½ or 10 ft.	GBG or C

The length of the rod depends on the size stream most frequently fished. Today 8, 8½, or 9 ft. seems to be the most popular lengths, however, this depends

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Shrimp Harvest

Short of Record

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Carlton Crawford, at Palacios, considerable quantities of this fish were taken. The 1941-42 catch was 6,570 pounds. In 1942-43, production ran to 50,000 pounds; in 1943-44, 61,521 pounds were produced and in the following year, 1944-45, an all time high of 95,000 pounds was reached. However, once the impetus of the war was over, the Alabama fishermen (who had been operating from the Crawford plant) returned to their homes, and as our Texans lacked knowledge of how to fish for mullet, the fishery declined until only 3,189 pounds were produced in 1946-47.

However, during the past year, mullet production is again on the upswing. Florida, which, before the red tide hit, produced some 40,000,000 or 50,000,000 pounds of mullet annually, is now producing only about 25,000,000 pounds, and mullet operators in Florida badly needed new sources of supply. As a result one of the largest operators, Bob Combs, of Naples, Florida, in connection with Ray Waite, of the Southern Fish Company, at Port Isabel, have recently established a rapidly growing mullet fishery in the Laguna Madre. Because of this, Texas mullet production is up this year to 38,392 pounds, a rise of 35,703 pounds over last year. This is only a very small amount, however compared to a probable potential production of around 5,000,000 or 6,000,000 pounds.

The Spanish mackerel fishery, like the mullet, has always been neglected by Texas fishermen. In 1946-47 for instance only 1,697 pounds were marketed here, despite the fact that in Florida this has for years been one of their main fisheries. The drop in supply occasioned by the red tide made serious inroads on Florida production, and has left a ready market for Spanish mackerel production from Texas. That some of our fishermen were aware of the opportunity is shown by the fact that 11,289 pounds of these fish were caught here in 1947-48, the bulk of the production coming from the Rockport-Aransas area, where 8,617 pounds were produced. 1,744 pounds came from Port Isabel.

Flounder production was up slightly, from 103,056 pounds to 108,305, a rise of 5,249 pounds.

While there are no menhaden boats operating in Texas waters, nevertheless, the Quinn Menhaden Fisheries have established an extensive plant at Port Arthur, Texas, for the processing of these fish. This plant has operated throughout the entire summer, and bids

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Ideas for Clubs

SEVERAL sportsmen's clubs over the State have been bemoaning the dearth of worthwhile conservation projects in their locality. They are beseeching Game and Fish Department people to come out with brilliant suggestions along this line.

After all, the best help in any connection is that which starts at home. Why don't dissatisfied groups consider making a survey of needs and assets in their area? This type of job would be ideal for winter meetings.

It is important to get survey findings on paper, because ideas and facts about a large district won't last very long in even a number of heads. The suggestions below may not be of much help in all parts of the state, but at least they ought to bring a number of similar projects to mind.

1. Record farm lands posted against hunting and find out just why this is so in each case.
2. List lakes and streams nearby, their fish life and improvements needed. The last may be water control dams, public recreation grounds, access roads, etc., keeping in mind that 12 to 18 feet of water are required for successful fish planting.
3. List areas of poor game cover or

unused land and draw up planting recommendations.

4. Note lands burned over during the past year and try to estimate the amount of game food and cover destroyed by the fire. At the same time encourage farmers who insist on burning to do so before nesting season in the spring.

5. Do the same for grazed woodlands and substitute livestock for fire in the sentence above.

6. List areas of soil erosion.

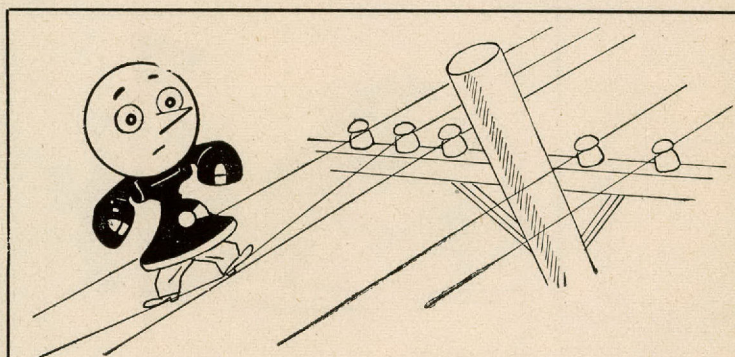
7. Search out polluted waters and the cause thereof.

8. List species of game animals, game birds and fur-bearers near your town, and then go over the list each year to figure the status of each.

9. Record the scenic and historical assets of the community.

10. Look into strip-mine spoil-banks needing revegetation and consider this for a club project.—North Dakota Outdoors.

Water less than 18 inches in depth has little value in the farm fish pond. By eliminating shallows it is possible to reduce the mosquito problem, increase the forage area for the fish, and control more easily aquatic vegetation.



He can't duck

A bird can move before you pull the trigger, but a telephone wire can't duck. Last year, 2,500 wires were broken by stray bullets.

That's why we're asking all hunters not to shoot at birds on telephone wires or poles. One stray shot may break several long distance wires and interrupt important calls.

SOUTHWESTERN BELL TELEPHONE CO.

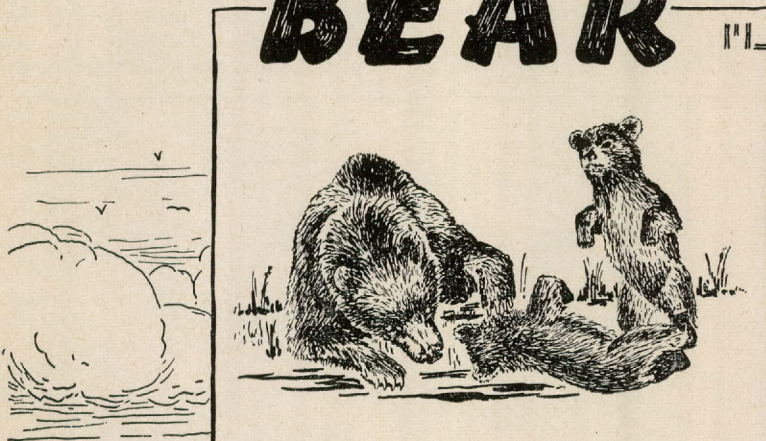


BEARS EAT INSECTS, GRUBS,
BERRIES, ROOTS AND RODENTS



CUBS WEIGH LESS THAN A
POUND AT BIRTH--ADULTS
HAVE REACHED 500 POUNDS

BLACK BEAR



A SHE-BEAR HAS CUBS
ONLY EVERY OTHER YEAR



BEARS TAKE TO WATER
FOR FISH, CRAYFISH,
AND WATER INSECTS



NORMALLY PEACEFUL--BEARS
ARE FIERCE IN DEFENSE OF
CUBS OR WHEN ATTACKED

—Virginia Wildlife

Nowadaze

HUNTING, so they say, is the sport of kings. Hunting is also the sport of a lot of darn fools! We're going to try to describe how the darn fool kind of hunter goes about enjoying what he calls "sport."

First of all it's always a good idea to mix a generous amount of alcohol with your gunpowder and shake well before using. Before the start of a hunting trip, be sure your journey will carry you past at least three taverns so that you will be properly inspired for the afternoon's sport. Game nowadays is getting scarcer, and it's a lot more fun to see two or three rabbits or pheasants when there's only one.

Before you and your friends climb into the car to go to the scene of the hunt, load up all the weapons and put them in a pile on the back seat. Think of the laugh you'll have when somebody picks up one of the guns and pulls the trigger out of force of habit. What a surprise he'll get when the thing goes off! You can't beat it for fun!

Three hours and three taverns later you pull up in front of a corn field along a country road and decide that here's where you ought to find some pheasants. So everybody piles out of the car and look how much time you save, just because the guns are already loaded! You scramble for the barbed wire fence, crawling between the wires and dragging the loaded gun after you. You know darned well your insurance policy is paid up so what have you got to worry about! Then you pull back both hammers on your trusty double-barrel 12-gauge and now you're all set!

You level your gun straight ahead and prepare to shoot at the first moving thing you see. How else can you be sure that a pheasant isn't going to get away on you? You have an idea that another party of hunters is advancing toward you from the other side of the field, but since you are each covering about six rows of corn, and since those people are doing the same, the odds are three to one that you won't hit one another, and that's a pretty good percentage.

Never wear a red-colored jacket or cap because it makes you look darn conspicuous. It's a lot nicer to blend with the general outdoor color scheme. If you're hunting in a corn field in the fall when the leaves have turned to a dark yellow color, wear that kind of a jacket. It will make it a lot harder for the pheasants to see you. Besides, it just looks good.

About this business of male and female birds—if you want to be sure not to let any of the males get away on you, it's best to blast at every pheasant that gets up. After you've shot 'em down there's always plenty of time to tell whether it's a male or female. It

just can't be emphasized too strongly that when you're out hunting, you've got to shoot at everything that moves if you want to get results. (This does not, however, apply to snowy egrets if and when they are flying directly overhead!)

Sometimes you'll find a farmer who has nerve enough to be husking corn in the same field in which you are hunting. Of course, it's his land and his corn, but if he wants to take a chance and husk corn while you're in the same field hunting, that's up to him. Another thing—you can't afford to pass up a shot at a pheasant just because the bird flies in the direction of him and his wagon. Just yell at him to duck and bang away. That's the courteous thing to do.

Remember, your job as a hunter is to see that after you leave that cornfield, there's not a living thing left behind you. That's the only way you can be sure you're not lying to your friends when you tell them that you never scored a single miss all day!

If a party of hunters wants to play it really smart, at least one fellow takes along a rifle. There's nothing like putting a little uncertainty into any hunting expedition. A rifle will carry far beyond the limits of a corn field and isn't it a nice surprise to emerge from a field and find a nice baby beef all dead and ready to butcher in the adjoining pasture!

If you follow your own hunting code to the letter and shoot at everything that moves you'll naturally need to have along a lot of shells. Whatever you do, however, save room in one of your hip pockets for a pint of Old Taylor. You've simply got to keep "A-glowin'" if you want to see rabbits or pheasants in pre-war numbers.

This also makes it so much easier to hit the birds. Whenever you see a group of three of 'em, all you have to do is aim at the one in the middle. You'll find that in nearly every case, all three of 'em will drop. It's really remarkable what a potent mixture gun-powder and alcohol can prove to be.

At last the happy day is over, and strange as it seems, you are still alive! You throw your loaded gun back into your car, along with the guns of your companions, and start for home. Why unload the weapon when you'll just have to load it up again next time before you start? Anyway, if somebody monkeys with the gun at home and it happens to go off, it will teach them a lesson to be more careful with firearms in the future.—Iowa Conservationist.

If an acre will produce 150 pounds of beef, increasing the number of cattle to the acre will not increase production. The same holds true for fish.

Fishing Tips

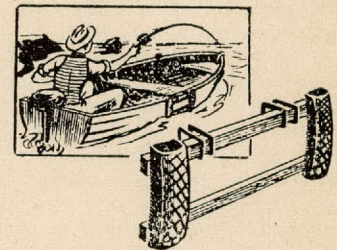


Before attempting to hook a Bream, allow him to take three or four yards of line. Halt his run with a downward pressure of the thumb against the finger. Never jerk your line.

You won't always find it easy to use the overhead cast if you fish with a rod. A little practice will teach you to use the underarm cast and then you will find few places you cannot fish with your rod.

Until you have toughened up your "fishing finger," you can avoid the uncomfortable cutting and burning by using an ordinary finger stall.

While fishing along rocky shores a boat guard, made from two sections of a rubber tire fastened to two pieces of wood, as illustrated, will protect your boat. Brackets or



hooks of strong wire bent into shape will hold the guard in place. They should be made to allow the guard to be detached easily.

Look out for the spines at each side of the head of the Flathead. A painful wound can be avoided easily if you kill the fish by inserting a knife at the back of the head before attempting to remove the hook. These spines are most unpleasant, too, when scaling the Flathead. Watch them.

When fishing for Garfish and you see a distinct movement of your float along the water, strike lightly by raising the rod. Avoid a jerk because it will tear the hook from the fish's mouth.

Stick to the smaller sizes when buying swivels and wire traces for use with casting lures. Heavy traces and swivels interfere with action of the plug and also throw it out of proper balance because of the weight they add to the head.

Band Shows Whitewing 8 Years Old

The average age of a whitewing, one of the most popular game birds in the Lower Rio Grande Valley, is unknown, even by experts, but a bird banded in the Valley more than eight years ago has been positively identified.

Charles G. Jones, veteran Valley district game warden, said recently that a bird banded by him and Dr. G. B. Saunders, federal game biologist in 1940 near Mission, was killed in September near Santa Rosa. The band from the bird was turned in to a warden and subsequent research by the U. S. Fish and Wildlife Service showed that the bird definitely was one of the group banded by the two men.

While the whitewing is known to travel thousands of miles annually and that great flights of whitewings return to the same general area each year for nesting, this is the first time in which it has been proved definitely that the identical birds make each trip and return to the same area.

Jones in making a report on the circumstances surrounding the banding of the bird and its taking this year, said:

"In 1940 Dr. G. B. Saunders was stationed at Brownsville for the purpose of studying the white-winged dove. He and I put in quite a bit of time, jointly delving into the secrets of this little-known game bird. On July 19, 1940, we were in an unusually good whitewing nesting area some three and a half miles southeast of Mission, commonly known as the "Shary Tract."

"The Doctor put in the entire day banding young birds in the nest, in order that more information might be had as to the range of this bird. Some three years following the banding of the young, a letter and two bands were received from San Salvador in Central America, showing the great distance traveled by whitewings in seeking their winter quarters.

"On Sept. 21, 1948, the last day of the whitewing season, a Mr. Brandt of Lyford, Willacy County, was hunting some four miles northwest of Santa Rosa. Among the bag limit was a whitewing that carried a band which was turned over to Mr. L. S. McMicken, a game warden living near Mercedes. McMicken sent the band to the Fish and Wildlife Service, Washington, D. C., for identification.

"A few days ago Mr. McMicken informed me of information as to when and where the bird was banded, it so happened that Dr. Saunders did the

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Letters

Sand Hill Cranes

About three weeks ago I read an item in the Brownsville Herald stating there were only about 25 pair of sand hill cranes. This certainly is a grand mistake, as I was over in the State of Chihuahua about 100 miles west and north of the Minnonite Colony at a small town called Calles. There is a large lagoon and much coon is planted there and the sand hill cranes are there by the untold thousands. You can see eight or ten flocks in the air at the same time ranging from 50 to 300 in each flock. I have never seen as many sand hill cranes in the 50 years I have been on the Gulf coast here and in Mexico. I also saw many west of Casas Grande but nothing to compare to the numbers near Chihuahua. They have no guns or ammunition to kill them and only use fire crackers and on horse back to chase them out of fields. I inquired where these cranes came from

and I was told from the United States. It seems they are all along the east side of the mountains. I did not find any or see any on the Pacific slope.—J. L. Friedman, Brownsville, Texas.

A Leap That Failed

Here is an unusual photograph of a spike buck that tried to jump a seven foot fence. His hind leg became twisted between the two top wires. He had been dead three or four days when we found him. The other photograph shows two



eight point bucks, bagged by Jack Langston and Jack Langston, Jr., with the assistance of grandson Mike, with his five foot bow and arrow. Mike missed his shot this year, but he said he was going to get him a BB air gun and next year he bets he will knock them cold. We killed two bucks in two

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Odd But True?

Bill Knight, who lives near Cleveland, Texas, is a modern Pied Piper who uses a French harp for a lure.

Knight has witnesses to prove that on a recent coon hunt, he had a coon treed, but was unable to see his eyes shining in the dark. Bill pulled out his harp and played. The coon became curious, looked out. Bang, went Knight's gun and down came the coon.

Editor Wellington, of George West, and his wife went fishing recently. The fish wouldn't bite and finally Mrs. Wellington turned to her husband and said she was tired of poking around and wished a fish would jump into the boat. One did, or so Editor Wellington says in attesting to his wife's ability as a "fish caller."

A squirrel with a two-inch tooth was recently killed by Clyde Lanier, of Waxahachie, on the Dick Weems farm near Rockett. The long tooth was a lower. It protruded from the lower lip and curled up over the nose.

Jesse Marlin, of Blanket, swears that a fox hit him in the eye. His right eye is swollen and two witnesses substantiate Jesse's story, which goes like this:

Marlin and two companions were fox hunting when their dogs treed a fox. Marlin was holding one of the dogs when the fox leaped out of the tree and socked him in the eye.



An unusual photograph of a flock of wild turkeys taken on the Aransas wildlife refuge by Lon Fitzgerald, staff photog-

rapher. Many of these turkeys soon will be trapped and transplanted to depleted areas in the state.

Flyway Staff Is Expanded

The U. S. Fish and Wildlife Service has expanded its staff of flyway biologists from four to 11 men, according to word received from Acting Director Clarence Cottam. Plans also were announced for assigning at least one airplane to each flyway for use in surveys.

Until this month there were only four biologists, one to each major flyway, who were responsible for obtaining data required for Federal waterfowl management and conservation. The tripling of this staff under the supervision of Cecil S. Williams, chief of the Section of Waterfowl Management Investigations, should do much to improve the efficiency of the unit and increase the coverage of the nation's waterfowl resource.

A turkey gobbler and a young buck foraging together is a sight that would thrill any hunter and probably cause more than a mild attack of "buck fever." Photo by Lon Fitzgerald, staff photographer.

Break a piece of glass and use the sharp edges to smooth old oars down, then finish the job with coarse sandpaper. Before applying a coat of good spar varnish letter the blades of the oars with your initials to assure their return in case of loss.

To restore the original brightness of tarnished nickel, copper and brass spoon baits polish them with any good silver polish or a paste made from salt camphened with vinegar. Rust can be removed with a piece of fine emery paper.



RECIPES

Better Baked Spuds

If the truth could be told about the food we cook over camp fires, we'd confess that often times there is room for improvement but the environment of the outdoors usually overshadows any lack of quality in the menu.

To help you enjoy your campfire-potatoes a little more, here are a couple of helpful hints . . . Roasting them in the open fire usually produces potatoes with uncooked centers and burned outside. The only equipment needed for our method is a tin can with a top on it. Coffee or baking powder cans will serve very well.

The procedure is to wash the spuds, leaving the skins on. Place them in the can and punch a few holes in the lid to allow the steam to escape.

Push back the coals at one edge of your fire, and set the can down on the hot ground, just out of reach of the flames. Turn the can now and then to allow even heating and in about a half hour your potatoes will be done.

There is enough moisture in the potatoes to both bake and steam them. The result is delicious.

Bar-B-Q Ribs

(Note: Pork spareribs and beef short-ribs can be barbecued in the same way.)

Cut off three or four pounds of venison ribs and cut them into the right sized pieces to serve. Fasten a strip of bacon to each piece of rib with a small nail. A dutch oven makes an ideal barbecue pot. Bake in a hot oven for half hour.

Barbecue Sauce

- 1 cup of catsup
- 1/2 cup of Worcestershire sauce
- 1 teaspoon of chile powder
- 1 teaspoon of salt
- 2 dashes of tobasco sauce
- 2 cups of water.

Mix all the ingredients together. If the sauce seems too thick add more water. Heat mixture to boiling point and pour over ribs. Put ribs back in the oven and bake until tender. Baste with the barbecue sauce every 15 minutes.—R. A. "Doc" Jenkins.

Texas Fish Chowder

Three medium sized panfish, scaled and filleted. Four medium sized potatoes, three onions and a heaping teaspoonful of butter or bacon grease. There you have the makings of a real fish chowder. Cut the fish fillets in pieces an inch square and parboil for ten minutes. A dutch oven is fine for a cooking pot. Remove fish from fire and put fish aside and pour off broth. Put pot back on stove dry. When hot put

in butter and the onions chopped fine. When the onions start to sizzle and brown add the fish and cover pot or oven. Let cook a few minutes. Next add the spuds (diced) and the broth. Simmer for a half hour. Before removing from fire season to taste.—R. A. "Doc" Jenkins.

Sourdough Bread

A number of readers have asked for the real, old-time recipe for sourdough bread. This is the original easy-to-make recipe used by Alaskan gold miners, northern trappers and western cow-camp cooks.

- 2 cups of flour
- 2 tablespoons of sugar
- 1 teaspoon of salt.

Mix the above with water until you have a thin batter, then set it in a warm place for 48 hours to sour. Never mind the smell—it will disappear when the bread is baked. When the batter is sour, add 1 teaspoon of baking soda and enough flour to make a stiff dough. Knead and shape into small loaves or biscuits and set in a warm place to rise. When the loaves reach about double their original size place in a greased pan and bake.

Shoots Stingray To Free Fish

A stingray that weighed more than 50 pounds and had to be shot in order to remove the hook was recently caught by Earl Fondon, of El Campo, in the intercoastal canal near Oyster Lake. Fondon and a fishing companion were after red fish. The stingray was all they got.

Fondon said at first he thought his line was hooked on a rock and when it budged slightly he then presumed it was a log. The stingray was dragged to shallow water and then shot with a .22 rifle. It measured more than four feet in length and had a body eight inches thick.

Whenever the varnish on your bamboo rod has been damaged or worn cover the place with a good rod varnish using the tip of your finger to apply it instead of a brush. When dry repeat the operation.

Lake Texoma Tourist Mecca

Lake Texoma is the greatest public recreational drawing card in the nation, according to the National Park Service.

More people went to Lake Texoma last year than to Lincoln Memorial in Washington, D. C., Yellowstone National Park, or any other park or monument in the nation.

A total of 2,397,508 persons went to visit the 500 miles of shoreline that is the Lake Texoma recreational area during the travel year ending Sept. 30.

Hundreds of thousands of tourists visited Lake Texoma in the preceding year also, but the small staff was unable to keep records.

LOST DOG IDENTIFICATION

Loss of valuable dogs can be avoided by tattooing the owner's initials inside of the dog's ear. This can be done by means of a small, live-stock tattoo machine that operates as simply as a pair of pliers. Most firms handling livestock supplies can furnish the marker with any lettering desired and also the tattoo ink.

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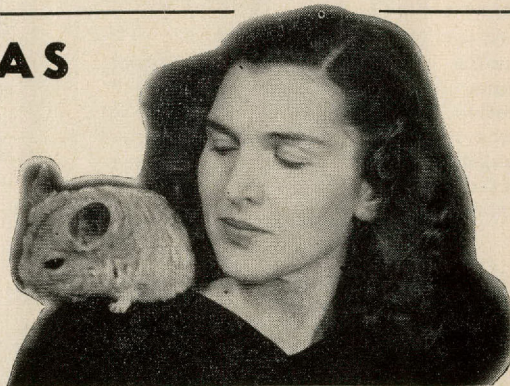
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Tips From An Old Timer

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up a bunch of dry wood and brush and after it becomes dark set fire to it, and by all means stay there. Don't move. Your friends will find you if you will stay still but if you keep running over the mountains and through the woods they may never find you.

With reference to belts and carrying ammunition, one of the common mistakes is to buy an immense 3 or 4 inch belt fitted up with loops to hold cartridges. This monstrosity calls for a great deal of useless weight and your cartridges are in as unhandy and awkward place to get hold of as they could possibly be. If you will carry your cartridges loose in the right and left hand pockets of your hunting coat you can reload in a fourth of the time and dispense with a belt which has all the advantages of an old-fashioned corset. Carry plenty of ammunition for the reason that you may need only 6 or 8 cartridges for actual use in shooting at game, but suppose you become lost, break a leg or become injured in some other manner and want to signal for help. You are out of cartridges before you get started.

With reference to signals. There are many different means of signaling for help. One of the best, in my judgment, is if you need help, shoot twice, wait exactly three minutes by your watch and shoot twice again. Or, the signal could be one and wait a certain length of time and shoot again. Any pre-arranged signal that is understood by all the party is O. K. The use of the three minute interval is to obviate giving the wrong signal when you were really shooting at game, as it would be very unusual to shoot twice at a deer and exactly three minutes later shoot twice more at him, because in the three minutes the deer would have plenty of time to escape, and therefore, when any of the party hear two shots they should at once take their watches out and if they hear two more in three minutes they can start looking towards where the shots came from.

Of course, every old-timer knows it, but I have seen several beautiful heads ruined when some tenderfoot cut the deer's throat right under his jaws. This ruins the trophy. Of course it can be patched up by a taxidermist but there was absolutely no sense in it. In the first place, a deer should be field-dressed as soon as he is killed and if he is there is no occasion to cut his throat. If you do feel that you must cut his throat, cut it way down almost between his front legs, and in skinning deer, if you wish to save the trophy give the neck plenty of leeway, cutting the trophy almost to the front legs and way

back on the top. Cut up the back of the neck, never on the under side.

Be careful in approaching an apparently dead buck. Many people are injured every year by attempting to cut a deer's throat or walking up to him when he is supposed to be dead and isn't. They can seriously injure you with their hind feet even when you are standing by their heads. Be sure he is dead before attempting to dress him out. Never use water to wash a deer in field-dressing him. Do as good a job as you can without the use of water, wiping away surplus blood with leaves, grass, etc., and in the Southwest at least, the high dry air will soon form a coating almost like cellophane over the exposed parts and is a great protection from spoiling. Of course, if the weather is warm enough for flies to exist, the deer should be wrapped in mosquito bar or light sheet to keep away flies. Don't drape your deer over the hood of the engine driving home and processed to cook about half of your venison as I have seen done many times, although it would appear that anyone should know better.

Well, this article has, like Tennyson's brook, run on and on and there should be a stopping place, although as a matter of fact, many pages more could be written along the same line, but possibly this humble article will be of some help to some newcomer or tenderfoot, and I firmly believe that if the suggestions herein are followed it will be of use at least to the extent of a pleasant and comfortable trip instead of one that is a series of bad luck from start to finish and it might save a life.

Never leave camp or go to bed with a fire smoldering.

Never drop a cigarette or cigar butt without first seeing that it is beyond all doubt extinguished.

Never shoot until you are double-check sure it really is wild game.

Never leave camp without rolling up your bed roll.

Never enter an auto or other vehicle with a loaded gun.

Never forget that alcohol and loaded guns make a very bad mixture.

Never fail to close a gate.

Never camp close enough to a watering place to keep stock from coming in to water.

Hints for The Angler

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cised in preparing the bait so that it will troll properly, skipping along the top of the water with a fluttering life-like motion. It is not advisable to troll too far in back of the boat, 60 to 70 feet is ample. Keep your eye on the

bait constantly for there is no more thrilling sight in angling than to see a sailfish "rush" it.

Nowadays, most boats fishing for sailfish are equipped with outriggers. These are very long, stationary poles which hold the line high in the air and slightly to either side of the boat. They give the strip bait a particularly attractive skipping motion. When a sailfish "tops" the bait, the line is automatically released from the outriggers, which causes slack line to fall upon the water. This eliminates the necessity of letting out slack line or, in fishermen's parlance, "dropping back." As soon as the slack line is taken up by the motion of the boat or fish, the hook is set.

Another outfit, lighter than the one described above, is used by experienced fishermen. This is known as the "4/6" and means a rod with a 4-ounce tip which is fished with 6-thread linen line, hence the name "4/6" would apply to the "Pal" in this action.

GENERAL . . . There is another species of sailfish found in the Pacific Ocean known as the Pacific Sailfish (*Istiophorus greyi*). This fish is larger than the Atlantic sailfish and is a much stronger and fiercer fighter. In appearance it is similar to its Atlantic brother, but its "sail" is much larger and its "bill" longer.

While the Atlantic sailfish is found mainly around the West Indies and Atlantic Coast, the Pacific sailfish is found in other waters of the world.

Occurs principally from Southern California and the Gulf of California south to Peru, and is abundant off the coast of Central America. Also found in the South Seas and around the islands of the Indian Ocean. The world's record Pacific sailfish, caught on rod and reel, was taken by E. Tremayne off the Galapagos Islands on February 9, 1938. It weighed 190 pounds.

The fishing methods are the same as those for Atlantic sailfish, although heavier tackle is generally used. While many catches have been made on a "6/9" outfit, like the "Pal," most anglers prefer a rod with a 9-ounce tip and 15 to 18-thread linen line.

Letters

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days, hunting in the hill country of Texas.—Jack Langston, Dallas, Texas.

Could Be

Today's theory. Could be that hunting casualties are sometimes caused by not knowing the shooter was loaded.—Wm. F. Brackmeyer, Harlingen, Texas.

We Think So, Too

In renewing my subscription to Texas Game and Fish, I wish to state your magazine is "tops" of them all for the Texas sportsman.—B. P. Willis.

Make Every Shot Count

With shooting chances at game none too plentiful at best, the gunner had better try hard to make every shot count this season.

This business of blasting away in the general direction of flying game in the hope that some of the shot will connect just doesn't pay off in the game bag.

The hunter who takes his time and makes pretty sure that he is on his target before he presses the trigger is the fellow who will be coming home with meat for the pot. Sure, game birds fly fast . . . but shot travels fast, too. And if the shooter does not crowd his shots, he'll find that he usually has plenty of time to hold properly before the game has passed beyond effective range.

Most upland game birds will fly at the rate of about 40 miles per hour; some a bit slower and some a little faster. This depends on the species and whether or not the individual bird is badly frightened. Most shooting chances are rather tricky, particularly in heavy cover. Practically none are the same. But the average shot is only about 20 yards and a standard Remington load of 1½ ounces of #7½ chilled shot is traveling at the rate of about 600 miles per hour when about 20 yards from the gun.

"When a game bird flushes in front of you," says Evans, "you do at least four things. Probably several other things happen, too, but these four are the most important. First, you estimate the range as best you can. Then you shift your feet into as comfortable a shooting position as possible, mount your gun and swing on the target, and, lastly, pull the trigger and, if you are shooting properly, follow through."

This sounds like a lot of time has been consumed before the shot is fired, but it isn't so much after all. Ballistic engineers have figured that you consume about one-fifth of a second in "getting set." Your bird, in this time, has flown about 18 feet. He'll fly another 18 feet while you're getting your gun up and on him, and still another 18 feet while you're pulling the trigger. On the basis of an average shot charge velocity of 900 feet per second over your original range of 20 yards, the shot charge will require approximately one-fifteenth of a second to reach the crossing point with the path of the bird. In that time he will have flown an additional six feet, or a total of 60 feet from the time you saw him until your shot reaches him.

These calculations are based on a crossing shot, and are used as an example only, for you won't get this type of shot every time. Straightaway shots

should require slightly less time, others slightly longer. The human element, too, varies and is the determining factor. But the general idea is that a number of things happen . . . and happen fast. But not so fast that you don't usually have time to get on your target if you'll only take it.

Don't wait too long, but don't try to be a super-fast shot. Get on your target as fast as you can, but don't crowd yourself. And try to make every shot count. Don't shoot if you do not think you can make a clean kill. Cripplings often mean wasted game.

An Outboard With Gearshift

The Scott-Atwater line of outboard motors for 1949 will feature four new models with the Scott-Atwater shift, a gearshift that provides reverse speed and neutral as well as the conventional forward speed.

Heralded as the greatest outboard development in years, the shift offers obvious advantages of maneuverability, convenience and safety. The motors may be started in neutral and warmed up while the boat is tied to dock or shore. The reverse gear permits the boat to back away from dock or shore without necessity for using oars or paddle. The combination of neutral and reverse gives greater controllability and promotes safety at crowded landings and in heavy traffic. Starting the motor in neutral avoids the forward surge heretofore unavoidable in starting motors in forward speed at the traditional three-quarters throttle. Reverse is also useful in edging up to dock or shore under power and with full control of the boat.

Models having the Scott-Atwater shift will include the 1-14, a 4-hp. single with a speed range of 1 to 14 miles per hour; the 1-16, a 5-hp. twin, and the 1-20, a 7½-hp. twin. There will also be a larger, more powerful shift motor, the Scott-Atwater 1-30, available later on in the spring. The Scott-Atwater line also includes three conventional models, without shift. These are a standard and a deluxe version of the 3.6-hp. single cylinder 1-12 and a non-shift model of the 7½-hp. 1-20.

"Even the few skeptics will have their doubts satisfied when they know the Scott-Atwater shift adds less than two pounds to the weight of the motor, the three smaller, popular sized, shift models will retail at less than \$200, and the shift mechanism is amazingly simple in design, construction and operation."

The gearshift lever is located on the starboard side of the motors near the front and has somewhat the appearance of a short gearshift lever in an automobile. It moves forward and back through approximately a 45° arc. When the shift lever is upright, the motor is

in the neutral position. The lever is moved back for reverse and ahead for forward.

Automatic stops acting on the throttle prevent shifting at high speed, racing the motor in neutral, and limit reverse speed, thereby promoting safety for the user.

Secret of Farm Pond Designing

The secret of successful farm pond designing is to provide for adequate water to fill the pond and guard against excessive silting. To provide for adequate water supply, allow sufficient drainage area to furnish ample quantities of runoff water in the pond during critical drought periods. Excessive silting can be avoided by keeping the drainage area down to the absolute requirements of the storage capacity of the pond and by keeping at least 50 per cent of the drainage area in permanent vegetal cover, such as grass or woods.

Brand Shows Whitewing 8 Years Old

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banding July 19, 1940, when he and I were together on the Shary tract.

"Eight long years had this bird run the gauntlet of tens of thousands of hunters, afterwards winging his way back to winter quarters in southern Mexico or Central America, and each spring returning to the Valley, making himself a target for the hunter again.

"I don't believe that anyone knows the average life of a whitewing, but this instance proves that one bird lived to the ripe old age of eight years, Mr. Brandt interrupting a possible life span of several years more."

Snapping Turtle Control

• Continued from Page 11

tionary trap in lakes because it drifts around with the wind and so takes the bait to the turtles rather than wait for the turtles to locate it. The same sized 1-foot by 3-foot weathered boards are used with the trap wired to the center of the board in the same way. Staple the trap chain to the opposite side of the board to which the trap itself is on. Bait and set the trap, then set it afloat with the trap on the *under side* facing downward, as in Fig. 2. A dozen of both types of traps will rid a small lake of snapping turtles in a short time.

one of your guns than for any other gun he can get.

"While in the Black Hills this summer I crippled a bear, and Mr. Bear made for me, and I am certain had I not been armed with one of your repeating rifles, I would now be in the happy hunting grounds. The bear was not 30 feet from me when he charged, but before he could reach me I had 11 bullets in him, which was a little more lead than he could comfortably digest.

"Believe me, that you have the most complete rifle now made.

(Signed) W. F. Cody."

There was a time when Winchester sold the "one of a thousand" gun in the Model 73. It was when a gun tested particularly accurate that it was designated a "one of a thousand" item and sold for \$100, or \$50 over the regular price. These guns were treasures and usually the owner of one had to guard it with his life from covetous companions.

The popularity of the 44-40 was such that two Winchester rifles following the Model 73 were chambered for it—Model 92, introduced in 1892, and Model 53, in 1924. While manufacture of both these rifles was discontinued in 1932, many thousands of 92's and 53's and even some 73's continue in use, as the demand for this ammunition indicates.

While Winchester introduced smokeless powder to sportsmen and hunters in America in 1894, with the famous lever action Model 94 rifle and the equally well-known Winchester 30-30 cartridge, and also made the 44-40 available with smokeless powder loads, the demand for the old cartridge loaded with black powder continued heavily for the years after 1894.

In tracing development of the 44-40 cartridge, and the Model 73 that fired it, Harold F. Williamson of Yale University, in his forthcoming book "The Winchester Arms Company; A History and An Analysis," gives credit to Thomas Gray Bennett, who in 1890 was to become president of Winchester and an outstanding figure in the U. S. sporting arms and ammunition industry.

Bennett had become familiar with lever action rifles through the use of the Henry rifle, manufacture of which had been started by Winchester before the Civil War. Bennett had used one of these Henry rifles in the Civil War.

After being mustered out of the army, Bennett entered Yale's Sheffield Scientific School, where he graduated in 1870. He went to work for Winchester that year in time to participate in the development and introduction of a rifle and its ammunition that not only would aid in the development of the country, but established Winchester as a prominent figure in the world's sporting arms and ammunition field.

Building Your Rod

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largely on your type of stream, and the type of angling you do. For my preference, I have used numerous rods, and come to one rod which in my mind, is the rod of rods for myself. A 2-piece 8 ft., 4¼-oz., rod, a whippy extra-light trout action, action enough that it requires an E line or HDH tapered line to bring out the action.

I find that on the general run of small trout streams, I can cast to most any position, and at quite a distance when necessary. However, this one rod is not suited for bigger streams, and my choice then is a 9 ft. for more power in the cast. This is also a great aid when standing in deep water and casting a distance.

After handling different rods, you should form an opinion as to what rod is best suited to you. For all around spinner, bait, and large streamer flies, perhaps a 9 ft. rod weighing in the neighborhood of 5 oz. is best suited. Bait and large lure fishing is heavy work and a light trout rod cannot stand the strain as well as one of heavy build.

Guides on the rod, the amount and where they are placed, is a very important feature. Good rods have at least five guides on the tip-section, generally the same amount or one less on the mid-section, and a large stripping guide on the butt-section, this of agate, glass, or some hard metal. When the rod is arched by the line, where ever the line goes through a guide, there is a strain point. The more guides, the more evenly or equally distributed is this strain and less harmful effect on any one place of the rod. However, too many guides cause friction and will reduce the ease in casting.

One last thing of importance in selecting your rod is to be careful of where the knots on the cane appear. The knots in cane, as in any other wood, designate a weak place, and should be staggered a few inches apart, so that no two knots of different strips are glued side by side.

All this takes time and skill, and is a costly process in constructing a good rod.

However, there are no mysteries as to how a rod is constructed, and today many anglers build their own rods, with one-third the expense and have a rod or rods built as they desire.

There is little need to go into the history of how the fly rod began, who started it, and how the cane was first split and then glued together to eliminate the hollow center, and be greatly aided in strength. It has been said that the splitting of the cane and gluing originated in China, and this idea is indeed probable, since good cane comes from that part of the world.

Cane comes in the form of a hollow tube or pipe, and at intervals contain nodes, or knots. These nodes are sanded level with the surface of the cane, or outer coating called enamel, but which is a natural finish.

In the process of building a rod, all the nodes are sanded level, a knife is then placed across the end of the cane tube, and used as a wedge to split the cane tube in half. These halves are then split in quarters, and lastly into eighths. It is better to lay a quarter section on a level surface, pith side (inside) down, and with a sharp knife used as a chisel, drive the point into the bamboo and split the cane at one of the nodes. Continue to the next node and repeat the splitting procedure. Thus, the entire cane pole or tube is split, hence the name—"split bamboo."

These strips are then placed in a "V" block and with a 9- or 10-in. carpenter's plane, plane the sections to the desired size. These "V" blocks are blocks of metal containing "V" or triangular shaped grooves, made to the size needed for one side of a five- or six-sided rod. Usually each block contains a groove the size needed for a strip of the butt section, one for the mid section, and one for the tip, in the case of a three-section rod. Place the split cane in the largest groove and work it down by putting it in the next smaller size groove until the proper size is reached.

Never plane the enamel side of the cane, merely the raw edges. It is best to alternate the planing from one raw side to the other, gradually getting the correct size and angle.

These "V" blocks can be made or can be purchased from a tackle manufacture supplier.

After six strips are planed (in the case of a six-stripped rod) place them side by side and stagger the nodes so that no nodes will be next to each other. It is very important that each section is planed smooth so that they will form a tight fit when glued together. The "V" grooves in the block act as a die and contain the proper size, angle, and taper.

Next comes the gluing of the strips. This is most important, since the strength and uniform bend of each strip makes up the strength and action of the rod. After the strips are glued with a good *waterproof* glue and clamped tightly in the desired position, they are bonded together by wrapping string around them very tightly. Today pressure wrapping machines are made for this step, but only the large rod building factories can afford them.

After 7 to 10 days, the wrappings are removed and the section can be stored for a period of six months or more to properly "season" the cane.

Any excess glue on the enamel or outside of the cane will easily chip off when dry. Sanding is very harmful to this enamel surface since the strength of the cane is formed by the fibers and they are about 20,000th of an inch

thick. If these are damaged, one cannot expect a good quality rod.

This seems like a tiring process and most anglers would give up the idea of building a rod if they had to resort to purchasing a "V" tapered block and the other necessary items.

However, today, these bonded or glued sections can be purchased at a reasonable price per section and are much better than a section done by the beginner, more true in taper, bonded tighter, and more uniform in bend and action.

Here is the important part of rod building which everyone can do. These sections which go to make up a rod, in the case of a 3-section rod, the butt mid, and tip sections, can be purchased unmounted (no ferrules, reel seat, guides, etc.) in the desired length, weight, and action.

Together with these unmounted sections, purchase the material described below and assemble a rod to your fancy. This procedure is very simple and anyone can enjoy this fine hobby.

In assembling a rod, it is well to remember that there are a number of steps involved. First, a butt section is selected, and a small amount is cut from each end of the section to give the desired length. At the extreme heavy end of the butt section, the sharp edges are sanded round and a reel seat is glued on with waterproof glue. One must keep in mind that the reel seat, type and material from which it is made, adds greatly to the final weight of the rod.

Next, a cork grip is slid down the butt section and glued into position very tightly against the reel seat, being careful to make a water tight fit.

The cork grip is made by gluing cork rings together and sanding them to the shape which best fits your hand. These, however, can be purchased either already glued and shaped into a grip or the individual rings.

Next a rod taper or metal disk is slipped down the butt section and glued tightly against the cork handle to eliminate any chance of water seeping under the cork and rotting the handle.

After this is done, a good quality nickel silver serrated ferrule is fitted onto the end of the butt section. Extreme care must be taken in rounding the edges of the glued cane so that the ferrule is a tight fit. If it isn't a snug fit, the rod will produce a "cracking" sound when vibrated, and eventually the ferrule will become loose. If the section is sanded slightly smaller than the ferrule, string can be placed over the end of the rod, and then cemented, and the ferrule forced over this.

The slide (commonly miscalled male ferrule) is fitted in place on the next section of the rod, using the same care. It should fit down into the ferrule the entire way to its offset or shoulder, and in this position should touch the end of the butt section of the rod. This

eliminates any air within the ferrules when the sections are joined together, thus preventing a weak point at the ferrules.

After the ferrules are fitted to each section, the rod is near completion. It's a matter then of spacing the guides at measured intervals and winding or wrapping silk or nylon thread around them to hold the guides securely to the rod.

It was, at one time, a common belief that a small wrapping between the guides increased the strength of the rod. However, this has proved to be detrimental instead. It has been found wherever there is a wrapping it retards the true action of the section, hence, one part of the rod, where no wrappings appears, bends correctly when arched, but where a wrapping occurs, it retards it. This is indeed harmful as it should give evenly throughout the rod. Only enough wrapping is needed to cover the flatted portions of the guides and serrated ferrules.

Before the final step of varnishing the rod with a good grade of elastic waterproof varnish, your name and address can and should be written on each section of the rod. In case of losing one section along a stream, it is possible that the lost section may be found by a fellow angler and returned.

A mark indicating 6 in., 9 in., and 12 inches can be placed on the rod which eliminates the necessity of carrying a rule to measure the length of your catch. Both this and your name can be applied with a pen and white ink and varnished over when varnishing the finished rod.

A good grade varnish should be used on the rod to keep it water tight and prevent moisture from seeping between the glued sections of the cane.

Specifications for a good rod of light dry fly action is listed below. These measurements are at six-inch intervals starting at the butt end. All measurements are in thousandths of an inch and taken from the center of the rod to the outside. For the diameter of the rod, double these stated figures:

8 strip 3 piece dry fly action rod
8½ ft. .162, .162, .154, .154, .141, 17/64 Ferrule
.133, .128, .123, .114, .104, 11/64 Ferrule
.085, .080, .078, .066, .050, .040

Ferrules are generally measured in 64th of an inch or numbered as follows:

0000—Size 9/64	1½—Size 16/64
000—Size 10/64	2—Size 17/64
00—Size 11/64	2½—Size 19/64
0—Size 12/64	3—Size 11/32
0½—Size 14/64	4—Size 12/32
1—Size 15/64	5—Size 27/64
	6—Size 30/64

A good rod is the basic element of good angling, a tool which we all use and play with pride.

Care for Ol' Betsy

• Continued from Page 12

scrubbing from muzzle to breech. Repeat with clean patches until they come

out spotless. If a few marks or spots still show up, use the brass brush with more solvent, then polish with another dry patch or two. The rifled tube should glisten.

Providing the arm is not to be used for a couple of days, a thin coating of light oil to both bore and outside surfaces will be sufficient, but if the piece is to be idle for a week, month, or longer, the oil will not provide full protection. Chances are good that the oil will crawl away, leaving metal parts exposed to moisture. When preparing for a long lay-away period, apply a liberal amount of gun grease (not vaseline, or other heavy greases), making certain that all metal surfaces are well covered. Be sure that the heads of screws, areas under scope, and other narrow places are reached.

The use of corrosive, or government issue, ammunition necessitates a special cleaning process. I like the hot water treatment, which is one sure-fire method of being absolutely sure of freeing the bore of injurious fouling. A rifle other than the bolt-action type offers a bit more inconvenience, since a special funnel must be employed to direct the water down the bore. With a bolt-action arm, however, simply remove bolt, place muzzle in a pan of water, insert batch and rod (from the breech), and pump the hot liquid back and forth up the barrel. After the bore appears bright, swab with patches until dry. The heated barrel will help evaporate the moisture. The bore will then be ready for oil, or grease, as the case may be. I never allow a rifle fired with corrosive fodder to stand over night.

In emergencies, arms fired with non-corrosive ammunition in a dry atmosphere may be allowed to set uncleaned for a day or two without harmful effects to the bore, but the outside should always be wiped off with an oily cloth to remove sweaty finger prints. Bores of guns which I use regularly, very often receive only a few swabs with a solvent-soaked patch after a warm, dry day of shooting. Since a solvent is not an oil, the arms are ready for immediate firing without first running a clean patch down the bore—a *must* when an oil or grease has been put in the barrel. Not only will the lubricant cause dangerous pressures to be created, but also cause the first bullet to fly high, or wide, or both.

What about the wood? Too many folks underestimate the value of a good stock. It not only adds beauty and distinction to an arm, but more important, it helps insure accuracy. A warped stock, brought about by dampness, will bind the barrel unevenly, and cause a miss on game, or make a disgraceful group on the target range. In the days of varnished sporting stocks, too much accuracy was not expected of a hunting weapon. The wood was just something by which to hold or carry the arm; consequently, stocks of yesterday

received very, very little attention. Present day stocks are well seasoned oil-finished woods. An oil, and a "grease" are necessary to keep modern stocks in top condition—linseed oil, and elbow grease. Once or twice a year, according to the weather, dampen a cloth with the oil and rub briskly *well into* the wood. This not only produces a lustrous and attractive finish, but also makes the stock completely moisture proof. Keep checkering clean and sharp with the old tooth brush.

Slings are rapidly becoming standard equipment on modern sporting arms—especially on those carried into rough big game country. Keep that cow skin pliable and durable with an occasional rub down with neat's-foot oil. Dry leather will wear, crack, and eventually break before its time.

No matter how thoroughly one cleans and prepares Ol' Betsy for those months of inactivity, she should not be completely forgotten. If for no other reason, just for the heck of it, ease her out of the gun case once in a while, and look her over. A tiny rusty spot can mar her appearance, and a rusty bore can impair her accuracy if not attended to. If given the proper care, next fall faithful Ol' Betsy will make her appearance nice and bright, and in all her glory—ready to deliver the goods, and be admired by all who see and handle her.

Small-bore rifle shooters who take pride in their marksmanship owe a vote of thanks to Oscar who helped establish the existing high standards of accuracy for .22 ammunition.

Oscar is a robot; a machine rest which holds a rifle, and is designed to simulate the arms and shoulder of a small-bore shooter. Ballisticians keep a day-in and day-out check on the accuracy of .22 ammunition by firing countless rounds from rifles clamped in Oscar's metal arms.

The story of Oscar, a secret since his "birth" in 1936 at the Western Cartridge Company plant in East Alton, Illinois, is revealed for the first time in the May issue of the AMERICAN RIFLEMAN. The article, first in a series on the nation's arms and ammunition plants, discloses that it was Oscar who played a leading role in developing an accurate, inexpensive smokeless .22 cartridge which brought practical small-bore shooting within the reach of all arms-minded Americans and eliminated the former smelly mixtures of black and smokeless powder upon which ammunition makers had been forced to depend for accuracy.

Western's ballisticians plotted their accuracy and drop curves from thousands of shots fired from rifles held in Oscar—and from these exclusive findings finally developed the Super Match .22 smokeless ammunition which, for the first time, met the exacting demands of Camp Perry riflemen. More

Is the Peccary Dangerous?

• Continued from Page 4

gashes. As they tore and slashed each other, the old sow, reinforced by some shoats, joined in the melee until the bear was cut to pieces.

There is no romance in a javeline hunt, such as is pictured in the wild boar hunts of ancient times. Mythology portrays Adonis as a youthful hunter of courage and daring, in high favor with the goddess Venus, who worried no little over the dangers of the chase. She tried to dissuade him from taking desperate chances, but he laughed off the warning. Alas, one day, after a long pursuit, he boldly attacked a wild boar which turned upon him, buried his tusks in the side of Adonis and trampled him to death. Venus rushed to the scene of dear Adonis, etc.

Adonis was a sportsman, and not a meat hunter, and probably knew that boar meat is not edible; certainly those mythological personages had finer tastes than to tolerate the fumes of frying boar-chops which would drive any one from a kitchen. The boar was all right in his place, but not on a dining table. He was all right in front of the speeding hounds, or at bay when there was glory in the chase. There has never been any approach to the splendor (?) of those days, unless it has been pictured in the javeline hunts of northern Mexico. (Pardon our risibility.)

Mr. E. G. Marsh of the Game Department tells of witnessing javeline hunts in Mexico, where primitive methods were still in vogue. Some of those Mexican Nimrods were as daring as the Adonis who grappled with the enraged boar. With a pack of hounds to race the javelines to a point of exhaustion,

accurate and lacking the dirt and odor of the former Match .22's, these cartridges quickly were adopted by the arms industry until now the old combination black-and-smokeless powder loads are no longer made. Today's dependable .22 ammunition, the article discloses, represents a real triumph of American mass manufacture of a precision product, plus meticulous attention to detail.

Throughout, testing sample cartridges from each batch of ammunition produced, Oscar is still on the job every day insuring accuracy—and more bull's eyes—for America's army of sportsmen.

By the way, that Lyman 4-power Challenger is finally here; however, only in limited quantities. If you are not in too much of a hurry for a 4X glass, better wait a little while and take a look-see at the new Challenger. It may be just what the doctor ordered for your particular shootin' iron.—A. W. III.

where they stood at bay and ready to fight the Mexicans, with *machetes* tied onto long sticks, simulating the javelin of ancient warfare, charged the brutes and hacked them to death; a sort of miniature bull fight or boar fight. The purpose of the hunting was to procure meat and the hides that were marketable.

The javeline will fight if wounded or if cornered, but they run at the approach of man and his gun. A mother javeline will run away without resisting the capture of her baby piglets. Wherever the odds are against the wild animal of whatever species, they make but faint effort to protect the young, when their own lives are at stake. The ethics of the wild animal is to preserve itself first. Thus it can go on reproducing instead of throwing itself away in a gallant, though futile attempt to protect its offspring. There is even the case of a mother black bear which followed pleadingly when its baby cubs were being carried away, and no fight was made. When pursuit became useless, the bear gave up and stood watching the retreating figure.

In the days of the open range the domestic hog ran wild over the country, and that is still the case in some sections of the State; those hogs usually helped themselves to the farmer's bounty whenever they could break through the fence.

There came to the attention of the writer an instance when a field was seriously plundered by the hogs of a certain ranchman. The infuriated farmer called on the ranchman for redress. The ranchman, in all tranquillity, removed his low swung pipe and said: "If any of my hogs break into your field just shoot them and send me a piece of meat."

Shooting hogs was not the plan that Moses had in mind when he condemned the porkers of the Arabian wilderness. He simply put an inhibition on their use as food, and probably with reason if the swine was a razor back. Further disfavor arose when the "prodical son" threw up his job when they were trying to fatten hogs on husks.

The American way of life has pointed a better way by using bumper corn crops to produce dollar a pound pork chops. It goes to show what a hog can do under the favoring influences of civilization and slop. But the javeline is no better off now than he was in the days of the Aztecs, except that he holds the precarious title to being a game animal.

Further down in the scale of poor kinfolks is the jack rabbit which may come next into recognition. But, in predictions of things to come, predictions low in percentages of accuracy, it is safe to say the jack rabbit will get no legal protection in half a hundred years in Texas. But, make no mistake, —this rabbit carries his *own* native protection in that fleetness of limb.



BOOKS



PROFESSIONAL OPPORTUNITIES IN THE WILDLIFE FIELD by David B. Turner—108 pages. Published by the Wildlife Management Institute, Investment Building, Washington 5, D. C., 1948. Paper cover. Price \$1.00.

This book is the result of the most exhaustive study ever made of the educational and professional opportunities in the wildlife field. The amount of research required to gather the employment requirements of hundreds of state, federal, and private conservation organizations in the United States and Canada and data on all educational institutions in North America giving courses in this field was enormous. The material, accumulated by questionnaire, personal interview, and correspondence has been organized carefully for ease in locating specific references. The volume contains 18 tables and an appendix with all essential information concerning the curricula in wildlife and fishery management of the various educational institutions.

With more people interested in obtaining educational and employment in these fields than ever before, this book is an extremely timely contribution to the literature of the science. The studies, directed by a committee of educators at Cornell headed by Dr. E. Laurence Palmer, were financed jointly by the Wildlife Management Institute and the American Nature Association.

THE FISHING AND HUNTING ANSWER BOOK by David M. Newell—185 pages. Illustrated with many line-drawings by the celebrated sportsmen's artist, Lynn Bogue Hunt. Published by Doubleday and Company, Incorporated, Garden City, New York. 1948. Price \$1.45.

David M. Newell, former editor of *Field and Stream* and at present associate editor of *Sports Afield*, is one of the most widely experienced sportsmen in North America. His travels, as the leader of many scientific expeditions or in search of sports, have carried him from the Arctic tundra to below the Equator. When such a man writes a book on hunting and fishing, it is pure redundancy for a reviewer to state that it is well-written, well-organized, and authoritative.

This volume contains the answers to over three million questions and includes numerous tips and kinks on

hunting and fishing problems. For easy reference the material has been grouped under six general headings: Fishing, hunting, dogs, guns, the outdoors, and snakes. The answers to the questions concerning these subjects are concise and to the point. This book is based largely upon the author's long experience on "The Fishing and Hunting Club of the Air" of which Mr. Newell is conductor and will answer many questions that perplex veteran sportsmen as well as beginners.

Training Your Own Bird Dog

"Training Your Own Bird Dog," a practical book for the beginner starting his first bird dog, written by Henry P. Davis and published by G. P. Putnam's Sons, New York (\$3.50), is now available at book stores.

Mr. Davis, editor of the *REMINGTON NEWS LETTER*, is an internationally recognized authority on all sporting-dog breeds.

Here is a book by an expert—for the simon-pure beginner. In simple, easy-to-understand terms it shows him the practical steps by which he can develop a young prospect into a skilled gun dog.

In "Training Your Own Bird Dog," Mr. Davis passes along to you the results of thirty years' experience breeding, raising, training, and handling his own dogs. Coupled with this is a vast amount of information obtained from observing the methods used by the country's leading professional trainers.

The methods of training he describes are the ones he himself has proved in practice—the ones he is using today and has used in the past to train the many setters and pointers he has successfully campaigned in amateur field trials.

Table of Contents: Master and Pupil, Principles of Training, Choosing the Gun-Dog Prospect, Care, Training Equipment, Early Lessons, Starting the Youngster, The Pointing Instinct and How to Develop It, Ranging, Turning to Whistle, Quartering, The Finishing Touches, Gun Shyness, Retrieving, Use of Controlled Game, Bird-Dog Field Trials, Tips on Dog Care. With special information on the Webster-Price Retrieving Yoke.

Shrimp Harvest

• Continued from Page 19

fair to become the basis of another sizable Texas fishery.

Oyster production in Texas for 1947-48 dropped to a low of 38,515 gallons, or about 25,600 barrels. This is mainly the result of heavy overfishing of the reefs, with no attempt on the part of producers to cultivate or replenish the crop. This was not unexpected. A year ago, J. L. Baughman, chief marine biologist of the Texas Game, Fish and Oyster Commission, estimated that this decline would show up under the present wasteful methods of fishing. Although oystermen felt at the time that he might be unduly pessimistic, events of the past year have borne him out.

The Gun That Won the West

• Continued from Page 6

duction of the carbine was discontinued in 1919 more than 1,000,000 rounds of the 44-40 still are being made today.

The Model 73 was a favorite with many famous men of those days. Buffalo Bill, as the whole world later knew William F. Cody, was one of the first to use it. And his testimonial two years later printed in the Winchester catalogue, is eloquent praise.

"I have been using and have thoroughly tested your latest improved rifle, 1873. Allow me to say that I have tried and used nearly every kind of gun made in the U. S., and for general hunting or Indian fighting, I pronounce your improved Winchester 'the boss.'

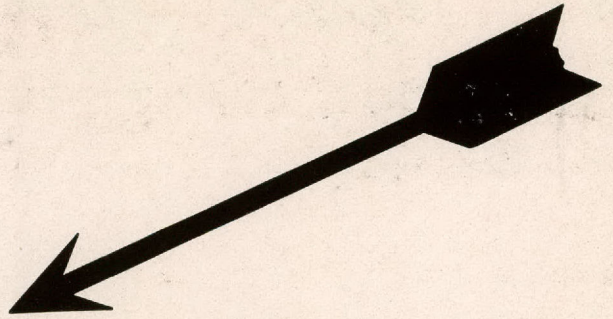
"An Indian will give more for

Venison Sausage

There is a use for venison that might prove popular. Often hunters discard the tougher parts of deer—the front shanks, lower parts of the hind shanks, the neck and lower parts of the ribs, since this meat is not desirable to make roasts and steaks.

An experiment for years in the Texas Animal Husbandry Meats Laboratory has found a way to utilize these parts by making "venison sausage." If it is seasoned with sage it tastes like pork sausage; if sage is omitted it tastes like hamburger.

For seasoning, use 1 pound of salt, 3 oz. black pepper, 3 oz. sage, for 50 pounds of venison. The sage can be left out; one pound of pork fat is added to each pound of deer meat. Grind it through the largest grinder plate first, then through the fine plate. Grinding twice mixes the meat and seasons better.



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