



READY FOR 1930!

JOHNSON  
SEA-HORSES

Adding Smooth Twin-cylinder Alternate Firing and Full Pivot Steering to Johnson's Famous Release Charger and Underwater Exhaust

Revolutionary improvements make their first appearance in Johnson Sea-Horses for 1930.

To the Sea-Horse "Single" "3" "10" "16" and "32" have been added two alternate firing twin-cylinder motors, Sea-Horses "4" and "12."

Here are six separate sparks instead of three, as customary, to one pull of the starting rope. Hence alternate firing brings ease and certainty of motor car starting to the "4" and "12" just as the famous Johnson Release Charger does to Sea-Horses "3" "10" "16" and "32."

Alternate firing also produces a smoothness 100% greater than hitherto known in twin-cylinder motors. For here are two impulses per revolution instead of one, as customary. Vibration is reduced to almost nothing.

These Sea-Horses bring Full Pivot steering, thus permit the boat to be reversed without stopping the motor.

They offer the only water-cooled underwater exhaust, discharging fumes and noise below the water.

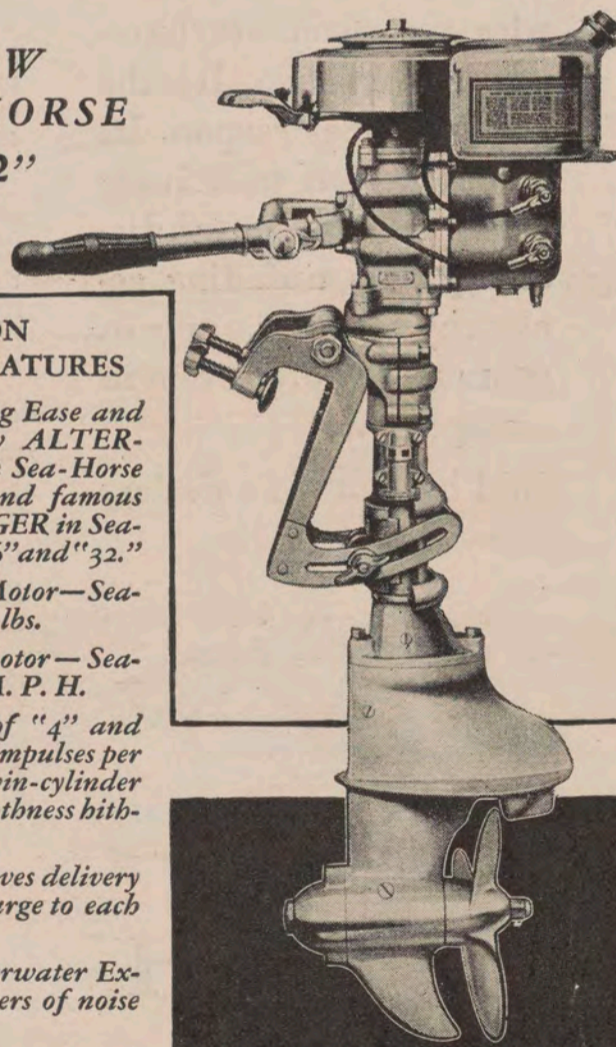
The Sea-Horse "Single" is the world's lightest outboard, only 27 lbs. The Sea-Horse "3" is the world's lightest twin-cylinder outboard, 38 lbs. The Sea-Horses "4" and "12" are the world's smoothest running, easiest starting twin-cylinder outboards, and in addition have Full Pivot steering.

1930 Catalog Ready—Write!

Regardless of whether you want a small light motor for sport, or a larger, more powerful motor for cruising and heavy utility, look to Johnson—write for color-illustrated catalog—of the latest and greatest improvements.

The public bought more Johnson Sea-Horses in 1929 than all other outboard motors combined. Write for 1930 catalog.

NEW  
SEA-HORSE  
"12"



JOHNSON  
SEA-HORSE FEATURES

*Automobile Starting Ease and Certainty by new ALTERNATE FIRING in Sea-Horse "4" and "12," and famous RELEASE CHARGER in Sea-Horses "3" "10" "16" and "32."*

*World's Lightest Motor—Sea-Horse "Single," 27 lbs.*

*World's Fastest Motor—Sea-Horse "32," 48.4 M. P. H.*

*Alternate Firing of "4" and "12" introduces 2 impulses per revolution in a twin-cylinder outboard with smoothness hitherto unknown.*

*Rotary Valve achieves delivery of full, even gas charge to each cylinder.*

*Water-cooled Underwater Exhaust frees passengers of noise and fumes.*

*Automatic Back-pressure Relief.*

*Full Pivot Steering.*

*Pressure-vacuum Cooling System.*

Originators of Water-cooled Underwater Exhaust and Release Charger



## The Rifle for Rocky Mountain Hunting

By WILLIS O. C. ELLIS

### Self Defense!

Self-preservation is the first law of nature. Self defense is the inalienable right of every man whether his aggressor be human or beast.

Carry a Smith & Wesson with you on your next hunting or fishing trip. It is the ideal personal weapon. Its safety action positively prevents accidental discharge. Its unfailing accuracy is your certain guarantee of protection in emergency.

Sold by first class dealers everywhere.



Send for  
Descriptive Catalog

# SMITH & WESSON

SPRINGFIELD, MASS., U. S. A.

THE REVOLVER MANUFACTURER

IT IS a great pleasure to write about the rifle to be used for hunting in the Rocky Mountains. Here in this great section or territory, famed by stirring stories of fact and fancy, may be found some of the finest shooting on the North American continent. Here may still be found, by those of strength and brawn, places as yet unseen by the white man, and in the mountain fastnesses of these mighty ranges still roam those big game animals that have made Rocky Mountain hunting famous, and makes a hunting trip into this section one that is always looked forward to with great expectation.

The rifle used for hunting in the Rocky Mountains should be the best procurable. It should be strongly made, have plenty of power and be extremely accurate. Even with the best of care a rifle will be subjected to severe treatment on a mountain hunting trip. I have seen new rifles, carried by careful hunters, come through a single trip in the Rockies and they were aged and scarred from hard usage.

The rifle must have power. These western mountains are no place for the pseudo big game arm. Not only is it important that the rifle has high muzzle energy, but the design of the cartridge used should be such that there is plenty of power out where the bullet strikes, which, in the Rockies, is frequently several hundred yards from the gun. The trajectory of the bullet must be as flat as possible so undue elevation will not be necessary for the long shots.

Accuracy is of great importance. Since long range shooting is often done, no pains should be spared to secure an arm that is accurate to the highest degree.

I am not unmindful of the fact that there are a great many different rifles and cartridges used in the Rockies, all with more or less success, but the gun or guns that I shall recommend will be the best possible to secure for use in this particular section

of the country. To be specific, I am going to emphasize more particularly the proper cartridge than any particular make of rifle. Fortunately, all the leading gun companies make rifles for the cartridge I have in mind, hence it will be easy for the shooter to select the make of rifle he likes best.

Without doubt one of the best cartridges procurable for general shooting in the Rockies is the .30-06, a cartridge that has been developed to a higher degree of perfection than any other cartridge in the world. Many hundreds of thousands of dollars have been spent in bringing this cartridge to its exalted position it now occupies. Without doubt it is America's finest hunting and target cartridge. Used with 180 grain open point bullet at slightly over 2,700 ft. seconds muzzle velocity, muzzle energy approximately 3,000 ft. pounds, or with the 220 grain soft point bullet at a muzzle velocity of 2,330 ft. seconds, and a muzzle energy of 2,660 ft. pounds, it combines power, flat trajectory and accuracy to a degree not surpassed by any other cartridge. Where absolute flat trajectory is necessary on long shots, and a heavy bullet is not necessary to insure deep penetration, the 110 grain bullet at 3,500 ft. seconds and a muzzle energy of 3,000 ft. pounds is indicated.

There can be no denying the wide latitude of usefulness of the .30-06 cartridge. In addition to the several standard factory loads of different power, the handloader may produce the exact reload for his particular needs for short or medium range work. No other big game cartridge has such reloading possibilities. But I never recommend reloaded ammunition for big game. Always use standard factory loads for this kind of shooting. You are then assured of finest results.

I will dismiss the question of ammunition by saying that I believe the most useful, accurate and best load for general Rocky Mountain shooting is the .30-06 with 180

