

THE HOLLY INN

PINEHURST, N. C.



The Holly Inn is one of the most attractive hotels in the South. Since it was built in 1895, it has been necessary to enlarge it several times to meet the constantly increasing demand. The interior is elegant, cheerful and tasteful. No modern convenience is lacking. There are bath rooms, electric lights, steam heat and open fireplaces. There is a call bell in every room, and all beds are furnished with best hair mattresses. An orchestra furnishes fine concerts daily, and also provides for dancing. The cuisine is unsurpassed. The waitresses are all white girls from the North. Rooms for billiards and other games are provided in the hotel.

A. I. CREAMER, Manager.

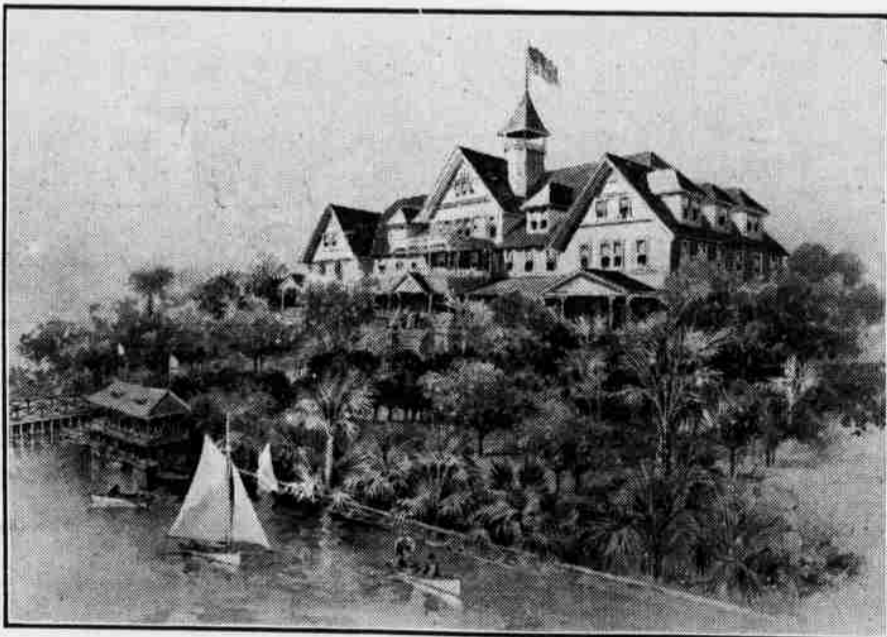


The Harvard,

PINEHURST, N. C.

This recently completed hotel is modern in every respect, having electric lights, steam heat and several suites with bath, and with its cottage annex, accommodating seventy-five guests.

F. C. ABBE, MANAGER.



HOTEL ROYAL PALM, Fort Myers, Fla.

BOATING, FISHING, SHOOTING, GOLF.

Those wishing to enjoy the most tropical spot in Florida, should visit this winter retreat, beautifully located on the syph winding Caloosahatchee twenty miles from the Gulf of Mexico. Hotel Royal Palm is one of the most attractive and palatial hotels in south Florida. Cuisine unsurpassed, yachts, power and house boats, automobiles, livery, golf, and also affords a music room, sun parlor, dutch room and has one hundred and fifty rooms, mostly with private baths. The Clubhouse is equipped with a swimming pool, sulphur baths and a large number of private baths. Experienced masseuse in attendance. Excellent fishing. Finest section in the state for shooting.

F. H. ABBOTT, Manager

SMOKELESS SHOTGUN POWDER

Facts on its Making and Testing by
E. A. Whistler Everitt.

SMOKELESS powder is a subject every sportsman can and loves to discuss, but not from the technical side, and in view of the lack of knowledge in this particular, a few facts in relation to its making and testing cannot fail to be of more than passing interest. Such an article THE OUTLOOK has been fortunate in securing from E. A. Whistler Everitt, Du Ponts Ballistic engineer.

All smokeless shotgun powders at present in use are divided generally into two classes, one being known as a "bulk" powder, under which head is manufactured Du Pont, "E. C.," "Schultz" and Hazard, and the other as a "dense" powder, "Infallible" being the only dense shotgun powder of Du Pont manufacture, in fact it is the only dense powder made in America.

"Bulk" powders are manufactured in such a manner that they can be loaded with the same measure used for "black" powder, whereas "dense" powders are manufactured so that they require a very much smaller charge than the "bulk" powders. All cartridges loaded with a "dense" are loaded by weight instead of with the ordinary "black" powder measure which formerly was known as "Dixon's Standard 3 Dram Measure."

Each class of powder has its friends, who will argue that one class has superior qualities over the other, and the discussion of this question is best left to the individuals who think their particular choice is the best.

The manufacture of these two different classes of powders is distinctly different, although the results obtained after the powders have been made and loaded are practically the same. In other words: Corresponding charges of "dense" and "bulk" powders will give about the same results as regards velocity when fired in a shotgun.

It may be known to the average consumer or dealer that the basis of these powders is generally Guncotton, or Guncotton and Nitroglycerin. "Bulk" powders are made from Guncotton combined with other ingredients, whereas "dense" powder is manufactured principally of Guncotton, Nitroglycerin and other substances.

The majority of shooters may think that because a powder contains nitroglycerin, it is similar in effect to dynamite, but this is a great mistake, as at the present day, Nitroglycerin and Guncotton can be handled as safely as any of the other ingredients in the powder. After these substances have been manufactured into powder they are absolutely safe if handled with ordinary care.

In the manufacture of either a "bulk" or "dense" powder, each individual ingredient that goes into the explosive is tested thoroughly and must fulfill certain requirements before it is allowed to be used.

The following will give a very general idea of the methods pursued in making a standard "bulk" powder:—

The cotton used in the manufacture of Smokeless Powder before it is rendered in anyway explosive, is in the ordinary form of cotton that every one knows. The "raw" cotton is nitrated by the aid of Nitric and Sulphuric acids, and thus becomes nitrated cotton, or guncotton. After the nitrating process it is boiled and re-boiled and then washed in cold water until all the acid is freed from the cotton and it has attained a degree of purification which satisfies the approved chemical tests. The guncotton is then put in special machines and ground very fine, after which it is washed and re-washed for any further trace of acid. During these washings, repeated tests are made to insure the absolute elimination of every trace of acid from the cotton. It is then set aside in large receptacles to be used later in the manufacture of the powder.

In the actual manufacture of a "lot" of powder, of course, the formula used is one that has been determined by many years of experience and by a great many experiments, and when the operation is started, certain quantities of each material are weighed out and mixed by a special machinery into what will ultimately become the finished powder.

After the powder is finally made, it is put aside and other batches are made up along the same lines. When a number of these lots have been manufactured, certain quantities are taken from each lot and blended together in a special building by special apparatus that insures a thorough and perfect blend of the entire mass.

The next operation is to get the proper size grain. This is done by repeated bolting with sieves that will give the required granulation to the final product.

After this process the powder is taken to the Proof House where it is to be tested. The tests consist of loading up a number of cartridges containing 3 drams and 3½ drams of powder. These loads are tested in order to see that the powder has the proper velocity and that the breech pressure is well within the safety limit.

The velocity test is determined by special chronographs which time the flight of the shot from one point to another, and by this means the average speed of the shot can be determined very accurately. These instruments are similar to those in use at all of our Government testing stations and to those used in European countries. They are so finely adjusted that they can be made to read to the 1-40,000ths part of a second.

In the breech pressure test, a small hole is bored into the cartridge just above the powder charge, and the cartridge is fired in a gun which has a piston acting directly above the hole in the shell. When the cartridge is fired the gas from the powder acts on the base of this piston, which in turn acts on a small lead cylinder held in place above the pis-