## Better Shells

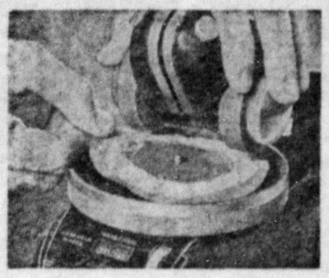
Paper in today's shotgun shells can withstand far more abuse than those of a decade ago thanks to a World War II discovery revealed today by Western-Winchester officials.

A plastic compound, melamine formaldehyde, added to pulp in the manufacturing process results in a paper that withstands dampness and friction when shells are carried on scores of trips during bad weather in the pocket of a sportsman's coat.

High wet-strength paper originally was used in 40,000,000 wartime maps and as a packaging material. It was developed to meet military demands for a paper retaining maximum strength when wet.

**Affected Fitting**

Before this plastic treated paper entered the sporting ammunition picture, scuffing and dampness



**The abrasion test: After 30 turns on the abrazer, the paper disc is removed.**

sometimes prevented a shell from fitting into the chamber of a gun.

A mechanical "hunter's pocket" was devised by Western-Winchester ballisticians to determine the value of high wet-strength paper in shotshells over previously used shell cases. Both new and old shells were subjected during the experiments to friction and dampness many times more severe than they would receive over a long period of time when carried loose by a hunter.

After they had been soaked in warm water for half an hour, both types of shells were given a 15-minute drubbing in the machine. No perceptible damage resulted to shells made with high wet-strength paper [illegible] were scuffed so severely that scanbering was difficult and often impossible.

**Used Emery Wheel**

Another test made by researchers for the sporting arms and ammunition concern involved holding ordinary shotshell paper and high wet-strength paper to a slowly revolving emery wheel. Where the latter type barely was scratched, the other paper virtually burst apart after 20 revolutions.

Search for a "perfect" paper has been a major project of sporting ammunition manufacturers since the advent of paper shotshells half a century ago. Excellent results under normal conditions came when hulls were made of four layers of four-ply paper impregnated with

**Comparison: A comparison of the two papers after 30 turns on the abrazer shows the surface of the old-type paper (left) has been completely worn away, exposing the white sub-layer. The High Wet Strength paper (right) shows only a small amount of surface wear.**

paraffin. Because excessive wear and wet weather frequently damaged such hulls beyond use, research efforts continued.

Wartime developments of high wet-strength paper were viewed as the possible answer to the problem. Sample maps of this paper did not show "noticeable effects" when they were soaked in water wrung out, smeared with grease, daubed with paint, gasoline and mud, walked over by an entire regiment and, finally, rolled over by a tank.

When this paper was made available for civilian use, Western-Winchester began its tests of the paper for shotshell purposes. These led to adoption of high wet-strength paper in making a tougher, more waterproof hull.

△ △ △

## Try It

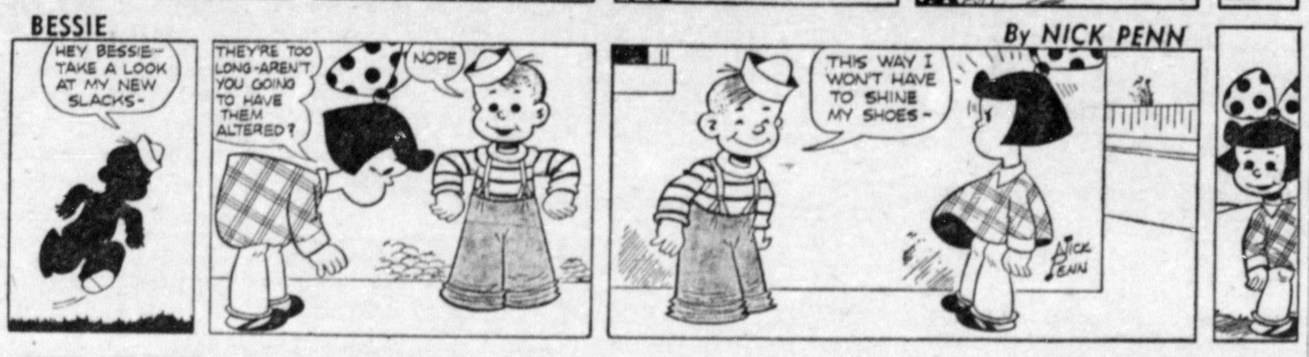
There are two schools of thought among bass fishermen about whether noise or sight of an angler will frighten off this species. One school says that Mr. Bass is so game, so pugnacious, that he isn't afraid of anything, particularly noise or the most formidable appearing angler in the land. The other school maintains that quiet stalking of Mr. Bass is as important as it is when attempting to creel Mr. Trout. We suggest the quiet method.

VIRGIL — By Len Kleis

SUNNYSIDE — by Clark S. Haas

RIMIN' TIME — By POSEN

BESSIE — By NICK PENN




MUTT AND JEFF — By Bud Fisher

JITTER — By Arthur Pointer

WYLDE AND WOOLY — By Bert Thomas

**Ready To Run**

Mistress—"If my husband should bring some friends home to dinner tonight, are you prepared?"

Cook—"Yes, ma'am. My bag is already packed."

—•—

**Oh, Her!**

Harry—"She sure gave you a dirty look."

Pete—"Who?"

Harry—"Mother Nature."

# CLASSIFIED DEPARTMENT

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**RELIABLE,** sober married man to work on dairy farm. Apply **Cherrydale Farm, Route 1, Doswell, Va.**

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### MISCELLANEOUS

**ONE 120 B. Electric Bucyrus Erie Shovel,** combination with 110' Boom and Bucket, and straight front, boom sticks, and 5-yd. bucket, in very fine condition. One 3½ yd. 1201 Lima straight front shovel, equipped with boom sticks and 3½ yd. bucket. Excellent condition. Only 1 yr. old. Immediate delivery. Shovels located at Minersville, Pa. Apply to **Schuylkill Contracting Co., RD 2, Box 360½, Pottsville, Pa.**

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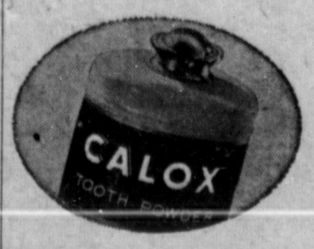

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