Telephone Cables Blow Bubbles to Aid Linemen in Locating Leaks in Sheath

telephone cable, part of the 9,000 miles of such cable in which nitrogen

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when you geak with someono were the telephone, the conversation is carried by two small topper wines.

For part or all copier wines, these wines may be grouped with many other pairs of wires to form a cable, liere the wires are packed close topether, yet they must be separated from each other by a material whigh will not conduct electricity. Each small wire is therefore completely wrapped in paper, which is a satisfactory and economical insulator.

Wires Must Be Kept Dry

Wires Must Be Kept Dry

Wires Must Be Kept Dry
The United States is criss-crossed
with telephone cables. Not only do
they stretch out over entire form
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Leaks can occur in the lead sheath is a telephone cable in various ways, cormitting moisture to enter. Where he cable is spliced, a lead sleeve is

One species of insect is known to gnaw through it. Cables beneath the ground are subject to electrolysis, and submarine cables to damage from the action of tides and currents. And even the tiniest hole means

trouble.

Trouble are hard enough to find in worked cable swung 18 feet or more shore the ground. They are impossible to see in underground or underwater cable. Telephone linemen locate them, just the same, hany of them they find through the use of gas. It's very simple when you know how. And they know how. Nitrogen gas is introduced in the cable under pressure. Where it leaks out, there the hole is.

cable under pressure. Where it reads
out, there the hole is.

Bubbles Show the Leaks
On an overhead cable, the general
low gas pressure area is first located
of special best instruments. Suspictous places are then wached with
scap suds, and bubbles point out the
the water from the state of the state of the
water from of a leak at once.
When an underground cable leaks,
it must be dug up or a section replaced. But the place to do so is
shown by the drop in gas pressure.
Nitrogen gas is used because there
is an unlimited supply in the atmosphere, it is cheap to obtain, and it
can readily be freed of all moisture.
Nitrogen is, shipped in siete cylon pound
ears at a pressure of 2.000 pounds
ders at a pressure of 2.000 pounds

idered around it, and a bubble left it he not metal may leave a hole of the not metal may leave a hole of the not metal may leave a hole of the not hold of th

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M°CALL'S SERENADE

THIS NEWSPAPER I FULL YEAR AND 3 OF THESE FAMOUS MAGAZINES!

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noisture might enter, but, by escaping through the bole, will often keep moisture from entering.

moisture night eater, but, by eaching through the bole, will often keep moisture from entering.

A cable at the bottom of a river was infured by a dredge not light good, and a few lines went out of good and a few lines went out only did the same and Mrs. George Hayes, son locald, of Detroit, were guests surchance and Mrs. George Hayes, son locald, of Detroit, were guests surchance and Mrs. George Hayes, son locald, of Detroit, were guests surchance and Mrs. George Hayes, son locald, of Detroit, were guests surchance and Mrs. George Hayes, son locald, of Detroit, were guests surchance where a few lines are constantly resured to raise he can be compared to the bed of the river again.

New Use of the Gas

The newest development in the lust of river again.

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New Use of the Gas

The newest development in the lust of the properties of the lust of th Submarine Cable Kept in Service
A cable at the bottom of a river
was injured by a dredge not the
ago, and a few lines we can
service. Secret the two days before
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secaping through the leaking capie
sheath keep any more water from
outering, but it dried out the paper
insulation oit the wires so that he
lines went back into service. And
inally, the bubble rising to the surface showed just where to raise hue
cable. All that was then necessor
was to repair the lead sheath a
lower the cable to the bed of the
river again.

New Use of the Gas

the first time in history that many of these maga-zines have been

offered to the public at such an amazing

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cluding detective stories, romantic fiction, movies, radio, something for every member of the family.

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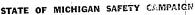
DON'T

RISK HUMAN

LIVES TO SAVE A FEW SECONDS

Help make Michigan highways





WEST POINT PARK

Mr. and Mrs. Max Bergia and daughter Sharon of Howell were Christman dinner guests of Mr. and Mrs. March Addis.

Mr. and Mrs. Arlo. Sheets, two daughters, Jake Sheets and friend of Fort Wayne, Ind., were guests Thursday and Friday of Mrs. and Mrs. Homer. Coolman. Mrs. A. Sheets who has been visiting her daughter. Mrs. Coolman, the past two weeks returned home Friday with them.

Miss Vivian Addis and Harold McVicar spent Christmas Day in Bay City as guests of the latter's parents, Mr. and Mrs. Clarence Mr.

Vicar.

Mr. and Mrs. Frederick Woodley
were Christmas dinner guests of
Roy Hitchcock and family of De-

rolt.
George Berger entertained the
De-o-lay boys of Detroit, Friday
evening at his home.
Miss Mary Lockridge of Farmington was the Thursday over-night
guest of Miss Shirley Zwahlen.

Some day one of them will con-ceive the idea that the whole mountain can be used to glorify his ad if the road is main enough.

COES THE PRICE OF SHAVING COMFORT



With 34 deaths in Grand Traverse and Leelanau counties in two years, a safety committee is being organized with Otls E. Sonnastine as chairman to clean up the situation. Unless the death rate is, curtailed, the district is afraid its summer tourist trade will suffer.

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Detroit, Michigan.

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Oakland County, Michigan, and are described, as: de

TARROLL DE MONATTI, Attorer, Land De La Control de La Cont

range ten east, Oakland Co Michigan, Dated December 3rd, 1935. Dated December 3rd, 1935. Creatil L. PHILLIPS, Creatil Court Commission Oakland County, Mich Attorney for Plaintiff, Businers Address: Businers Address: Foliac, Michigan, Dec. 5—Jan

Dec. 5-Ja

Anderson, husband; and wife, beforemants bound and required that defendant cannot be found, it appearine by affidavian reside out of the State of Michigan, it is ordered that the state of the State of Michigan, and appear at the state of the City of Parminston, Michigan, at two oclock P. X. on ombified and the oclock P. X. on ombified the first satt or taggined the state of the s The foregoing suit involves title

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Dated: December 23, 1932,
Dated: December 3, 1932,

LEON H. HUBBARD, 831/2 Bagley Street, Pontiac, Michigan.

STATE OF MICHIGAN
IN THE CINCUIT COURT FOR
THE COUNT OF OALLAND
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THE COUNTY
THE C

Pearl M. West, Plaintiff.

William H. West, Defendant, TYON
A ORDER OF FURIL COURT bild in
A ORDER OF FURIL COURT bild in
Courty Building, in the City of
Fontiac, Michigan on the 6th day of
Nement: Roonerable GOODLOG H.
ROCERS Circuit, Judge.

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Nov. 21-Jan. 2.

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