It quite often happens with a

crystal detector receiving circuit

that the crystal needs adjusting.

With a galena crystal, for exam-

ple, it is customary to use a fine

ly on the surface of the mineral.

Not all points on the surface are

good ones for rectification of very

weak currents. That is, not all

points are sensitive. It then be-

comes necessary to poke the

pointed wire, resting rather light-

and we think we can not only sup-

ply the kind and quantity of lum-

ber you desire but can save you

money on your lumber needs. At

least, give us the opportunity of

estimating with you and look over

our extensive lumber yards.

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BIGGEST LITTLE PAPER IN THE WORLD

HUMOR PLAY WORK

THE SHORT STORY, JR.

"Little Brother" Jennie



why I had to be girl," pouted "I'd just give anything if] times more fun than girls." Her big brother. who had been at school all year.

little brother," she said. "All right," said Burt. "Til tell you what we'll do. You can play you're my little brother. See how you afternoon, and you can go along.

We'll get mother to give us some things to take along to eat." "All right," she said. "I'll go put show you the system by which such code. on my hiking outfit. I look like a codes are made. boy in it. And you must call me J'm and treat me just like a boy."

Jennie carrying her half of the pro- which form the start of the alphabet. plenty of space between the different visions. She took big steps, just like To form the next four letters a double words in writing out sentences, and her brother, and put her hands in line is drawn up and down of the where you have more than one senher pockets and whistled. They stop- simple cross figure. This gives us E. tence leave a double amount of space ped and shied stones at blackbirds F. G. and H. as you may see by fol- between sentences.

Jennie thought she was having a part of the illustration. me take my shoe off."

"Take it off yourself, Jim," he said. striding on. So Jennie took off her breath, to catch up with Burt.

When she thought she should drop from weariness, Burt said. "Come on Let's get some wood and make a fire and cook the bacon and eggs." So Jennie helped gather wood and fry bacon. Always before she had sat on a log, while Burt fixed things for her. Now he scolded her for being a "clumsy fellow", and she burned her fingers, got smoke in her eyes, and tore her sweater.

They started the walk back in Halfway home, Jennie burst into tears. "That's a swell way for a fellow to act," said Burt.

"I'm not a fellow," said Jennie. PT'm your little sister, Jennie, please. And so, big as she was, Burt carried her the rest of the way.

SECRET CODES - HOW TO MAKE THEM

Remember- exciting stories you've | down. This gives us the basis for the read in which the secret band wrote next four letters, U, V, W, and X. messages for each other in chalk on "So you think the side of a cliff? Remember how figure is used also, with the double queer and meaningless those jumbles line this time running crosswise of Jennie nodded. "I'd like to be your of queer-looking triangles, squares, the figure. We use only the upper

Well, if you like you can make your own mystic code to use in sending messages. A sentence written in such like it. I was thinking of taking a code looks like careless scrawling changes in it. Once you've learned good long walk in the country this of aimless lines, and no one can guess how the letters are made you can the meaning that it contains.

Here is a special angle code that has been worked out just for you. It has never been printed before, and top to bottom. You must have some Jennie took a little hop-skip of joy. you can use it if you like. It will such uniform way of working out a

So the two of them started out, From this we get the four angles tiresome to read. Be sure to leave lowing the lettered angles in the lower

fine time, until she began to get a For the next four letters the natural ruler, or it can be done in chalk or little tired of taking such big steps. thing to do is to make a double line charcoal. It makes no difference, just She was about to ask Burt to slow crosswise of the foundation figure. so you are sure to make the angles down, and then remembered a boy This forms the letters I, J, K, and L. clear, so that the letters cannot be wouldn't do that. Then she got a Now the two systems of double lines mixed up stone in her shoe. "Burt," she called, are combined, forming a sort of double "I've a stone in my shoe. Come help cross, and we have the letters M, N, to read what you have written in a

For Q. R. S. and T we go back to the first figure, the plain cross. We shoe and removed the stone. Then Join the four ends of the figure, and she had to run till she was out of we have four different triangles. These are separated off to make the four letters given. Now we use the four-triangle figure

The solution for this puzzle appears to-morrow.

half, however, to form the Y and Z. Now you see how such a code is worked out. It's all in forrang some

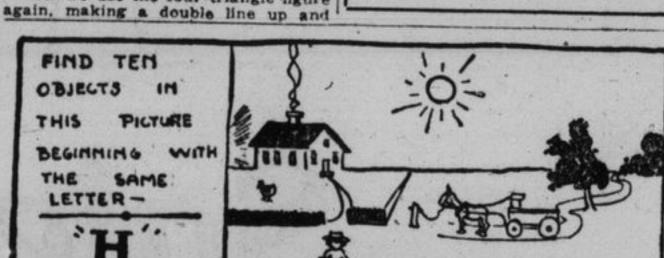
easily figure them out. In making such a figure, the letters are made from left to right and from

Any sort of message, of course, can The beginning of the whole thing be written in one of these angle codes. is the cross lettered A, B, C, and D. but it should not be so long that it is

Messages in this code can be drawn out neatly on paper with the aid of a Now just dare some of your friends

code like this. This is the second of the series of ten articles which will tell all

about the secrets of code writing. Amateur Sherlock Holmes, atten-



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MAIN STREET

The Story of Carol Kennicott By SINCLAIR LEWIS

"I am running away from my hus- Chicago, New York, and Washington. joy over it. Gopher Prairie is lost which she chooses to become connectand I look forward-"

She continued it to Hugh: "Darling, do you know what mother and you are going to find beyond the blue horizon rim?"

"What?" flatly. "We're going to find elephants her Prairie Grow. with golden howdaha from which peep young maharanees with neck laces of rubles, and a dawn sea colored like the breast of a dove, and a white and green house filled with books and silver tea-sets.

"And cookies?" "Cookies? Oh, most decidedly cookies. We've had enough of bread and porridge. We'd get sick on too many cookies, but ever so much sicker on no cookies at all."

"That's foolish." It is, O male Kennicott!" "Huh!" said Kennicott II, an went to sleep on her shoulder.

garding Carol's absence:

Mrs. Will Kennicott and son Hugh | work." left on No. 24 on Saturday last for a stay of some months in Minneapolis.

DO YOUR BOWELS MOVE REGULARLY, OR DO THEY Become Constipated

constipated, and there is no other trouble which flesh is heir to that is more liable to be neglected, because material inconvenience may not be whole system by being absorbed into the country, were a part of vast at

MILBURN'S LAXA-LIVER PILLS will regulate the flow of bile to act office work without losing any of the properly on the bowels, thus making putative feminine virtue of domestic them active and regular, and remov- ity; that cooking and cleaning, when

Mr. Samuel Buckler, Tatamagouche, N. S., writes: - "For over a year I suffered with constipation. I took several different kinds of medicine, but could only get-temporary relief. thoughts to the Jolly Seventeen, not I was told to try Milburn's LaxaLiver Pills. I procured two vials of end of the day all that she had done them, but after I had taken one I or might do, was a relief which made ton's Pills. This wonderful medicine

band, after liking a Swedish ne'er- Mrs. Kennicott confided to Ye Scribe do-well and expressing immoral opin- that she will be connected with one ions, just as in a romantic story. And of the multifarious war activities my own son reproves me because I new centering in the Nation's Capihaven't given him religious instruc- tal for a brief period before returntion. But the story doesn't go right, ling. Her countless friends who ap-I'm neither groaning nor being dra- preciate her splendid labors with the matically saved. I keep on running local Red Cross realize how va'uable away, and I enjoy it. I'm mad with she wil be to any war board with

back there in the dust and stubble, ed. Cooher Prairie taus adds another shin'ng star to the service flag. and without wishing to knock any neighboring communities, we would like to know any town of anywheres near our size in the state that has such a sterling war record. Another reason why you'd better Watch Gop-

> Dyer's sister, Mrs. Jennie Dayborn of parks, spacious avenues, twisted al- indignant decayed gentlewoman, and Jackrabbit, and Dr. Will Kennicott leys. Daily she passed a dark square leave Hugh to the care of a doubtful drove to Minniemashie on Tuesday house with a hint of magnolias and nurse. But later she made a home. for a delightful picnic.

CHAPTER XXXVII.

eau of War Risk Insurance. Though now the neglected wife of an ambasthe armistice with Germany was sign- sador. It was mystery which Carol ed a few weeks after her coming to had most lacked in Gopher Prairie, Washington, the work of the bureau where every house was open to view, continued. She filed correspondence where every person was but too easy all day; then she dictated answers of to meet, where there were no secret letters of inquiry. It was an endur- gates opening upon moors over which The theory of the Dauntless re- ance of monotonous details, yet she one might walk by moss-deadened

Disillusions she did have. She discovered that in the afternoon, office routine stretches to the grave. She discovered that an office is as full of cliques and scandals as a Gopher Prairie. She discovered that most of the women in the government bur-There is no medium through which caus lived unhealthfully, dining on disease so often attacks the system as snatches in their crammed apartments. But she also discovered that business women may have friendships and enmities as frankly as men, and may revel in a bliss which no felt, at once, from irregular action housewife attains-a free Sunday. It For information and rates apply to of the bowels. When there is not did not appear that the Great World P. HANLEY, G.P. and T.A.G.T. Ry., regular action the retention of the needed her inspiration, but she felt decayed and effete matter, with its that her letters, her contact with the nous gases, soon poisons the anxieties of men and women all over it, causing violent sick and bilious fairs, not confined to Main Street and headaches, internal bleeding or pro-truding piles, heartburn, jaundice, a kitchen, but linked with Paris, Bangkok, Madrid.

She perceived that she could di ing the constipation and all its allied divested of the fussing of an Aunt Bessie, take but a tenth of the time which, in a Gopher Prairie, it is bu decent to devote to them.

Not to have to apologize for he

iousness in which she had had faith: | Montreal

with the editor by mail?

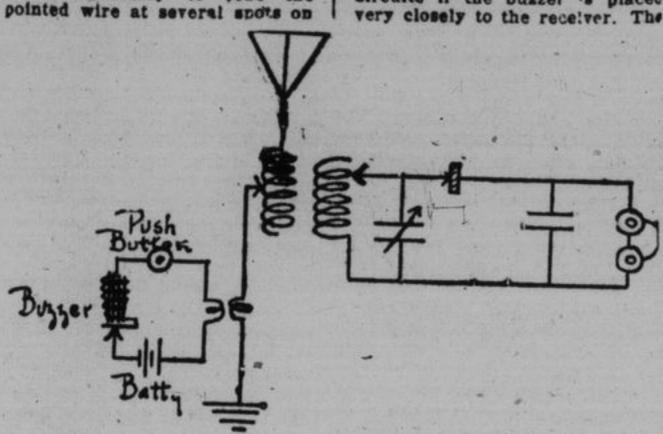
an ancient garden. in her folly of running away she had found the courage to be wise. She had a dispiriting first month

of hunting lodgings in the crowded

Every Woman in

this armature or vibrator moves rapidly to and fro, alternately opening and closing the buzzer circuit. At each opening a spark jumps between the vibrator contact and the fixed contact, due to the counter electromotive force of self-induction develoyed in the magnet windings. This spark in duces oscillations in the receiver circuits if the buzzer is placed

the magnet coils of the buzzer



BY E. H. LEWIS

INSTRUCTOR NEW YORK Y. M.C.A. RADIO SCHOOL

A BUZZER TEST FOR THE CRYSTAL DETECTOR.

the crystal, while signals are bereceived, to find a sensitive one. But what is to be done when no signals are to be received? It might be desirable to witrst the detector for maximum sensitiveness before the radio broadcast begins, so that nothing will be missed. This would seem to call for a local transmitter of extremely low power, with could be used for making the signals desired in testing.

A buzzer has a vibraring spring armature, which carries a contact. When current from a battery is allowed to flow through

connection may be as shown in the illustration. The harder then acts as a miniature seuding machine, when the push by ton is pressed, and the crystal can be adjusted until a maximum sound is heard in the head telephones. It will then be in its most sensitive adjustment. The oscillations induced in the receiver circuits are of whatever frequency the circuits are tuned to. There is no resonance effect between the buzzer circuit and the receiver, so that the crystal may be anjusted regardless of the wave leugth the receiver is adjusted for.

or in any way injuring them. The

cover will remain in so upright

position when opened. An in-

struction card is placed traide of

the cover, where it may be easily referred to when the set 's being connected up and operated for the

The mineral used in the detector is radiocite and is quite sensitive to weak signals. The lever

of the detector passes through a

spring ball, which is, set in a spring clip. This makes a univer-

sal joint, which allows or easy

manipulation of the pointed wire

(cat-whisker), when adjusting the

crystal for maximum sensitive-

ness. It holds very firmly, so that

ordinary jarring will not destroy

the detector adjustment. The re-

ceiving wave length range is from

about 150 to 900 meters, when

used with the average sized single

The tuning elements, except

switches, switch point and knobs.

are placed beneath the bakelite

panel, where no dust ran reach

them. The cabinet is very nicely

finished in mahogany, and the

whole set is very pleasing in ap-

APPARATUS AND DEVICES By RALPH BROWN, RADIO ENGINEER

first time.

wire antenna.

A CRYSTAL DETECTOR RECEIVER. without disconnecting the wires

There are crystal detailor receivers galore, and a prospective radio broadcast listener is often very much confused in the selection of his first set. I'me one illustrated is, however, especially



designed for radiophone reception

and has some very practical features. For example, there are two holes on either side of the cabinet through which antenna, ground and headphone wires riay be passed before connecting to the binding posts on the partel This adlows the cover to be cosed

pearance, as well as near:y perfect mechanically as is possible. Will readers interested in these radio articles kindly communicate

Mr. and Mrs. David Dyer, Mrs. white columns seen across leafy in a moldy mansion conducted by an a courtyard behind it, and a tall curtained second-story window through which a woman was always peering. The woman was a mystery, romance, She found employment in the Bur- every day; now she was a murderess,

> As she flitted up Sixteenth Street after a Kreisler recital, given late in the afternoon for the government clerks, as the lamps kindled in spheres of soft fire, as the breeze flowed into the street, fresh as prairie winds and kindlier, as she glanced up the elm alley of Massachusetts Avenue, as she was rested by the integrity of the Scottish Rite Temple, she loved the city as she loved no one save Hugh. She encountered negro shantles turned into studios, with orange curtains and pots of mignonette; marble houses on New Hampshire Avenue, with butlers and limousines; and men who looked like fictional explorers and aviators. Her days were swift, and she knew that

Poor Health Has an awful struggle. Lots to do, all kinds of worry, poor appetite, headaches, weakness. Her one desire is for more strength and betthem, but after I had taken one I found that I was relieved of my trouble. I do not hesitate to recommend Laxa-Liver Pills for any kind of constipation."

Price, 25c. a vial at all dealers, or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Control of the constipation of the constitution of the con

Gasoline Car Aids Facilities. The gasoline car which the Canaa story which , told itself differently dian National Railway will put on the route between Trenton and Picton will also make one round trip each day between Trenton and Napanee, connecting with the Tweed train at Napanee in the mornings. Another gasoline car will be put on between Trenton and Marmora, Between Trenton and Picton, the gasoline car will make three round trips esserted that she had found "real paths to strange high adventures in daily, in addition to the two regular passenger trains.

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(To be continued.)

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margin in a book. Silence is the hedge that guards

A broad margin of leisure is as | Sometimes we are so contrary that beautiful in a man's life as a broad it is a positive pleasure to have pecple dislike us. One so easily forgets one's past

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