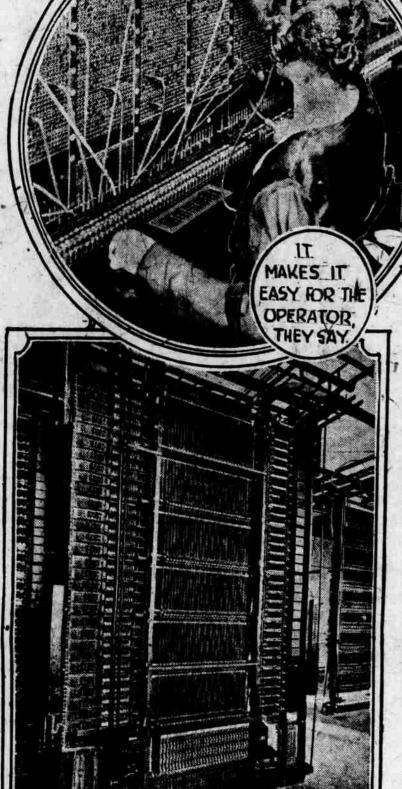
TEN CENTS

VRONG NUMBER? NOMORE SAY PHONE MEN

T WILL BE YOUR OWN FAULT IF YOU FAIL TO MAKE CONNECTIONS UNDER NEW MACHINE SYSTEM WHERE CENTRAL USES HER EYES INSTEAD OF HER EARS



THIS IS JUST ONE OF 105 "FINAL FRAMES! ISN'T IT SIMPLE ?

By J. T. ARMSTRONG.

The hour is nridnight.
A dark figure is fumbling with a latchkey at the front door of a West Side dwelling house. At last the door swings open and he enters cautiously. The ominous silence is broken by the crash of a vase. The intruder has be-trayed himself. A light is turned on and a voice from upstairs inquires angrily: "Is that you, John?"

The voice is quickly followed by a stout woman, clad in a dressing gown and slippers. She pounces on the shrinking intruder and questions him thus:

"Why weren't you home for dinner tonight. How dare you stay out till this late hour? Where have you been?"

"You Brute!"

"Bu-business kept me, dear," gasps John. "We-we h-had a board of director's meeting. Called suddenly. Tried to 'phone you but central said 'phone was out of order. Sh-she was very

nasty, that operator." Brute! exclains the woman shaking her husband roughly. "If you weren't intoxicated you'd think of a better one than that. You know telephone service is automatic now, yet you have the nerve to blame a poor, innocent

John sinks into a chair with a groan of despair * Thus will the favorite alibi of a tired business man taking a night off be shattered by the new machine switching system which is being in talled in two Omaha telephone exchanges by the Northwestern Bell Telephone company.

It Has Happened. Officials of the 'phone company say there isn't a chance for the new machine switching system, which will be ready for service

sometime this spring, to go wrong. And although fully as many operators will be employed when the system is installed as before they assert the elimination of the human element" will result in increased efficiency.

For even the best of operators have been known to pause now. and then and tuck a stray wisp of hair in it proper place; or on very rare occasions, of course -to talk back to an impatient subscriber.

Slightly Quicker.

Now the comparison's absurd, of course, but the machine system has no stray locks of hair; nor is

it capable of "talking back," hence

"On calls from one automatic phone to another or from one automatic exchange to another the connections will be made slightly quicker by machine switching," explained F. C. Builta, of the phone company.

"Between an automatic 'phone and a manual, or old style phone the calls will be completed in about the same time as hereto-

Mr. Builta says the use of the so-called automatic 'phone is just as simple as the use of the old oral instrument. He gives the following rules so everyone may know

just how it's done: Wait 30 Seconds.

Take receiver from the hook and wait for a humming sound, or "dialing tone." Then, with the re-ceiver off the hook dial the number desired. Wait 30 or 40 seconds the connection is not made before dialing again.

The 'phone will purr-contentedly, no doubt-when the desired number is being rung. A rapidbuzzing sound indicates the line

Now consider the thal. You'll notice all the letters on the dial are black and the figures red. At first glance and without investigation it appears father a compli-cated affair. Well, it is! And here's a tip to the people who are on party lines. Practice

dialing until you can rattle off any prefix and number in quick time.

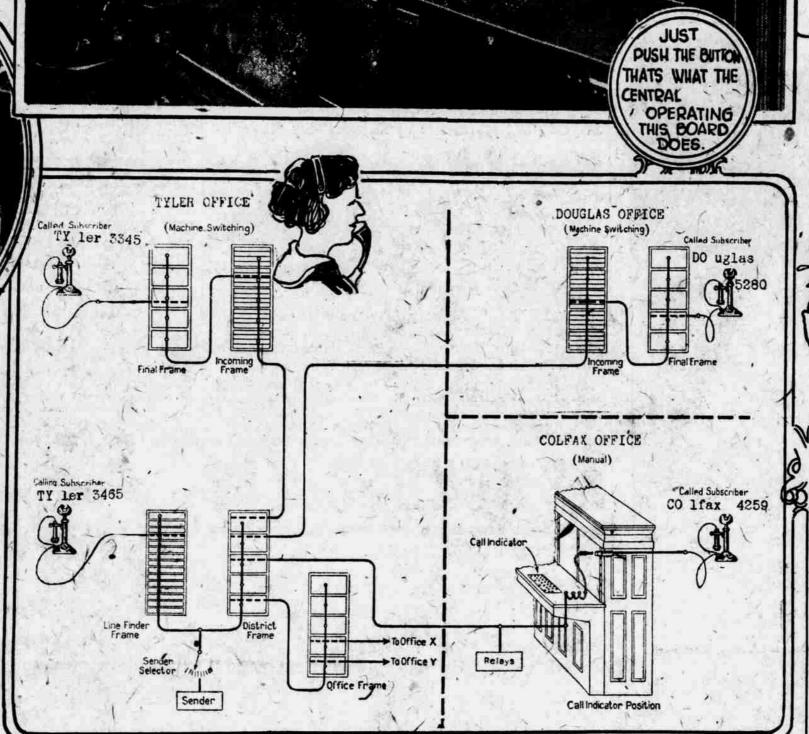
Great Indoor Sport. Dialing races promise to become great indoor sport in bomes that have party phone lines. Supposing two people on the same line decided to call a number at the same time. The fastest 'dialer would naturally be the one to get

his call through. But consider the innocent dial a bit longer. How are you going to call a number at night when it's dark and you can't see the figures and things? On first thought would seem some task. Well.

Turn on the lights, say the teleplione experts. But why go the trouble of turning on the lights. we ask. Why not learn the touch system? Does a good stenographer look at the keys of her typewriter? Certainly not!

Why Not?

Or why not stap a fittle radium on the dial and make the figures and prefixes stand out in the gloom



like the hands on your old army

wrist watch? And here's a secret! If you become a bit vexed at the machine system and are just dying to tell somebody what you think of it here's the way.

There's a mysterious letter "O" on the dial that will connect you with a service operator. You can relieve vour injured feelings and spring-all your pent-up wit on her She'll be used to it anyway and have some good retorts, probably. so all in all you'll have a right

good time talking to her. Here's another secret that'll interest subscribers on party lines. If you have any grudge against the "other party" wait till some time when he or she is talking, then begin to dial a number yourself.

Booming and Shrieking. Result: A combined booming and shricking in the "other par-

ty's" ear that will make him or her think he or she's being bombarded by the entire German army, as it useter was. The aforementioned Mr. Builta doesn't advocate dialing in somebody else's ear. It isn't polite and besides the "other party" has a dial also, and may use it on you

some day, he says. It's best to listen for the dialing sound before starting to dial. Now the use of the dial should be quite clear. If you make a mistake and dial the wrong number hang up; or if you move the dial while you're talking you'll be eut off. In either case you'll have no unfortunate operator to waste

your wrath on, hence you'll save Maybe He Knows.

All of which brings us to the difficult part of the story. doubt you are curious to know just how the machine system gives you your number. You are not alone in your curiosity.

Perhaps the inventor of the system could explain it. But his explanation would be filled with volts and amperes and turbines and rotary switches and friction rolls and magnetic clutches and other strange things. To give you an idea of the

system's immensity the lumber in

boxes used to bring it to Omaha would be sufficient to build seven two-story, eight-room houses. Knocked down these boxes and crates made enough lumber to fill six cars and is valued at \$10,000. And to give you an idea of its complexity it requires 342 tools and gauges to make one tiny multiple brush. This brush performs the function of selecting a contact through which a connection is finally established for the number

Cost \$2,000,000

The estimated cost of the system is \$2,000,000, of which \$250,-000 must be expended to unify "P. B. X." boards in large downtown offices. Dials must be added to these switchboards so that they can be used for either manual or machine calls. Installation of approximately 16,000 new dial telephones for Tyler subscribers and Douglas subscribers north of Pierce street, cost the company

HOW IT'S ALL DONE -

Horatius at the Movies

Made Over for the Movies by James J. Montague

\$150,000. The entire Tyler exchange and the Douglas exchange north of Pierce street will be "cut over" to the new system this spring.

Note-The introduction of Cleo-

patra into this poem is somewhat anachronistic and is a departure

from the text, but it is necessary in

order to insure the heart interest

without which no movie can have

1. Horatius bids good-bye to

Cleopatra; removing vizer of helmet

2. Cleopatra, with her pet adder

twined around her arm, hands him

his sword. Subtitle: "I Just Hope You Beat Those Hor-

rid Etruscans to Death."

Lars Porsena and False Sextus gal-

"If I Lick the Remains Can I Marry

That Little Jane, Cleopatra?"

5. Lars Porsena registers aston-

"Cleopatra? I Thought She Was in

Egypt?"

ing. Subtitle: "She's Come Qver to Rome for This

Picture.

down to bridge. Etruscans in dis-

9. Horatius and Herminius con-

"Let's Draw the Bridge and Fool

bridge, but the Etruscans have cut the wires and the motor is stalled.

11. Horatius draws sword. Sub-

"I Reckon We Gotta Scrap for It,

'Minius."

Herminius tries to draw the

Cleopatra drives up in a

Etroscan army arrives at

bridge to Brooklyn side and face booth.

joined by Spurious Lartius, Cross

15. Further parky by Etruscans.

By Porsena: "You Lick 'Em,

'Em."

8. Horatius and Herminius ride

Z. False Sextus continues speak-

loping toward Rome,

ishmont. Subtitle:

Subtitle:

est in proceedings.

bridge. Parley.

ing together.

The horrid Etruscans, led by

Sextus and Lars Porsena rid-

Sextus speaks carnestly. Sub-

so his real tears can be -photo-

graphed.

aifd summer. Other exchanges Los Angeles.

will remain manual for a time. The first shipment of the machine system arrived in Omaha in February of 1920 and installation work began immediately. It had been ordered in 1917, and was manufactured by the Western Electric company at Chicago, It s being installed by that company. The system is the outcome of many years of experimenting, and differs in some respect from the

By Sextus: "What's the Matter

By Astur: "That's Right, Make

Me the Goat."
By Porsena:/"Go On, Get Busy.

I've Got to Eat My Thanksgiv-

Dinner in the Via Nationale

16. Astur gallops to bridge. Ho-ratius takes him a clip on the neck and tumbles him into the Tiber.

17. Another warrior gallups up

Herminius splits his helmet and HE goes into the Tiber.

18. Sextus comes up and makes a face at Horatius, but Lartius chases

19. Cleopatra watches fight, reg-

21. Sextus takes small boat and

Sextus in mid river.

"Sic Him, Snake!"

33. General fight between the dauntless three and Lars Porsena's

crowd. Dauntless three gradually

34. Cleopatra goes to control

35. Cleopatra throws lever.

36. Bridge drawn up, spilling Etruscans into Tiber, Horatius

(Turn to Page Two, Column One.)

istering emotion. ! 20. Sextus takes off armor and

him back.

goes down to river.

to row.

tiptoes across bridge.

Subtitle:

the car.

31.

bank above Tiber. Registers inter- 'tem with the motor operating draw.

Horatius and Herminius are forced back on bridge.

recrosses bridge.

Tonight.

With Astur?"

system in use in Minneapolis and

In the selector frame are constantly revolving friction rolls, magnetic clutches and racks by means of which selecting mechan-

A fourth floor is devoted to : power room. There are also 145 eight horspower alternating current motors operating the final frame, line frame, senders and other switch frames. There are 1,000 amperes, 33 volts each. The storage battery room contains 52 cells, each with 7,360 ampere hour capacity.

power room were turned into electrical current it would light a town the size of Nebraska City. hi case the city power should fail the system is equipped with an automatic throwover switch installed to start steam turbines in the basement that will generate 220 yolts of 410 amperage.

the writer, is sufficiently confused about the system, here's the explanation of its workings described by Mr. Builta himself. Mr. Builta admits he may be a bit hazy on some of the details, too, but on with the explanation: with the explanation:

22. Sextus in mid river. 23. Sextus climbs up on other Supposing the person using the 24. Sextus sneaks across bridge phone wants to call Tyler 0480, and gets behind Horatius.
25. Cleopatra unwinds her adder from reel in which she carries it and began Mr. Builta, clearing his throat and lighting a Turkish cigaret made in America. "He removes the receiver from its hook Sextus with dagger about to and listens in the receiver for a plant Horatius a good one under the continuous humming sound, called ribs. 27. Cleopatra turns snake loose. the 'dialing tone,' which indicates

his call.

28. Snake writhes up to Sextus, climbs his bootleg and bites him in "He will then insert his finger-/ any finger will do-in the open-29. Dagger falls from Sextus' hand. Sextus falls into river.
30. Lars Porsena's gang try to rush Horatius, Herminius and Larfinger comes in contact with the metal stop. He releases the dial, which will automatically return to normal. He will then repeat the Cleopatra recovers snake and operation for the letter 'Y' and in turn for the four numerals, 0-4-8-0: 32. Cleopatra climbs pole and coach, and takes up position on high connects Rome Lighting Co.'s sys-

"Mechanically, when he removed the receiver from the hook his line was connected with an apparatus called the 'line finder! His line is then automatically connected with an idle 'sender' the operation taking but the fraction of a second. It at the close of this almost instantaneous operation that hears the dialing tone.

Selection Completed. When he dials the electrical im-

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Three floors of the Northwestn Telephone company's building at Eighteenth and Douglas streets are devoted to machine switching mechanism. Row after row of huge, complex finder and sender frames occupy this floor space, Each frame contains thousands of multiple banks and selecting me-

isms are moved up and down.

four generators with an output of Let Him Tell It.

If the current generated in this Now that everyone, including

the mechanism is ready to receive

Instantaneous Operation.

in the dial above the letter and rotate the dial until the

HOW THE HELLO GIRL USES HER EYES. INSTEAD OF HER EARS

And the control of the second

123 123 123 123 M

456 456 456

pulses are transmitted to the 'sender,' which receives and registers them. If the subscriber, for any reason, fails to dial the full number the selection will not be completed. The call will be taken up by a maintenance operator who will come in on the line and tell the subscriber of his

"The mechanism, operated automatically through the 'sender,' selects the lines to the proper central office. The call proceeds with the particular line to the final selector, where connections are made with the particular line de-

"When the connection is thus completed a purring sound, repeated at intervals, will be sent back to the caller, through the receiver, indicating the desired number is being rung. If the line should be out of order the connection will automatically be completed to an operator who will advise the one calling the number.'

Catches His Breath. Mr. Builta, after a pause in which he caught his breath and lit the extinguished cigaret, con-

"But suppose the person is calling from a machine switching-Tyler number to a Harney number which is a manuel or girl operated telephone.

"He must dial in the same manner as before, but the mechanism will connect his telephone with a series of registers in a Harney office when he dials 'H' and These registers then pick up the pulsations sent out by dialing the figures, which are transferred to a reflection plate or 'call indicator' in front of the operator at a

switchboard. The operator will simply connect him with the number desired. In other words he signals

the number to her. Will Punch 'Em Off.

"Then again, suppose the person is calling from a manual phone, without a dial-the kind we are now using-to another person who has an automatic 'phone. He will simply take down his receiver and give the number in the ordinary way to his operator. His call will be passed to an operator who has a series of keys resembling an adding machine keyboard. This is known as a 'Cordless B' switchboard. She will punch off on these keys, the number for him and his connection will be 'auto-

HERE'S THE KIND OF INSTRUMENT YOU'LL USE

> matically' established. "There are still other kinds of calls that need explanation. Take The Omaha Bee, for example, It has a private branch exchange, with a little switchboard all its OWII.

It's a Secret.

"While The Bee's number is Tyler 1000, several other lines are connected with it. These lines are Tyler 1001, 1002, 1003 and so on, Today if some one calls Tyler 1000 and the line is busy the operator tests all the other lines until she finds one that is not busy. Under the new machine system the machine will do the same thing. The operator of the private exchange board may either use a dial or the oral method in making her calls. So now you understand how simple the whole thing is?"

Mr. Builta heaved a sigh of relief as he completed his explana-

But just how do the little finders find the right number?" he was "Search me," he replied, "I heard

somebody say something about tuning 'em to a certain pitch or something.

Attending School.

"By the way, not to change the subject or anything-but I forgot to tell you all the telephone men and women of Omaha are attending school daily, getting ready to give expert attention to the new

"Preparations are being made to train operators to work the registering keys. Others are prepar-ing to serve in the automatic offices correcting subscribers who make mistakes in calling and reporting line trouble and answering complaints-that is, er'a if any complaints should happen to be

"All the details of the work of preparation for the new system are the hands of a committee of telephone men, one from each department of the company here, Walter E. Hall of the chief engineer's staff is chairman of this committee. The other members are W. E. Rehschuh of the commercial department; Roy Matson, traffie; R. Butters, plant, and W. W. Davenport, accounting."