



In This Issue



Cold War Bunker Hosts Show

by Wayne Merit and John La Rue

Page 1

The President's Column

by Jonathan Finder, M.D.

Page 2



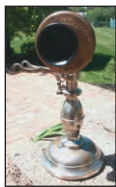
Roger's Reminiscences Suttle Equipment Co. Part 3: The Suttle Tablephone

by Roger Conklin

Page 3

Singing Wires Talks to Steve Hilsz

Page 4



Read on the Listserv: The Forming of Shaped Candlestick Telephones

by Walt Aydelotte

Page 7

Tapping the International Market

by Ray Smith

Page 8

Mason Show Report

by Ray Kotke

Page 10

Show Announcements

Page 11

Buy / Sell / Trade

Page 12

COLD WAR BUNKER HOSTS SHOW

by Wayne Merit and John La Rue

Over 150 people attended the Midwest regional telephone show in Lyons, Nebraska, sponsored by the JKL Museum of Telephony. The show far exceeded our expectations!

Lyons isn't exactly a major metropolitan area and that is why AT&T selected it to build a hardened underground site to protect the trans-continental L-4 coaxial cable from nuclear attack. Finished in 1968 at a cost of \$25M, this 100,000+ sq.ft. underground building was also a military Autovon switching center and a Project Looking Glass aircraft access point. For about 20 years of its life, the building was the real deal, staffed and maintained around the clock. Politics and technology changed to the point that AT&T abandoned the building around 1997. The building sat vacant until it was acquired by John La Rue in 2007.

Building tours were led by the JKL Museum team, which included former Lyons AT&T employees and some knowledgeable retired AT&T Long Lines employees. They made the tours even more interesting and everyone learned a lot, including our tour guides! The tours started Friday afternoon and kept us busy all day Saturday. Besides a boat load of collectors, also attending were curious Lyons residents. Several of them said that they had no idea there was a 100,000 sq. ft. building under the parking lot.

Tables, all 50 of them, were full and overflowing with goodies that were bought up by avid buyers. Sellers and buyers came from all over including Hawaii, Florida, Washington and Victoria, British Columbia.

There were 10 RVs visiting the

Continued on page 6.



From left: Members Mike Neale (left) and Roger Conklin prepare for the Lyons Show; Nebraska was 'clearly' the place to be!

THE PRESIDENT'S COLUMN:

The Singing Wires Editorial Advisory Board

by Jonathan Finder, M.D., TCI President

Spring is here and brings with it growth, change, and possibility. The newest project brought forth by the TCI Board of Directors is the *Singing Wires* Editorial Advisory Board (EAB). This is a small group consisting of Roger Conklin, Russ Cowell, Doug Pavlichek and me (with the occasional assistance of Gary Goff). The mission of the EAB is simple: to provide the readership of *Singing Wires* with the best newsletter possible. Our charge is to seek out and help create articles for *Singing Wires* that will be of interest to all, and broaden the scope of what we discuss in this newsletter. We want to hear from you! What do you want to see in the pages of *Singing Wires*? What topics interest you? Which members would you like to see profiled? This issue contains the first fruits of the EAB's labor, including the first member profile ("*Singing Wires* Talks to Steve Hilsz"). In future issues you will be seeing more on telephone restoration, rewiring tips and more.

How can you reach members of the EAB? Our e-mail addresses appear on page 2 of this newsletter, along with our telephone numbers. Do not hesitate to contact any of us with ideas and suggestions. TCI is an inclusive group, with members coming from a broad variety of backgrounds. Some have worked decades in the telecommunications industry, while some just like old phones and bringing them back to life. We want *Singing Wires* to have something in it for everyone.

Don't forget that this Labor Day weekend (August 29-30, 2008) will mark the 14th annual TCI Labor Day Weekend Fall Show. Gary Goff and I will be hosting this event and we are planning a good time for all. I have a block of rooms reserved at a lower rate. Call (859) 371-2233 for reservations - Room rate special: \$92.00. There is a "meet and greet" on Friday the 29th and the show takes place from 8-5 on Saturday, August 30. This will be a one-day show. See you there! ☎

Telephone Collection Auction

The Astor Collection, which includes a large number of antique telephones that at one time belonged to one of the founding members of TCI, will be auctioned by RM Auctions (www.rmauctions.com) on June 26-29, 2008, in Anaheim, California. The auction will take place at the Astor Classics Event Center, 1045 S. East St., Anaheim, CA, 92805. Information can be found on the RM Auction

website noted above or by calling (310) 861-5411. Click on the "Art Astor Collections" link on the RM website. Catalog and admission details are available on the website. Be aware that the Astor Collection includes a large number of antique and vintage automobiles, radios, telephones and microphones, and that the website does not mention on which of the three auction dates the telephones will be auctioned. ☎

TCI Leadership

Jonathan Finder, M.D., President '08
412-361-1888
president@telephonecollectors.org

Paul Wills
Vice President '09, TCI Webmaster
610-384-4250
vicepresident@telephonecollectors.org

Roger Conklin, Secretary '09
305-238-5857
secretary@telephonecollectors.org

Russ Cowell, Treasurer '10
757-258-5308
treasurer@telephonecollectors.org

Sam Corcione, BOD '09
847-329-7664
samcorcione@comcast.net

Wayne Merit, BOD '08
209-728-0106
wallphone@handyhoward.net

Doug Pavlichek, BOD '10
586-790-5482
dougpav@wowway.com

Mark Scola, BOD '10
586-731-0545
mscola1000@aol.com

Gary Goff, Membership Chairman
3805 Spurr Circle, Brea, CA 92823
714-528-3561
membership@telephonecollectors.org

Chris Mattingly, BOD '08
Switchers' Quarterly Editor
314-921-6877, Ext. 31
Fax: 314-831-3480

Doug Alderdice
Switchers' Quarterly Composer
716-834-2664
sqeditor@telephonecollectors.org

Singing Wires Editorial Advisory Board:
Roger Conklin, Russ Cowell,
Jonathan Finder, M.D., Doug Pavlichek

Shana Davis, *Singing Wires* Interim Editor
540 NE 44th Ave., #11, Portland, OR 97213
shana1davis@gmail.com

Paul & Bev McFadden
Singing Wires Editors Emeritus
847-658-7844

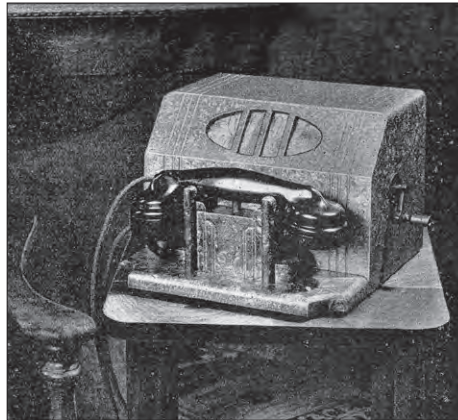
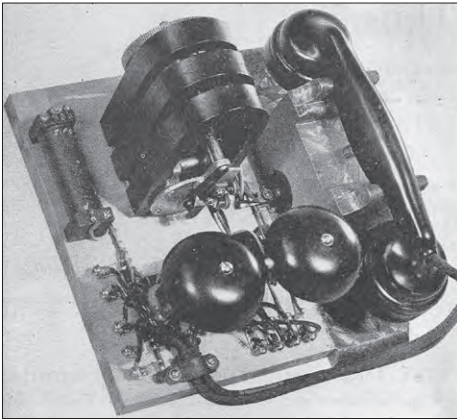


Telephone Collectors International
3805 Spurr Circle, Brea, CA 92823
714-528-3561

ROGER'S REMINISCENCES

Suttle Equipment Co. Part 3: The Suttle Tablephone

by Roger Conklin (roger.conklin@usa.net)



The Suttle Tablephone, a remanufactured magneto telephone.

The Suttle Tablephone is an excellent example of how, so to speak, Suttle turned a sow's ear into a silk purse.

By utilizing parts from junked magneto phones that had been removed from service during the depths of the depression in the early 1930's, Suttle tapped the market of the small rural independents that were fighting to survive during those bleak economic times. These phones occasionally turn up at phone shows today and are an amazing testimony to Suttle's ingenuity and business sense. This was an early example of recycling, long before that word became a part of everybody's vocabulary.


The Tablephone was one of the very first self-contained, made-in-U.S.A. magneto desk handset phones, at a time when the major phone manufacturers were still only offering magneto phones that, as a minimum, required a wall-mounted ringer box. The housing was made of wood and it vaguely resembled the table-top radios of that day. The cloth over the open-

ing on the front allowed the bells of the internal ringer to be heard. The handset was a brand new Leich type 1L which closely resembled Western Electric's E1. But inside these phones you would find a mixture of re-manufactured components: induction coils, ringers, magneto generators made by Western Electric, Kellogg, Stromberg-Carlson, American Electric or Leich Electric. In those days, some Independent companies were able to collect an additional surcharge of 10¢ to 25¢ per month for phones with a handset rather than the separate transmitter and receiver of earlier-style phones.

Suttle also offered attractive looking compact magneto wall phones in new oak cabinets with the same kinds of re-manufactured components taken from surplus

ancient-looking, cathedral-type phones. The price was very attractive at less than half of a new wall phone. These served well for subscribers on tight budgets who could not afford the premium monthly rate for a handset phone. Suttle mixed whatever components were available with virtually no effort to even try to match those from the same manufacturer in same phone. We bought a few of these back in Banfield, MI, where I cut my teeth on telephony.

The Suttle Tablephone and its Special Magneto Wall Compact telephone are described on the pages from the Suttle Equipment Company's Midsummer "Suttle Salesman" catalog No. 47 from 1936. ☛



**House of
Telephones**

**Your #1 source for cloth
cords and accessories
since 1975.**

Odis LeVrier

2677 E. Valley Dr.

San Angelo, TX 76905-8303

(325) 482-0101 (voice)

(325) 655-5681 (fax)

olevrier@aol.com

www.houseoftelephones.com



Steve Hilsz is a fixture in the world of telephone collecting and restoration. He has been involved in telephones for most of his life, and is making a living at the old phones business when most folks have either sold out or retired. Steve is without a doubt the premier dial repair person in the country, and he has fixed thousands of rotary dial, as well as touchtone pads. Steve is a wonderful, helpful person who always makes time to help anyone who needs assistance in making an old phone work. In addition to the telephone business, VTS, he also does salvage of old decommissioned Navy ships. His web site, Navysalvage.com, seems to have more information about telephones than ship salvage!



Q: How did you find yourself working in the telephone business?

A: I first got involved with antique phones in high school, around age 15, when I purchased a Kellogg manual desk stand at Standard Surplus on "Radio Row" on Market Street, in San Francisco. I soon discovered a wealth of old phones and parts and began collecting them.

In 1971, I started importing reproduction phone parts from Korea, while still collecting phones.

Q: How did you wind up living in Salome, AZ?

A: In 1973, I was diagnosed with acute respiratory disease and I decided to move from the San Francisco Bay Area to the southwestern desert region of Arizona. While maintaining my mail-order phone

parts business, I worked for a couple of years for the local mom-and-pop phone company, Southwestern Telephone, as a Combination Man. The business soon overwhelmed me and I became self-employed.

Q: What is a combination man?

A: You did everything under the sun: maintain the Central Office (in this case a Stromberg-Carlson "XY" switch, 300 lines), install drops and telephone sets in subscribers' homes or businesses, collect and maintain pay stations, splice cable, repair open wire circuits, refurbish telephone sets.

Q: Tell me a bit about VTS.

A: In 1969, I was doing business with a fellow, Irv Kepner, in a shop he ran called Martha's Village Store in Burlingame, California, one of the "SF Peninsula" suburbs. We called the phone business "Village Telephone Company." When I moved, I bought Kepner out and called the business "Village Telephone Supply." After I began importing reproduction parts for Model "T" and "A" Fords, I changed the name to "VTS Industrial Company."

Q: Is it true that VTS insulators have sold for high figures on Ebay?

A: The insulators were made as give-away items, intended for use as paperweights. 100 pieces were poured in Peacock Blue and the highest price I have personally realized is six hundred dollars. We made 500 red insulators, using Gold Chloride for the color, and the

last one I personally sold was for \$300. I haven't paid any attention to the prices lately. The insulators say "VTS INDUSTRIAL CO" and "NUMBER8." The numeral "8" is close to the "R" so what you see is actually a typo that has been immortalized.

Editor's Note: Learn more about the VTS insulators here: <http://www.collectinginsulators.com/Commemoratives/Commemorative-VTS.html>

Q: How many reproduction candlesticks did you make, and where? What is the story behind that project?

A: We made about five thousand candlestick "kits" in all. Most of them came from Korea, and most of them were pre-assembled except for the operating parts and wiring. The switches came from Taiwan, because they were much better than the Korean product. Gerry Billard sold a boatload of candlestick kits as well, his parts having been manufactured in Taiwan. The candlestick kits were always a staple product from 1971 until 1982 when we quit the import business.

Q: How many dials do you repair a year?

A: The volume is probably down to 250-300 a year, or thereabouts.

Q: How did you get into the ship reclamation business?

A: In 1994, the USS HORNET aircraft carrier was to be moved from Bremerton, Washington to Hunter's Point Shipyard in San

Francisco. Chuck Irwin up in Portland, Oregon, tipped me off and I got in touch with the top honcho at Astoria Metals, the outfit that was going to break the vessel. After some initial trouble with the boss, I managed to talk fast enough to take a tour aboard HORNET (you always capitalize a navy ship's name, out of respect). There was quite a group of us on that tour. What I saw hooked me on the prospects of salvaging naval artifacts.

When the ship finally arrived at Hunter's Point, I encountered outright hostility from the guy in charge, so I shifted my attention to some Destroyers that were going to be made into floating power barges.



The highly collectible VTS Insulators.

The screws (propellers) were to be removed and the engines were to turn generators instead.

I made friends with a fellow named Richard, the representative of the company that owned the Destroyers. Ultimately, they acquired five Destroyers and two Frigates, from all of which I salvaged stuff. I also stripped out a huge amount of gold-bearing scrap from the weapons control systems. This project

lasted from 1994 until about 1996, when it was moved to Charleston, SC. After that, no more salvage work was done in California until about 2000. A company from the east coast broke 3 Frigates, and I did salvage work until 2001, when "9-11" shut things down.

In 1997, I went to Charleston for 3 weeks, with a friend, and we installed a Panasonic phone system about the old USS HOEL Destroyer. I salvaged some good scrap from a couple of Coast Guard pursuit vessels. They were interesting because they used jet engines to power them to intercept other boats. They had regular Diesel engines for normal use.

A couple of years later, I began to salvage stuff in Brownsville, Texas, at 4 shipyards. In the meantime, I learned how to find precious metal in telecommunications circuit cards and switches. This is a big part of my business these days.

I still go down to Brownsville to take artifacts from ships, but the vessels being broken these days are mostly old freighters and tankers. When one of the yards gets

something that was truly "Navy," I'll head back to south Texas.

Q: I understand you are not in the precious metals reclamation business. How did you get involved with that?

A: While learning how to salvage marine artifacts, starting in 1994, I was also breaking down 20 pallets at a time of surplus from the old Continental Telephone Company in Victorville, CA. I'd accumulated a ton of old circuit cards and I was curious to learn if they had any value for the gold feet and connectors. I took them to a company that specialized in such salvage. I learned right away that power supply breakage isn't worth a hoot, and mixing it with your "good" cards dilutes the value tremendously.

So I started hanging around the salvage outfit and eventually they began letting loose their trade secrets. I learned to see where the precious-metal content was in connectors and circuit cards, relays, etc.

Back to the ships... I started to look closely at the radar rooms and found a bonanza of precious metal, but when I eventually found the Sonar room, I was amazed. The backplane (where you plug the cards) was literally a gold mine. Eventually, we salvaged over 50 thousand dollars' worth of gold and silver from five vessels (Destroyers) and added more from a couple of Frigates.

Eventually, the action moved from the Pacific Coast to Brownsville, Texas. I truly believe that an environmentalist wouldn't last ten minutes down there, thus the place is booming. I still get down there once in a while, and harvest marine artifacts as well as high-grade scrap. 🐻

Lyons, Nebraska

Continued from page 1.

site including campers on the back of pick-ups, trailers, 5th wheels and a couple of class A coaches.

There were a lot of people helping with the show. We used the 9 ton crane to raise and lower 50 tables and 70 chairs 50 feet to the showroom floor. That was a lot of fun, plus it saved a lot of trips on

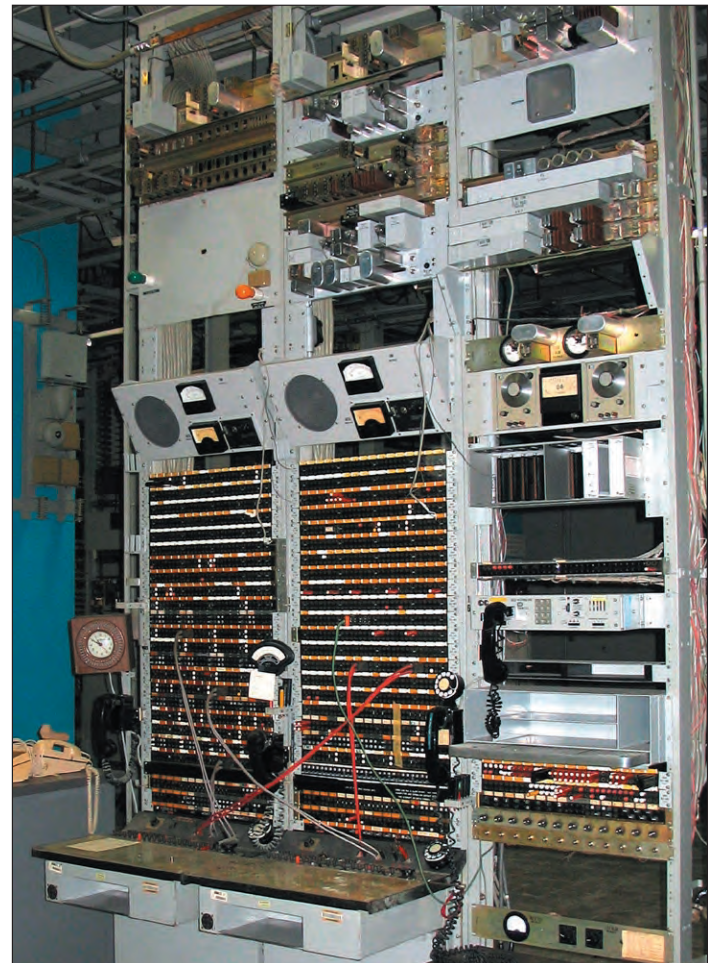
the stairs. Collectors got to use the dumbwaiter to get their boxes to and from the showroom floor. Many show attendees pitched in to help move goods from the surface down to the showroom. Our thanks to them for all of their volunteer work!

While we were there, we also found the atomic blast detector outside near the building entrance. We are not sure how it worked, but believe that it detected some form of

radiation which triggered the closing of the building from the outside elements. (Pictures of dismantling the detector are in the Bonus Pages.) It weighed in excess of 200 pounds before we took it apart.

We were asked if we are going to do this again... Well, maybe. If we have the energy, we'll see what the building is like in another year!

Thank you to all who attended and helped. ☎



Clockwise from upper left: Close-up of the switchboard from the Lyons communication facility; Full view of the same switchboard; Keith Cheshire's Princess Phone Clock; Gary Goff, Wayne Merit and Rob Baxter; Show host John La Rue giving a tour.

READ ON THE LISTSERV:

The Forming of Shaped Candlestick Telephones

by Walt Aydelotte

Editor's note: This is a new section, in which we share with the membership something we enjoyed on the TCI listserv. Member Ben Salem asked about shaped candlesticks, and former Board member Walt Aydelotte provided this response and the accompanying photographs.

Q: Hello. I am wondering whether the cracks in the body of the "Potbelly" desk-stand are actual seams.

A: No, the cracks are the result of "stress over time". Specifically, these thin brass potbellies are crafted on a "spinning lathe" as opposed to a Mill or metal lathe. The circular shaped piece is created from a flat sheet of soft brass, kind of like a sheet of paper but generally larger. The brass is forced to conform to the shape of a mandrel—a solid potbelly-shaped piece of steel—by spinning the flat stock at a high speed with tremendous pressure, exerted by solidly mounted forming tools. This pressure is the culprit that many years later causes stress cracks. Although hard to envision, fancy turned objects like Potbelly Telephone Shafts and Bases, 2-piece sandwich-type transmitter and faceplates (like early Williams and American Electric), fancy posts on brass beds and fancy headlights on antique cars were all made on spinning lathes. Additionally, the fancy bases of potbelly phones had their thin skin



Due to a faulty annealing process, this Williams Abbott Potbelly has a few vertical cracks developing.

covers made by spinning brass over the cast iron base (mandrel), thus assuring a perfect marriage. When you are done spinning a piece, you must remove the mandrel. But how then do you remove a mandrel when it's a wider diameter than the piece you are wanting to remove it from (as in the case of the "pot" on a potbelly phone)? Well, that is the very reason that

all "spun" Potbelly phones have a "rolled seam" in the widest part of the pot. All such potbelly phone "pots" are actually made from at least two separate pieces. After the halves of the pot are spun, the two pieces are then swaged together via a "rolled edge," which makes the complete pot. Some of the more intricate potbelly shafts are actually 3 separate pieces. Take a look at any potbelly that is made of spun brass (the lightweight ones with the stress cracks) and you will see what I mean.

Once the Potbelly shaft is spun, if it is immediately annealed (a metallurgical process that heats the item to a cherry color and then allows it to cool slowly), the tremendous internal stresses can be relieved and the overall product is made more soft and malleable. When annealing is done properly, the threat of later stress cracks is significantly reduced. Thus, when you see a badly cracked potbelly phone, you can surmise that the annealing step was either skipped entirely or performed improperly.

Some of the early potbelly phones were actually turned on a traditional metal lathe, in which case you will never find these cracks because the piece was turned from a solid piece of brass or bronze. Some of these were actually cast in bronze, with the finished product being "dressed up" on a standard metal lathe.

By the way, at the turn of the 20th century there were thousands of "spinning shops" in the tool & die industry. Today there are virtually none, so getting these items repaired is incredibly difficult. There are specialty shops around that can do these kinds of repairs, but you will pay big bucks. 🍷

TAPPING THE INTERNATIONAL MARKET

“There’s gold in them thar developing countries” as U.S. Telcos set up consulting subsidiaries

by Ray Smith, Publisher Emeritus, *TE&M* / *America’s Network*

How many recall the period between, say, 1975-85 when our U.S. telephone companies believed they had discovered “gold,” an untapped revenue vein in the vast international market, by simply offering their operating expertise for rent?

All the Bells and each of the large Independent holding companies set up consulting subsidiaries and sent their troops overseas to sell their management and operations expertise. It was a sight to behold.

My personal contact was limited to several. The first of significance was in March, 1979, when I stopped in Cairo after being a member of the delegation sent to celebrate the opening of the U.S. Embassy in Beijing, a story for another time.

Continental Telephone International had the multi-million contract to show the Egyptian Ministry of Communications how to modernize its antiquated Cairo telephone network. Vern Chesbro, a Contel VP, was the man on the scene after having previously done duty in Contel’s Caribbean properties. Truth tell, this Kansas boy and his wife could be excused for thinking they might be living like bygone pashas—renting a villa within a walled oasis which came with servants and driver. The mini-palace in the upscale suburbs had been owned by the head of Egypt’s movie industry who had been exiled along with King Farouk. I stayed with the Chesbros.

But Vern’s job was no picnic, as I observed journalistically over several days. Chesbro’s let’s-do-it-

today approach was severely tested by Egypt’s bloated bureaucracy and, shall we say, baksheesh. I recall riding downtown and photographing a crew primitively working in a manhole with hundreds of cables under the city streets dating back to, who knows, the pharaohs? Later,

“We...lost the contract...our reluctance to pay bribes was the probable cause.”

standing in the Hilton Hotel at a payphone, Vern tried in vain to get thru to his own office he could see just across the Nile. Eventually, the Ministry’s decision was to bypass the imbedded outside plant and hire Raytheon to build a new microwave network above the city. Jim Strickland (ex-Lenkurt, ex-Cook Electric, ex-Farion) was Raytheon’s sales manager at the time, incidentally.

(A postscript. We were present when Jimmy Carter made his triumphant visit to Cairo celebrating the signing of the Camp David treaty between Egypt & Israel. Carter and Anwar Sadat passed immediately in front of our American group on the sidewalk, all holding a huge sign reading, “Welcome Ya’al”. I have a photo of Jimmy waving and grinning—all teeth—at us. Later I realized how easily a suicide assassin could have gotten both presidents

and, of course, that happened soon thereafter to Sadat.)

Another venture I watched with interest was United Telecom Int’l’s stab at penetrating Asia. Shawnee Mission set up my pal George Summerscales (ex-AE) and his wife Doris in a posh suite in Hong Kong with a generous budget to take a run at China. My first of three TE&M-led seminar missions to the PRC ended up in Hong Kong in April, 1980, where the Summerscales graciously entertained me in their apartment overlooking the harbor. That was an enterprise CEO Paul Henson eventually scrubbed with little to show for it. Another abortive attempt is told by retired Vice Chair Ray Alden (who made what in those days was a huge leap in 1964 from GTE-acquired Hawaiian Tel to EVP of fast-growing United Utilities. Ray soon thereafter recruited former colleague, John Jaquette, as CFO.). “I remember well our attempt to partner with ITT to capture a contract with Saudi Arabia,” recalls Alden. “That effort on our part was headed by Robert Strock and it included a luncheon conference with Harold Geneen and a visit by cousins of royalty from Riyadh. Strock was in residence over there for awhile, and considerable resources went down the drain in our efforts. The project was the only divided Board of Directors vote in my memory at United. One memorable quote from the visitor from Saudi: “We love money!” We and ITT lost the contract bid and, at

the time, it seemed clear to me that our reluctance to pay bribes was the probable cause.” Alden also mentions a joint venture with Fujitsu Ltd. and their North Electric’s long relationship with LM Ericsson, both on the manufacturing side.

GTE International had the most success having had prior years doing global business thru their manufacturing arms. Even one of their operating telcos, GTE Hawaiian Tel, couldn’t resist creating its separate international division after seeing New York Tel, C&P Tel and Southern Bell all show up at the local Pacific Telecommunications Conference in Honolulu with big hospitality suites and staff peddling their capabilities to the attendees from developing Asian countries. HawTel did good on Saipan and a couple of other places initially before deciding it wasn’t getting enough return on resources.

I shouldn’t overlook an earlier success story. Puerto Rico Tel needed updating desperately after it was purchased by the Territory from ITT. In the 1980s AT&T agreed to send a consulting team headed by a retired Northwestern Bell OVP to assist in all key disciplines. I flew down to San Juan and spent three days interviewing for a TE&M cover article which commended the work of the mainland experts despite the opposition they faced from the entrenched unions. The consultants were rotated, thankfully, within the three year contract.

Eventually these service providers largely folded their tents after investing billions not only in consulting resources but buying up foreign telecom franchises and networks. I have no idea which, if any, ended up in black ink and neither, I suspect, do most shareholders. ☎

14th Annual Telephone Collectors International Labor Day Show

August 29-30 (Fri.-Sat.), 2008

Holiday Inn - Cincinnati Airport: 1717 Airport Exchange Blvd., Erlanger, KY, 41018

Call (859) 371-2233 for reservations (book early!) - Room rate special: \$92.00
Be certain to mention to the FRONT DESK that you are with TCI-Telephone Collectors to get the TCI rate.

“Meet n’ Greet” Gathering

Friday, August 29, from 6:00 to 9:00 P.M. in the Atrium, Cash Bar

SHOW HOURS FOR REGISTERED ATTENDEES:


Saturday, August 30 - 8:00 A.M. to 5:00 P.M. Break for dinner, then return for the Auction beginning at 6 P.M. in the main Ballroom.

Registration: ONLY \$20.00


Tables: 1st Table: \$20.00 with additional Tables @ \$10.00
DISPLAY-ONLY TABLES ARE FREE!

For additional information, e-mail Jon Finder, Show Host, at finder+@PITT.edu, or Gary Goff, Co-host, at ggoff@telis.org.

INTRODUCING THE NEW




- Rotatone Pulse to Tone Converter**
 - Convert rotary phones to touch tone operation.
 - Use legacy equipment on tone-only lines.
 - Compatible with VOIP services.
 - Add # and * functionality to your phone.
 - Provides last number redial functionality.
 - 7 programmable speed dial locations.
 - Small enough to fit inside most phones.
 - Installation required
- Standard Pulse to Tone Converter**
 - Simple Plug and Play solution
 - Requires no internal wiring changes
 - lacks *, #, and speed dial functionality



\$39⁹⁵
Rotatone

\$44⁹⁵
Standard



★ SHOP ONLINE ★

For more info please contact: 1.800.843.1320
E-mail: oldphoneguy@oldphonestore.com



Clockwise from upper left: Pete Blanshard's Candlesticks at the Mason Show; Ray Kotke's creations"; Paul Wills demonstrates a panel switch.

MASON SHOW REPORT

TCI's 2008 Spring Show

by Ray Kotke

Once again, we had a fantastic and unique experience under the big porch in Mason! My hearty thanks for all who were able to participate in the 5th Annual Michigan show this year. Since I moved it to the 1st weekend in April, the weather has proved to be outstanding! We even had a substantial Canadian representation in attendance! We sure missed Ben Salem and Janet though... Steven Stansfield drove all the way from Utah, John and Ruth Roskam drove from Kansas, Roger Conklin flew in from Florida and Russ Cowell flew in from Virginia.

Mason's famed antique's district venue (surrounded by 5 antique shops) was absolutely perfect, and we able to finish off 8 HUGE deep-dish pizzas, coupled with all the

beer and soft drinks that you could imagine, and it was all included in the meager \$10 registration. The 8 dozen super-fresh Krispy-Kremes and Starbuck's Coffee were also a hit with the Saturday morning crowd. I picked them up fresh and hot right off of the conveyor at the factory and whisked them to the show at 7 A.M.; YUM! Zack and Ben Finder, the only 2 minors in attendance, were treated to ice-cold chocolate milk. More sugar for the kids! Others munched on the 10 pounds of fresh pistachio nuts that were provided for attendees to snack on.

With 48 tables filled and 4 additional tables set up for overflow collectors, we were ready for a great time! We could certainly have accommodated 30 additional tables, but it was plenty and I heard no complaints from collectors or sellers about the show's size or quality of offerings. In fact, quite the opposite.

The hit of the show for most, myself included, and winner of

"Best of Show" under "Most Educational" was Steve Flocke's WORKING Strowger 11-digit Wallphone switch display. "Best of Show" in the Wallphone category was appropriately, Keith Hlavac's 11-digit Strowger that coupled with Steve's switch provided the working 3-wire system. It was truly amazing to see this 1st generation "automatic dial system" work! Steve also brought (just for fun) a home-made pulse to touch-tone converter, made entirely of analog parts.

With many of his extremely unique and desirable French antique desksets on display and for sale, "Best of Show" in the "Best Deskset" category went to Al Ilekis for a particularly ornate example of a rare and early French candlestick that he displayed at the show.

Remember, you can plan NOW for being in Mason, Michigan, for the April 3rd & 4th, 2009 encore show this next spring; I have already booked it for us! ☎

SHOW ANNOUNCEMENTS

14th Annual Telephone Collectors International Labor Day Show

August 29-30 (Fri.-Sat.), 2008

Holiday Inn - Cincinnati Airport:
1717 Airport Exchange Blvd.,
Erlanger, KY. 41018

Call (859) 371-2233 for reservations
(book early!) - Room rate special:
\$92.00.

Be certain to mention to the
FRONT DESK that you are with
TCI - Telephone Collectors to get
the TCI rate.

"Meet n' Greet" Gathering
Friday, August 29, from 6:00 to
9:00 P.M. in the Atrium, Cash Bar.

SHOW HOURS FOR REGISTERED ATTENDEES

Saturday, August 30, from 8:00 A.M.
to 5:00 P.M. Break for dinner, then
return for the Auction beginning at 6
P.M. in the main Ballroom.

Registration: ONLY \$20.00
Tables: 1st Table: \$20.00
Additional Tables @ \$10.00
DISPLAY-ONLY TABLES
ARE FREE!

For additional information,
e-mail Jon Finder, Show Host,
at finder+@PITT.edu, or Gary Goff,
Co-host, at ggoff@telis.org.



Canadian 2008 Antique Telephone Annual Show and Sale

Saturday, September 27th. 2008
8:00 A.M. to 3:00 P.M.

The show will be held at the Royal
Canadian Legion, Br. 609, 1133 Queen
Street East - Brampton, Ontario.

Free Parking - Wheel Chair Accessible

Display and Sale Tables:
\$20 Canadian for initial table -
Admission Included
\$10 Canadian for each additional
table.

General Admission is \$5

For additional information contact:

Fred Coady

60 Erindale Cres., Brampton,
Ontario, Canada L6W 1B5

Phone: (905) 459-5263

E-mail: cdnphonestow@hotmail.com

Visitors can stay at the Holiday Inn
Select at 30 Peel Centre Dr.,
Brampton, Ontario.

The phone number is 1-905-792-9900
or 1-866-464-2999. Be sure to
mention the Antique Telephone Show
to get the special \$90 room rate.



Central Kansas Antique Telephone and Insulator Show, Salina, Kansas

October 3-4, 2008

Bicentennial Center
800 The Midway
Salina, Kansas 67401

There are an abundance of Hotels in
the area so that will not be a problem.
If there are any questions please feel
free to contact:

Jerry Williams
104 N. Chicago
Salina, Kansas 67401-2534

Phone: (785) 825-0578

E-mail: jrwillm@sbcglobal.net

An informal reception will be held on
Friday September 26th in the hotel
lounge.

Additional information will be posted
as it becomes available.

2008 ATCA Fall Show

August 1-2, 2008

Farmstead Inn Conference Center,
370 S. Van Buren St.,
Shipshewana, IN 46565

Friday, Aug 1 Reception (hog roast)
Saturday, Aug 2 Show & Auction

For hotel reservations call
260.768.4595.

For more detailed information see:
<http://atcaonline.com/events.html>



British Vintage Wireless Society: The National Vintage Communications Fair

Warwickshire Exhibition Centre,
Warwickshire, UK

Sunday May 11th, 2008
10:30 A.M. to 4 P.M. - Admission £5
(under-14 FREE)

www.nvcf.org.uk



The Australian Historic Telephone Society, Inc.: Early Communications Show and Fair

Saturday, October 4, 2008

Preston Town Hall
411 High Street - Preston, Victoria
(Corner of High and Gower, Melways
map 18 G12)

The show hours are from 10:00 A.M.
to 4:00 P.M.

Registration: Adults A\$4 - Families
A\$10 - Children over 8 A\$2
Table Hire (5 Ft.) A\$20 for
one - A\$30 for two - Member
Discounts Apply

For more information e-mail:
nanrodwill@bigpond.com

BUY / SELL / TRADE

FOR SALE

Payphone History Book is here.

Due to be paid for in June.

A 480 page book is divided into 3 main sections: 1. The payphone (321) pgs, 2. Booths 63 pgs, 3. Signs - 810 signs (74 pages)

Price: \$35.00 Pre-loan/wholesale
\$25.00 or 20 @ \$11.95

Ron and Mary Knappen

Phone: 608-582-4124

E-mail: phonecoinc@aol.com

• New E1 handset tools, including 2 extra pins. Also, new pins for your old original tools.

- NEW TOOLS & PINS: \$80 plus \$5 S&H

- NEW PINS (2) \$5 including S&H

Jim Aita

124 Prince Wm Ln., Franklin, TN
37064; Phone: 615-790-1220

• AE bottom cover gaskets for the round base desksets (1A and candlestick) and the 34 and 40 Monophones. Each sells for \$11. to your door. The second gasket in the same order is \$10. Special pricing may be available for larger quantities.

• Professionally reprinted copies of two AE catalogs:

- Catalog 4055D, circa 1944, 60 pages, \$15 donation including postage

- Catalog 4055F, circa 1945, 29 pages, Colored Monophone Cover, \$10 donation including postage

(These catalogs are the property of TCI and are sold for the club's benefit.)

• Professionally reprinted copies of John Dommer's book, approx. 172 pages, high quality, \$30, postage included.

• Gray Paystation "crab lock" key, 20YW9, \$10, postage included.

• Postal Telegraph colored paper tag for frame atop faceplate on Kellogg stick, \$2 each, postage included.

Gary Goff

Phone: 714 528-3561

E-mail: goff@telis.org

• Kellogg wall switches out of wood wall phone, no hooks, \$5/ea, 30 available

• Stromberg Carlson wall switches out of wood wall phone, no hooks, \$5/ea, 30 available

• Stromberg Carlson hooks for the switches, \$5/ea

• Automatic Electric wall switches out of metal wall phones, 2 for \$5, hooks for the switches \$5/ea, 50 available, same hook fits the later AE dial and non-dial sticks

• Western Electric wall switches out of metal wall phones, \$5/ea, hooks for same \$6/ea, 20 available

• 1960's wood phone booth door and frame complete with hinges, handle, guide, and glass \$95

• Shaving mug with a picture of an early non-dial candlestick phone Jon Farris, mug made in Germany. \$900

• Stromberg-Carlson desk dial metal 1272 phone with 12 buttons in front, \$85

• AE desk dial bakelite #47 with 2 lines and hold, also with chrome trim, \$125

• WE desk dial plastic phones with either 4 or 6 buttons in front #440FA, 444E, 460GA, or 465HC, \$75/ea

• Blue wall touchtone credit card phone #10A coinless with amp, made in 12/04 N.I.B. \$60

• 5 1/2" x 19" Bell of PA one sided porcelain sign, nice shape, \$250

13. Bunnell key and box relay on walnut Postal Tel Co wood base, nice shape, \$150

• Manhattan Elec. Supply walnut base telegraph pegboard, 11x11" \$150

David Martin

6016 Sheaff Lane, Ft. Washington, PA
19034; Phone: 215-628-9490

• Original cobalt blue bell paperweight circa 1920's unmarked in pristine condition sale priced including priority free shipping in the USA \$39.00

Dick Erickson

E-mail: dick_erickson@sbcglobal.net

Phone: 949-369-9499

• 5 step switches @ \$5.00 ea + shipping or can bring to the Fall ATCA show.

Ron & Mary Knappen

Phone: 608 582 4124

E-mail: phonecoinc@aol.com

• W.E. Backcup Grommets, bag of 3, \$6.00

• Set of 102/202 Plunger Bushings, \$14.00

• W.E. Spacesaver (G Mount/211) Bracket, \$18.00

• 1B Top Flag for 3 slot Coin Phones, \$18.00

• Mounting Bracket for early W.E. Spacesaver (C Mount), \$18.00

• Red Cross Mouthpiece (Replica, complete), \$180.00

(All prices include postage to US locations.)

John Infurna

Phoenix, AZ

Phone: (623) 849-4907

E-mail: infurnaj@juno.com

• Despite raging inflation, dial repair is still six dollars plus postage. All brands cleaned, lubricated, points burnished and adjusted, speed calibrated.

• FOR SALE: W. E. F-1 transmitter elements \$1.50, A.E. #41 transmitter elements \$1.50, receiver elements \$2.50. Postage extra.

Steve Hilsz

PO Box 429, Salome, AZ 85348

Phone: (928) 859-3595

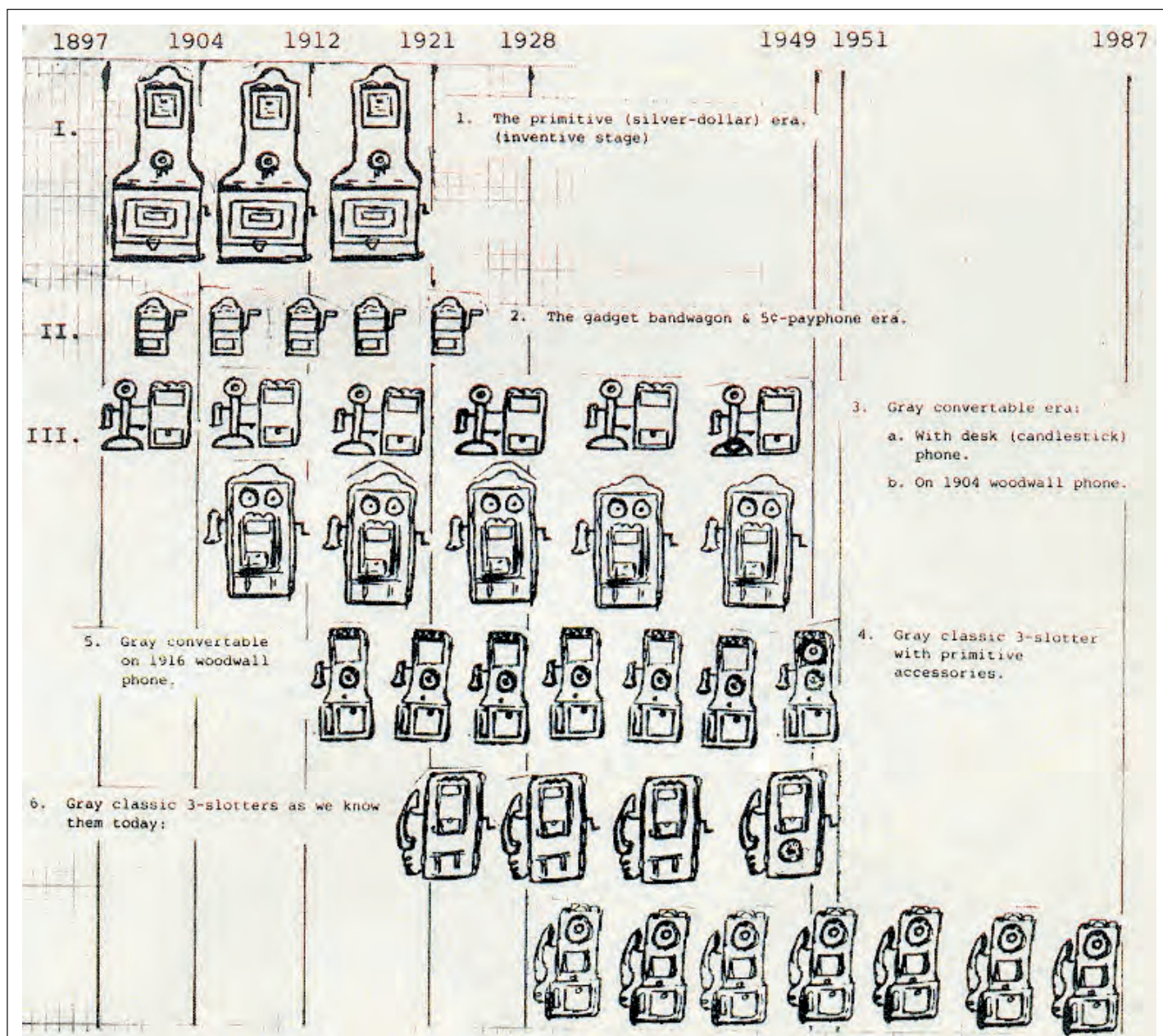
E-mail: JYDSK@TDS.NET

WANTED

• Western Electric line and cut off relay rack. The relay numbers are EA-29 and EA-35. Would prefer covers on the rack also wire wrapped relays.

You can e-mail me at rkish2@verizon.net or call me at 315-785 9108 Eastern Standard time. Leave a message if not home no message no call back.

Thanks. ~ Bob Kish



It is nearly impossible to establish exact discontinuation dates since many rural telephone companies were still "behind the times" in 1988. Forty miles east of Rochester, Minnesota on Interstate 90 was a popular truck stop still with 3-slot payphones in 1988. It is natural for us to think that some primitive-looking phone is older than it is. The finding of some patent date may mislead us to think it was made in 1901 such as is on the back of every Kellogg transmitter on all phones made by them from 1901 through 1925. It may surprise you to find payphones which came out in 1897 still advertised in 1915 catalogues and those which were introduced in 1912 still in a 1948 catalogue. Automobiles seldom remained the same in outward appearance for more than three years after 1927. Most other telephones, on the other hand, stayed the same often for 30 years in one style.

Collecting Payphones:

Collecting the smaller units is not difficult. You will find ease in acquiring Gray #11s, #23s & similar but difficulty in finding non-Grays. Without dedicated aggressive effort you will randomly encounter a small number of the more common small Grays. Silver dollar wood units are quite often available but in 1998 are priced in the \$5,000 to \$7,000 range.

If you attempt to collect the larger 1911-1972 3-slotters, there will be plenty of 1957-1972, for a number of years in beige, black and chrome. Ivory and a few greens are still around but by 2001, will have shipped beyond easy reach.

The older the unit, the scarcer it is. 98% of these have been innocently molested by convenience, so it is not uncommon to locate one "disguised" as a 1972 model. Finding original parts to reverse-convert it can be a costly challenge.

Goals are various but serious collectors sometime compete to achieve the most famous assortment. This then turns into an effortful dedicated search for specifics. Opposite this spectrum and all gradations in between is the random hit and miss approach.

How detailed do you want to get? Do you want one of every number and letter that ever existed to be original in every way? Good Luck.

Terminology

Coin Channels: Coin channels or coin chutes, which is it? In payphone publications of the 1980s we have read that the term applied to the chutes in the upper housing were referred to as channels. About the only place we ran into the term prior to the '80s was on G. Long's 1934 patent 1,966,413. Use of the term "channel" would more clearly separate the chutes in the upper housing from the chute which sits on the plate at the top of the lower housing. G. Long refers to the individual channels as runways.

By Bell System definition: Coin Collector=separate subscriber set (bell box)
Coin Telephone=complete, requires no bell box



LYONS SHOW MEMORIES

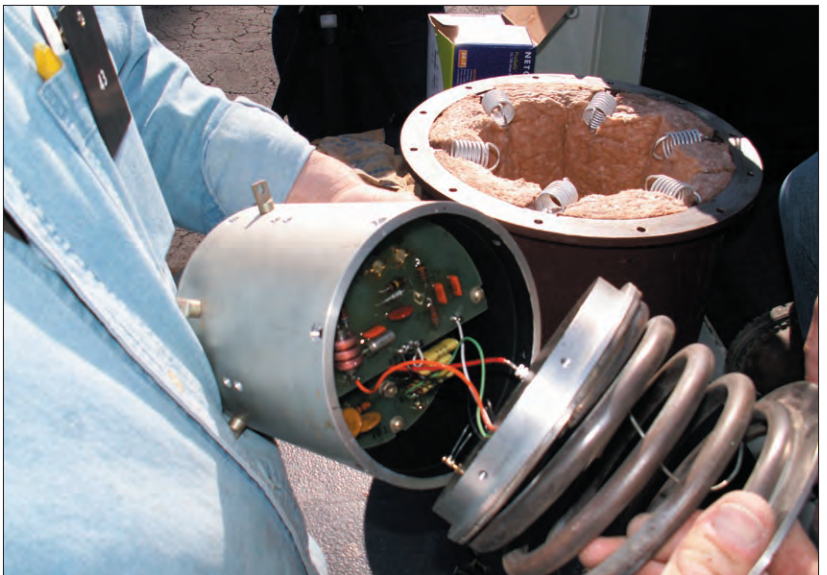
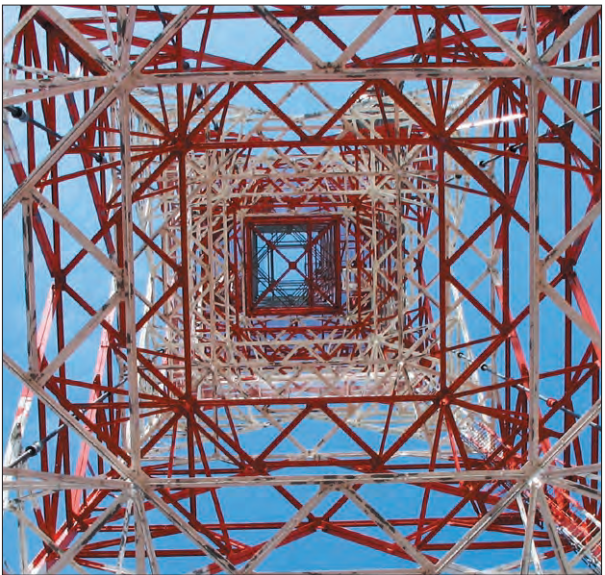


L 4 LINE BAYS TO NORTH BEND, NEBR.

- Power and pilot frequencies applied here.
- First testing access on L4 Line within building.

AUTOVON & AIR-TO-GROUND TEST POSITIONS

- AUTOVON means AUTOmatic Voice Network. It interconnects military installations world-wide.
- The Air-to-ground System serves the SAC AIRBORNE COMMAND POST which is aloft 24 hour-a-day, 7 days a week.
- These test positions are where customer complaints are resolved.

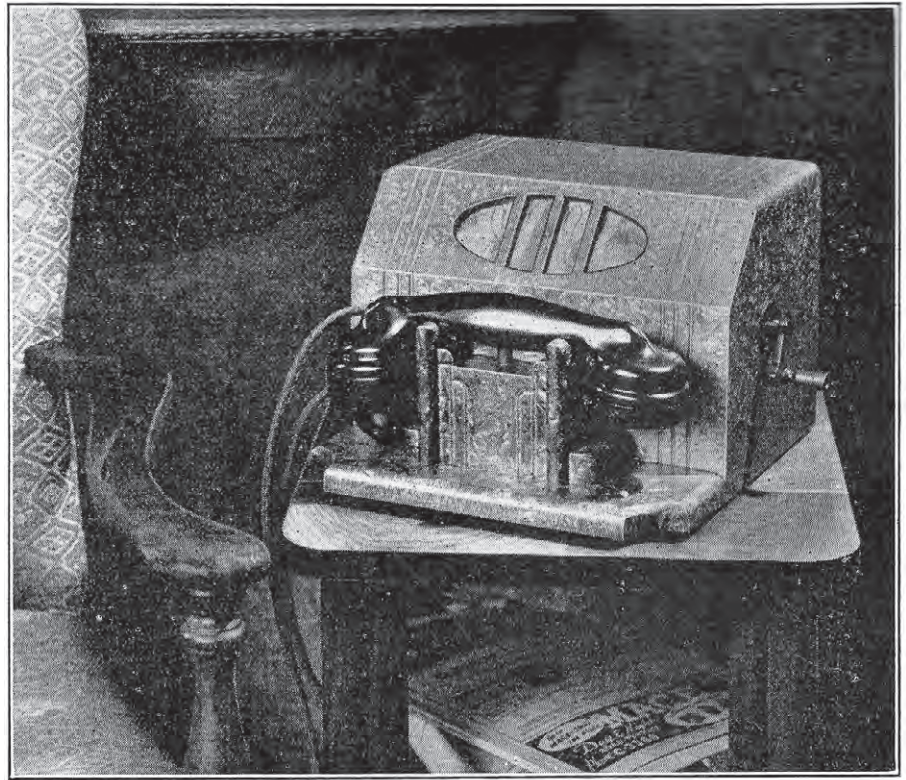


The Subscribers Like The TABLEPHONE

From all over the country come reports from telephone men that their subscribers are highly pleased with this new style Telephone Instrument developed by Suttle.

☞☞☞

If you haven't ordered some yet, do so now! Don't overlook this greater improvement in subscriber service.



The New Suttle Tablephone

The modern housewife is today demanding a new style telephone to match other modern improvements in her home. This telephone is the answer for magneto exchanges just as the new bakelite handset units serve the common battery exchanges.

This cabinet is truly a beautiful piece of modernly designed furniture that will match the furnishings of the best appointed home. It is smaller than an ordinary signal set, yet has enclosed gongs. Thick rubber cushions on the base protect finest furniture and hold fast when cranked.

The appeal of its many features to the residence subscriber has already made this new instrument our fastest seller.

Colored Finishes

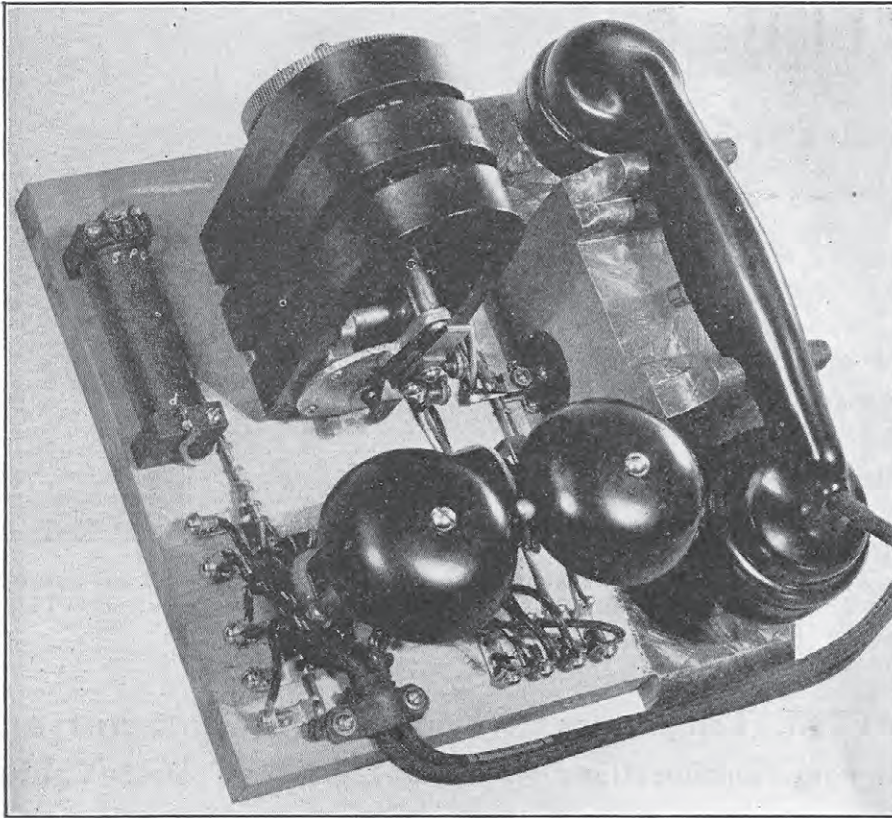
The cabinet is finished in a rich crystallized lacquer of unusual beauty. A choice of dark green, sea blue, gun metal blue, maroon, brown or black finishes are offered at regular stock prices. All colors are conservative shades to match the usual furniture upholstery.

Neat Small Size

The Tablephone cabinet is small and compact. The base is $9\frac{3}{4} \times 9\frac{1}{2}$ inches in size, and the total height about 7 inches, making it very neat on an end table or library table.

Display This in Your Window—It will Sell New Subscribers

"Chassis-Built" for Easy Accessibility!



All Parts Out in
the Open
Easier to Get At
Less wiring..Less
to get out of order
Entire Case lifts off
by removing 5 screws
Hookswitch reached
by removing 2 screws

—
Minimum of
Maintenance
Problems

Incorporates Modern Assembling Methods

Fine Performance

The Tablephone is carefully engineered, using latest modern circuits. The new perfected Leich handset is supplied, providing highest transmission efficiency. The switchhook is simple and dependable. Standard equipment is used for signalling set.

The Tablephone is supplied with four-foot handset cord and six-foot connecting cord, giving housewife plenty of leeway for moving location of telephone. Neat terminal block included.

The above illustration explains better than words, the simplicity of assembling parts on a "chassis" in this Suttle Tablephone. Every lineman can appreciate what this accessibility means if maintenance is necessary.

Re-manufactured generators and ringers are used on these telephones, but everything else is brand new. These telephones are completely guaranteed by Suttle just the same as any other brand new telephones.

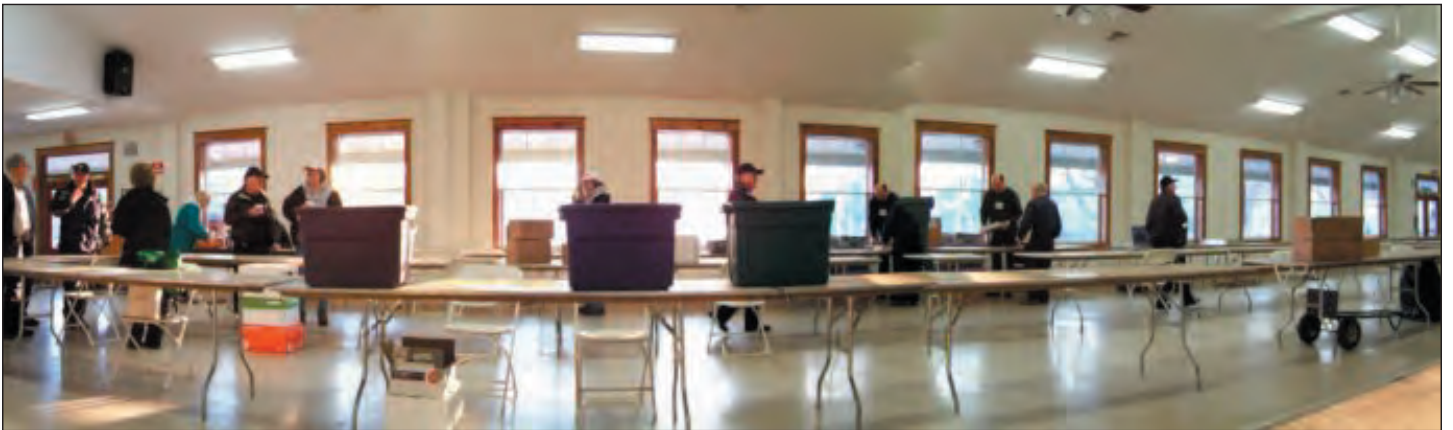
Note These Low Prices on The Tablephone

No. 333—3-bar gen., 1000 ohm ringer, shipping wt. 16 lbs.	\$17.20
No. 334—4-bar gen., 1600 ohm ringer, shipping wt. 18 lbs.	17.75
No. 335—5-bar gen., 1600 ohm ringer, shipping wt. 23 lbs.	18.25

Condenser Installed-----25c Extra 2500 ohm or biased ringers-----50c Extra
Specify Color of Finish Preferred.

You Can Get Handset Rates on Tablephone Installations

Prices Effective August 1, 1936—Subject to change Without Notice—New Catalog Out About November, 1936.

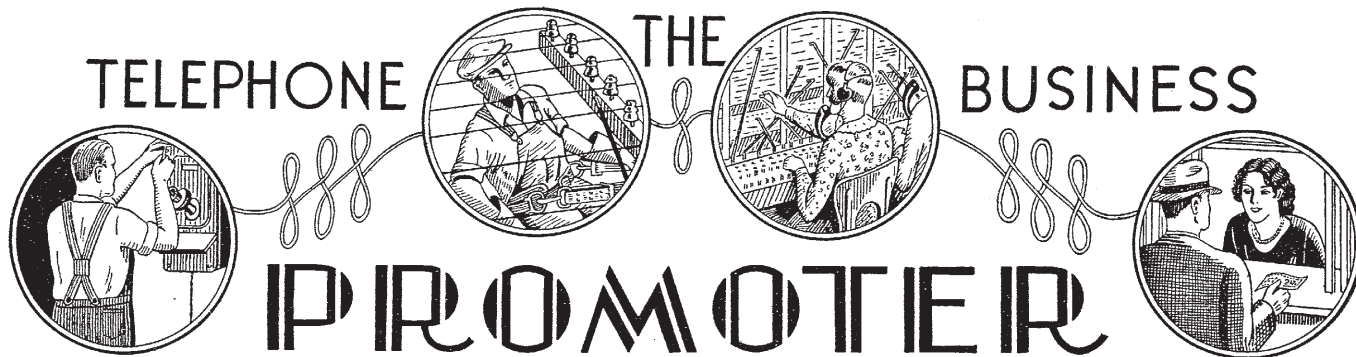




SCENES FROM THE MASON SHOW



Please see page 6 of the May issue of *Singing Wires* for the related article, *Roger's Reminiscences: Suttle Equipment Company: Part 2, Cleaning Up Old Junk Telephones.*



Devoted to the Welfare and Development of the Independent Telephone Exchange

Published by the Suttle Equipment Company, Lawrenceville, Illinois

VOL. 3

Lawrenceville, Illinois, August, 1936

NO. 2

Cleaning Up Those Old Junk Telephones On Hand

**How to Go About It to Get The Greatest Values
Out of Your Old Stock of Telephone Parts**

Unusual is the telephone exchange today that does not have some old telephones and miscellaneous telephone parts heaped up in a back warehouse covered with dust. As a rule these telephones have been robbed of parts since they were stored there three or four years ago. Most of them are unfit for service and are generally "in a mess".

Every telephone man periodically reminds himself that "something ought to be done about that mess". By now he has probably sorted out all the telephones that can possibly be put back in service with a little repair work and some new varnishing. The miscellaneous mess remaining is going to require special handling.

Having seen hundreds of such "messes," and having helped clean up a lot of them, the writer feels that he can offer some helpful pointers on the problem that will be welcomed by telephone men.

In figuring out what to do with these old parts it is first important to recognize that in the average pile of old telephone equipment there is usually both valuable materials and also absolutely worthless junk. The question is, which is which?

WHAT IS VALUABLE?

In deciding what parts have value you should use three classifications as follows:

First—Any telephone parts that are in first class working condition are valuable to you for use as replacements or for installing in new cabinets to make complete telephones.

Second—Telephone parts that are mechanically complete but defective for telephone use as they now are, are valuable because they can be re-manufactured into new telephones, or for replacement parts, at a cost of approximately 40% that of new equipment. This is true, of course, provided they are of a make or style which you will consider using in your exchange.

Third—Any parts of Kellogg, Stromberg-Carlson or Western Electric make are valuable because they can be sold to a re-manufacturing house. In most cases it is not necessary that these parts be in perfect electrical condition so long as the mechanical parts are complete or unbroken. In some cases other parts than those of the makes listed above can also be sold for cash credit.

WHAT IS WORTHLESS?

Of course anything that you cannot, or do not wish to, use yourself or which cannot be sold is worthless. As a general rule, parts that have important mechanical parts broken or missing have little value unless it is easy to replace the parts.

Then there is a class of parts of such obsolete make or style that neither you nor any other telephone man would want to use them. These parts are easily recognizable as a rule.

WHAT CANNOT BE SOLD?

With some exceptions, the following kinds or styles of parts cannot be sold:

Any parts of obsolete makes such as Swedish American, Dean, Century, North, Julius Andrae, Sumter,

(Continued on page 4)

Repairing Telephone Parts In The Exchange Shop

**Ringers, Generators and Induction
Coils Covered In This Article**

In a previous article in the "Promoter" included in No. 40 Suttle Salesman we outlined shop methods of repairing and testing transmitters and receivers. In this issue we cover ringers, generators and induction coils.

It is surprising to see the amount of defective telephone parts lying around the average exchange shop that could be put in perfect condition with a little careful workmanship. We hope these articles will help repairmen in remedying this situation.

RINGER REPAIRS

The most common ringer troubles are as follows:

- Improper adjustment
- Weak magnet
- Open or shorted in the coils
- Loose coils
- Worn pivot screws

Armature sticking or freezing

In making the first adjustment of the ringer the gongs should be removed and all screws tightened that hold the magnet and coils. Be sure that the clapper rod is straight with coils and tight in the armature. The ball on the end of the clapper rod should move back and fourth about $\frac{1}{8}$ to $\frac{3}{8}$ of an inch.

There are so many different ways of making this adjustment on the various makes of ringers that it is impossible to tell just how it is done on all of them. Regardless of what method is used, there should be some means of holding the adjustment permanent after it is perfected, such as a lock nut, set screw, or other lock. On some ringers there is a spring bridge

(Continued on page 3)

Kinks & Tricks

\$2.00 will be paid in cash each month to the telephone man sending in the best "Kink" or "Trick" that he has found useful and practical in his work. Other contributors will each be sent a useful present.

Wiseman Takes in \$2.00 For Handy Ground Idea

Because we thought it would be most generally useful to the largest number of telephone men, Jet Wiseman's suggestion on a test ground was given first place in "Kinks and Tricks" this time.

You don't have to be a good writer to send that pet idea or trick of yours. Just write it out as best you can, and if it should need rewriting, we'll take care of that. It's the idea that counts and not whether you know how to write it up. We'll help you on the writeup.

Pass on your ideas and take a shot at this \$2.00. We'll be glad to hear from you.

A Very Handy Temporary Ground

First cut off about 30 inches of a Joslyn Guy Rod, using the eye for a hand hold to push the rod in the ground, and sharpening the other end. The rest of the rod may be used for a ground elsewhere.

As I have a great many hedge poles and buildings to contend with I use a ladder a lot. So I run a lamp cord up one rail of the ladder, tacking it to the rail, and put a test clip on the bottom to snap on the rod.

Then connect an old switchboard plug to the top end so as to get a good connection with your test clip on test set, as you often get a very bad connection by just snapping on to a small wire. I left about 24 inches of cord above the ladder.

When hauling the ladder I turn this back and stick the plug in a tight fitting leather loop tacked to the rail, turn the lower end back and snap the test clip to the cord. Therefore it is never in the way, and very handy when you want it for testing.

Jet Wiseman,
Fontana Telephone Co.
Fontana, Wisconsin

Home Made Lightning Arrester

A very effective and inexpensive lightening arrester to protect cable and telephones is made as follows. Start away from the cable pole a span or so and install a real good ground, running a wire (copper for best results) up to the cross arm, across the arm, and tied to the bottom groove of each insulator, just under the line wire. Let the ends of the tie wires, from the line wire, and the ground wire point towards each other—the closer the better, just so they do not touch. A few of such grounds carefully installed will keep the lightning out of the cable and from the telephone and save fuses.

E. D. Miller,
Edwardsport Telephone Ex.
Edwardsport, Indiana

Foot Switch for Motor Generator

In a small exchange that cannot afford to keep a power ringer running all the time, I find a model "T" Ford Starter Switch very handy. Just mount the switch on the floor under the switchboard, and connect the power wires through it so you can start the ringer by stepping on the button. Of course, it cuts out the second you raise your toe.

Joe Schmidt,
Catoosa Telephone Co.
Catoosa, Oklahoma

WHERE IT STARTED

You know the one that starts: "Who was the lady I saw you with last night, etc.?" It started in the Garden of Eden when the serpent said to Adam: "Who was that lady I saw you with last night?" Adam replied: "That wasn't last night, that was Eve."

DOG GONE!

The umpire was leaving after the game. He was approached by an irate fan.

"Where is your dog?"

"Dog? I haven't any dog."

"The hellyya haven't! You're the only blind man I've ever seen without a dog."

NOT SO HOT

"Hey waiter, your thumb is in my soup!" "It ain't hot." Then looking out the window the waiter said, "It looks like rain." "Yes and it tastes like it too."

WIRE AND CABLE CONSTRUCTION AT RAILROAD CROSSINGS

Practically every State Commission prescribes certain standards of construction to be used at railroad crossings. It is important that before proceeding with any new construction or rebuilding of old construction that proper information be obtained from the Public Service Commission.

Unless the wires over a crossing are given the proper clearance the possibilities for endangering the lives of the trainmen who may be on top of freight cars is too great for the telephone company to take any chances.

Most large companies use the aerial crossings altogether, but many of the smaller companies find it more economical to use the underground type of crossing where only a few wires are involved.

Where aerial construction is used the most important construction requirements are those relating to proper vertical and horizontal clearances between rails and overhead wires, cables, or poles located on the right-of-way.

CLEARANCE OF SPANS

Clearance of at least 27 feet between the wire and the top of the rails is required in most States. Poles used at aerial railroad crossings should be placed not less than 12 feet from the nearest rail if it is the main line. At sidings it may be possible that only seven feet of clearance would be required.

In general, crossing regulations specify that double crossarms should be used on the two poles which support the crossing wires. It is also specified that double brackets are required when brackets are used.

Wire used at railroad crossings can be either hard drawn copper, copper covered steel or galvanized iron wire.

Crossing spans should not exceed 100 to 125 feet and whenever it is practical the crossing span and the next span on either side of the crossing shall be on a straight line.

The crossing span supporting poles are always required to be head guyed away from the crossing. Side guying is also required in many States, so it is important to check this matter up with the proper authorities before proceeding with any new construction over railroad crossings.

Repairing Telephone Parts In The Exchange Shop

(Continued from Page 1)

from one coil to the other, either under or around the outside of the armature, that holds the adjustment screw in place and it is some times necessary to remove this spring and bend it to make it serve this purpose.

The pivot screw should be tight enough to keep the clapper rod from moving up and down. Otherwise, it will tend to move around in a circle instead of back and fourth. If the screw is worn where the armature wears on it, it can be removed and filed to a new point. The point should be perfectly round and no shoulder on it. The pivot screw should not bind the armature at any point. To test this, hold the ringer up on its side and raise the clapper rod up, and let it fall back down of its own weight. If the screw is too tight it will stay where it is put. After the screw is adjusted be sure the lock nut is tightend to hold it there.

When the magnet is weak the ringer will not ring very strong and will not ring at all if the current is very weak. With a little experience the magnet can be tested by holding a screwdriver on the end of the magnet and noting the pull. A suitable weight can be made for this purpose from a piece of iron about $\frac{1}{2}$ to 1 inch wide and $\frac{3}{8}$ to $\frac{1}{4}$ inch thick and long enough to weigh from $2\frac{1}{2}$ to 3 ounces. The magnet should be strong enough to hold this weight suspended from its end.

In event the magnet is too weak it should be removed from the ringer and recharged on a reliable magnet charger. It should be recharged in the same direction that it is at present. This can be determined by a compass or by turning the charger on and letting the magnet down between the poles crossways. Suspend the magnet lightly on the finger, thus allowing the poles of the charger to attract the correct poles of the magnet as it comes down on the charger.

Open or shorted coils can best be located with an ohmeter or a voltmeter, or an easy method is to use a battery and receiver in series with the coils. The first step in doing this is to connect one side of the receiver to one post of a dry cell and with the other cord of the receiver scrape the other post of the cell, noting the click produced in the receiver, so it can be compared with the click produced through the coils.

This post of the cell is then connected to one side of the coil and with the receiver cord scrape the other side of the coil, comparing it with the one produced by touching the cord directly to the battery. If it is just as loud the coil is shorted, or if no click is produced it is open. For a high resistance a very faint click is heard.

This method can be used for armatures and other kinds of coils. Open or shorted coils should be sent to the factory for rewinding as the wires should be wound on the coil side-by-side in layers. The same magnet wire should not be used a second time for after it has been removed from the coil the insulation is damaged as well as the wire its self.

Sometimes a loose coil on the ringer bridge will cause a lot of trouble. The coil being held in place by the armature saddle, it is sometimes hard to find this trouble, so be sure the coils as well as the magnet are tight.

The hardest ringer trouble to find is sticking or freezing armatures as they will usually respond to strong currents but not weak currents. This is sometimes caused by the iron armature coming in contact with the iron core of the coil. There should be a brass rivet or residual in the armature or ni the core itself to keep this from happening.

Another cause for freezing is that the core becomes slightly magnetized and tends to hold the armature to that side. This can in most cases be remedied by increasing the size of the residual and holding the armature further away from the coil.

INDUCTION COIL REPAIRS

The main troubles encountered with induction coils are opens or shorts, or partial shorts, or a short between the two windings. These can be checked with an ohmmeter or voltmeter or if these are not available the receiver and battery method may be used. The primary will test as if almost completely shorted while a fainter click will be heard through the secondary.

The best test is to place them in an instrument where a good coil has just been removed so that you know that the other equipment is perfect. Note how it talks. If it talks weak the trouble is almost sure to be a partial short.

All bad induction coils should be sent in to the factory for rewinding. Also it is a good plan to have all old style induction coils rewound, especially those with high secondaries. All later type coils have

a lower secondary and slightly higher primary.

GENERATOR REPAIRS

Generator troubles can be very numerous and can be of either nature—electrical or mechanical, or both. A few of those most common are as follows:

Open or shorts in the winding
Short in the bushing between the armature frame and the pin leading from the winding to the shunt spring

Short in the shunt springs
Springs not making proper contact

Weak magnets

Shaft sticking

Gears not meshing properly

Gear wheel loose in end plate

Pinion loose on armature

Armatures hitting on pole pieces

Opens and shorts in generators may be located with the use of an ohmmeter or, other testing equipment. To test the armature coil itself, first place a piece of paper or thin cardboard between the pin in the end of the armature and the shunt spring so that you will not be misled in case there is a short in the spring assembly. Then test from both ends of the coil. If it tests correctly, then test from frame to end of pin. If this test is perfect, then look elsewhere for the trouble.

On the other hand if it tests shorted, remove the coil wires from the armature and repeat the test to determine if it is in the coil or in the pin bushing. In either case, especially if it is in the coil, the complete armature should be sent to the factory for repairs.

In the case of a short in the generator, the crank will usually turn very hard. In such cases it is only necessary to hold the shunt spring away from the armature pin to determine if the short is in the shunt or armature. If this permits the crank to turn easy, then the short is in the shunt. Otherwise it is in the armature.

For a shunt that has been burnt out the best remedy is a new shunt. Otherwise it will be necessary to replace the fibres in the old one. To adjust the springs use a pair of long nose pliers and bend the springs so they will break and make promptly and firmly as the shaft is moved in and out.

Weak magnets are usually the trouble when the output is very weak and the crank turns very easy. Before removing magnets they should be marked on one side so they will all be replaced in the same position as removed. In re-

charging them, as in other magnets, they should be recharged in the same direction as originally, being very careful not to get any into the shunt springs.

The strength of a generator magnet can be judged by the weight it will pick up. Sometimes a pair of pliers or hammer is used, or a piece of iron. The magnet properly charged should pick up a weight of at least 2½ pounds.

The shaft sticking may be caused by various mechanical defects such as, bent shaft spring, rough or burred shaft cam, lack of oil, or bent end plates. The best way to locate the trouble is to remove the shaft and look for the defect that will cause too much friction.

Teeth not meshing properly or slipping over each other is caused by worn gear pinion or end plates which allow the gear and pinion to separate too far. The cause of the trouble can be located by a close inspection of these parts. Which ever it is, should be replaced.

Sometimes it may be necessary to replace all three parts on a few older makes of generators. The bearing holding the gear wheel is adjustable and can be moved closer to the pinion, but don't let them mesh too tight.

Sometimes the collar holding the gear wheel on the end plate becomes broken or loose and lets the gear wheel slip back towards the crank. In this case, when the crank is turned the shaft does not approach the springs close enough to operate them properly. This collar should hold the wheel on the end plate fairly snug but not tight, in which case it will cause the crank to turn hard.

The pinion coming loose on the armature allows the crank gear wheel and pinion to turn all right, but the armature stands still. To remedy this sometimes calls for a new spring inside the pinion, or the screw that holds the pinion on may be loose.

The armature striking on the polepieces can usually be caused by worn bearings in the endplate. This can be located by checking the armature for side play. The end next to the gear wheel is where it is most likely to be, or it may be both ends. The best remedy is new end plates.

Sometimes the end piece on the armature becomes loose, thus permitting the armature to strike the pole piece. Slight knocks can sometimes be remedied by applying a drop of light oil on the armature bearings.

A drop of light oil will often remedy a hard turning generator when applied to all four bearings.

For any repairs that require the tearing down of the complete generator it is best to send it in to the factory, as it is very troublesome sometimes to get every thing matched properly in reassembling.

* * *

If you have some good ideas or pet tricks of your own on repairing various telephone parts which are hard to fix, why not write a report for "Kinks and Tricks"? Maybe you can pick up \$2, besides helping out other telephone men.

OH WELL!

"Is the water you have to drink on this farm healthy?"

"Oh yes. We use only well water."

HAVE YOU NOTICED

That apparently very few people go to a doctor when they have a cold? They go to a Movie or the Theatre.

NOT FOR BALDY

"This dope you sold me might be okay for some things, but it hasn't brung back my hair. Look at them bumps on my scalp."

The druggist looked at the directions on the bottle.

"Holy Cats! I've made a terrible mistake. This is bust developer!"

New Re-manufacturing Service

Enclosed Gong Steel CB Wall Compacts

You Supply

Ringer with Gongs
Transmitter & Back
Receiver Core
Induction Coil
Condenser

Installed in New Enclosed Gong Steel Cabinets with all other new parts necessary.

40% Saving

Write for details and prices on this new service

Suttle Equipment Co.
Lawrenceville, Illinois

Cleaning Up Those

Old Junk Telephones

(Continued from Page 1)

Williams Abbott, etc.

Old style transmitters with raised lettering on the front.

Old style receivers mounted solid in the shell.

Long type switchhooks.

Any type of old cabinet other than steel type of enclosed gongs.

Many of the old style desk stands with solid capital pieces or fancy mountings.

Old style series ringers that cannot be wound for at least 1000 ohms.

Old style transmitter arms or bases.

As a general rule, any equipment that is covered by the above description, which you cannot use yourself, is absolutely worthless and should be sold to a junk man for whatever (if anything) you can get for it.

CLEANING UP THE MESS

With these thoughts in mind you put on some old clothes and call in what help you need. Depending upon your plans, you figure out just what classifications you are going to use for your different piles you are going to build up.

Here is a list of piles you might use:

1. Parts that look to be in good condition. These are to be tested and reclassified later.
2. Parts that are mechanically complete which we can use when they are re-manufactured.
3. Parts which we can sell if we do not use them ourselves.
4. Junk to be hauled away.

Now you are ready to start work on the mess. If it is scattered around in several places, you may want to get it all together in a room where you have good light and a work bench to work on, or you may bring another batch in as soon as you get one cleaned up. If you have any large quantity of equipment to dismantle you will find it worthwhile to arrange to handle it on a bench with tools handy.

DISMANTLING WALL COMPACTS

Since magneto wall compacts are likely to be most common in the "mess" of old equipment, let's discuss treatment of them first. You remove the transmitter front and the back. Remove the gongs and the clapper guard. Screw out the crank and remove the crank escutcheon. Unless you want to save the receiver cord, clip it and remove the receiver.

Remove the screws on the switch-hook escutcheon, and if the hook slips out, remove it. Now remove the mounting screws on the ringer unless they are inside. Then open the cabinet and get out the ringer.

The generator should probably come next. If you have trouble getting at the mounting screws, knock out the end of the box with a hammer. Then get out the switchhook, induction coil and condenser.

Unless you have some particular use for terminals or lightning arrester, what you have left belongs on the junk pile.

Common battery sets in wood cabinets, of course are cleaned out in the same manner. Remember, wooden cabinets have no value unless you think you can refinish them for your own use, so don't struggle with screws if you can break up the box instead. That's one trick of tearing down old equipment.

HANDLE PARTS CAREFULLY

As various parts are removed they can be classified and sorted out in the various piles you have allotted. Don't throw the parts in a heap but set them out in orderly fashion. Remember that the parts you are saving are valuable, and a part broken by careless handling may cost fifty cents or a dollar to replace when you want to use it. When you are handling a lot of parts, they seem cheap, but when you need them they get expensive, fast.

DESK SETS AND STEEL COMPACTS

Handling desk stands, of course, is merely a matter of classifying them and throwing out the junk ones. Some times you may wish to save the transmitter and receiver off of obsolete stands otherwise worthless.

Common battery steel wall compacts also need classifying. Enclosed gong types can generally be sold if you do not want to use them yourself. Older styles with exposed gongs cannot be sold as a rule, but they can be re-manufactured just like new if you want to use them yourself. On some older styles you may find it best to remove the parts and junk the old steel boxes.

DECIDING ON USE OF EQUIPMENT

Working along this line, you eventually get to the point where you have separated the wheat from the chaff. You have the worthless junk disposed of and have left a large assortment of telephone parts that are either useful to you, or to somebody else. All old parts or equipment laying around on the

shelves should also be cleaned up at the same time and sorted out in the various piles allotted.

The next problem is to decide on what you want to keep for your own use and what you would consider selling for cash or credit. If you have a lot of equipment you probably should get it up on shelves or sorted out in boxes so that you can check up to see just how many of each kind of part you have on hand. You will probably find it a good idea to take a physical inventory listing the quantity of each kind of item.

SETTING UP REPLACEMENT STOCK

After you get your inventory (written or otherwise) you may wish to sort out a special stock of replacement parts. You can test until you get a good stock of generators, ringers, induction coils, and receivers. Probably you won't find many good transmitters but you can set aside a supply of them to be sent in for re-manufacturing to put in your stock. Of course, if you are short good parts of other kinds for your replacement stock, these can be supplied by sending in defective parts for re-manufacturing also.

SAVING PARTS FOR TELEPHONES

Now that you have taken care of whatever replacement stock is necessary for your normal requirements, you are ready to sort out parts that can be used in having new telephones manufactured for your own use. The services offered by a good re-manufacturing house enable you to cut the cost of good telephones in half by using these parts you have on hand.

If you operate a magneto exchange it will probably pay you to set aside as many complete sets of parts as you can make up out of your inventory. For instance, say that in checking your inventory you find you have less ringers than any other part. If you had 35 ringers, you would set aside 35 transmitters, 35 receivers, 35 generators, induction coils, switchhooks, etc., so that you would have complete used parts for making up 35 telephones.

If you have complete desk stands you could set aside an equal number of generators, induction coils and ringers to make up signal sets to go with them. Or perhaps you might save parts for signal sets to be mounted in a cabinet with new handsets supplied.

If your big demand is for common battery equipment you will want to set aside the necessary parts which can be installed in a new enclosed style steel cabinet.

In fact, a good catalog of re-manufacturing services will show you a dozen or more ways of making use of your old parts in manufacturing new telephones. You should study over one of these catalogs to be familiar with the various services offered and the parts required for different kinds of telephones. If your parts are good you may want to buy new wired cabinets and assemble the telephones yourself.

The exact quantity and kind of parts that you will decide to hold out for your own use will depend upon your estimated requirements, but it will pay you to hold matched parts if you have any prospect of using them. If you are short on one part (say ringers) but have everything else for a number of more sets it may pay you to have ringers supplied on re-manufacturing jobs.

DISPOSING OF SURPLUS PARTS

After you have sorted out the matched parts you want to hold for your own use, and have set them aside in neat order on shelves, you will probably have a miscellaneous assortment of parts left over. If you are not going to be able to match these up for complete parts, or just naturally have a surplus of parts it will pay you to sell them if possible.

As you sorted out your own parts you probably kept in mind the kind of parts that can readily be sold, as described earlier in this article. Now, make out a detailed list of the individual parts you have left on hand as surplus. If some of the parts are not of salable makes, perhaps you can trade them around with the stock you are holding so that you can realize more on the sale of surplus parts.

Now, send this detailed list to the purchasing department of a company that buys this equipment and it is probable that you will receive a definite offer for it.

SUMMARY

It's a lot of work to clean up a miscellaneous assortment of old equipment and parts, but it has to be done sooner or later. No two companies will go at it in exactly the same manner, but the writer hopes that the suggestions made in this article will help the reader in some details on his own particular problem.

The telephone business is picking up rapidly and it's high time the telephone man was clearing his decks for action and getting those "messes" cleaned up and his stock in order if he has not already done so. It will save him a lot of money and solve a lot of his problems.