



AARC COVER

Keeping Austin Wireless for Over 90 Years!

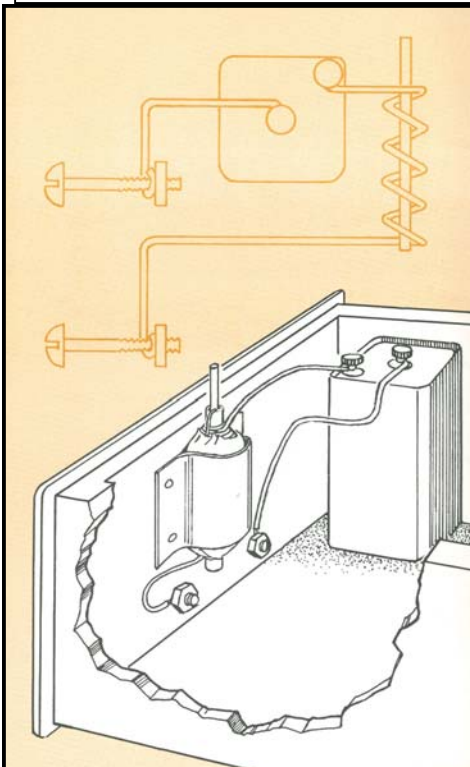
Bulletin of Austin Amateur Radio Clubs

ISSN 1067-0262

July 2010

Happy Fourth of July!

Issue 7-2010



A Secret Electromagnetic Lock

(From How to Build 5 Useful Electrical Devices- 1967)

What is an electromagnetic lock? It is basically a vertical solenoid (a long coil of insulated wire) with an iron rod suspended in the center. The rod is supported by a piece of elastic thread and is arranged so that part of it protrudes above the solenoid. It serves the same purpose as a sliding bolt in an ordinary lock. Power for the electromagnetic lock is supplied by a six-volt battery.

With the magnetic lock mounted on, say, the inside of a drawer near the top, the protruding rod prevents the drawer from being opened. But when two secret terminals on the outside of the drawer are touched, the solenoid yanks the rod down, thus allowing the drawer to be pulled out.

How Does It Work?

In 1819 a Danish physicist named Hans Christian Oersted made one of the most important discoveries of all time. He found that electricity flowing through a wire sets up a magnetic field around the wire. The electromagnetic lock is an excellent example of the use of this principle. For when current is made to flow through the solenoid, magnetic lines of

(Continued on page 4)

Periodic Events

Sun	7:30 p.m.	Travis ARES net	147.36 MHz + (131.8)
Sun	8:00 p.m.	Travis ARES Packet	145.73 MHz -
Sun	8:00 p.m.	Williamson ARES net	146.64 MHz - (162.2)
Sun	9:00 p.m.	ARO Swapnet	146.94 MHz -
Sun	(After Swapnet)	Newsline	146.94 MHz -
Mon.	7:30 p.m.	STX ARES Net	3.873 MHz
Tues.	7:30 p.m.	Hays ARES net	444.150 + (114.8)
Tues.	8:00 p.m.	Bastrop ARES Net	443.750 + (114.8)
Wed	11:30 a.m.	Ham Social Luncheon, Jim's	146.94 MHz -
Thu	9:00 p.m.	2m SSB Net	144.250 (USB)
Thu	11:00 a.m.	Lunch, Pokey Joe's 183&Great Hills	444.1 MHz+
Fri	8:00 p.m.	6m SSB Net	50.230(texasvhf.org/)
Sat	7:00 - 8:30a.m.	Breakfast @ Waterloo Ice House	444.1 MHz +
Sat	9:00 a.m.	Chapter 67 QCWA QSO Net.	3.920 MHz LSB
Daily	6:30 p.m.	Central Texas Traffic Net	147.14MHz+

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Ham Radio Exams Results

The following are the results of the ARRL VE Test Session held on May 22nd at the City of Austin Office of Homeland Security:

Technician Class Licenses Processed

Anne B. Camden, KF5HCC	Brenda L. Keller, KF5HCB	Peter M. Keller, KF5HCA
Jennifer A. LaChance, KF5HCD	Darrell M. Prather, KF5HBX	Jamie L. Schlueter, KF7KKX
Laurel A.G. Sullivan, KF5HBY	Zachary A. Whitaker, KF5HCE	Jeff M. Woodward, KF5HBZ

General Class License Processed

Christopher G. Salles, KD5RUR

Examiners Participating in this Test Session

George Csahanin, W2DB	Larry Gunter, WB5BEK	Joe Makeever, W5HS
Tom Nevue, W2MN	Kees Talen, K5BCQ	Joe Thiel, N5SMN

The following are the results of the ARRL VE Test Session held on June 5th at Bethany United Methodist Church :

Technician Class Licenses Processed

Dillon P. Buhl, KF5HFI	Eric W. Ferguson, KF5HFM	Abed M. Haque, KF5HFJ
Andrew R. Hutcheson, KF5HFO	Nicholas A. Lounsberry, KF5HFP	Jack H. Owen, KF5HFN
James M. Patek Jr., KF5HFQ	Dwayne O. Percivill Sr., KF5HFL	Courtney M. Repac, KF5HFK

General Class Licenses Processed

David B. Sheldon, KX5DBS	Andrew B. Wood, KC5DJT	Matthew J. Woodruff, KF5HFR
--------------------------	------------------------	-----------------------------

Extra Class Licenses Processed

Mark D. Randol, AE5SJ Norman Sprott, KE5DTP

Examiners Participating in this Test Session

Russ Cook, KK5E	Jim Dear, W5LOG	Larry Gunter, WB5BEK	Joe Makeever, W5HS
Jack Stankus, W2JS	Joe Thiel, N5SMN		

Next ARRL VE Test Sessions

July 10th - Bethany United Methodist Church, Disciple Bldg. Room 213

August 7th - AUSTIN SUMMERFEST - ARRL Texas State Convention - Austin Airport Marriott South Hotel
TNX ES 73 DE W5HS

Joe

6-19-2010

The South Austin W5YI VE team heartily congratulates all of the following people who earned new or upgraded amateur radio licenses at our June 19th session:

Extra Class – (none)

General Class –

Jonathan Morris	Thomas Chenault	Richard Forlano
	John Reno	Bryan Schlinger

Technician Class (all new) –

Brian Davis	George Hagan	William Johnson	Bruce Milligan	Carson Page
Raymond Page	Michael Pennington	Tim Ritchie	Jack Thornton	Seth Willhoite

Our administering volunteer examiners were:

Craig Bean, AC5KW	Jim Greenwood, AB5EK
Hugh Brown, NT5O	Jimmy Mercer, N5WDH
Lloyd Goehring, N5TO	Warren Rowe, WR1TX
Gary Popp, AE5JR	

Our next two amateur radio exam sessions will start at 2 PM on July 17th and August 17th in room 118 of Fleck Hall on the campus of St. Edward's University. All sessions are walk-in and the exam fee is \$14.

For additional information regarding our amateur radio examination sessions, please contact Jim, AB5EK at (512) 327-6184 or by e-mail to hamradioexams@hotmail.com or visit our web page at <http://texashams.org/w5yi-austin/>

Austin Amateur Radio Club, Inc., PO BOX 4739, AUSTIN TX 78765-4739, Web site: <http://www.austinhams.org>

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ARRL Travis Co. Emer. Coord.	Don Dudley	AC5YK		ac5yk@arrl.net
TC ARES PIO	Steven Polunsky	W5SMP		tcares-pio@gmail.net

Please contact a club officer, attend a meeting, mail us to join the organization, you can also join or renew online.

The Austin Amateur Radio Club, Inc. (AARC) has annual membership dues of \$20.00 per person or \$30.00 per family. AARC maintains the following repeaters:

FREQUENCY	AUTOPATCH	USE
146.780	Yes	General
146.880	Yes	General
146.940 107.2 PL Tone	No	Most popular, WX, Swapnet & Newslite
224.800	No	
444.100	No	
146.480/+1.0	No	2m D-Star Repeater [W5KA C]
1293.200/-20	No	23cm D-Star Repeater[W5KA A]
1248.200	No	23cm D-Star DD (data, simplex/reversible) [W5KA A]

Persons using the repeaters are asked to join the club to help support these valuable resources. To use the autopatch, announce your call sign, press * and dial the phone number then release the PTT. When finished, press # to hang up the phone. Dial 911 (no * needed) for emergency services.

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Viewpoints expressed in the AARCOVER do not necessarily reflect those of any club, or of its members, directors, or officers.

Material quoted from the ARRL Letter is supplied by the American Radio Relay League, Inc.

Members and other readers are encouraged to submit material for publication. Call Mitch London, if mailed submissions are required. Electronic files are encouraged! Submissions may be edited for publication. **Deadline is the 20th of the month.**

Material may be used in a later issue. Unless otherwise noted, permission is granted to reprint AARCOVER articles, provided you credit the author and the AARCOVER.

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“XYL” is printed with permission by Carolyn Canfield, KE5DTS. Cartoons may not be reprinted without written permission.

For Changes in your ADDRESS, PHONE NUMBER or CALL SIGN:

See Jay Hoffman, KA5OST (512) 388-4404 ka5ost@arrl.net

Jay handles all changes for membership information.

Quarter Century Wireless Assn. Is Looking for You!

I hope this reaches most area hams with 25 years since you were first licensed. That is all you need, 25 years since the first license, to be a Quarter Century ham.



The QCWA group meets each third Sat. and this is the 3rd weekend. The meeting is at the IHOP restaurant at 1:30 PM for brunch, and 2 PM for our meeting and program. The IHOP is on the 183 south bound access road, just South of Duval in Austin, and past the Joe's Crab Shack and other chains at Duval and 183.

We meet in the back room. Meetings include food, fellowship, sometimes a modest business meeting, and then a program. This month's program will be on Field Day plans for area clubs and sharing your favorite FD stories. We hope you can make it, and especially we welcome first time visitors.

If you are close to your 25th anniversary of first license, come ahead, time flies, you know.

Stuart Rohre VP, QCWA Centex

XYL

By Carolyn Canfield, KE5DTS



“And this is the antenna farm!”

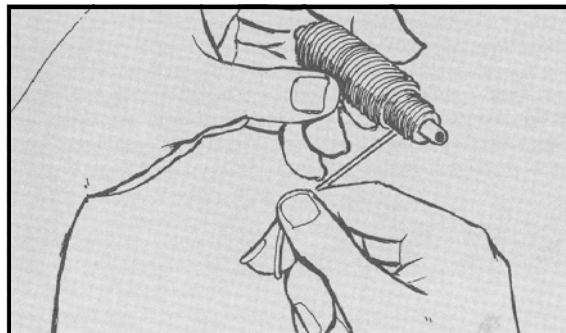
force are generated around each loop of wire. Since the loops all turn in the same direction, the lines of force combine. The result is a strong magnetic field that pulls down on the rod which, in turn, stretches the elastic thread. The field lasts only as long as the current flows. Once current stops, the field collapses; and the rod will be lifted to its original position by the elastic thread.

Materials Needed to Build the Lock

- | | |
|------------------------------------------------------------------------|---------------------------------------------|
| 1/4" tubing (non magnetic)
2 1/2" long | Tin-can strip to mount lock
1 1/2" by 3" |
| 35 feet of bell wire | 4 tacks |
| An 8-penny common nail
For the rod (it's about 1/8"
In diameter) | 2 machine screws and nuts
for terminals |
| Elastic thread, 3" long | 6-volt battery |

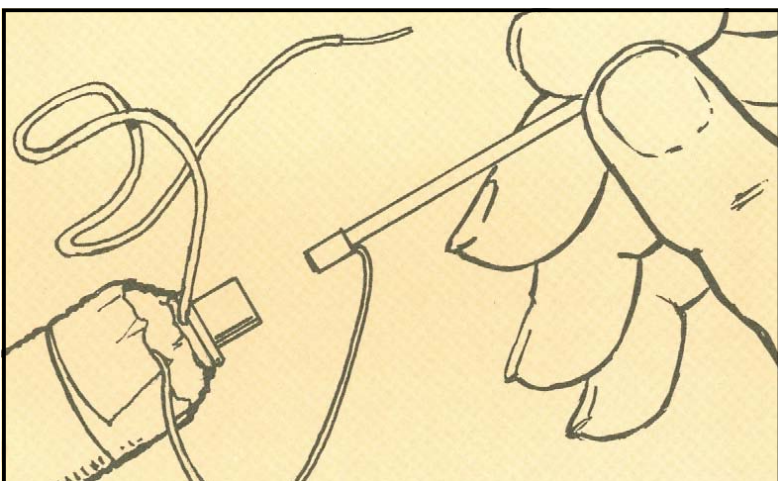
How to Build It

WINDING THE SOLENOID: It shouldn't be too difficult to find some 1/4 inch non magnetic tubing for the solenoid. Copper, brass, aluminum, or stiff plastic would all work nicely. Any of these would make a sturdy solenoid, yet not become magnetized when current flowed through the coil. But don't use an iron or steel tube, because it would become magnetized. As a result, the hanging rod would be



attracted to the sides of the tube instead of downward. In a pinch, you could make a workable tube out of the joker from a deck of playing cards. Simply cut it into a 1" by 2 1/2" rectangle, wrap it lengthwise around a pencil, then tape it.

Now begin winding the bell wire around whatever tubing you've decided to use. Be sure to leave enough wire to make circuit connections. Put on about 250 turns, winding back and forth as a spool of thread or a fishing reel is wound. If you have to use more than one piece of wire, splice the wire by twisting the ends together. When you've finished winding the solenoid, wrap a foot of tape (any kind) around the entire assembly so it won't come apart.



MAKING THE ROD: Cut a two-inch section from the middle of the eight-penny nail, and file off any sharp edges. This will serve as the rod. To support the rod within the solenoid, elastic thread (the kind used in sewing) is recommended because it easily stretches. It therefore will offer low resistance to the magnetic pull on the nail.

Lay a three-inch piece of elastic thread next to the rod, side by side. Tape them together at one end, as shown. Then lower the two, taped end pointing down, into the solenoid until only 1/2 inch of rod sticks out the top. Hang the remainder of the elastic over the edge of the solenoid, and

(Continued on page 8)

Austin Summerfest 2010

August 6&7, 2010

Austin Airport Marriott South
4415 South IH-35

Austin, Texas 78744

Continuing a Ham Tradition.....

Once again the Capital City is the place to be in the middle of the Texas summer. That's right--it's time for Austin Summerfest!

As always, we also host the Summer Meeting of the Texas VHF-FM Society, and this year, the ARRL Texas State Convention.

- Dealers
- Exhibits
- ARRL Forum
- QRP
- UHF/microwave
- Emergency Communications
- Weather
- License Exams
- DX & Contesting
- ARES Session

Schedule

All the activity is concentrated on Friday night and Saturday, to allow you flexibility in your weekend travel plans. But do come early, as things fire up at 6 Friday evening and go 'till 9, and start up again Saturday at 8 am, with swapping 'till 3:30, and dealers and sessions 'till 4:30. The Grand Prize will be drawn at the end of the day, so consider sticking around.

Please note that the Texas VHF-FM Society meeting will run from 1 to approximately 3 pm.

Austin Airport Marriott

The Austin Airport Marriott South is on the east side of IH35 just south of US290/TX71.

Enjoy the facilities of our headquarters hotel, the Austin Airport Marriott South, or the adjoining SpringHill Suites Austin South. If you're visiting Austin, please consider staying in one of these hotels for the special Convention rate of \$89 per room night, single or double occupancy. (The SpringHill Suites also features a complimentary continental breakfast). The hotel of your choice needs your reservation by July 22nd to guarantee room availability at the convention rate.

Phone 1-800-228-9290. Request a room in the Austin Airport Marriott South or the SpringHill Suites Austin South, from the Austin Summerfest block, to get the Convention rate.

Showing support for our hotels helps to ensure that we can continue to stage our Convention in high-quality surroundings.

Registration

Advance registration saves you \$2 per person! See our website for details:
<http://www.austinsummerfest.org>

Prizes

Prizes Galore! Our premium prize list is topped by the Grand Prize, a major piece of ham equipment. Register in advance by mail and have a shot at still another premium prize!

With your registration you get one ticket good for all prizes (except the Advance Registration prize), and you can buy more at \$1 each. Plus, if you rent a room at one of the convention hotels, you'll get five bonus tickets for each room-night, up to a total of ten tickets.

The Rules

We'll award door prizes throughout the day Saturday, until noon. For these, you must claim your prize within one (1) hour of the announcement. We'll post your name/call or ticket number at the prize drawing area.

At 1:00, we begin drawings for any remaining unclaimed door prizes. Then come our Premium prizes, culminating in the Grand Prize.

For the Premium and Advance Registration prizes, you need not be present to win. If you're a winner, we'll post your name and hold your prize. If you haven't claimed it by the end of the day, we'll send it to you.

Swapfest

For lots of folks, our main event--wall-to-wall goodies of every description, brought to you in carpeted, air-conditioned comfort on Friday evening and Saturday. Rules:

1. Full-sized tables: 6 feet by 30 inches. \$10 each, limit of 3 to a customer. First come, first served.
 2. AC power is available at an additional \$5 per customer, through advance registration only.
 3. We'll attempt to honor requests from groups of sellers for adjacent tables, if we receive your registrations in the same envelope.
 4. If you advance register for swap tables, we'll attempt to notify you in advance if they are unavailable due to being sold out (a rare occurrence). Be sure to give us your email address if you have one so we can notify you that way.
 5. Your table(s) will be held for you until 10 am Saturday.
 6. Swapfest hours are 6 to 9 pm Friday and 8 am to 3:30 pm Saturday.
 7. Buyers and sellers must be registered at the convention.
- Also, plan to participate in our **tailgate swapfest**. You need not be registered at the Convention for the tailgate, but of course it would be a good idea so you can attend the indoor swapfest and the sessions we have planned.

AUSTIN SUMMERFEST 2010 Advance Registration

Mail before
July 28, 2010!

Name _____ Call _____
 Name _____ Call _____
 Address _____
 City _____ State _____ Zip _____
 Day Telephone (____) _____ Evening Telephone (____) _____
 E-Mail Address _____

	Each	Qty	Total
General Admission	\$8.00	_____	_____
<small>(Per individual. Includes all hams and guests. Admission at door will be \$10.00. Children 17 and under admitted free.)</small>			
Swapfest Table Friday (6-9) and Saturday (8-3:30)	\$10.00	_____	_____
Electrical Power	\$5.00	_____	_____
<small>(Limit of 3 tables to a registrant; first come first served; tables unclaimed by 10:00 AM Saturday will be released.)</small>			
Extra Prize Tickets	\$1.00	_____	_____
		Total	_____

Representatives of the Texas VHF-FM Society will be on duty to collect your dues at the Convention.

Make check or money order payable to **AUSTIN SUMMERFEST** and mail before July 28, 2010 to:
 Austin Summerfest, 8609 Tallwood Drive, Austin, TX 78759-8126.

Directions

The Austin Marriott Airport South is at 4415 South IH 35, Austin TX 78744. The SpringHill Suites Austin South are in the same complex at 4501 South IH 35. Talk-in is on 146.34/94 and 449.1/444.1 MHz.

IH 35 Southbound: Take Exit 229, go 1.3 Mi. to E. Stassney Lane, and turn left. Turn left again onto IH 35 northbound service road and travel 1.0 Mi. to Marriott Hotel.

IH 35 Northbound: Take Exit 229/228 and travel 2.3 miles north on service road to Marriott Hotel.

US Hwy 71 East or Westbound: At intersection with IH 35 go south on IH 35 service road 1.3 Mi. to E. Stassney Lane and turn left. Turn left again onto IH 35 northbound service road and travel 1.0 Mi. to Marriott Hotel.

Further Info

- Write to: Joe Makeever 8609 Tallwood Dr., Austin, TX 78759-8126
- Call (512) 345-0800
- Email: w5hs@arrl.net
- For additional facilities information and pictures go to <http://www.austinsummerfest.org>

Please:

Support Summerfest by staying at the Convention Hotels.

The number of guests we have at the hotel has a direct bearing on the economic viability of Summerfest. A good guest count helps to ensure that we can continue to hold Summerfest in the future. And don't forget that you get 5 free Summerfest prize tickets per room night at the hotel!

AARC Meeting Minutes:

June 1, 2010

Meeting called to order: 7:19pm by Vice-President Mike Brumleve, KC8VSE.

Meeting started with a welcome to all.

We had forty-one in attendance with four visitors and one new member. No upgrades by a member were reported.

Minutes: last meeting's minutes approved as written in AARCOVER.

Door Prize: a Midland Weather Radio won by Jim Rudd, W5SIO. This led to a quick reminder and discussion of the upcoming, predicted to be heavy, hurricane season.

OFFICER REPORTS

Treasurer: Jay Hoffman, KA5OST, reported club membership has surpassed 200, (the highest it has been in a long time), bank account totals, and our liability insurance is paid.

Vice-President: Mike had Lee Cooper, W5LHC, give results of the ARRL Membership Drive. We took 7th in our section, winning \$150 in ARRL merchandise.

ARES: Don Dudley, AC5YK, discussed and showed pictures of the D-Star installation that took place Monday the 31st, at the S. Austin Medical Center (St. David's on Ben White). Mike followed with a mention of the next ARES meeting and a warning about heat stroke, especially since Field Day (tonight's presentation) is coming up.

Editor: Mitch London, KD5HCV, pointed out some of the current and upcoming article and how he found them, while encouraging everyone to send in articles.

Space Weather: Lew Thompson, W5IFQ, discussed the current solar geomagnetic event that started May 30th, its effects on the atmosphere with forecast, followed by Q&A.

Ham of the Month: Menchaca Elementary Mustang Roundup Crew: Steve Polunsky, W5SMP; Mike Brumleve, KC8VSE; Paul Fenrich, KA5FZU; Mitch London, KD5HCV; Abe Clark, WB5EKG; & Alan Russell, KE5DTR.

Meeting Adjourned: 8:02pm

Presentation: "Field Day 2010" by Jeff Schmidt, N5MNW, & Stuart Rohre, K5KVH.

fasten it securely with tape. We are now ready to install the secret electromagnetic lock.

Installing the Lock

Form the 1½" by 3" strip around the solenoid, bend the ends outward, and punch two holes in each end to receive the tacks. Before mounting the lock, energize the solenoid and measure the distance the rod drops. At this point it might be well to mention that connecting a solenoid to a battery is almost like laying a screw driver across the battery terminals. It could exhaust the battery very rapidly. So each time you energize the solenoid, limit yourself to one or two seconds.

Suppose in energizing the solenoid you find that the rod drops ¼ inch into the space above the top drawer. If there is no space, you will have to gouge a small hole above the lock to receive the rod. When you have positioned the lock properly, tack it in place.

Assembling the System

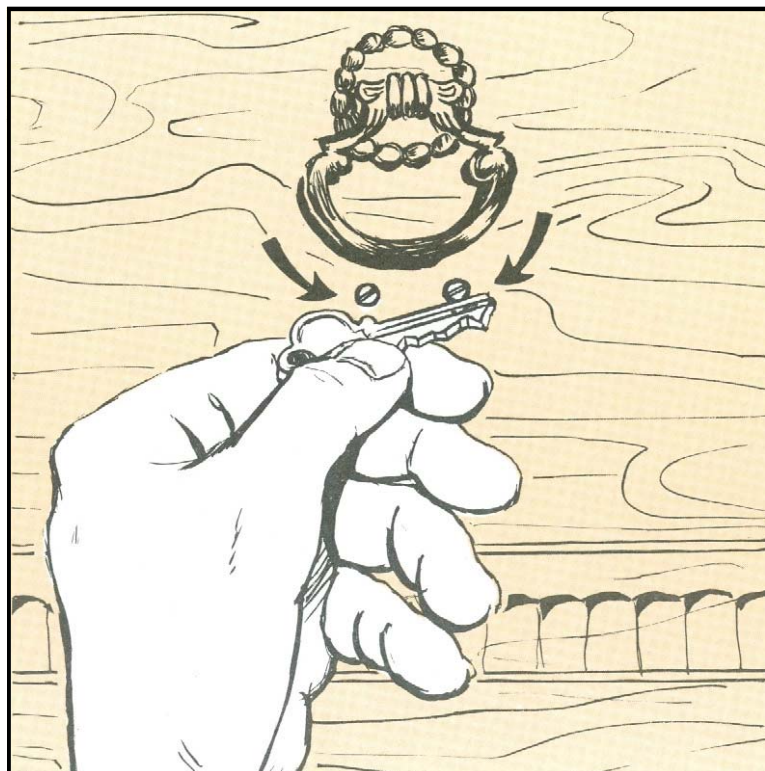
Needless to say, the battery will have to stay inside the drawer along with the lock. Both are connected in series with two secret terminals that come through the front of the drawer from the outside. Serving as the terminals are two machine screws. Wires from the solenoid and battery are attached to these screws with nuts. Nails may also be used as terminals. With nails however, the wires connecting to them will have to be soldered on.

Anything metallic that can touch both outside terminals at once will be your "electric key." It could be a coin, a scout knife, a metal-edged ruler. Of course, touching the terminals and pulling the drawer open will have to be done at the same time...and quickly, to conserve the battery.

Connecting the Terminals

Here are two ideas on how to disguise the outside terminals: You might use two small finishing nails located inconspicuously at opposite sides of the drawer front. Or you could attach some sort of nonconducting (cardboard, wood, or plastic) emblem or name plate to the drawer and use decorative screws or nails as terminals. In any event, no one is likely to guess the secret of how the drawer is locked or what must be done to open it.

Incidentally, when the battery inside the drawer eventually wears out, you can still open the drawer by applying six or more volts to the outside terminals.



(How to Build 5 Useful Electrical Devices - A Publication of the Thomas Alva Edison Foundation -1967)

AARC Meeting Info.

Waterloo Icehouse

8600 Burnet Rd. South of 183

Officers Meeting 7 pm

July 20 - Waterloo Ice House

Business Meeting 7pm

July 6th - We will get a breakdown of our Field Day Activities plus some insight as to the workings of the High Speed Multi-media set up used during Field Day

2010 Upcoming Amateur Exams

ARRL VEC- July 10th & August 7 at Austin Summerfest
9a.m. at Bethany United Methodist Church. Contact Joe Makeever, W5HS (345-0800) or Joe Thiel, N5SMN (832-0450) for info. \$15 fee.

W5YI VEC-July 17th & August 17th 2p.m. in room 106, Fleck Hall, St. Edwards University. Contact Jim Greenwood, AB5EK@ arrl.net, (327-6184)

http://texasparadise.com/w5yi-austin for more info.

2010 Calendar of Events

July 10 Texas City Hamfest Doyle Convention Center Map , 2010 5th Avenue North, Texas City, TX 77590
Talk-in: 147.140/pl167.9 (Secondary 442.025/pl103.5)
Joe AA5OP 409-945-6794 aa5op@yahoo.com
<http://www.tidelands.org/2010hamfestinfo.htm>

Aug 6-7 Austin Summerfest- Continuing a Ham Tradition in its 27th Year! See Pages 5 and 6 for info. Austin Marriott South 78744
www.austinsummerfest.com

Oct 2 Belton Ham Expo Hamfest
<http://www.tarc.org/hamexpo/>

July	Aug.	Austin Meetings/Happenings	
6	3	AARC Meeting Waterloo Ice House*	7:00 p.m.
10	14	Austin QRP, Alvin's Sandwich Shop	11:00 a.m.
20	17	HSMM/Packet SIG at Red Cross	7:00 p.m.
17	21	QCWA IHOP 183 Near Duval	1:00 p.m.
13	10	ATV Club Mtg. Mangia Pizza	7:00 p.m.
27	24	ARES Training -CTECC	6:30 p.m.
26	23	Travis Co. REACT Jim's 183&Burnet	7:15 p.m.
27	24	Travis County A.R.E.S., ARL Aud.	7:00 p.m.
22	26	CERT Meeting CTECC	6:30 p.m.

**AARC Business Meeting is at Waterloo Ice House 8600 Burnet
Come early and grab dinner before the meeting.*

AARCOVER
Austin Amateur Radio Club
PO Box 4739
Austin, TX 78765-4739
July 2010
Return Service Requested