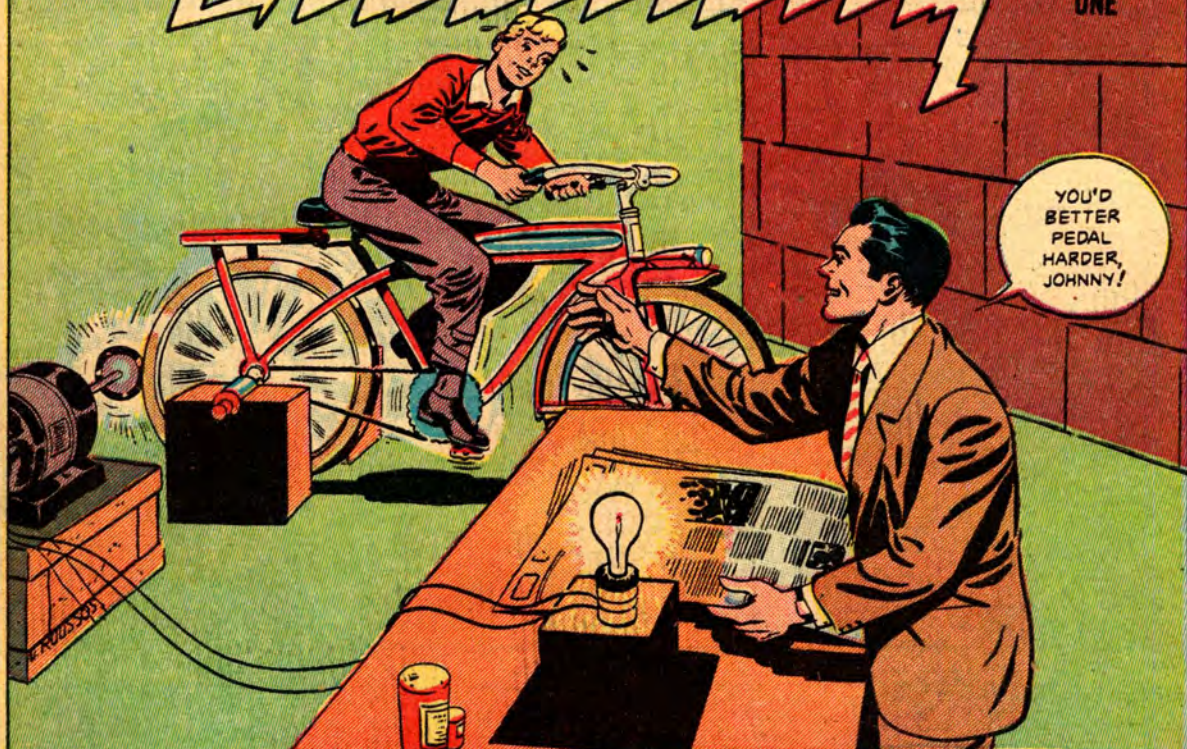


ADVENTURES *in* Electricity

NUMBER
ONE



**ADVENTURE
SERIES**

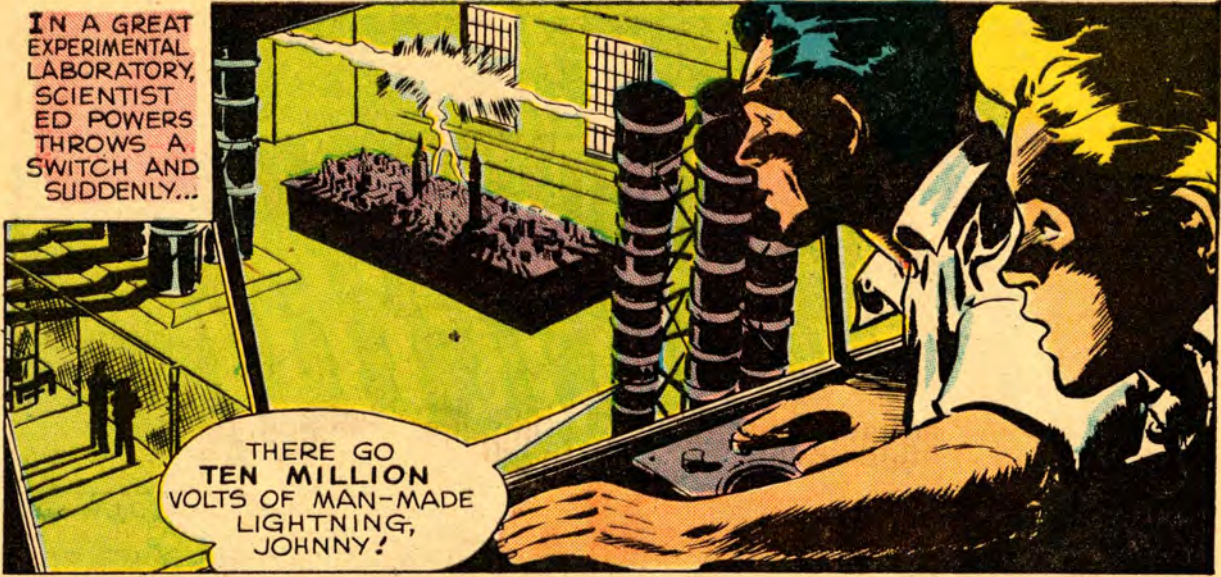
Prepared for
GENERAL ELECTRIC COMPANY
PICTORIAL MEDIA, INC.

SCIENTISTS HAVE LEARNED TO TAP THE STORED ENERGY OF THE SUN... TO FLASH IT THOUSANDS OF MILES IN A FRACTION OF A SECOND... AND TO PERFORM MODERN MIRACLES THAT PUT TO SHAME THE FABLED MAGIC OF THE ARABIAN NIGHTS. WHAT IS THIS STRANGE AND MARVELOUS FORCE? HOW DO WE CONTROL THE MONSTROUS POWER WE UNLOOSE? THE ANSWER'S IN THIS EXCITING TALE OF

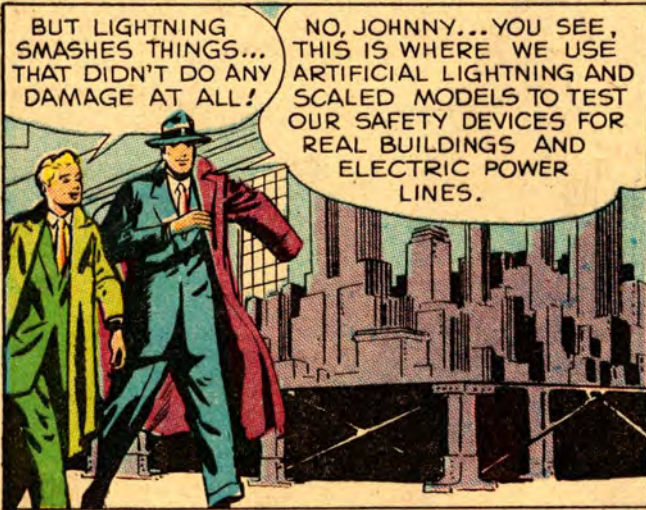
**"HOW MAGIC IS BORN
... AND HOW IT TRAVELS!"**

THE GENERATION OF ELECTRICITY

IN A GREAT EXPERIMENTAL LABORATORY, SCIENTIST ED POWERS THROWS A SWITCH AND SUDDENLY...

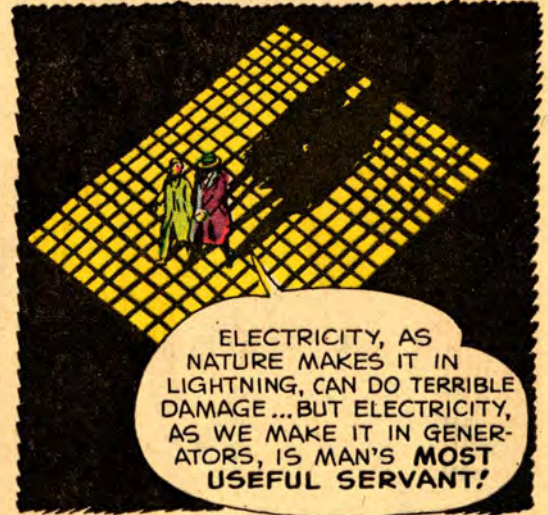


THERE GO TEN MILLION VOLTS OF MAN-MADE LIGHTNING, JOHNNY!



BUT LIGHTNING SMASHES THINGS... THAT DIDN'T DO ANY DAMAGE AT ALL!

NO, JOHNNY... YOU SEE, THIS IS WHERE WE USE ARTIFICIAL LIGHTNING AND SCALED MODELS TO TEST OUR SAFETY DEVICES FOR REAL BUILDINGS AND ELECTRIC POWER LINES.

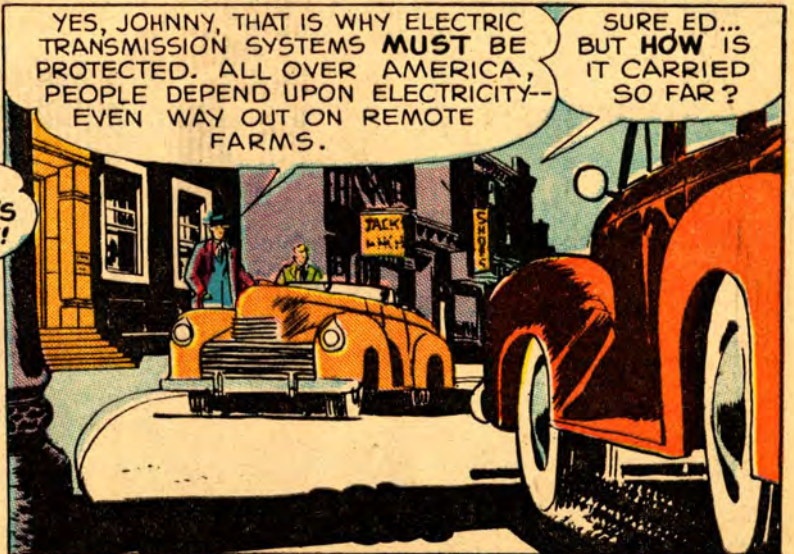


ELECTRICITY, AS NATURE MAKES IT IN LIGHTNING, CAN DO TERRIBLE DAMAGE... BUT ELECTRICITY, AS WE MAKE IT IN GENERATORS, IS MAN'S MOST USEFUL SERVANT!



... MOST USEFUL BECAUSE TRANSMISSION WIRES CARRY TREMENDOUS POWER HUNDREDS OF MILES... DELIVER IT INSTANTLY EXACTLY WHERE YOU NEED IT!

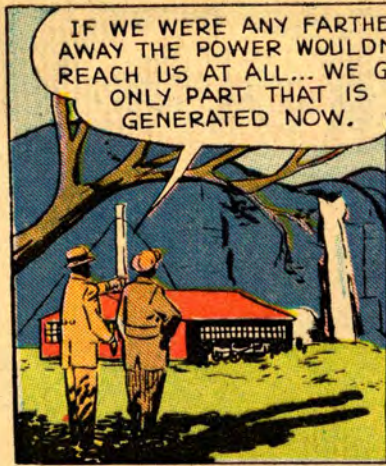
I CAN SEE WHY THAT'S IMPORTANT!



YES, JOHNNY, THAT IS WHY ELECTRIC TRANSMISSION SYSTEMS MUST BE PROTECTED. ALL OVER AMERICA, PEOPLE DEPEND UPON ELECTRICITY-- EVEN WAY OUT ON REMOTE FARMS.

SURE, ED... BUT HOW IS IT CARRIED SO FAR?

"WELL, IT'S THIS WAY... BACK IN 1886, LONG AFTER FARADAY DISCOVERED HOW TO GENERATE ELECTRICITY, WILLIAM STANLEY ESTABLISHED A LOCAL LIGHTING SYSTEM USING THE FIRST COMMERCIALY DEVELOPED TRANSFORMER."

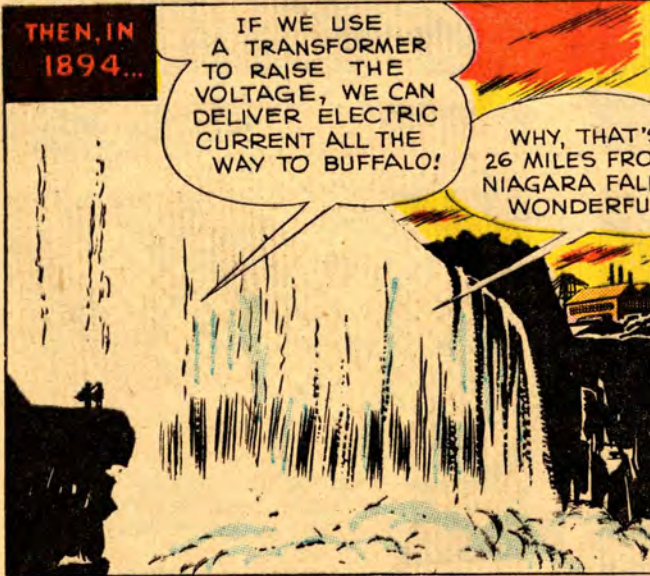


IF WE WERE ANY FARTHER AWAY THE POWER WOULDN'T REACH US AT ALL... WE GET ONLY PART THAT IS GENERATED NOW.



TO GET THESE LIGHTS WE HAD TO BUILD A GENERATING PLANT RIGHT IN THE NEIGHBORHOOD!

"EVEN THEN, IT WAS POSSIBLE TO USE ELECTRICITY ONLY NEAR THE GENERATING PLANT."



THEN, IN 1894...

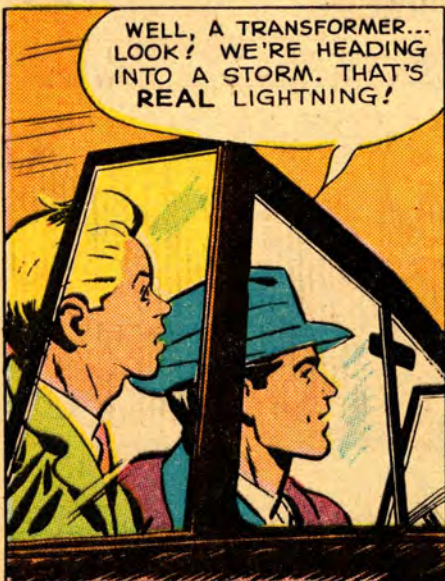
IF WE USE A TRANSFORMER TO RAISE THE VOLTAGE, WE CAN DELIVER ELECTRIC CURRENT ALL THE WAY TO BUFFALO!

WHY, THAT'S 26 MILES FROM NIAGARA FALLS! WONDERFUL!



THAT WAS THE FIRST "LONG DISTANCE" COMMERCIAL POWER LINE. NOW THEY COVER THE COUNTRY... MANY OF THEM HUNDREDS OF MILES LONG. THERE'S ONE UP AHEAD OF US.

OH, SURE... I'VE SEEN LOTS OF THOSE LINES. HEY, YOU MENTIONED A TRANSFORMER ... HOW DOES THAT WORK?



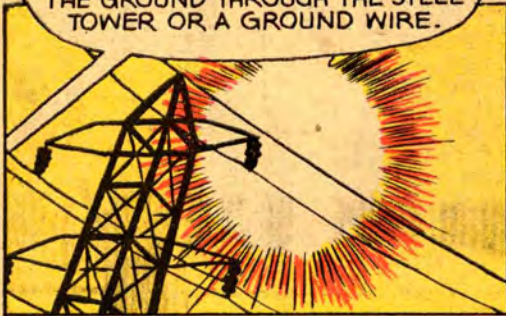
WELL, A TRANSFORMER... LOOK! WE'RE HEADING INTO A STORM. THAT'S REAL LIGHTNING!



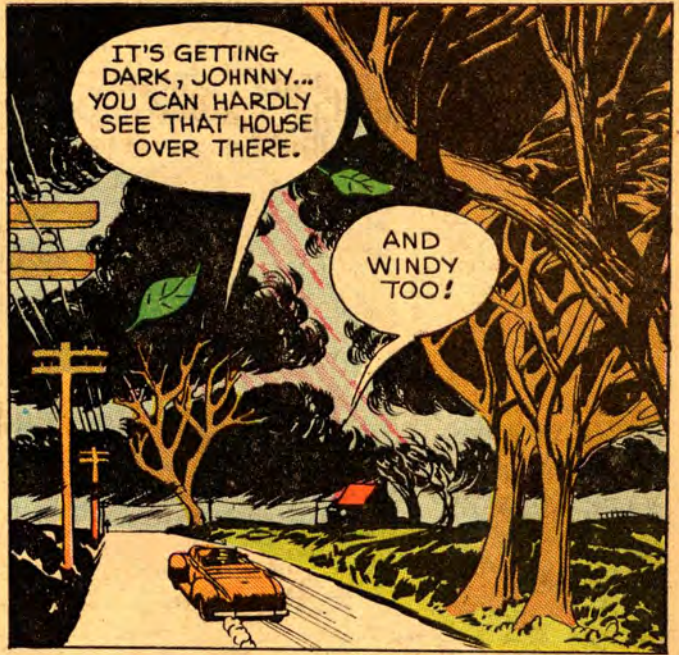
WOW! RIGHT INTO THOSE WIRES!

JUST ONE, JOHNNY... THE TOP WIRE... ONE OF THOSE SAFETY DEVICES I WAS TALKING ABOUT.

LIGHTNING IS ATTRACTED TO THE HIGHEST OBJECT THAT WILL CONDUCT ELECTRICITY... SO WE PROTECT OUR TRANSMISSION LINES BY PUTTING AN EXTRA WIRE ABOVE THEM. THEN, WHEN LIGHTNING STRIKES, IT IS LED HARMLESSLY TO THE GROUND THROUGH THE STEEL TOWER OR A GROUND WIRE.



IN THE NEXT FEW MOMENTS, THE GALE HOWLS WITH GREATER FURY AND SUDDENLY.....



IT'S GETTING DARK, JOHNNY... YOU CAN HARDLY SEE THAT HOUSE OVER THERE.

AND WINDY TOO!



ED, LOOK OUT! THAT TREE...

SCREECH



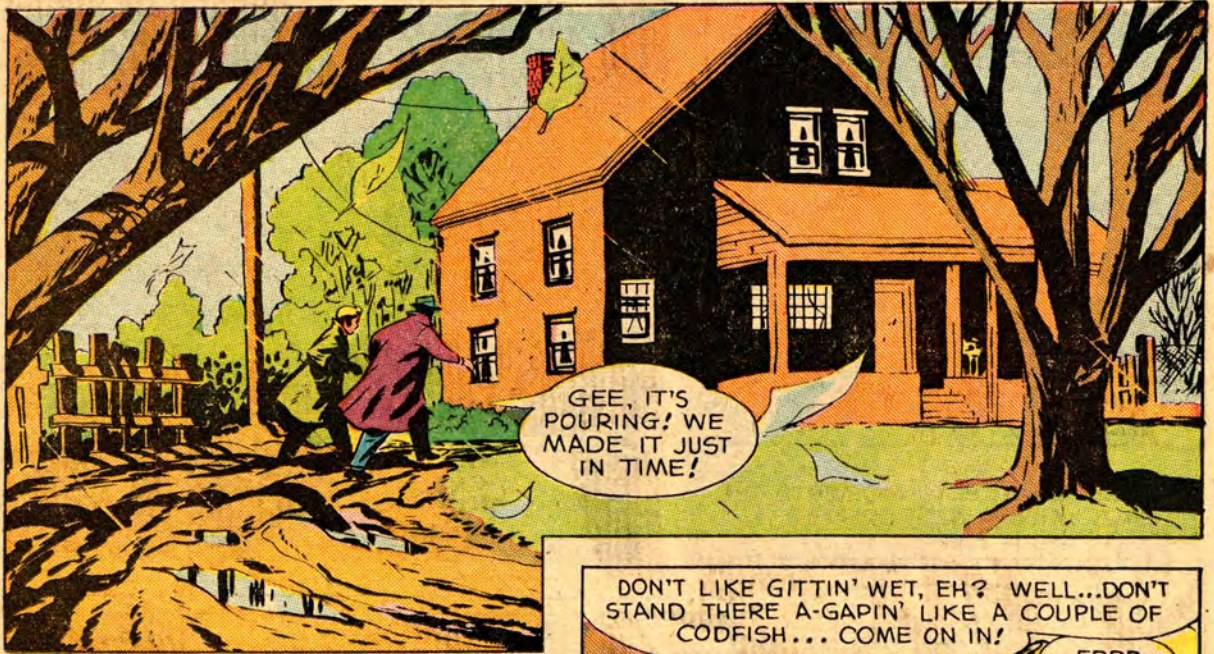
WHEW! THAT WAS CLOSE!

AND HOW!



LET'S HURRY! IT'S STARTING TO RAIN!

WE'D BETTER PUT UP THE TOP AND LEAVE THE CAR HERE... THEN WE'LL FIND SHELTER IN THE HOUSE WE JUST SAW.



GEE, IT'S POURING! WE MADE IT JUST IN TIME!



I HEAR SOMEONE COMING, ED!

KNOCK!



DON'T LIKE GITTIN' WET, EH? WELL...DON'T STAND THERE A-GAPIN' LIKE A COUPLE OF CODFISH... COME ON IN!

ERRR... THANKS!



ELECTRIC LIGHTS JUST BLINKED OUT... FUST TIME IN THUTTY YEARS!

GOSH! YOU'VE LIVED HERE THIRTY YEARS!

NIGH ON SEVENTY! I WAS BORN HERE!



G-GOSH, IT'S LIKE ANCIENT HISTORY-----I MEAN, EXCUSE ME, I MEAN ...SEVENTY YEARS IS A L-LONG T-TIME!

WHAT'S THE MATTER, JOHNNY... CHILLY?



K-KIND OF! AND IT'S SPOOKY IN HERE, TOO! WISH WE HAD AN ELECTRIC HEATER, AND MAYBE A RADIO!

THEY WOULDN'T DO US MUCH GOOD WITHOUT ELECTRICITY!



THAT'S RIGHT... I KEEP FORGETTING, I'M SO USED TO JUST TOUCHING A SWITCH, AND GETTING LIGHT, AND HEAT, AND A GOOD PROGRAM...

YOU'RE SPOILED, YOUNG FELLER!



NO, HE'S JUST USED TO THE CONVENIENCE OF ELECTRICITY... NOTHING WRONG WITH THAT!



UNEXPECTEDLY...

SOMEBODY ELSE CAUGHT IN THE STORM!

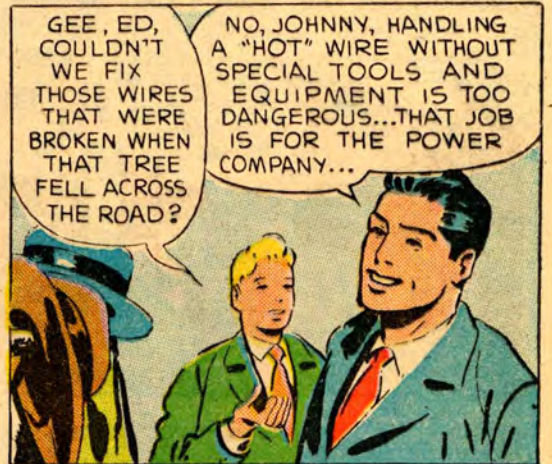
KNOCK KNOCK

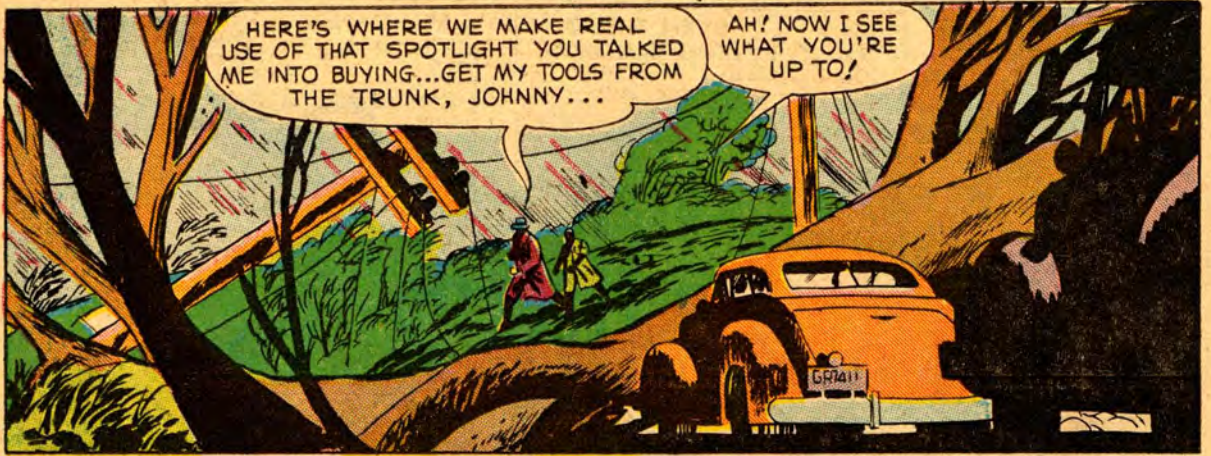
SOUNDS LIKE THEY'RE IN A MIGHTY BIG HURRY, TOO!



JEHOSHAPHAT! THIS PLACE IS GITTING' RIGHT POP'LAR!

WELL, WE DON'T HAVE MUCH CHOICE... THIS MAN NEEDS AN OPERATION AT ONCE!



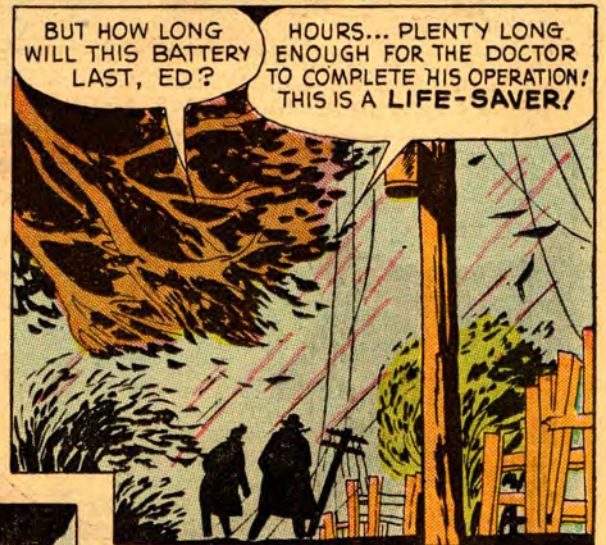


HERE'S WHERE WE MAKE REAL USE OF THAT SPOTLIGHT YOU TALKED ME INTO BUYING...GET MY TOOLS FROM THE TRUNK, JOHNNY...

AH! NOW I SEE WHAT YOU'RE UP TO!



HERE'S THE SPOTLIGHT... NOW TO GET THE BATTERY!



BUT HOW LONG WILL THIS BATTERY LAST, ED?

HOURS... PLENTY LONG ENOUGH FOR THE DOCTOR TO COMPLETE HIS OPERATION! THIS IS A LIFE-SAVER!



WHILE ED AND JOHNNY WORK, THE STORM GATHERS STRENGTH AND FURY EVERY MOMENT. SOME MILES SOUTH...



... RAIN SWOLLEN STREAMS SWEEP OVER THEIR BANKS...

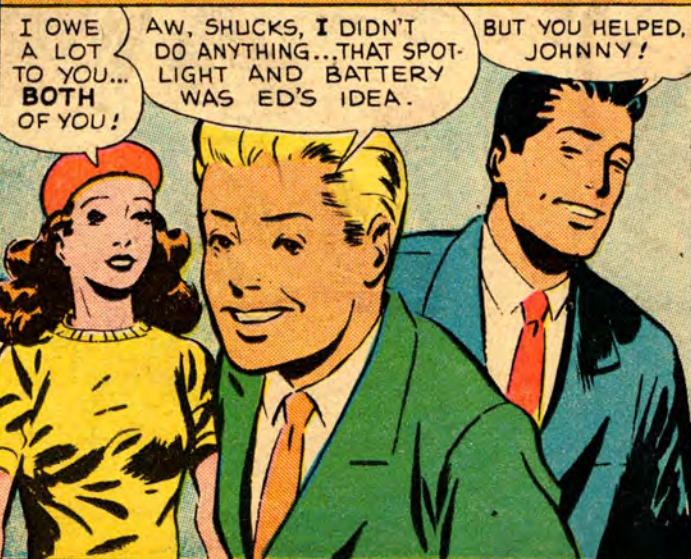
DEPRIVED OF ELECTRICITY, THE ACTIVITY OF A SMALL TOWN ALMOST STOPS!

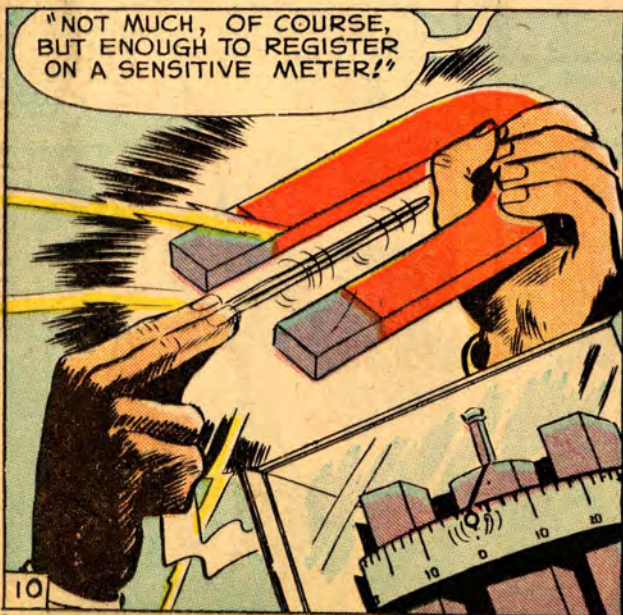
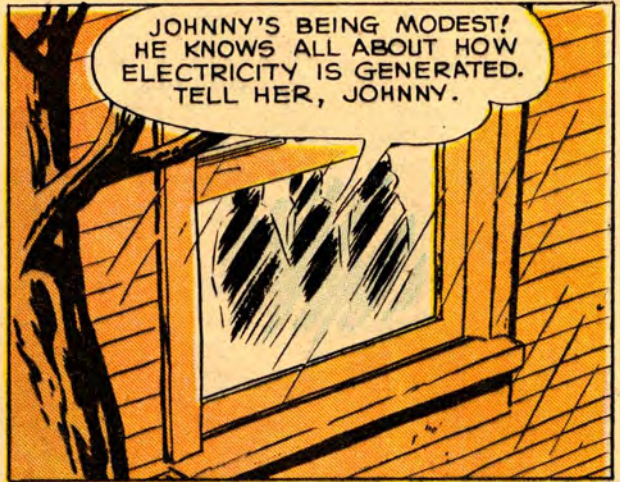


MEANWHILE, UNAWARE OF THE WIDESPREAD DEVASTATION THE STORM IS CAUSING, ED AND JOHNNY CONTINUE THEIR RACE AGAINST TIME ...



AS THEY AWAIT THE OUTCOME OF THE DOCTOR'S FIGHT TO SAVE A LIFE...

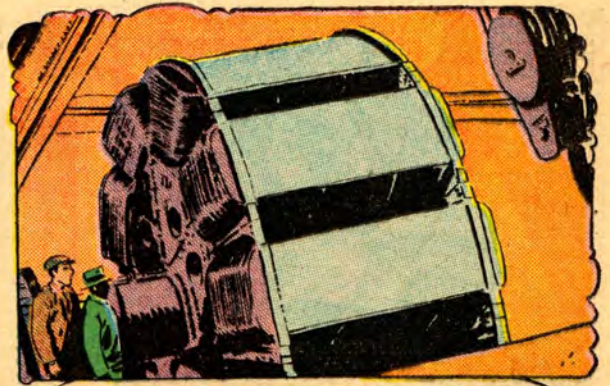




... BUT WHEN A MAGNET IS MOVED NEAR THEM, THE ELECTRONS START HURRYING AWAY IN THE SAME DIRECTION, CREATING AN ELECTRIC CURRENT.



LOOK OUT, FELLOWS... HERE COMES A MAGNET!



"A LARGE GENERATOR, WITH IT'S POWERFUL MAGNETS. CREATES ENOUGH POWER FOR A LARGE CITY."



IT'S AS SIMPLE AS ALL THAT!

MY, IT DOES SOUND SIMPLE WHEN YOU TELL IT... BUT IT'S WONDERFUL, TOO!



SUDDENLY...

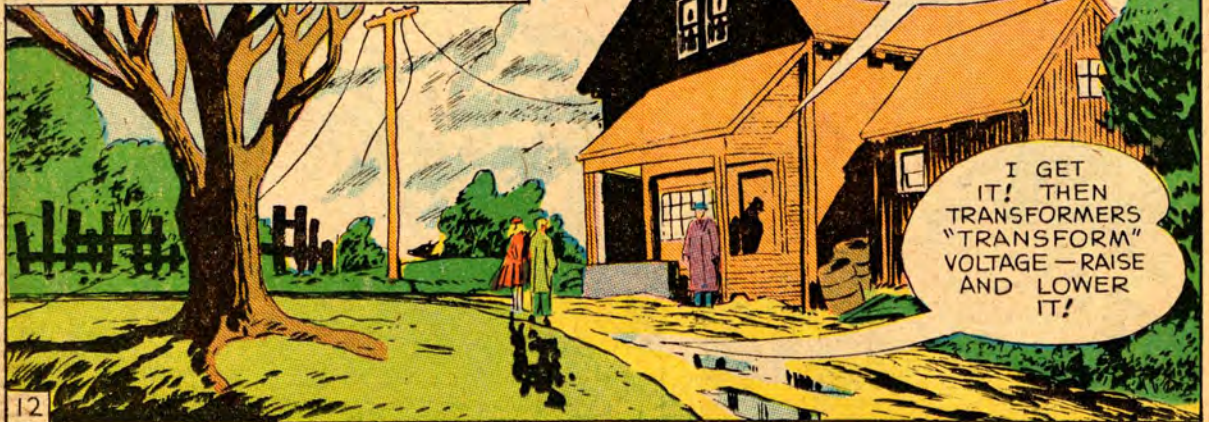
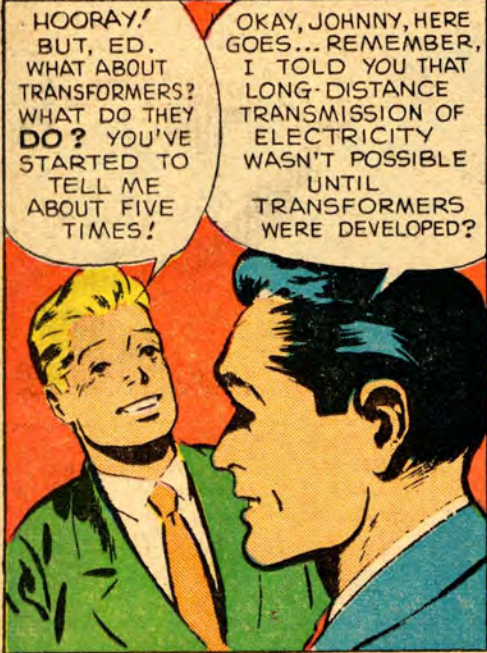
OH... AT LAST!

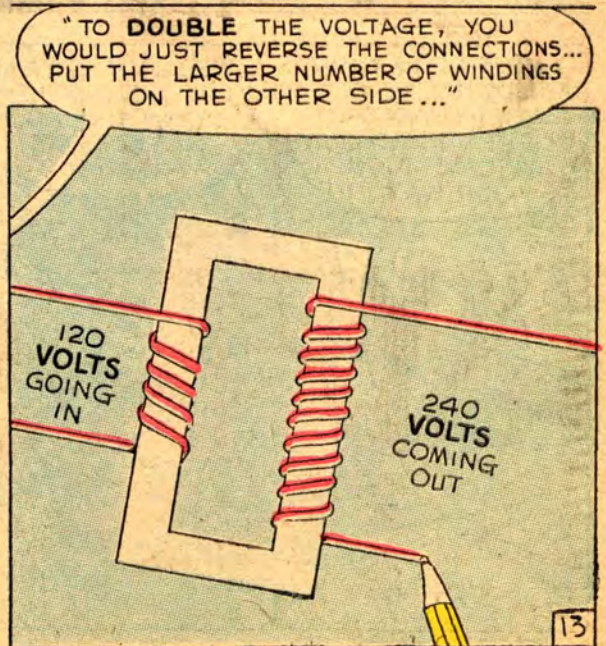
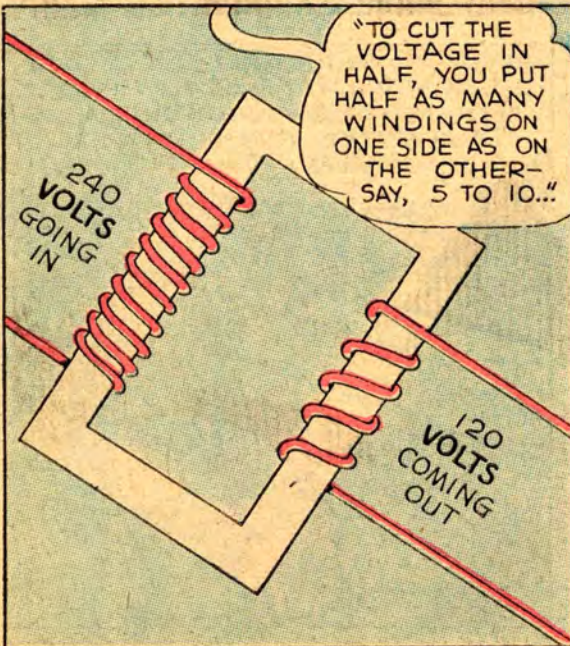
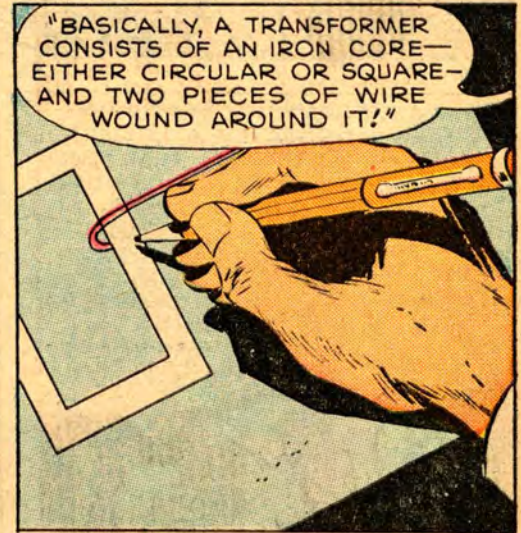
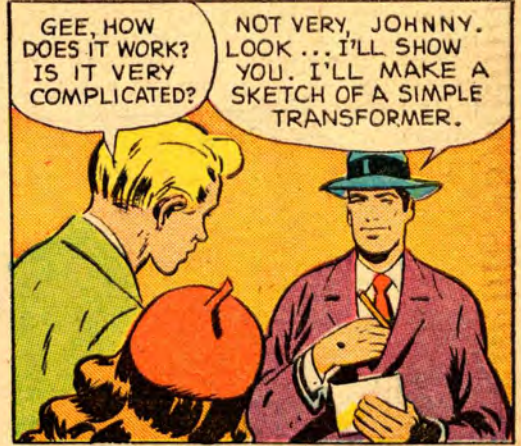


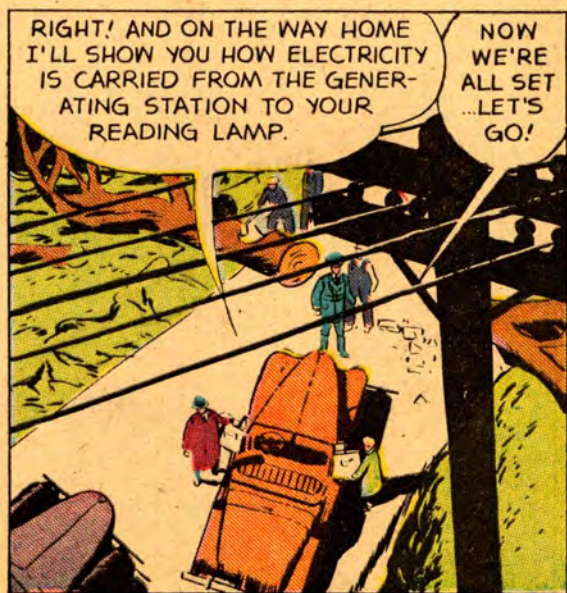
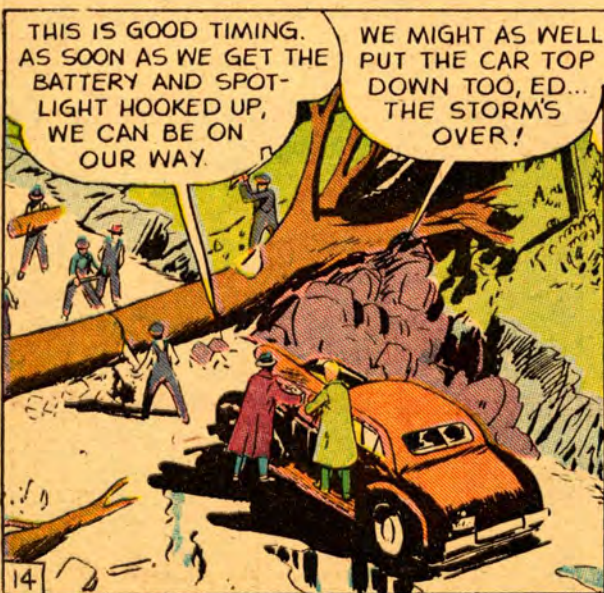
THE OPERATION IS OVER... AND A SUCCESS! ALL WE NEED NOW IS THE REGULAR HOUSE CURRENT TO MAKE ICE IN THE REFRIGERATOR.



SURE ENOUGH, THE POWER COMPANY'S CREWMEN ARE ON THE JOB... REPAIRING THE BROKEN WIRES...

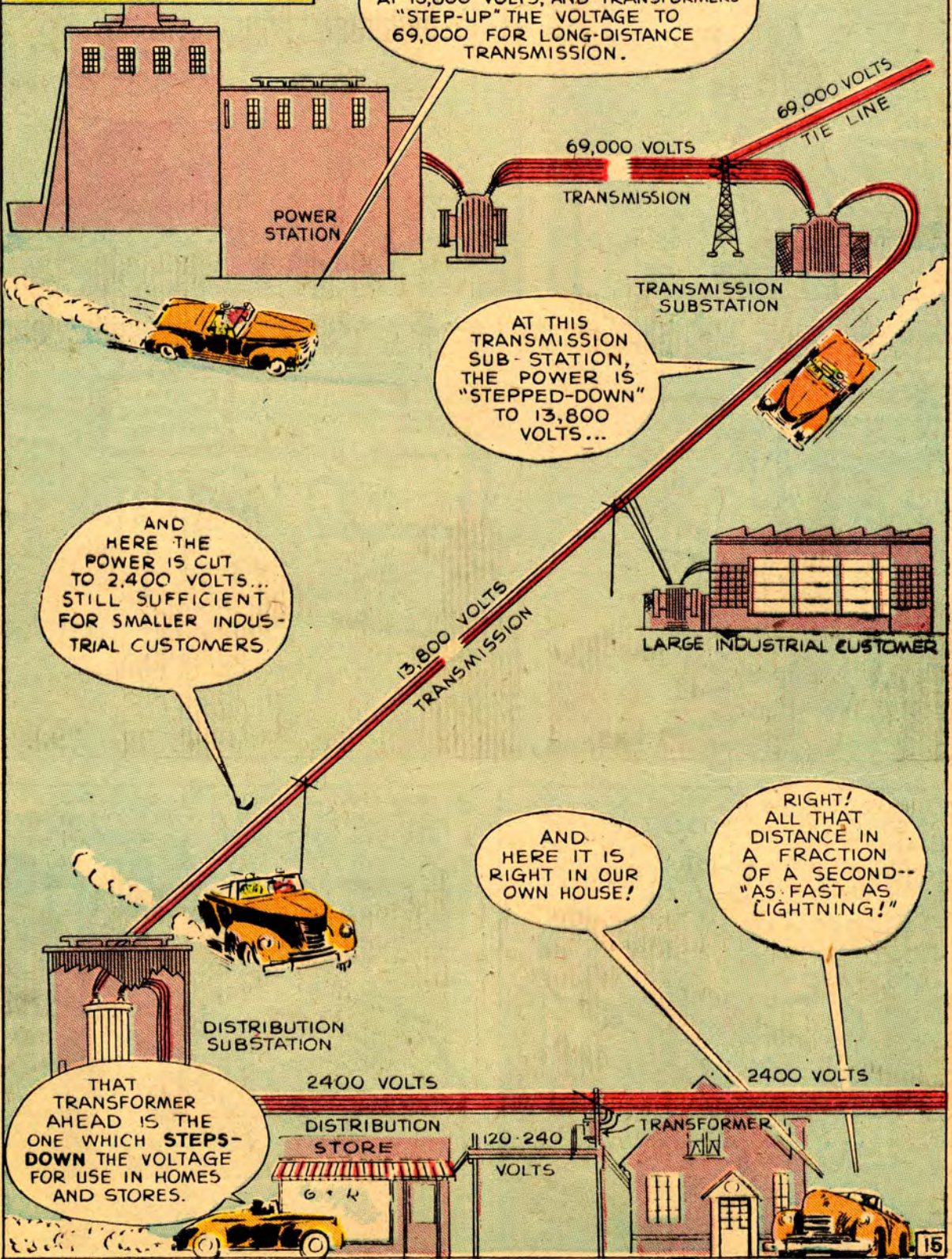






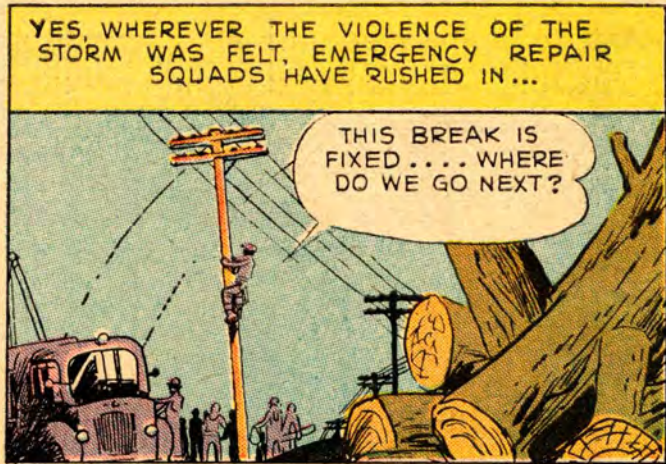
AND SO, AS THEY DRIVE ALONG...

THIS IS A TYPICAL SET-UP. HERE ELECTRICITY IS GENERATED AT 13,800 VOLTS, AND TRANSFORMERS "STEP-UP" THE VOLTAGE TO 69,000 FOR LONG-DISTANCE TRANSMISSION.



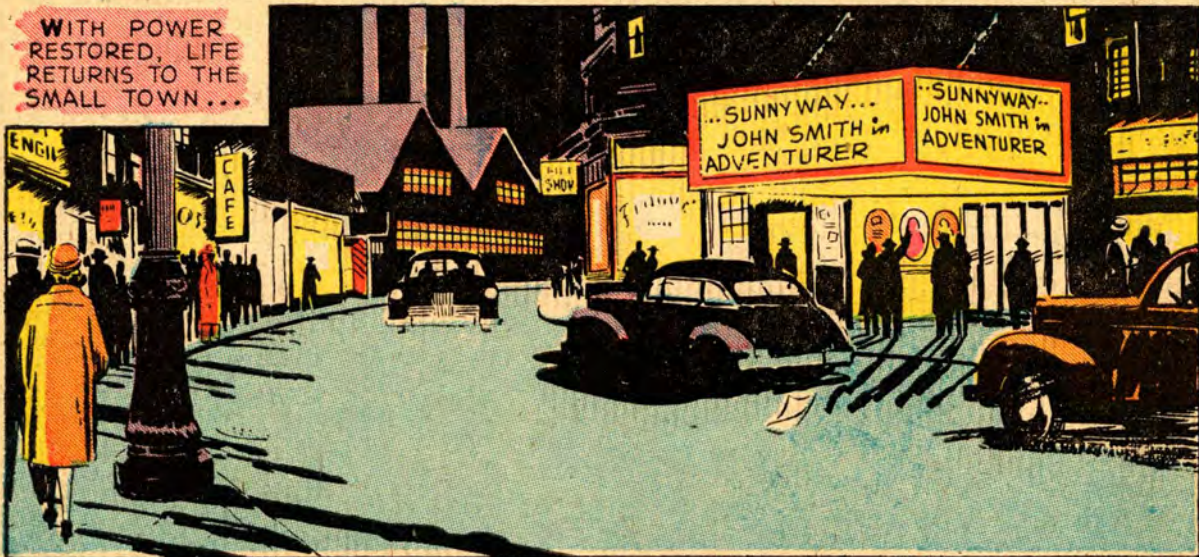


AND THE REPAIR CREW IS ALMOST AS FAST... WHY, I'LL BET THE LINES ARE ALREADY BACK IN OPERATION EVERYWHERE!

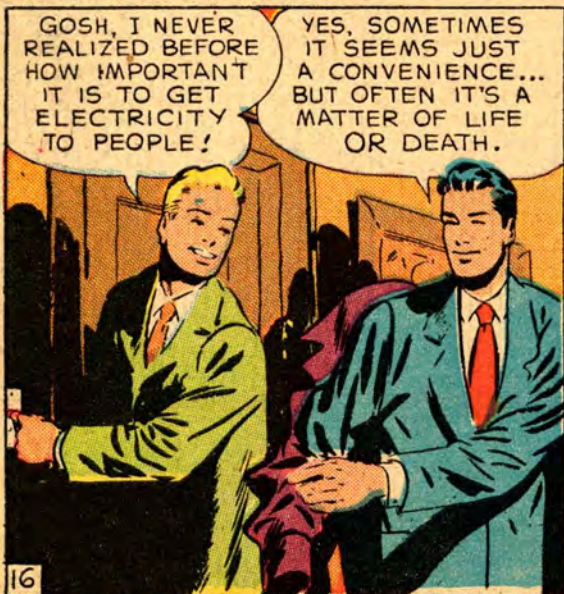


YES, WHEREVER THE VIOLENCE OF THE STORM WAS FELT, EMERGENCY REPAIR SQUADS HAVE RUSHED IN...

THIS BREAK IS FIXED... WHERE DO WE GO NEXT?



WITH POWER RESTORED, LIFE RETURNS TO THE SMALL TOWN...



GOSH, I NEVER REALIZED BEFORE HOW IMPORTANT IT IS TO GET ELECTRICITY TO PEOPLE!

YES, SOMETIMES IT SEEMS JUST A CONVENIENCE... BUT OFTEN IT'S A MATTER OF LIFE OR DEATH.



AND WHAT A LOT OF HARD WORK THERE IS BEHIND SOMETHING THAT LOOKS SO EASY!

ISN'T THAT ALWAYS TRUE, JOHNNY?

GENERAL ELECTRIC
Schenectady, New York