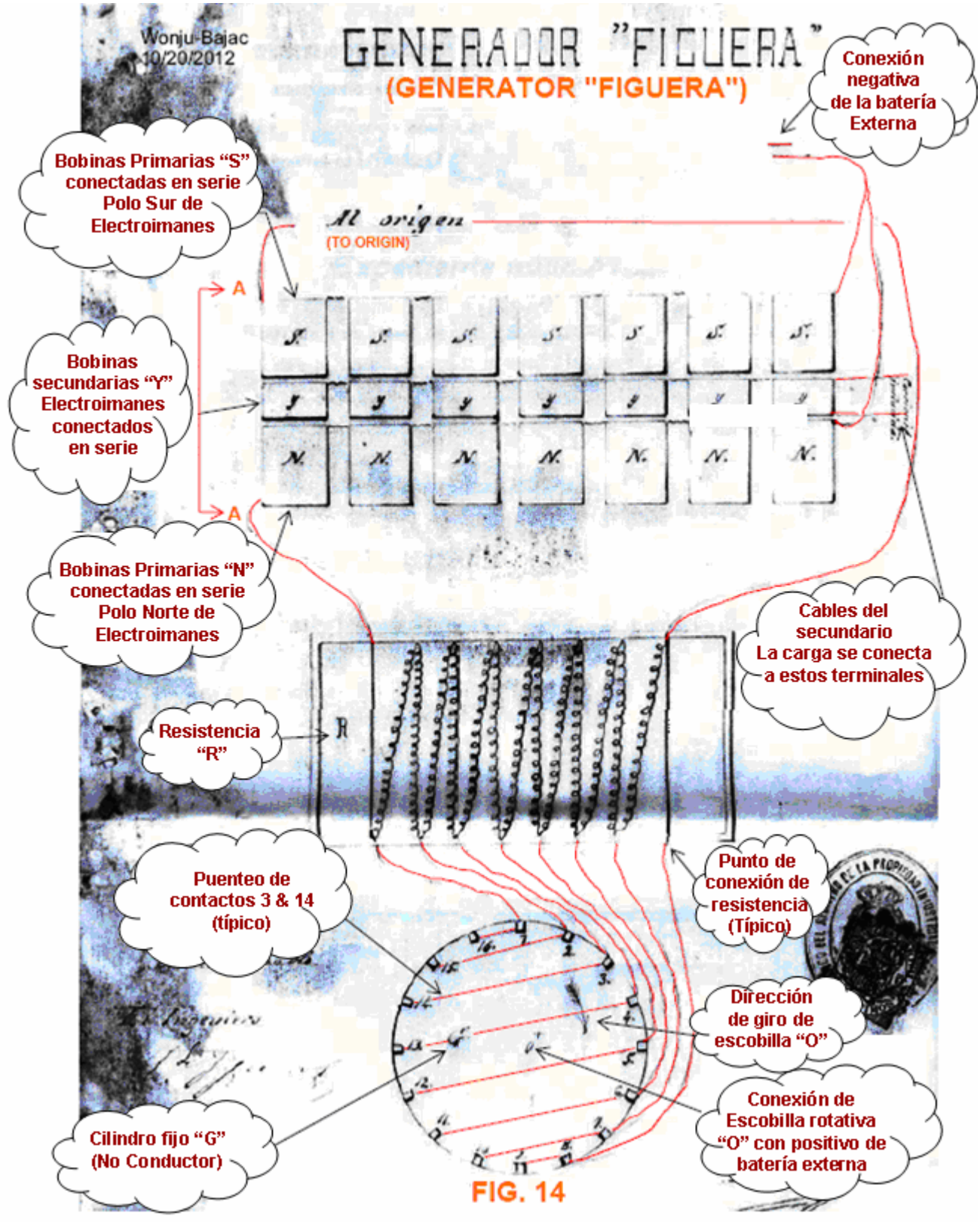
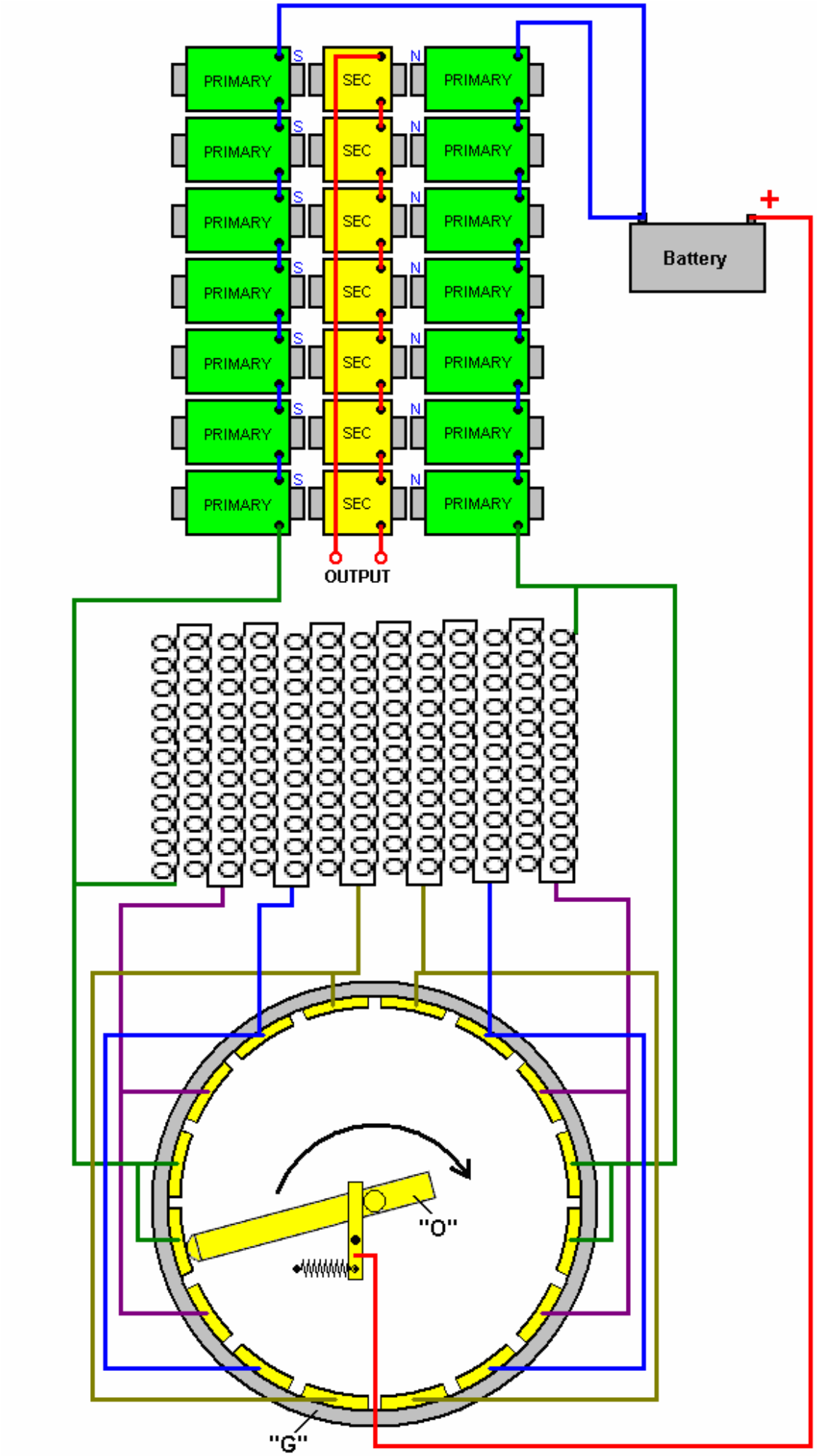
THE GENERATOR OF CLEMENTE FIGUERA

CLEMENTE FUGUERA WAS A HIGHLY RESPECTED MAN, AN ENGINEER AND A UNIVERSITY PROFESSOR. HE DIED IN 1908 JUST AFTER HIS PATENT WAS GRANTED. HIS PATENT FOR A FREE-ENERGY GENERATOR WAS DEGRADED THROUGH "WATER DAMAGE". AN ATTEMPTED RECONSTRUCTION OF HIS DRAWING IS THIS :



THE COLOURING IS PART OF THE "WATER DAMAGE". I UNDERSTAND THIS DIAGRAM TO BE THIS :


PRIMARY
SEC
S
N
Battery
+
OUTPUT
"O"
"G"

IN THIS ARRANGEMENT, A SMALL ELECTRIC MOTOR ROTATES THE CONTACT ARM "O" TO PROVIDE THE SWITCHING SEQUENCE 1, 2, 3, 4, 5, 6, 7, 8, 8, 7, 6, 5, 4, 3, 2, 1 REPEATEDLY. THE SWITCHING ARM IS ARRANGED TO BRIDGE THE GAP BETWEEN ANY TWO ADJACENT CONTACTS.

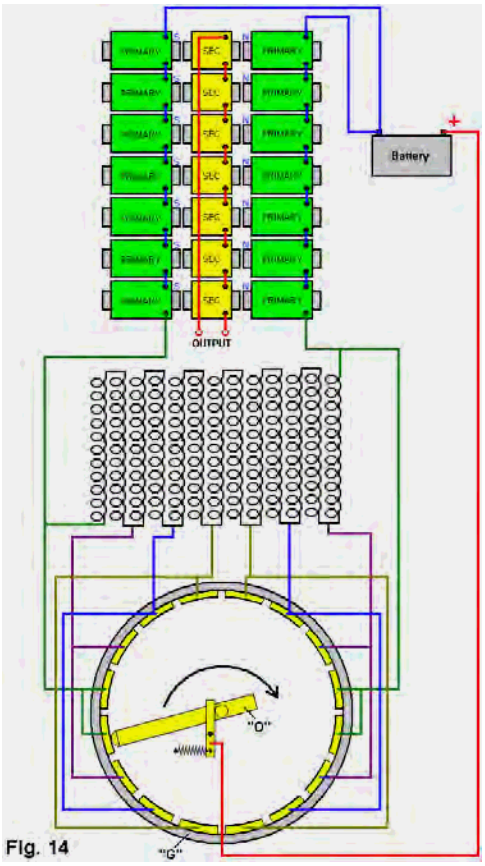


Fig. 14

THE REASON FOR THIS UNUSUAL SWITCHING IS TO PROGRESSIVELY ALTER THE RATIO OF THE CURRENT FLOWING THROUGH THE TWO SETS OF (GREEN) PRIMARY ELECTROMAGNETS. THIS IS A CLEVER DESIGN WHICH AVOIDS THE LENZ'S LAW EFFECT AND BEING A SPLIT TRANSFORMER. THERE IS ALWAYS CURRENT FLOWING THROUGH EVERY PRIMARY ELECTROMAGNET AND THAT CURRENT NEVER CHANGES DIRECTION, NOR IS IT EVER INTERRUPTED, AND SO, THERE IS NEVER ANY BACK-EMF MAGNETIC FIELD TO DEAL WITH.

THE COILS IN THE MIDDLE OF THE DIAGRAM ARE WIRE-WOUND RESISTORS OF HIGH POWER AND THE POSITION OF THE SWITCHING ARM "O" DETERMINES HOW MANY OF THOSE RESISTORS ARE BETWEEN THE BATTERY AND EACH SET OF PRIMARY ELECTROMAGNETS. THAT CAUSES A REPEATING CHANGE IN CURRENT STRENGTH BETWEEN THE TWO SETS OF ELECTROMAGNETS.

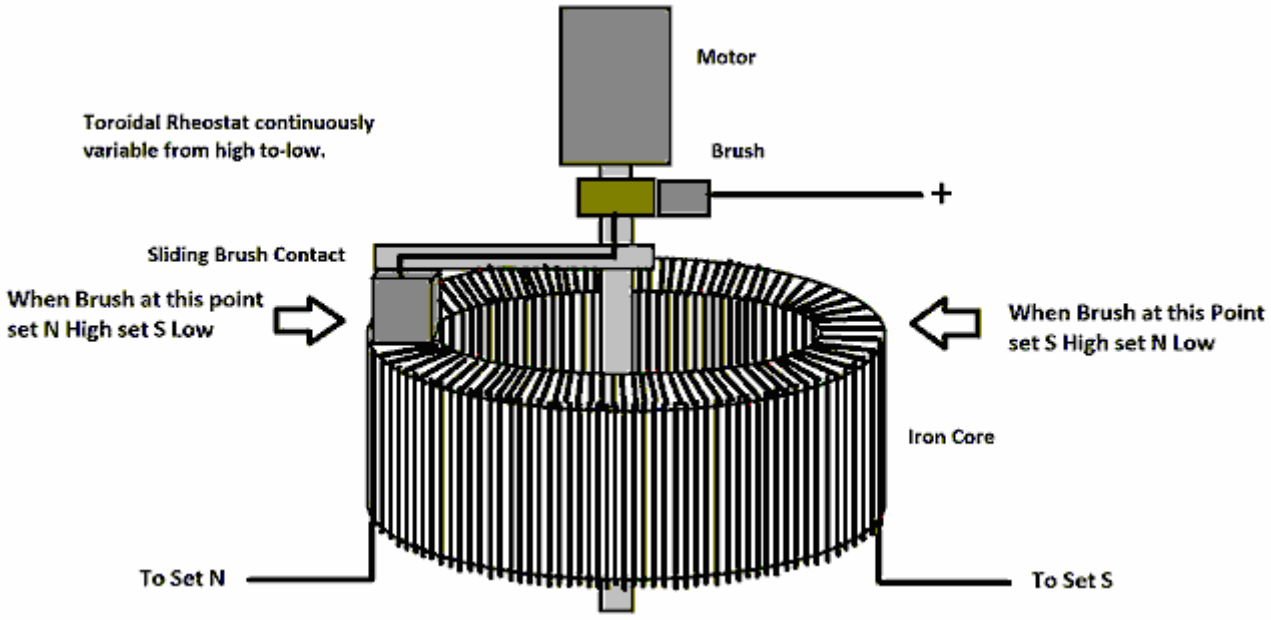
THE PATENT MARKS ONE SET OF ELECTROMAGNETS AS "S" AND THE OTHER SET AS "N" BUT THOSE REFERENCE LETTERS ARE MISLEADING AND DO NOT, REPEAT NOT, REFER TO MAGNETIC POLES. THE MAGNETIC POLES GENERATED WILL HAVE EITHER TWO NORTH POLES FACING EACH OTHER OR TWO SOUTH POLES FACING EACH OTHER. THE CHANGE IN CURRENT STRENGTH CAUSES A VARYING MAGNETIC FIELD IN THE CORE OF THE SECONDARY (YELLOW) ELECTROMAGNETS, AND THAT PRODUCES THE ELECTRICAL OUTPUT FROM THE GENERATOR. THAT OUTPUT WAS 500 VOLTS FOR FIGUERA'S PROTOTYPE.

YOU WILL NOTICE THAT THE PATENT DRAWING SHOWS SEVEN ELECTROMAGNETS IN EACH OF THE TWO CHAIN OF PRIMARY ELECTROMAGNETS. I ASSURE YOU THAT THE PERSON PREPARING THE PATENT DID NOT LOVE DRAWING SO MUCH THAT HE JUST HAD TO DRAW FOURTEEN ELECTROMAGNETS INSTEAD OF JUST TWO. NO, THERE IS A REASON THAT THERE ARE TWO SETS OF SEVEN. PERHAPS THIS IS JUST A WAY TO RAISE THE OUTPUT VOLTAGE AND OUTPUT POWER – YOU TELL ME.

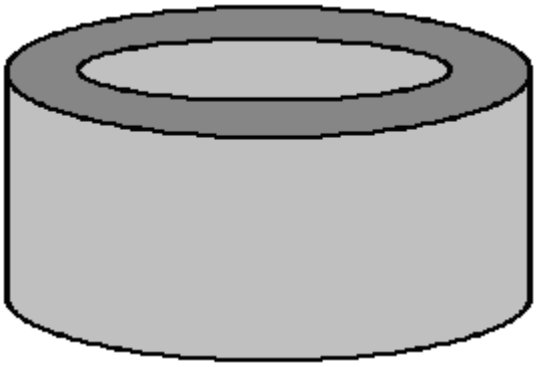
IN 1908, ELECTRONIC COMPONENTS WERE NOT READILY AVAILABLE LIKE THEY ARE TODAY. THEREFORE, IT IS NOW POSSIBLE TO USE AN ELECTRONIC CIRCUIT INSTEAD OF A MOTOR AND WIPER ARM. HOWEVER, THAT CHANGES THE QUALITY OF THE SWITCHING AND IT IS NOT AT ALL CLEAR WHAT EFFECT THAT MIGHT HAVE. BUT IT NEEDS TO BE STRESSED THAT THE COMMUTATOR

SHOWN IN THE PATENT IS ONLY FOR EXPLANATION PURPOSES AND SO DOES NOT ACTUALLY FORM PART OF THE DESIGN, AND INDEED, MAY HAVE BEEN INCLUDED AS DELIBERATE MISDIRECTION.

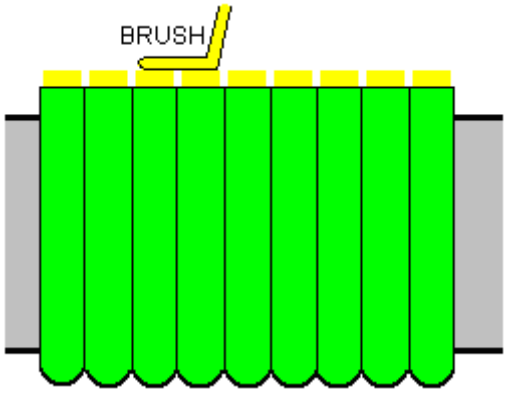
HOWEVER, IF WE DO INCLUDE THE COMMUTATOR, THE DESCRIPTION SHOULD HOLD AND SO THE GENERATOR SHOULD PERFORM AS DESCRIBED. IT HAS BEEN SUGGESTED THAT SWITCHING COULD BE PERFORMED LIKE THIS :



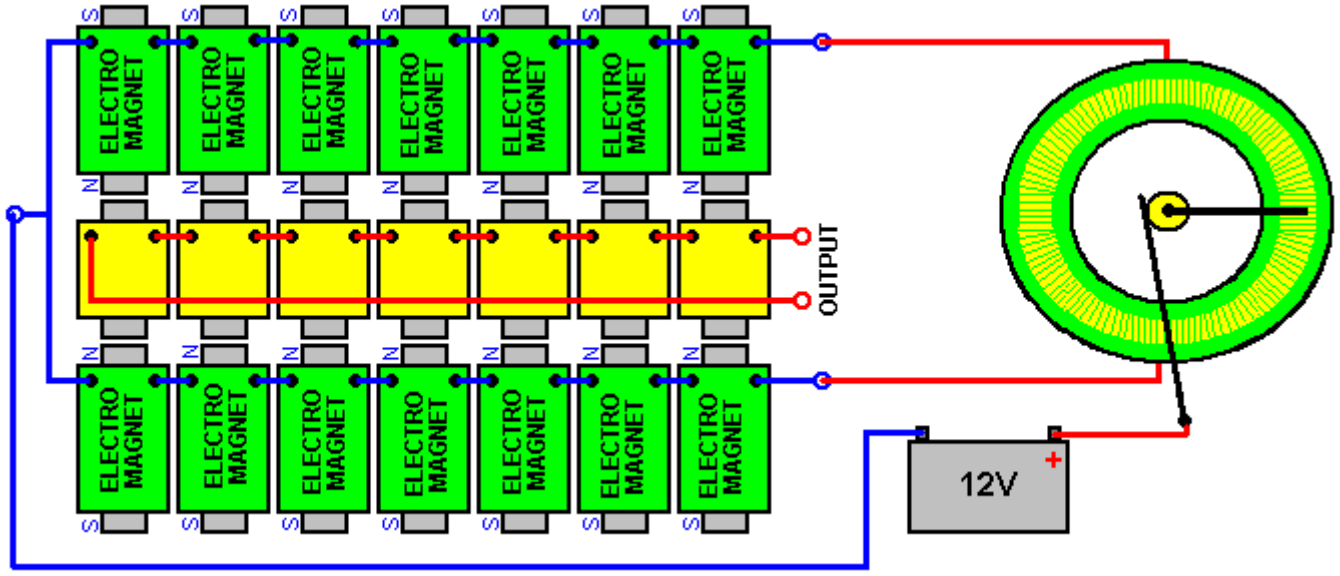
THIS IS A CONTINUOUSLY SWITCHING REHOSTAT WOUND ON AN IRON CORE :



THIS CORE IS WOUND WITH THICK WIRE – PERHAPS AWG#10 OR 12 SWG (2.3 x 2.3mm SQUARE WIRE). THE TURNS OF WIRE SHOULD BE TIGHT,TOUCHING SIDE-BY-SIDE AND SITTING FLAT ACROSS THE TOP. THE INSULATION IS REMOVED FROM THE TOP STRIP SO THAT TWO TURNS CAN BE CONTACTED BY A SLIDING BRUSH :

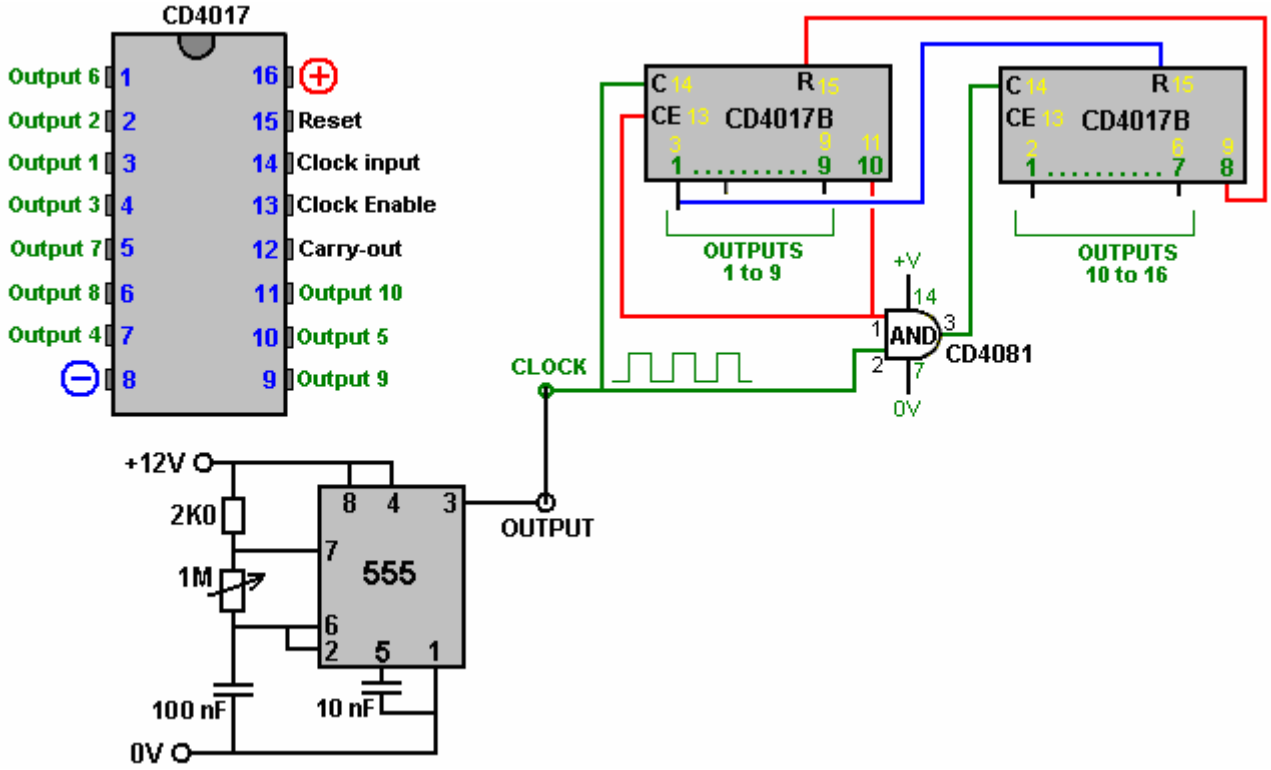


WITH THIS SYSTEM, THE OVERALL ARRANGEMENT IS LIKE THIS :



WHILE THE ABOVE SKETCH SHOWS A 12-VOLT BATTERY, THER IS NO REASON WHY THE BATTERY SHOULD NOT BE 24-VOLT OR 48-VOLT, ESPECIALLY IF THE WIRE USED TO WIND THE ELECTROMAGNETS IS SMALLER DIAMETER. THE STRENGTH OF THE MAGNETIC FIELD PRODUCED BY AN ELECTROMAGNET IS NOT RELATED TO THE AMOUNT OF POWER FED TO THE ELECTROMAGNET – A LARGER NUMBER OF TURNS OF THINNER WIRE WITH A SMALL CURRENT FLOWING THROUGH THE WIRE CAN CREATE A STRONGER MAGNETIC FIELD THAN A FEW TURNS OF THICK WIRE WITH A LARGE CURRENT FLOWING THROUGH THOSE TURNS.

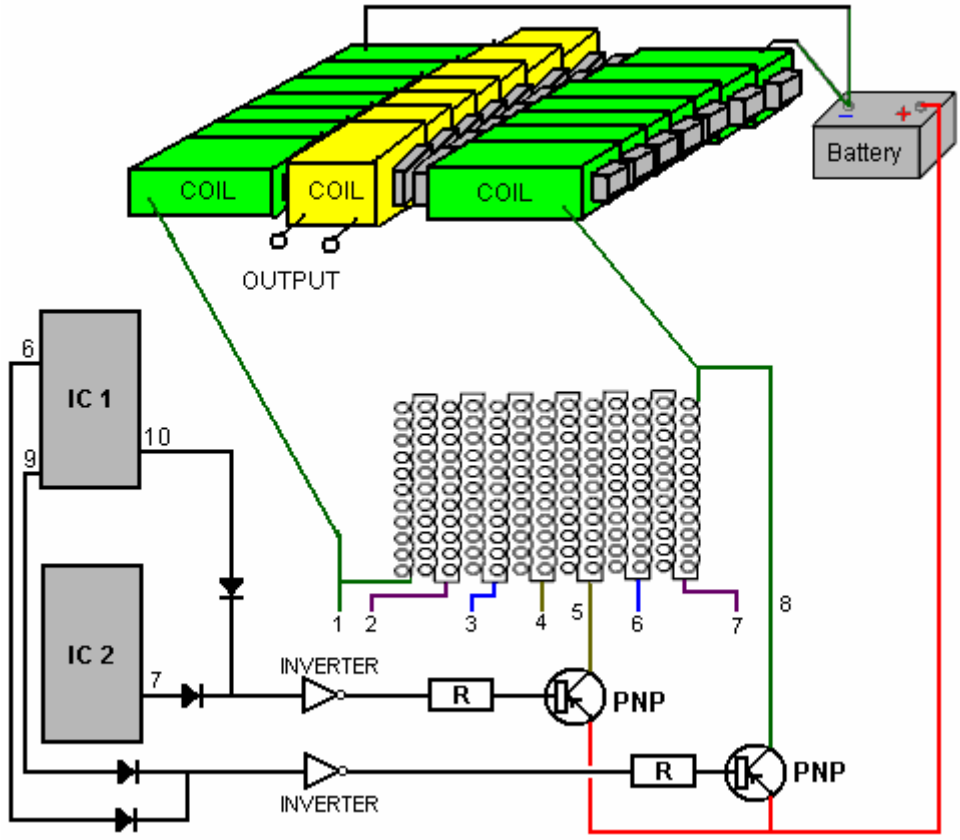
IT IS PERFECTLY POSSIBLE TO PRODUCE THE SAME SWITCHING USING SEMICONDUCTORS. IN SPITE OF THE WIRE-WOUND RESISTOR BANK HAVING ONLY EIGHT CONNECTION POINTS, THE SWITCHING HAS TO HAVE SIXTEEN OUTPUTS DUE TO THE BACKWARDS AND FORWARDS SWITCHING SEQUENCE WHICH IS USED. A SOLID-STATE 16-WAY SWITCHING MODULE CAN BE CONSTRUCTED FROM TWO CD4017 DIVIDE-BY-TEN INTEGRATED CIRCUITS LIKE THIS :



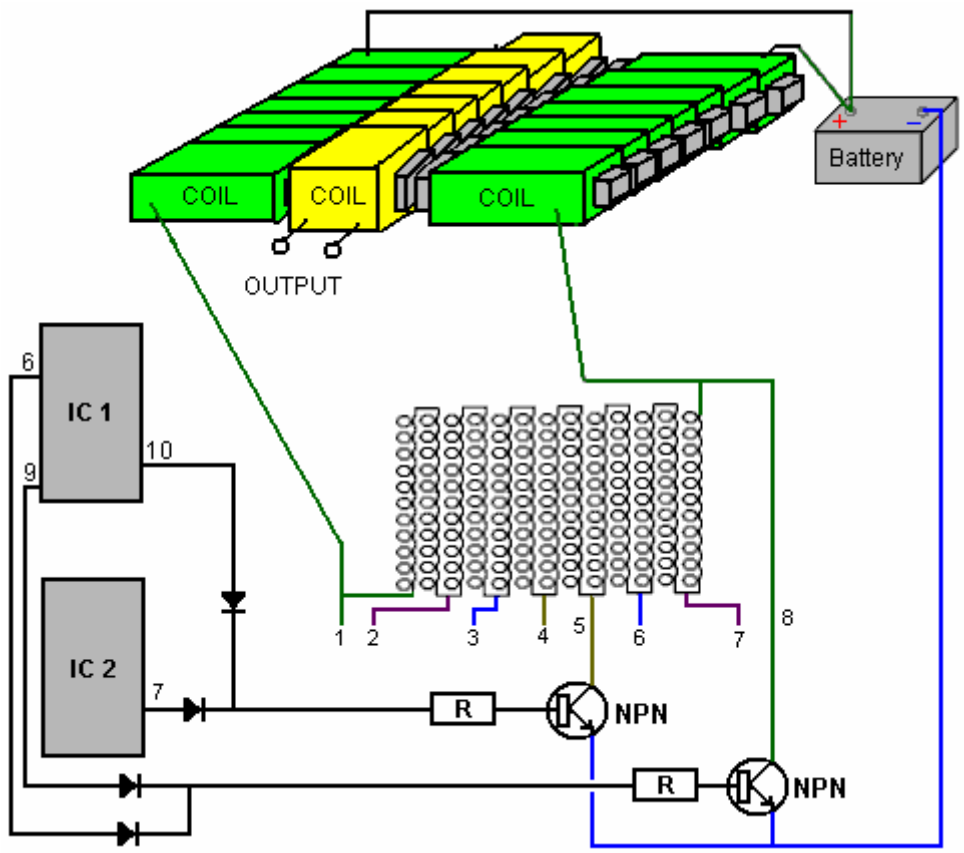
THIS ARRANGEMENT GIVES SIXTEEN OUTPUTS IN SEQUENCE, SO TWO OUTPUTS NEED TO BE CONNECTED TOGETHER IN ORDER TO MATCH THE MECHANICAL SWITCHING WHICH CLEMENTE SHOWED. I AM RELUCTANT TO CONNECT TWO OUTPUTS DIRECTLY TOGETHER AND SO AN ISOLATION DIODE (PERHAPS 1N4148) WOULD BE REQUIRED ON EACH OUTPUT.

Output Number	Chip and Pin Nos	Paired with Output	Resistor Connection Point
1	Chip 1 Pin 3	16 (Chip 2 pin 6)	1
2	Chip 1 Pin 2	15 (Chip 2 pin5)	2
3	Chip 1 Pin 4	14 (Chip 2 pin1)	3
4	Chip 1 Pin 7	13 (Chip 2 pin 10)	4
5	Chip 1 Pin 10	12 (Chip 2 pin7)	5
6	Chip 1 Pin 1	11 (Chip 2 pin 4)	6
7	Chip 1 Pin 5	10 (Chip 2 pin 2)	7
8	Chip 1 Pin 6	9 (Chip 1 pin 9)	8
9	Chip 1 Pin 9		
10	Chip 2 Pin 2		
11	Chip 2 Pin 4		
12	Chip 2 Pin 7		
13	Chip 2 Pin 10		
14	Chip 2 Pin 1		
15	Chip 2 Pin 5		
16	Chip 2 Pin 6		

EIGHT POWER TRANSISTORS CAN BE USED TO ENERGISE EACH RESISTOR CONECTION POINT IN THE SEQUENCE REQUIRED. AS MECHANICAL SWITCHING WAS USED BY CLEMENTE, IT DID NOT MATTER WHICH WAY ROUND THE BATTERY WAS CONNECTED. WE CAN MATCH THE SWITCHING EXACTLY BY USING PNP POWER TRANSISTORS OR P-CHANNEL FETs. THAT WOULD BE LIKE THIS :

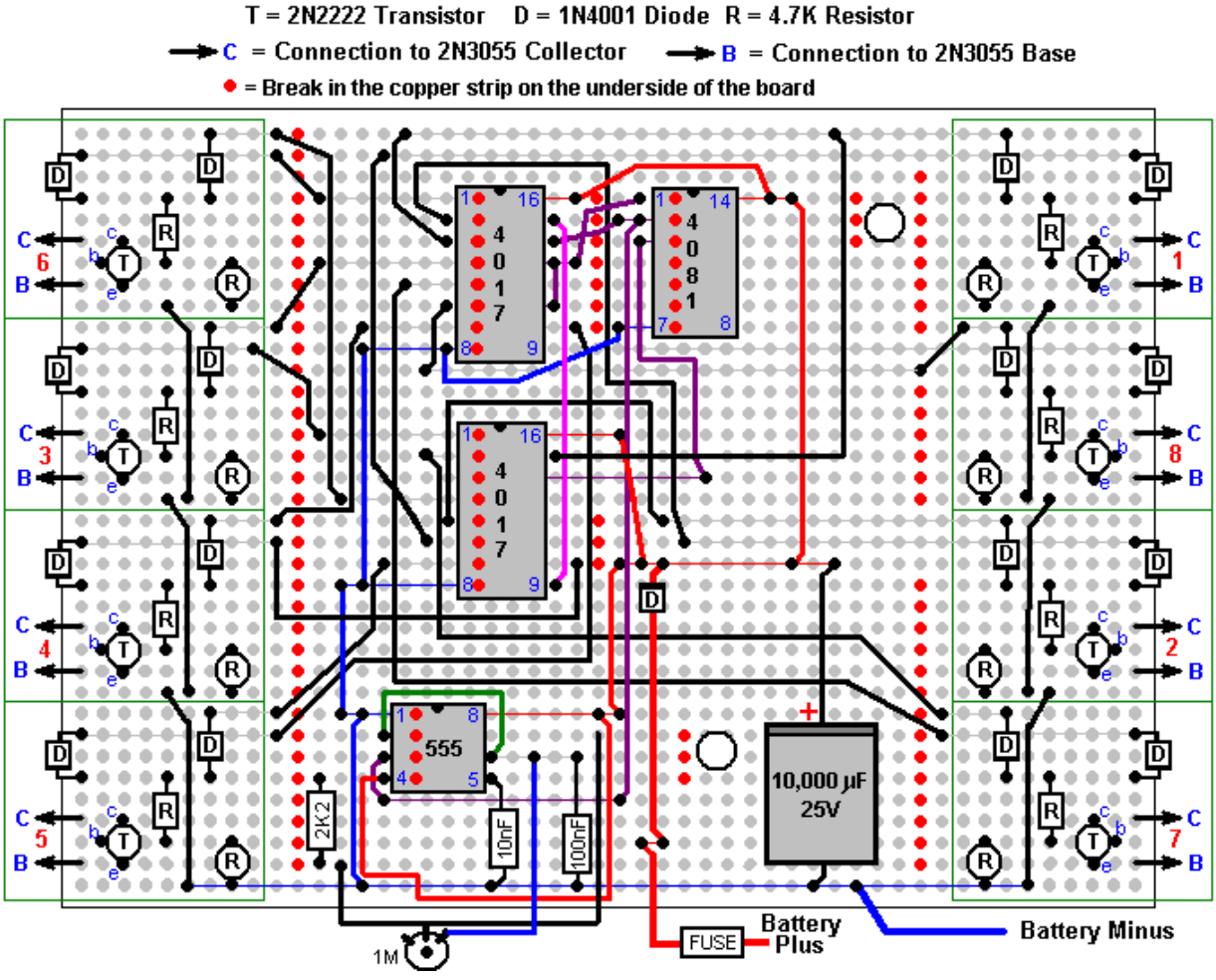


OR THE BATTERY CAN BE REVERSED FOR THE EASIER NPN OPTION :

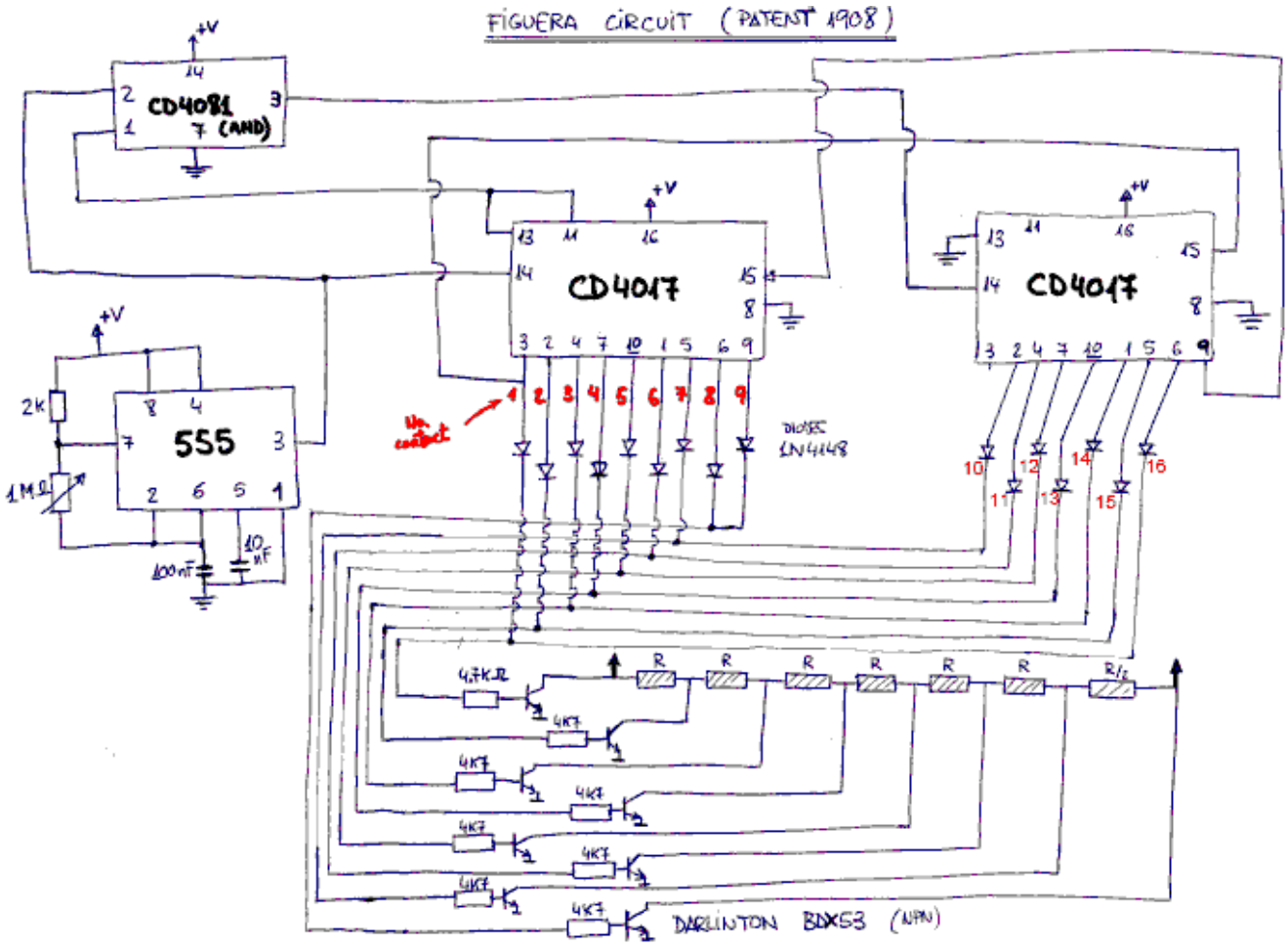


HERE IS A POSSIBLE PHYSICAL LAYOUT :

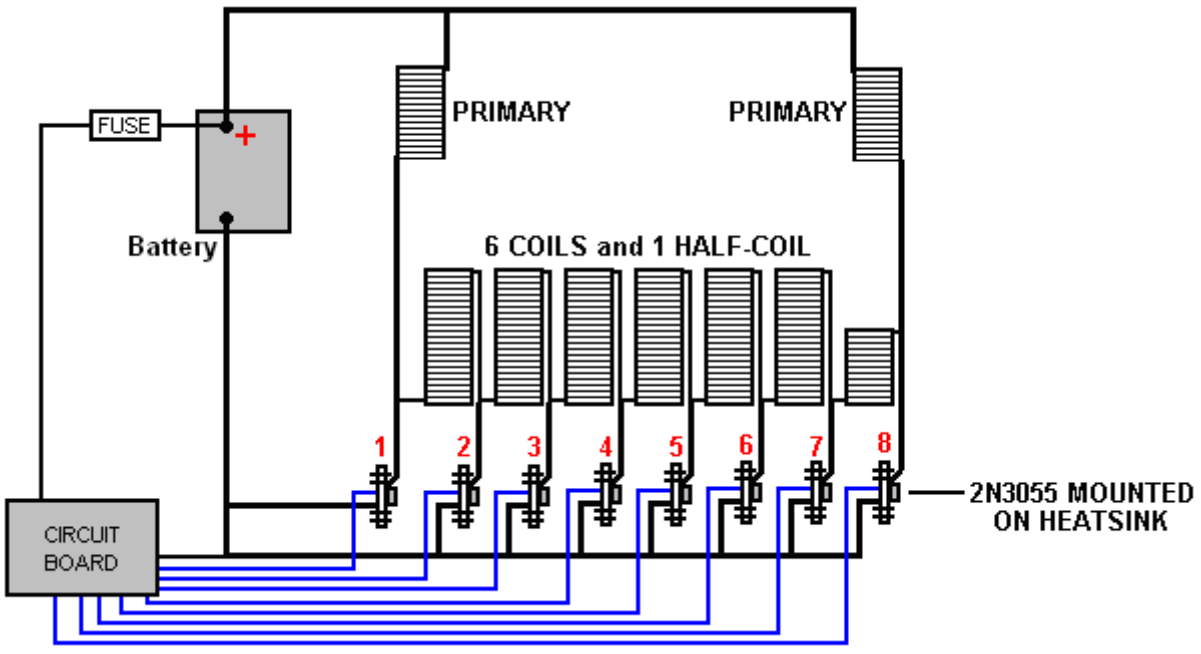
:

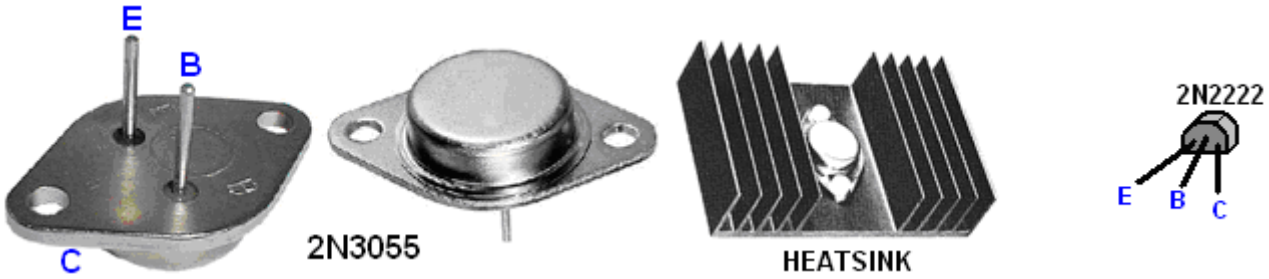


A CONTRIBUTOR WHO WISHES TO REMAIN ANONYMOUS DOES NOT LIKE THE CIRCUIT ARRANGEMENT SHOWN ABOVE AND HE PREFERS THE FOLLOWING CIRCUIT WHICH HE HAS BUILT AND TESTED :



COMMENT : THE BDX53 TRANSISTOR IN THIS CIRCUIT IS NOT AVAILABLE EVERYWHERE AROUND THE WORLD (ALTHOUGH THE TIP 132 TRANSISTOR MAY BE AVAILABLE) AND IF SUPPLYS ARE DIFFICULT IN YOUR AREA THEN THE 2N2222 AND THE 2N3055 (OR TIP 3055) AS SHOWN ORIGINALLY WILL WORK JUST THE SAME.





EXPERIENCED EXPERIMENTER "WOOPY" HAS POSTED A VIDEO OF A QUICK EXPERIMENT TO TEST THE WORKING PRINCIPLE OF THIS FIGUERA DESIGN. HIS VIDEO IS AT : http://www.youtube.com/watch?v=HlOGEnKpO-w&feature=g-u-u AND IN IT HE SHORT-CIRCUITS THE SECONDARY WINDING, SHOWING THAT THE INPUT POWER IS TOTALLY UNAFFECTED BY THE CURRENT DRAW FROM THE SECONDARY.

IT IS REPORTED THAT CLEMENTE FIGUERA RAN A 20-HORSEPOWER MOTOR WITH HIS PROTOTYPE AND THAT IS 15 KIOLWATTS IF THE MOTOR WAS FULLY LOADED – EASILY ENOUGH TO POWER A HOUSEHOLD.

PLEASE NOTE THAT THE CORES OF THE ELECTROMAGNETS ARE NOT LAMINATED BUT INSTEAD ARE SOLID IRON. IN 2012, A CONTRIBUTER WHOSE ID IS "WONJU-BAJAC" STARTED A FORUM :
http://www.overunity.com/12794/re-inventing-the-wheel-part1-clemente_figuera-the-infinite-energy-achine/#.UXu9gzcQHqU
TO INVESTIGATE AND DEVELOP FIGUERA'S DESIGNS. MEMBER "HANLON 1492" HAS CONTRIBUTED ENORMOUSLY BY PRODUCING ENGLISH TRANSLATIONS OF FIGUERA'S PATENTS.

NOTES : http://www.free-energy-info.com/Figuera.pdf

VIDEO : https://youtu.be/notgCACOQr4