

AN INTRODUCTION TO STATIC GRASS

*The Eighth Wonder of
the World*

- *This is me:*
 - *Mike Hauk*
 - *Div. 12 MCR*
 - *ExNavyDoc@hotmail.com*

- GOALS:
- *Demystify*
 - *Familiarize*
 - *Philosophize (?)*

Turn this:

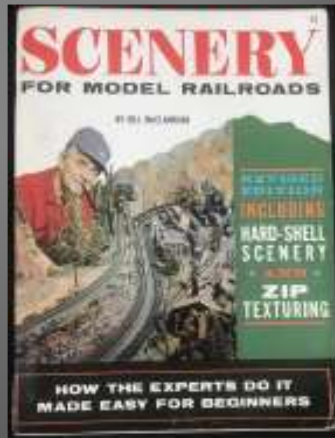


Into this:



REMEMBER
THIS?

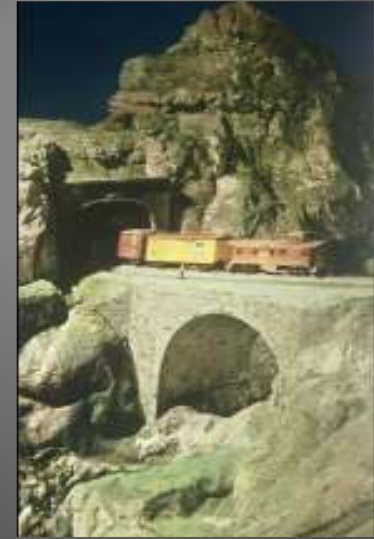
ZIP-TEXTURING W/
SAWDUST GRASS
AND COLORED
TEMPERA PAINT



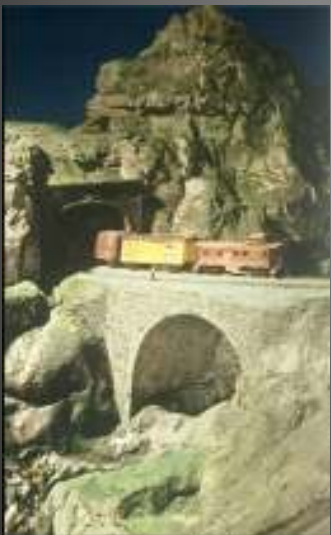
REMEMBER
THIS?

ZIP-TEXTURING W/
SAWDUST GRASS
AND COLORED
TEMPERA PAINT

1970's



VS NOW:



STATIC
ELECTRICITY
KNOWN SINCE
THE MIDDLE
AGES

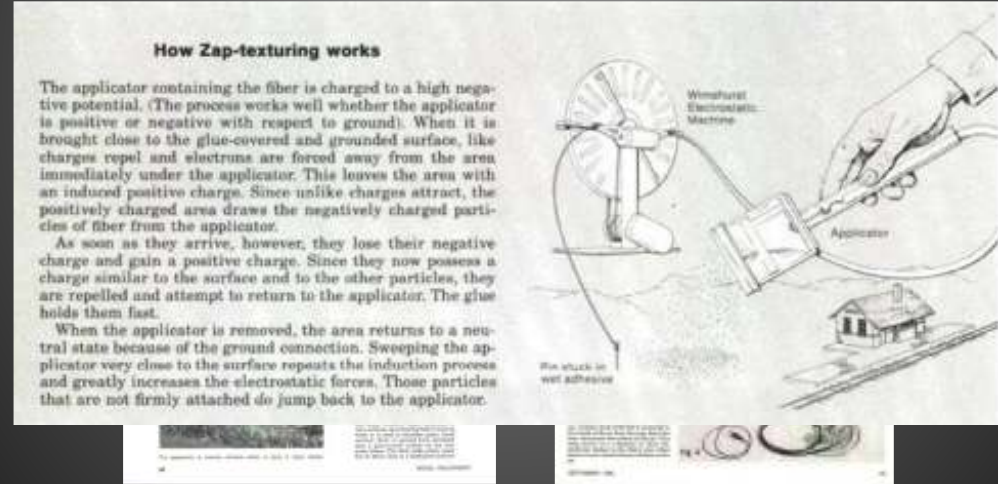


von Guericke's first electrostatic generator around 1660

FIRST MENTION OF STATIC GRASS IN MR
SEPT. 1980
WILMSHURST ELECTROSTATIC MACHINE
75KV, 1X10⁻⁹ AMPS



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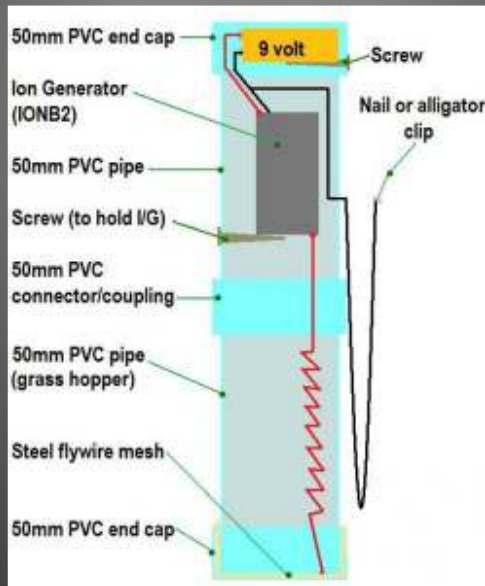
FIRST MENTION OF NOCH STATIC GRASS APPLICATOR MR MAY 2005



HOW DOES IT WORK?

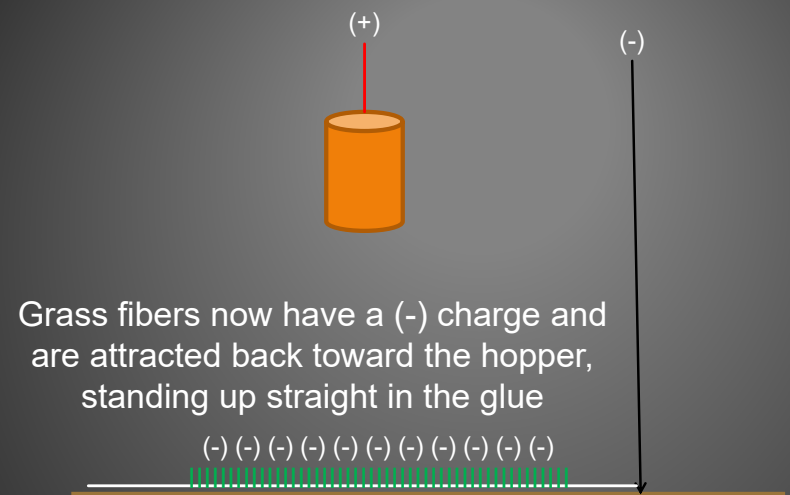
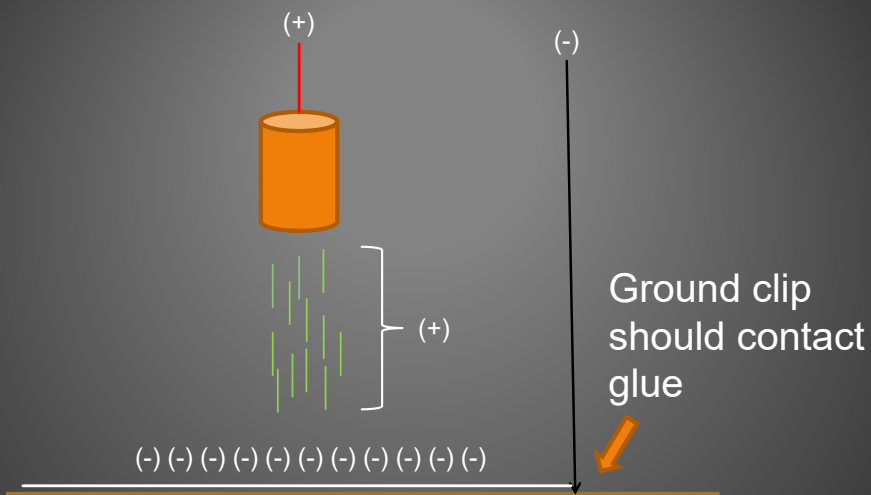
Hopper containing static grass (polyester flock) is given a high positive charge. Scenery base given a high negative (ground) charge. Positively charged fibers are attracted to the negative charge and travel down the charge gradient and adhere to adhesive on the scenery base. The fibers then become negatively charged and are attracted back to the positively charged hopper, but can't move due to the adhesive. The free ends, now having a negative charge "stand up" toward the hopper.

HOW DOES IT WORK?



THE KEY IS THE VOLTAGE GRADIENT

Ion Generator



COMMERCIAL APPLICATORS

Noch



RTS



COMMERCIAL APPLICATORS

Heki



Static King



COMMERCIAL APPLICATORS

War World Scenics



WHICH IS "BEST"?

- Depends...
- Cost
- Maximum length of fibers
- How high is the voltage gradient?
 - WS Static King:
 - 20 KV (12VDC-1500mA Field System Power Supply)
 - 15 KV (9V battery)
 - Noch: 20 Kv
 - GrassTech: 4.6 Kv
 - Flock-It Rocket: 15-20 Kv
 - RTS GreenKeeper
 - The RTS-Greenkeeper 25 KV maximal height of fibers: 6 mm maximal height of flocking: 2.5 - 3 cm
 - The RTS-Greenkeeper 35 KV maximal height of fibers: 6 - 8 mm maximal height of flocking: 7 cm
 - The RTS-Greenkeeper 55 KV maximal height of fibers: 12 - 14 mm maximal height of flocking: 14 cm
 - \$265 (!)

BUILDING YOUR OWN.....



PLANS AND CIRCUIT DIAGRAMS ONLINE ...

USE AT YOUR OWN RISK!

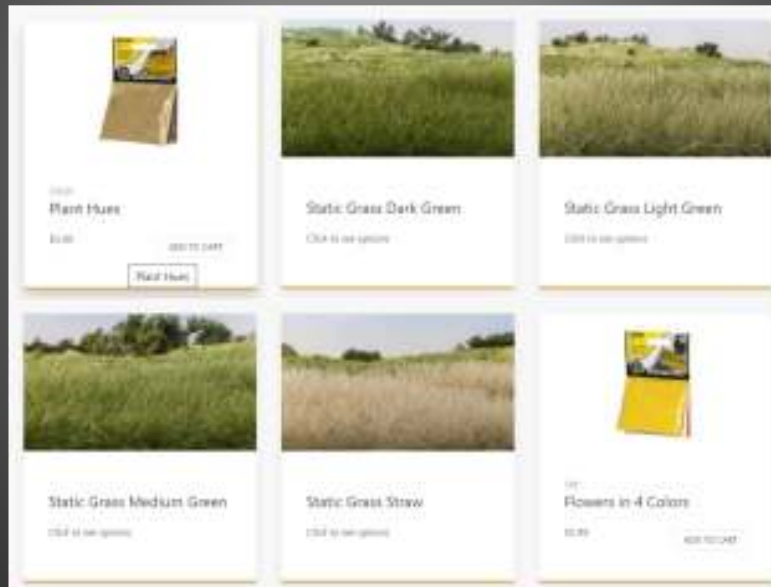
FLOCK / FIBERS

- Vary in length
 - 2-12mm +
 - Longer = larger scales / deeper brush
 - Longer fibers – Need more open applicator screen
- Vary in Color
 - Different brands
 - Different color selections

TAKE YOUR PICK:



- *Woodland Scenics Field System:*



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FLOCK / FIBERS

- *Vary in length*
 - *2-12mm +*
 - *Longer = larger scales / deeper brush*
 - *Longer fibers – Need more open applicator screen*
- *Vary in Color*
 - *Different brands*
 - *Different color selections*
 - *Vary in “chargeability”*
 - *Original Woodland Scenic cheap, but only one length*
 - *Don’t seem to “charge” as well*
 - *Newer Field System products seem better*
- *YMMV*

TECHNIQUES

- *Plenty of information out there*
- *What works for me may not work for you*
- *Try new things and let the rest of us know!*

TECHNIQUES

- *Scenery base*
 - *Paint*
 - *Ground Goop*



TECHNIQUES

- *Scenery base*
 - *Paint*
 - *Ground Goop*
- *White Glue / Matte Medium / Other*

I PREFER REGULAR WHITE
GLUE...NOT SCHOOL GLUE
-MAY LEAVE WHITE FILM

White glue



School Glue



TECHNIQUES

- *Scenery base*
 - *Paint*
 - *Ground Goop*
- *White Glue / Matte Medium / Other*
- *Ground Foam +/-*
- *Static Grass*
- *Hairspray*

CHEAP, HIGHEST
HOLD

“UNSCENTED”



TECHNIQUES

- *Scenery base*
 - *Paint*
 - *Ground Goop*
- *White Glue / Matte Medium / Other*
- *Ground Foam +/-*
- *Static Grass*
- *Hairspray*
- *More static grass*
- *Repeat*



TECHNIQUES

- Scenery base
 - Paint
 - Ground Goop
- White Glue / Matte Medium / Other
- Ground Foam +/-
- Static Grass
- Hairspray
- More static grass
- Repeat
- Final touches:
 - Ground foam
 - Bushes
 - Small trees, etc.



TIPS AND HINTS

- Use a fresh battery!
- Keep good electrical continuity
 - Keep contact clean
 - Dried glue will insulate

GROUND CONTACT

T-pin

Copper wire



Keep clean

GROUND CONTACT

T-pin

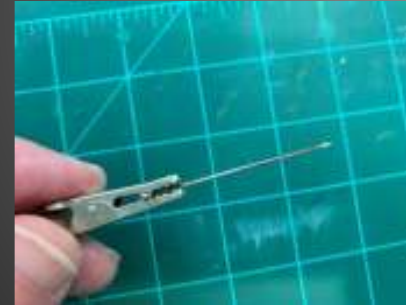
Copper wire



GROUND CONTACT

T-pin

Copper wire



TIPS AND HINTS

- *Use a fresh battery!*
- *Keep good electrical continuity*
 - *Keep contact clean*
 - *Dried glue will insulate*
- *Give the applicator an upright shake to charge the fibers*
- *The grass goes where the glue is...*

AVOID UNIFORMITY



TIPS AND HINTS

- *Use a fresh battery!*
- *Keep good electrical continuity*
 - *Keep contact clean*
 - *Dried glue will insulate*
- *Give the applicator an upright shake to charge the fibers*
- *The grass goes where the glue is...*
- *Low areas are damper = greener lusher grass*

LOW AREAS,
DITCHES =
WETTER =
GREENER
GRASS



Dan Risdon, Proto-Layouts Group

TIPS AND HINTS

- *Use a fresh battery!*
- *Keep good electrical continuity*
 - *Keep contact clean*
 - *Dried glue will insulate*
- *Give the applicator an upright shake to charge the fibers*
- *The grass goes where the glue is...*
- *Low areas are damper = greener lusher grass*
- *Keep the device close...Inverse-square law?*
- *Vacuum excess while glue is not quite dry*
 - *Helps fibers stand up straight*
 - *Saves material - \$\$\$ Use stocking over nozzle*
- **LOOK AT PHOTOS; FOLLOW NATURE!**

MOST IMPORTANT:

- *Layers*
- *Layers!*
- *Layers!!*

6-8 LAYERS



MOST IMPORTANT:

- *Layers*
- *Layers!*
- *Layers!!*
- *Vary length, color, coverage –*
- *Avoid uniformity!*
- *Follow nature.*





MAKE YOUR OWN TUFTS

- *Commercial tufts*
 - *Handy*
 - *Expensive*

NOCH TUFTS –
\$20.99



NOCH TUFTS –
\$20.99
\$0.20 / PIECE



MAKE YOUR OWN TUFTS

- *Metal pan*
- *Parchment paper*
- *Glue*
 - *White glue*
 - *Matte medium*
 - *Better for this application*
- *Apply fibers as usual*
- *Fix in place with hairspray/dilute matte medium*

-PAN



-PAN
-PARCHMENT



-PAN
-PARCHMENT
+ WATER FOR
CONDUCTIVITY



-PAN
-PARCHMENT
+ WATER FOR
CONDUCTIVITY
-GLUE



-PAN
-PARCHMENT
+ WATER FOR
CONDUCTIVITY
-GLUE



-PAN
-PARCHMENT
+ WATER FOR
CONDUCTIVITY
-GLUE
-APPLY GRASS
-LET DRY



-PAN
-PARCHMENT
+ WATER FOR
CONDUCTIVITY
-GLUE
-APPLY GRASS
-LET DRY
-SHAKE OFF
EXCESS
-PEEL OFF AND
TRIM AS
NEEDED



MAKE YOUR OWN SCENIC MATS

- *Metal pan*
- *Parchment paper*
- *Glue*
 - *Matte medium*
 - *Better for this application - flexible*
 - *Thick layer*
- *Add dirt/cinder base*
- *Let dry*
- *New layer matte medium*
- *Add grass fibers with applicator*
- *Let dry*
- *Add more layers as desired*
- *Fix in place with hairspray/dilute matte medium if desired*

- CREDIT TO YOUTUBERS:
 - LUKE TOWAN
 - BOOMER DIORAMA
 - KATHY MILLATT
 - OTHERS





EXAMPLES:



EXAMPLES:



EXAMPLES:



EXAMPLES:



EXAMPLES:



GOALS:

- *Demystify (Hopefully)*
- *Familiarize*
- *Philosophize*

QUESTIONS?

