

W. H. Cooke Times

Vol. 7, No. 1 Winter 2020 HANOVER PA

FREE

Manufacturer of thermocouples, RTD's, and thermistors and distributor of instrumentation and controls for temperature, pressure, level, flow, pH, RH, flame and gas detection and heaters for almost any application. We also carry chart recorders and chart paper and pens as well as paperless recorders, data loggers, pumps, valves, and motors, and industrial oils, solvents, and lubricants. Here is a link to our website. www.whcooke.com

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W. H. Cooke & Co., Inc. - Product Lines

W. H. Cooke & Co., Inc. Thermocouples & RTDs	BEADAM Scales, Balances & Calibration Weighing	Continental Controls Analog/Digital/Relay/Thermostat Controls	A.I. Antares & Co. Air & Gas Pressure Switches	PERCEC Level/Pressure/Flow/Transmitters
DELTA TRACK Electronic Data Loggers	ANFIELD Pressure/Level/Transmitters	APG Analog/Digital/Relay/Thermostat Controls	LY pH/ORP Conductivity	ATHENA Temperature/Pressure Controls
AUTROL America Inc. Level/Pressure/Flow/Transmitters	BINMASTER Level/Pressure/Flow/Transmitters	CHROMALOX Industrial Heating & Heat Transfer Controls	COMARK Analog/Digital/Relay/Thermostat Controls	ControlAir Inc. Pressure/Pressure/Flow/Transmitters
Controls Warehouse Flowmeters - Magnetic, Velocity, Turbine, Coriolis, Differential	Dalton Level/Pressure/Flow/Transmitters	Data Track Digital/Relay/Thermostat Controls	DBK Pressure/Flow/Level/Transmitters	DEFINOX Sensory/Relay/Thermostat Controls
DeltaTrak Chart Recorders & Data Loggers	DOSATRON Water/Pressure/Flow/Transmitters	Dugan Pressure/Flow/Level/Transmitters	EXTRECH Infrared Non-Destructive Testing Instruments	EXTECH A FLIN COMPANY Infrared Non-Destructive Testing Instruments
GDS Corp. Gas & Flame Detection	INOR Temperature/Pressure/Flow/Transmitters	GP-50 High Pressure/Flow/Level/Transmitters	HIM High Pressure/Flow/Level/Transmitters	Imada.com Force & Torque Measurement
INDECO Infrared Non-Destructive Testing Instruments	LAUREL Electronic Data Loggers	INTELLIBIT Temperature/Pressure/Flow/Transmitters	JENCO Laboratory/Industrial/Process/Flow/Transmitters	JENCO Laboratory/Industrial/Process/Flow/Transmitters
KROHNE Level/Pressure/Flow/Transmitters	MADGETECH Wireless Data Loggers	LAUREL Electronic Data Loggers	LOVE CONTROLS Temperature/Pressure/Flow/Transmitters	LOVE CONTROLS Temperature/Pressure/Flow/Transmitters
Magnatrol Flowmeters	NOVUS Measurement/Control/Recording	PARTECH Temperature/Pressure/Flow/Transmitters	PROTECH High Pressure/Flow/Level/Transmitters	PROTECH High Pressure/Flow/Level/Transmitters
REOTEMP Temperature/Pressure/Flow/Transmitters	SIKA Electronic Weighing & Calibration Instruments	UNITECH Industrial/Process/Flow/Transmitters	VAISALA Humidity/Pressure/Flow/Transmitters	WIKAL Pressure/Gauges/Transmitters

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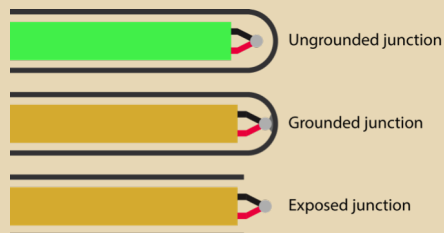
Codorus State Park



Tech Tips -

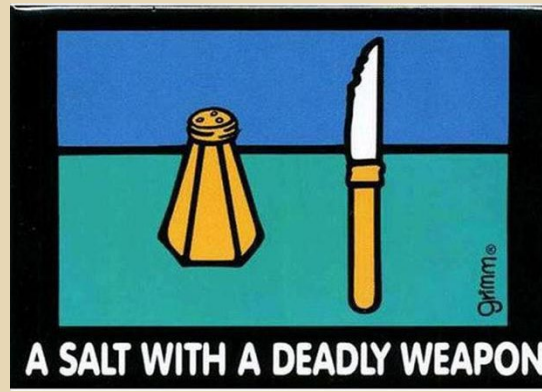
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Quarter in Review

We are shining bright going into 2020 with our new sign!

Before...



After...



Happy New Year! Our building remodel is complete with the completion of the signage as you can see above. We also have a temperature indicator mounted on the outside of the building facing the road and it of course is measuring the temperature with W. H. Cooke & Co. RTD manufactured in house.

The display is from Laurel Electronics who we are a distributor for. Specs on the MAGNA Series Large Digit Display can be seen [here](#).



The RTD that we used would be similar to the Wall Mounted RTD pictured below.



Cooke RTD sensor with transmitter wired in a 2" x 4" white metal junction box (pictured above). It has a 4-20mA output that can be scaled to your required range and can be wall mounted. These are commonly used in refrigeration areas but can be used anywhere that you would like to monitor ambient temperature.

We are continuing to invest in machinery to improve our manufacturing process and just weeks ago took delivery of a new crimping machine that will allow us to improve pull strength on some fine diameter leads. On that note, a thermocouple should never be pulled out of a process by the lead wire. Many thermocouples have a transition from bare MgO wire to insulated lead wire and pulling a sensor by the lead wire can cause that weld (or crimp) to come apart and destroy the sensor.

We are looking forward to another year that we get to work with you and your company and help to improve your process and get you what you need when you need it. We are selling more than just sensors, controls, & heaters so please keep us in mind for any parts that you need quoted. Below is a link to our brochure and here is a link to a partial list of manufacturers whose products we have sold. Thank you and have a great 2020!

Best Regards,

W. H. Cooke & Co., Inc. Line Sheet

W. H. Cooke & Co., Inc. - Product Lines

 <p>Thermocouples & RTDs</p>	 <p>Scales, Balances, & Calibration Weights</p>	 <p>Analog and Industrial Water Treatment Controllers</p>	 <p>Air & Gas Pressure Switches</p>	 <p>EPDM Pipe & Duct Insulation</p>
 <p>Electrical Boxes & Enclosures</p>	 <p>Pressure, Level, Temperature Switches & Transducers</p>	 <p>Level & Pressure Sensors / Transmitters</p>	 <p>pH, ORP, Conductivity</p>	 <p>Temperature and Process Controls</p>
 <p>Smart Transmitters</p>	 <p>Cleaning Validation & Color in Solids/Liquids</p>	 <p>Industrial Heating & Heat Trace Solutions</p>	 <p>Wireless Data Loggers</p>	 <p>Instrument & Control Repair</p>
 <p>Precision Pneumatic Electropneumatic Controls</p>	 <p>Flowmeters - Magnetic, Vortex, Turbine, Oval Gear, Paddlewheel</p>	 <p>Unique Split Sheath Cartridge Heaters</p>	 <p>Digital Panel Meters</p>	 <p>Positive Temperature Coefficient Self-Regulating Heating Elements</p>
 <p>Sanitary Valves</p>	 <p>Chart Recorders & Data Loggers</p>	 <p>Water Powered Dosing Technology</p>	 <p>Pressure, Flow, Level Sensors & Controls</p>	 <p>Temperature Controls</p>
 <p>Infrared Heat Guns, Electrical Test Instruments</p>	 <p>Gas & Flame Detection</p>	 <p>Portable Gas Detection Instrumentation</p>	 <p>Melt Pressure & Temperature Transducers</p>	 <p>Proximity, Photoelectric, Pneumatic, Capacitive</p>
 <p>Force & Torque Measurement</p>	 <p>Immersion & Tubular Electric Heating Elements</p>	 <p>Temperature Transmitters</p>	 <p>Heaters for Drums, Totes, & Containers</p>	 <p>Temperature, Level, and Humidity Sensors</p>
 <p>Laboratory & Industrial Instruments; Temperature & pH</p>	 <p>Level, Pressure, Flow Instruments</p>	 <p>Electronics for Measurement, Control & Networking</p>	 <p>Temperature Controllers</p>	 <p>Industrial & Sanitary Level Controls</p>
 <p>Solenoid Valves</p>	 <p>Wireless Data Loggers</p>	 <p>Cartridge & Band Heaters</p>	 <p>Portable Clamp On Flow Meters</p>	 <p>Data Loggers (Paperless Recorders)</p>
 <p>Measurement, Control, Recording</p>	 <p>Temperature Controls & Recorders</p>	 <p>Panel & Process Meters</p>	 <p>Wet Process Heating & Cooling Equipment</p>	 <p>Flame Safety</p>
 <p>Thermometers & Pressure Gauges / Transmitters</p>	 <p>Electronic Measuring & Calibration Instruments</p>	 <p>Industrial Insulation Blankets</p>	 <p>RH Sensors / Transmitters</p>	 <p>Pressure Gauges & Transmitters</p>



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Boiler & HVAC Parts

HVAC and Boiler Supplies



UV/Flame Sensors, Solenoid Valves, Motor Actuators,
Gas Valves & Regulators, Air/Gas Pressure Switches,
Burner Controls, Insulation, O-rings, Gaskets

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Featured Line - Definox

W. H. Cooke & Co., Inc. is proud to be a Distributor for DEFINOX who manufactures Sanitary Valves mostly used in applications for Food, Dairy, and Pharmaceutical manufacturing. Please call or email with your specs and we will cross you over to DEFINOX Sanitary Valve. The price is very competitive with some of the other

big names out there and the quality is better. The changing out of seals is also very easy.



Click on any image below to view pdf





NEW GENERATION

VDCI MC PMO-C

Mixproof valve designed by DEFINOX

INNOVATIVE DESIGN

SAFE TECHNOLOGY

COST-SAVING SOLUTION

The new design of DEFINOX VDCI MC PMO-C mixproof valve meets the **3A recommendations (B5-D2)** in accordance with dairy sanitary requirements.

The PMO-C mixproof valve technology allows **two different liquids to cross over in complete safety even during seat lifting operations.**

Production **no longer needs to completely stop** during cleaning operations.

Simple and high-tech design

- No need for an additional seal, thanks to an intermediate plug made from PEEK-resistant plastic (FDA approved).
- 3 identical O-rings which avoid risk of confusion between the spare parts during maintenance operations.
- The innovative design of the intermediate plug prevents turbulences into the leakage chamber and facilitates its correct positioning onto the lower plug.

Patented solution

- The intermediate plug ensures double protection, even during the seat lifting operations.
- No risk of mixing between two different liquids
- Natural vacuum in the leakage chamber, thanks to the patented design of the lower plug, which prevents any CP solution transfer into the opposite leakage chamber.

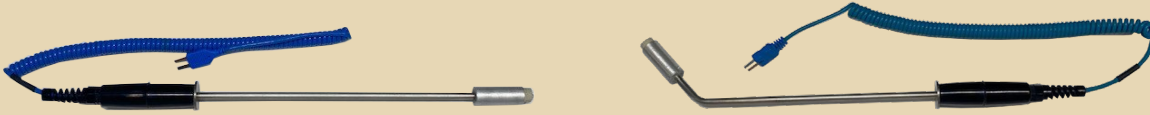
3A design

Our valve technology complies with 3A standard 85-02 which allows pasteurized milk in one chamber while CP solution is flowing into the other chamber, without any risk of cross mixing. Another feature is to provide a leakage section identical to the one of the process pipeline.



Sensor of the Quarter

Surface Temperature Probes



When you want to measure the surface temperature of an object, such as a piece of metal or any other flat surface, you want an accurate temperature reading that is not affected by the ambient air. Our Surface Temperature Probe has 2 retractable springs at the ceramic tip that compress in order to insulate the temperature reading from the surrounding air. The probe is available in thermocouple calibrations of J, K, and T. It has a nylon handle with a standard 12" straight probe or we can make it with a 45° or 90° tip. The coiled cord is 18 inches long and can be expanded to 4 feet and is terminated with mini-plug for reading back to a meter such as our Extech TM100. The TM100 is an inexpensive thermocouple reader for Type J or K thermocouples. It is priced just over \$100

Extech TM100

Type K/J Single Input Thermometer

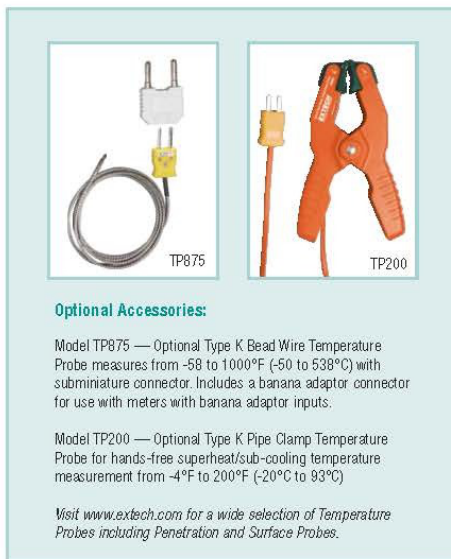


Side-Button Controls

For convenient one-hand operation

Features:

- Large backlit LCD display
- Wide temperature range with 0.1°/1° resolution
- Readout in °F, °C, or K (Kelvin)
- Data Hold function freezes reading on display
- Max/Min/Avg readings with relative time stamp
- Offset key used for zero function to make relative measurements
- Auto Power off with disable feature
- Complete with Type K bead wire temperature probe and 9V battery



Optional Accessories:

Model TP875 — Optional Type K Bead Wire Temperature Probe measures from -58 to 1000°F (-50 to 538°C) with subminiature connector. Includes a banana adaptor connector for use with meters with banana adaptor inputs.

Model TP200 — Optional Type K Pipe Clamp Temperature Probe for hands-free superheat/sub-cooling temperature measurement from -4°F to 200°F (-20°C to 93°C)

Visit www.extech.com for a wide selection of Temperature Probes including Penetration and Surface Probes.

Ordering Information:

TM100Type K/J Single Input Thermometer
TM100-NIST ..Type K/J Single Input Thermometer w/ NIST Cert
TP870Type K Bead Wire Temperature Probe (482°F/250°C)
TP875Type K Bead Wire Temperature Probe (1000°F/538°C)
TP200Type K Pipe Clamp Probe (200°F/93°C)
409996Soft Vinyl Pouch Carrying case



Specifications

Temperature (Type K)	-328 to 2501°F (-200 to 1372°C)
Temperature (Type J)	-346 to 2012°F (-210 to 1100°C)
Basic Accuracy	±(0.15% rdg + 1°C)
Resolution	0.1°/1°
Dimensions	8.7 x 2.5 x 1.1" (220 x 63 x 28mm)
Weight	7oz (200g)



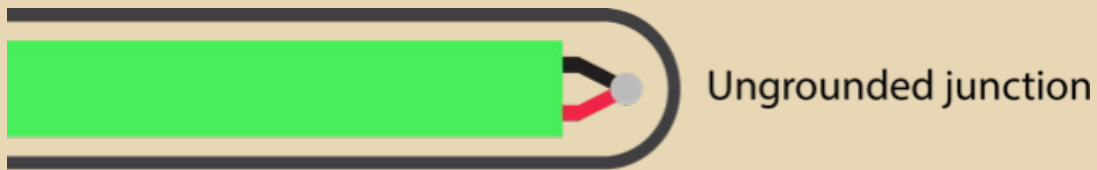
We can NIST certify your Surface Temperature Probe or any other thermocouple or RTD that we make for you either alone or together with an instrument such as the TM100 so that when used together you can prove accuracy to auditors. If you need a hand held probe with a reader please contact us to discuss your application.

Tech Tips

How to decide if you need a Grounded or Ungrounded Thermocouple

When we get a call from a customer wanting a thermocouple, one of the questions we ask is if they would like it grounded or ungrounded. Sometimes they are not sure and ask our help in deciding. Here are some key points on deciding if a grounded or ungrounded thermocouple is right for your application.

If you are reading back to a PLC we would always recommend going with an UNGROUNDED THERMOCOUPLE.



A grounded thermocouple is one in which the junction (measuring point where the 2 dissimilar metals are welded together, usually at the tip) is welded to the inside of the probe sheath like in this picture



The grounding of the thermocouple to the sheath can cause electrical noise on the line and cause erroneous readings. For this reason, Ungrounded is recommended for reading back to a PLC. Note: An 8 gauge thermocouple with ceramic insulators with an exposed junction that bottoms out in a metal protection tube would also be Grounded.

4-Channel Datalogging Thermometer

Records data on an SD card in Excel[®] format
For easy transfer to a PC for analysis

Features:

- 4-Channel datalogging with 6 Thermocouple types (J, K, E, T, R, S) and 2-Channel datalogging with RTD (Pt100 Ω) probes
- Displays [T1, T2, T3, T4] or differential [T1-T2] reading
- Offset adjustment used for zero function to make relative measurements
- Stores 99 readings manually and 20M readings via SD card included
- Records readings with real date and time stamp
- User programmable sampling rate: 1 to 3600 seconds
- Min/Max and Data Hold functions
- Auto power off with disable function
- Complete with 6 AA batteries, four general purpose Type K bead wire temperature probes, SD card, and hard carrying case



Simultaneously measures 4 temperature inputs for multiple source monitoring



Optional Temperature Probes:

Model TP875 — Optional Type K Bead Wire Temperature Probe measures from -58 to 1000°F (-50 to 538°C) with subminiature connector. Includes a banana adaptor connector for use with meters with banana adaptor inputs.

Model 850185 — Optional RTD (Pt100) Temperature Probe measures from (-22 to 482°F/-30 to 250°C).

Model TP200 and TP400 — Optional Type K Pipe Clamp Temperature Probe for hands-free superheat/sub-cooling temperature measurement from -4°F to 200°F (-20°C to 93°C) for TP200 and -4 to 450°F (-20 to 232°C)

Visit www.extech.com for a wide selection of Temperature Probes including Penetration and Surface Probes.



Specifications

Type J	-148 to 2102°F (-100 to 1150°C)
Type K	-148 to 2372°F (-100 to 1300°C)
Type T	-58 to 752°F (-50 to 400°C)
Type E	-58 to 1852°F (-50 to 900°C)
Type R	32 to 3092°F (0 to 1700°C)
Type S	32 to 2732°F (0 to 1500°C)
RTD (Pt100)	-327 to 1562°F (-200 to 850°C)
Resolution	0.1°F/1°
Basic Accuracy	±0.4% rdg (+1.8°F/+1°C) Types J, K, E, T, Pt100 ±0.5% rdg (+2°F/+1°C) Types R, S
Datalogging	20M data records using a 2G SD card
Dimensions	7.2 x 2.9 x 1.9" (182 x 73 x 47.5mm)
Weight	17.8oz (500g)

Ordering Information:

SDL200	4-Channel Datalogging Thermometer
SDL200-NIST	SDL200 w/Certificate of Calibration Traceable to NIST standards
872502	Type J Bead Wire Probe (-40 to 392°F/-40 to 200°C)
TP870	Type K Bead Wire Probe (-40 to 482°F/-40 to 250°C)
TP200	Type K Clamp Probe (-4 to 200°F/-20 to 93°F)
TP400	Type K Clamp Probe (-4 to 450°F/-20 to 232°C)
850185	RTD (Pt100) Temperature Probe (-40 to 392°F/-40 to 200°C)
153117	117V AC Adaptor
UA100-240	100-240V AC Adaptor with 4 plugs (US, EU, UK, AU)



www.extech.com

Specifications subject to change without notice.
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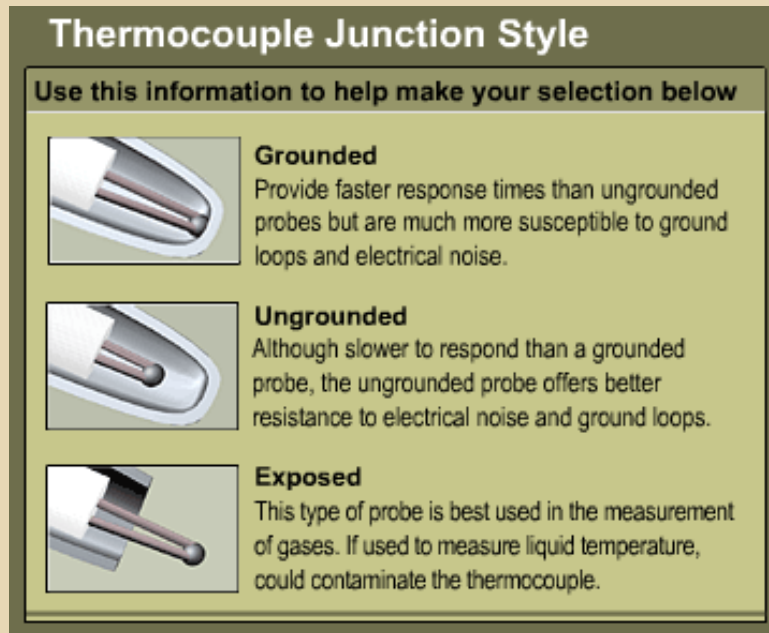
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Data Loggers with more than 1 channel being used at 1 time: **UNGROUND**ED THERMOCOUPLE is recommended for a multi-channel thermocouple data loggers for the same electrical noise reason mentioned above.

If you are reading back to a temperature control or local display, we would recommend a **GROUND**ED THERMOCOUPLE. The response time will be quicker since the measuring junction will be touching or welded to the inside tip of the probe or metal protection tube and there will be better heat transfer for more accurate readings to the measuring junction inside since it is connected. Does that mean an Ungrounded Thermocouple will have a slower response time and worse heat transfer? Yes, but the difference can be negligible and the difference in response time should only be a few seconds depending on the application. The accuracy should also not be affected much since once a process is up to temperature, the probe will be

seeing that temperature and the recessed junction (Ungrounded) will as well.

Below is a picture showing the 2 junctions I mentioned plus an exposed junction which is the fastest response time of all junctions.



To see our past tech tips including how to measure a thermocouple for grounded or ungrounded see our past Newsletters

[Summer 2019](#)

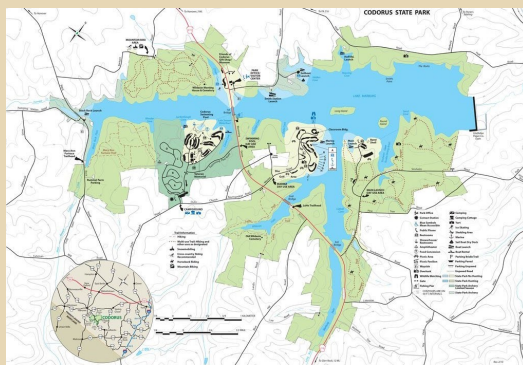
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In The Community

Codorus State Park

Here in Hanover, we have a beautiful lake called Marburg within Codorus State Park. Kayaking, trails, and camping are just a few of the activities that can be taken advantage of, along with events they hold all year. A little history of the beginnings include flooding a town named, you guessed it, Marburg.



"The impoundment of Codorus Creek was the result of a cooperative project between the Commonwealth of Pennsylvania and the Glatfelter Paper Company of Spring Grove, Pennsylvania. This undertaking was the first of its kind in the commonwealth. It was designed to serve the water supply needs of a private industry and the town of Spring Grove, and to provide a public recreation area.



The Glatfelter Paper Company constructed the dam and still owns and runs the dam. The gates first closed, impounding water, in December of 1966. Lake Marburg is named for the small community of Marburg that is covered by the lake.



The Commonwealth of Pennsylvania acquired the park land in 1965-1966. Originally the park was known as Codorus Creek State Park.

The Glatfelter Paper Company and the town of Spring Grove are permitted to draw water from the lake for their needs. As a result, the lake water level can drop over 22 feet in a summer, only to rise with rainfall."

Puns

Part 1 of a 3 newsletter Punfest

I was wondering why the ball was getting bigger. Then it hit me

Will glass coffins be a success? Remains to be seen

It's hard to explain puns to kleptomaniacs because they always take things literally

Last night, I dreamed I was swimming in an ocean of orange soda. But it was just a Fanta sea

I lost my job at the bank on my very first day. A woman asked me to check her balance, so I pushed her over

What's the difference between a hippo and a zippo? One is really heavy and the other is a little lighter

Two windmills are standing in a wind farm. One asks, "What's your favorite kind of music?" The other says, "I'm a big metal fan."

W. H. Cooke & Co., Inc.

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