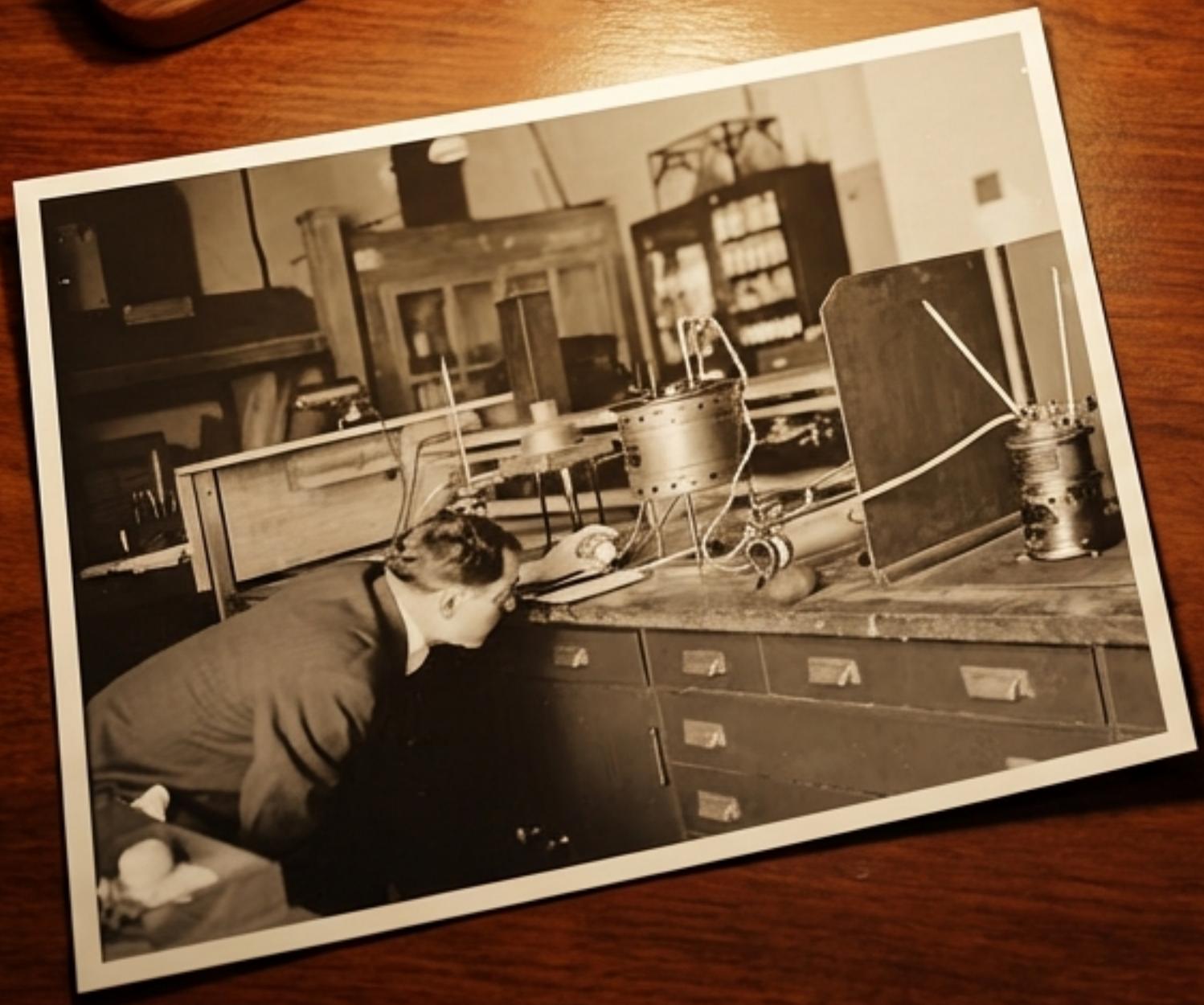


# The Non-Linear Path of Winter Grades

The J300 standard did not develop in a straight line. We begin our tour by defining the 'winter part' of motor oil grading. While we know them today as common standards, the first unofficial winter grades appeared as early as 1933. This timeline visualizes the journey from the 1930s polymer experiments to the supergrades of the late 60s.





## 1933: The Era of Seconds

In the early days, Kinematic Viscosity was literally measured in time. The “seconds” referred to the physical time it took for a specific volume of oil to flow through a standard nozzle into a small flask.

- **10W:** Defined as having a KV at  $-18^{\circ}\text{C}$  between 5,000 and 10,000 seconds.
- **20W:** Defined as roughly 10,000 to 40,000 seconds.

*This was the scientifically grounded method for the viscometers of that specific era.*



## The Trade-Off: Easy Starts vs. Engine Safety

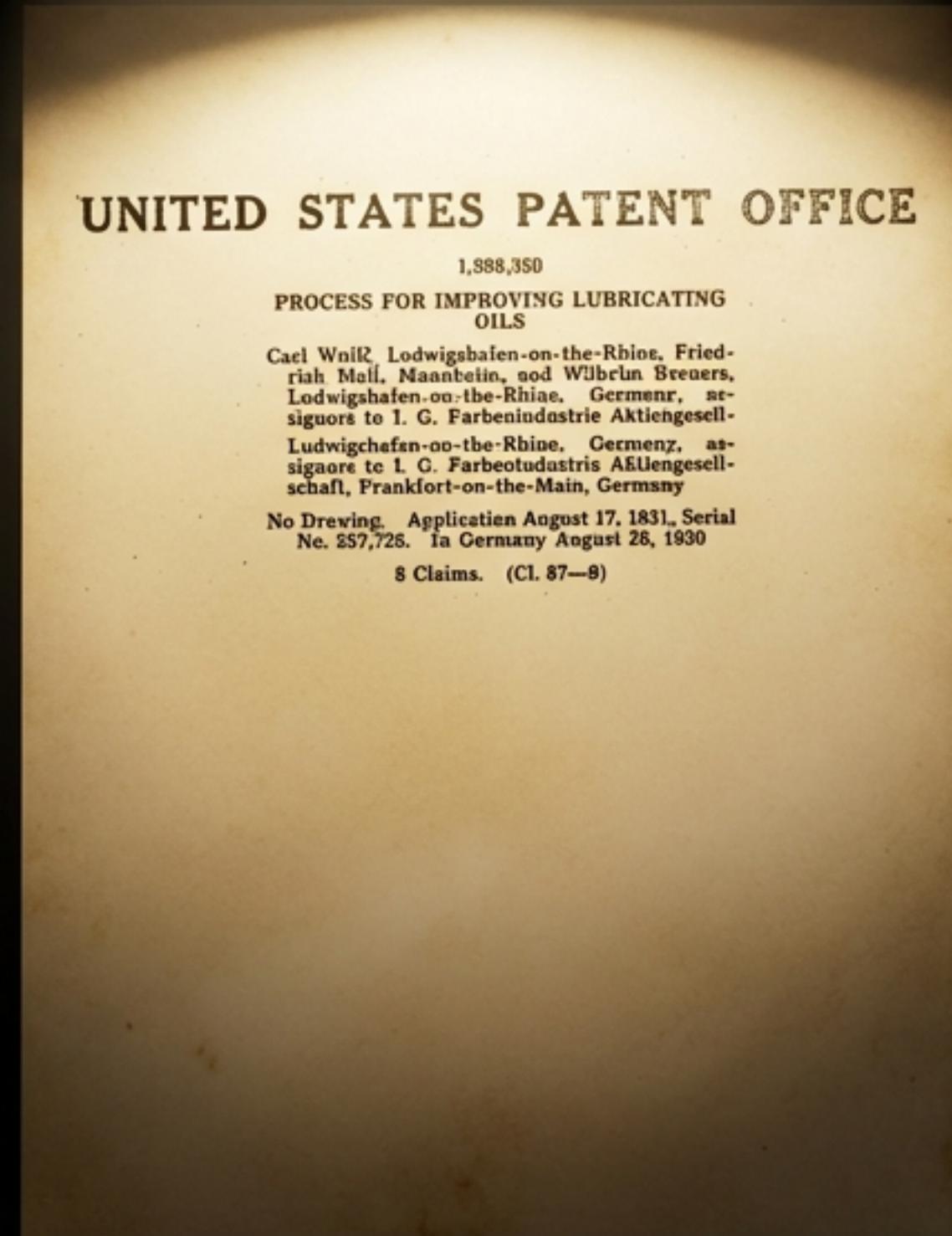
The early “winter oils” solved one problem but created another. While they allowed for easy starting in sub-zero temperatures, they were dangerously thin once the engine heated up.

*“Some motor oils make quick starting impossible... others congeal into a thick mass.”*

The historical challenge was finding a lubricant that wouldn’t thin out dangerously under the heat of driving, yet wouldn’t freeze the engine solid in the morning.

# The Polymer Revolution

U.S. Patent No. 1,998,350



This is the moment the industry changed. A major player openly declared the use of polymers to modify oil behavior. This technology allowed oil to maintain low-temperature fluidity without sacrificing summer (working) viscosity.

The key parameter became the change in viscosity with temperature—the less it changes, the better.



# The Unofficial Pioneer: Early Uniflo

Analysis of early market entrants showed mixed results—some “winter” oils failed to meet automotive standards entirely. However, the early ESSO Uniflo stood out.

## Performance Profile:

- At negative temperatures: Behaved like S.A.E. 10.
- At working temperatures: Retained the viscosity of S.A.E. 30.

While not formally classified as a “multigrade” yet, it was a revolutionary product that successfully combined the best properties of winter and summer oils.



## 1952: The British Contender

We must mention the English entry: Duckham's Q5500. Released in 1952, it attempted to mimic the unofficial Esso 10-30 specification.

Despite the marketing claiming it was "First in the Field" with a "Flat-Curve," viscosity measurements showed it did not meet the full criteria of a true 10W-30. It was an imitation that fell short of the new standard.

# 1952: Official Recognition



In 1950, SAE updated their table, and by 1952, they formalized the winter classes:

- 10W & 20W: Formalized (originally from 1933).
- 5W: A new class introduced with a max KV(-18) of 4,000 seconds.



**The Milestone:** Esso Uniflo (1952) is historically recognized as the first official multigrade, effectively performing as a 5W-20.



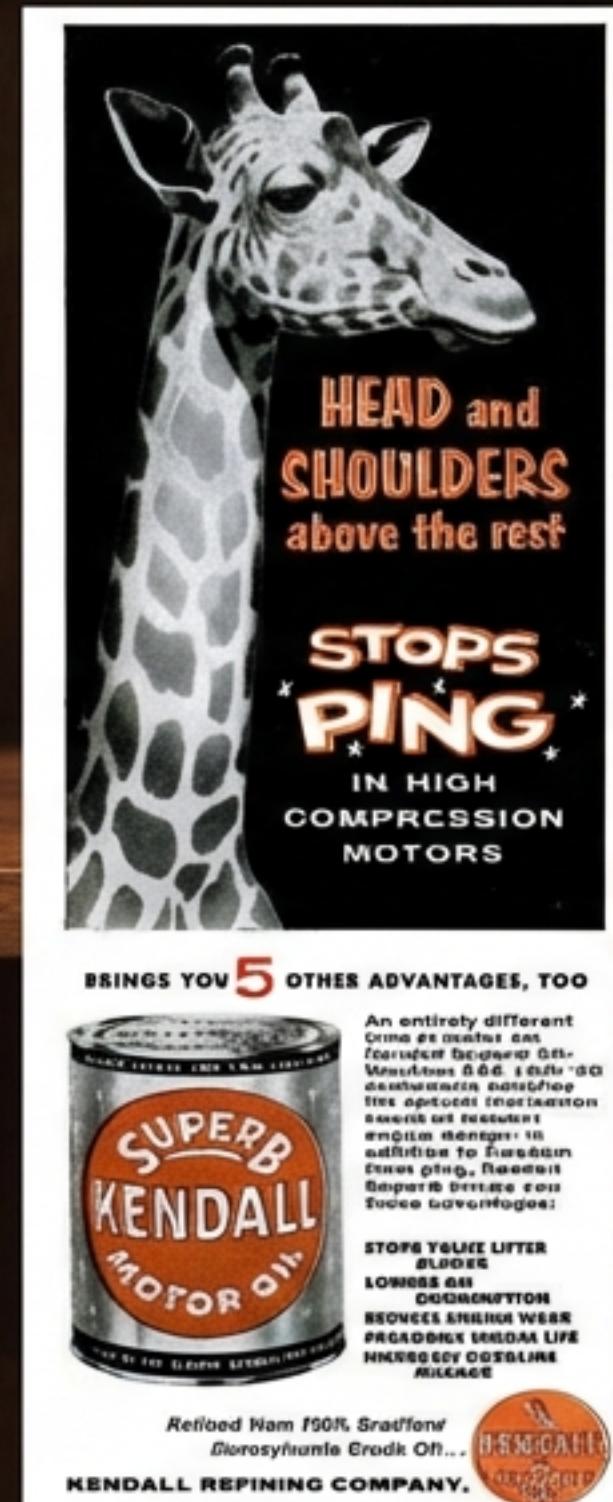
## The Museum Specimen: 1953

While the original 1952 Uniflo is lost to time, the Oil Glup Museum houses the second multigrade in history: Royal Triton 5·20 (February 1953).

**Chemical Analysis:** Modern analysis of this artifact reveals the composition of the era—mineral oils on a not-too-viscous base, with a noticeable addition of polymer thickeners.

Source Link: Full analysis available at <https://oil-glup.ru/>

# August 1953: The 10W-30 Rush



The era of 10W-30 arrived rapidly. Kendall SuperB took the lead, becoming one of the first to market.

**Market Context:** After August 1953, the floodgates opened. Multiple companies simultaneously rushed to release their own multigrade products, standardizing 10W-30 as the go-to specification for all-weather driving.

# 1955: European Innovation

The next major step occurred in Britain with BP Energol Special.

## Key Differentiators:

1. Four-Grade Claim: One of the first oils to claim coverage of four grades (10W, 20W, 20W, 30, 40) in a single product.
2. Exclusivity: It was not sold in the USA.



Significance: This product effectively functioned as the first 10W-40, also covering the 20W-40 range.

*Sohio Science breaks the 3-grade barrier with the*

# World's First 4-Grade Motor Oil



*Duron - the first motor oil that meets all automobile manufacturers' requirements under all driving conditions*

Once in a long while comes a time when science and industry develop a product that transcends the past and opens up new horizons. Sohio has done just that with motor oil.

It took long years of research and development to produce a motor oil that could meet the requirements of all major automobile manufacturers. Duron is the result of this work.

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SOHIO'S FINEST MOTOR OIL

# 1961: Breaking the Barrier

In 1961, American company SOHIO (brand Boron) released Duron 5W-30.

**The Breakthrough:** This was marketed as the "World's First 4-Grade Motor Oil" in the US. It was a significant engineering triumph, defying the late-1950s consensus that a stable 5W-30 oil was technically impossible to produce.



# 1968: The Supergrade

Sohio Science introduces the  
**World's Highest  
Viscosity Index  
Motor Oil**



QVO's 240 Viscosity Index provides the greatest protection range against low-temperature thickening and high-temperature thinning ever achieved in a single motor oil!



QVO's 240 Viscosity Index provides the greatest protection range against low-temperature thickening and high-temperature thinning ever achieved in a single motor oil!!

The lid tells why QVO is so remarkable.

• **It has the widest operating viscosity index.** Q.V.O. has the widest viscosity index of any oil — and the higher the index, the better the protection means.

• **It doesn't thin at top temperatures.** Q.V.O. is recommended for maximum protection at the severest requirements.

• **This unique nonconventional oil has a remarkable viscosity index.** Q.V.O. has the greatest viscosity index of any oil ever made.

