



The Line Shaft

The Official Newsletter of the

NORTH JERSEY ANTIQUE ENGINE & MACHINE CLUB



August 2020



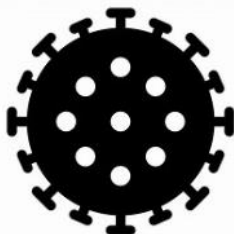
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Founded on October 15th, 1979 by: Arthur Goble, Fred W. Westbrook, John Snook, Roy Bischoff & Lewis Quince



**There will be a CLUB MEETING on
August 13th, starting at 7PM,
at the Shed!**

Masks and Social Distancing will be required!

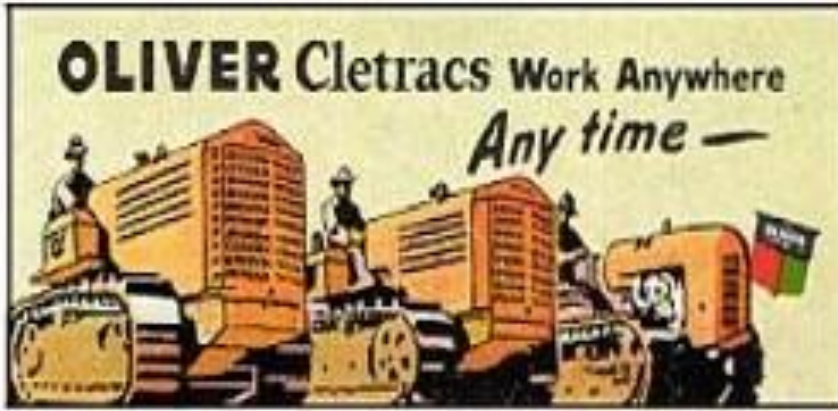
Take care of you and yours and be SAFE!

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Rollin H. White (1872-1962) and Cletrac *Cleveland Tractor Company*



The *Cleveland Tractor Company* traces its start to inventor Thomas White, Rollin's dad. In 1866 Thomas White founded the White Sewing Machine Company in Massachusetts and in 1876 he moved the company and his family to Cleveland, Ohio. Due to the company's central location and water born transport, it soon was a major nationwide supplier of sewing machines, roller skates, automatic lathes and a line of very popular bicycles. In the late 1890's Thomas' sons, Windsor, Rollin and Walter,

developed another product line...the steam car. Rollin was a college "trained" engineer and he redesigned and developed a major break-thru in the steam boiler then used on steam cars, trucks and tractors. His invention, the "flash boiler", was safer and could produce steam faster than the traditional boilers of the time. In 1899 the new company, "White Motor Company" brought out their first steam powered cars and trucks and quickly gained a reputation for quality and reliable products. As the Otto gasoline engine became more popular, they incorporated this into their vehicles and became a "high-end, high-quality" producer of both cars and trucks. They experimented with steam and gasoline powered farm equipment as early as 1911. By the start of WWI, the White Motor Company was the second largest truck manufacturer in the United States. During WWI they were a major truck supplier to the Allies. In 1916 Rollin and another brother Clarence G. White founded the "Cleveland Motor Plow Company". The first three models produced were the R, H, and W crawler tractors...Rollins initials.

The Cleveland Motor Plow Company, by now an independent company, became the Cleveland Tractor Company in 1918 and trademarked the name *Cletrac*. Rollin H. White withdrew from the truck side of the business and became *Cletrac's* president and principal engineer for the next two and a half decades. Their slogan was "Geared to the Ground"!

The company only produced crawlers (except for one lonely wheeled model...the GG of 1939-42) and incorporated the *Lombard Crawler Undercarriage* in a line of highly innovative small to mid-size tractors. A prolific manufacturer, they produced the broadest line of crawler equipment in the industry, bar none...75 models between 1916 and 1944, with worldwide distribution. The F model, produced between 1922 and 1923, incorporated an early high-drive undercarriage with a rotating ball chain type roller system and is still revered by tractor enthusiasts. Their use of controlled differential "planetary" steering set them apart from the rest of the industry. This steering system was complicated for its time, but allowed full power in a turn and was critical for close tolerance work with "pulled" attachments...and, until the mid-1930s, most farming or construction attachments were pulled. They incorporated replaceable press-fit bronze bushings in their undercarriage components vs. the poured Babbitt bearing used by the rest of the industry. They dabbled with oil filled rollers and produced the first rotating bushing track designs. Cletrac introduced undercarriage rebuild-ability to the equipment business. Thru the 1920s, 30s and into the 40s, they occupied the crawler market position that

CASE and John Deere would assume in the late 50s and 60s...selling primarily small to mid-size tractors. Best known for their smaller tractors, they did however build several larger tractors. The largest was the 28,000 lb., 100-drawbar horsepower, electric start, gasoline-kerosene burning, Model 100...the largest crawler tractor built by "any manufacturer" in 1930 and about the size of a late 1930's Caterpillar RD8.

During their entire existence, *Cletrac* remained a closely held, family owned company. Without access to the capital of it's publicly owned competitors, the company grew slowly and funded R&D with "sweat equity" and not dollars!

During the 2nd World War they were awarded major contracts that absorbed a major portion of their resources for limited profits. The low profits (3-4%) were a problem faced by all the manufacturers of war materials, so they were not alone. *Cletrac* produced thousands of the rubber tracked M-military-tractors for the Army Air Force, effectively tied up their production for the duration of the war and seriously damaged their civilian business. They were not alone in this either. By 1944 Rollin was 72 years old and knew the post-war years would be tough on the small, under capitalized tractor company. Unfortunately he picked the "also ran" of the agricultural equipment business to merge with.

The "Oliver Corporation" purchased controlling interest in the *Cleveland Tractor Company* in 1944 and continued to produce the military M-tractors and civilian crawlers under both the *Cletrac* and OC (Oliver-Cletrac) names. Unfortunately, Oliver's corporate and engineering vision was very narrow. They purchased the Cleveland Tractor Company for its extensive military business and to flesh out their farm equipment line. The military business came to a crashing stop with the end of WW II and the export, forestry and construction distribution network, on which *Cletrac* had built their business, was dropped in lieu of Oliver's farm (and rubber tire) based dealers. Not known for astute market perception or R&D, Oliver continued to produce and sell in the 50s and 60s "updated" or larger versions of the crawler tractors that *Cletrac* had sold in the late 30s and 40s. Between 1944 and 1965 they marketed a 3,000 to 32,000 lb. line of crawler tractors & loaders, with most offered in either gas or diesel versions and all incorporating White's differential steering system. By the mid-50's Oliver was publicly held and excessive stockholder "profit-taking" led to a corporate decline. John Deere, Case and to some degree International, Allis Chalmers and CAT, with deeper pockets, better distribution and "less sophisticated" crawler tractors, took over their farming and former lucrative export, forestry & construction markets.

Cleveland Tractor's success, as an independent company, can be directly linked to Rollin White's inventiveness and business savvy. Rollin was actually an oddity in the early century development of the construction equipment industry. Most of the major "engineers" were actually untrained "Practical Engineers". Rollin on the other hand was a graduate of an engineering college and was capable of bypassing the trial-and-error efforts of most of his big dollar competition. He retired after the Oliver merger and died in 1962.

In an ironic turn of events, the "White Motor Corporation" purchased Oliver in 1960, but crawler production was discontinued in 1965. Still technically on a par with the competition...*Cletrac's* disappearance after 48 years, is an object lesson in the importance of R&D, marketing and distribution.

Many OC-3, 4 and 6 model tractors are still in use in the black dirt onion fields of Orange County New York. Sixty plus years old, they are still the preferred crawler tractor for many farmers. Remarkably, will-fit and used replacement parts remain available thru:

**ZIMMERMAN
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Their ads can be found online & in many industry publications!

Rollin, Windsor and Walter White are members of the "Automotive Hall of Fame" for their pioneering work on the heavy-duty truck side of the industry.

NJAE&MC—Upcoming Events

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