

Cooke Locomotive Wor

These narrow gauge engines of 1884 lived up to the name Mogul

By George Sebastian-Coleman

Between 1878 and 1880, the Denver, South Park & Pacific RR had made an early attempt to standardize motive power by purchasing 23 double-truck locomotives from Mason Machine Works. The engines are familiarly known as Mason Bogies. By 1883, however, it was evident that larger engines were needed and the railroad ordered 20 Consolidations and eight Moguls from the Cooke Locomotive & Machinery Co. of Paterson, N. J. Two identical Moguls were delivered to the Colorado Central. The Consolidations gave good service, but most were gone by the end of WWI and are little-noted in the annals of railfans and modelers. Most Moguls, on the other hand, served until the line closed, and the one survivor may steam again. Their endurance and the line they served made them one of the best known and most popular engines among railfans nationwide.

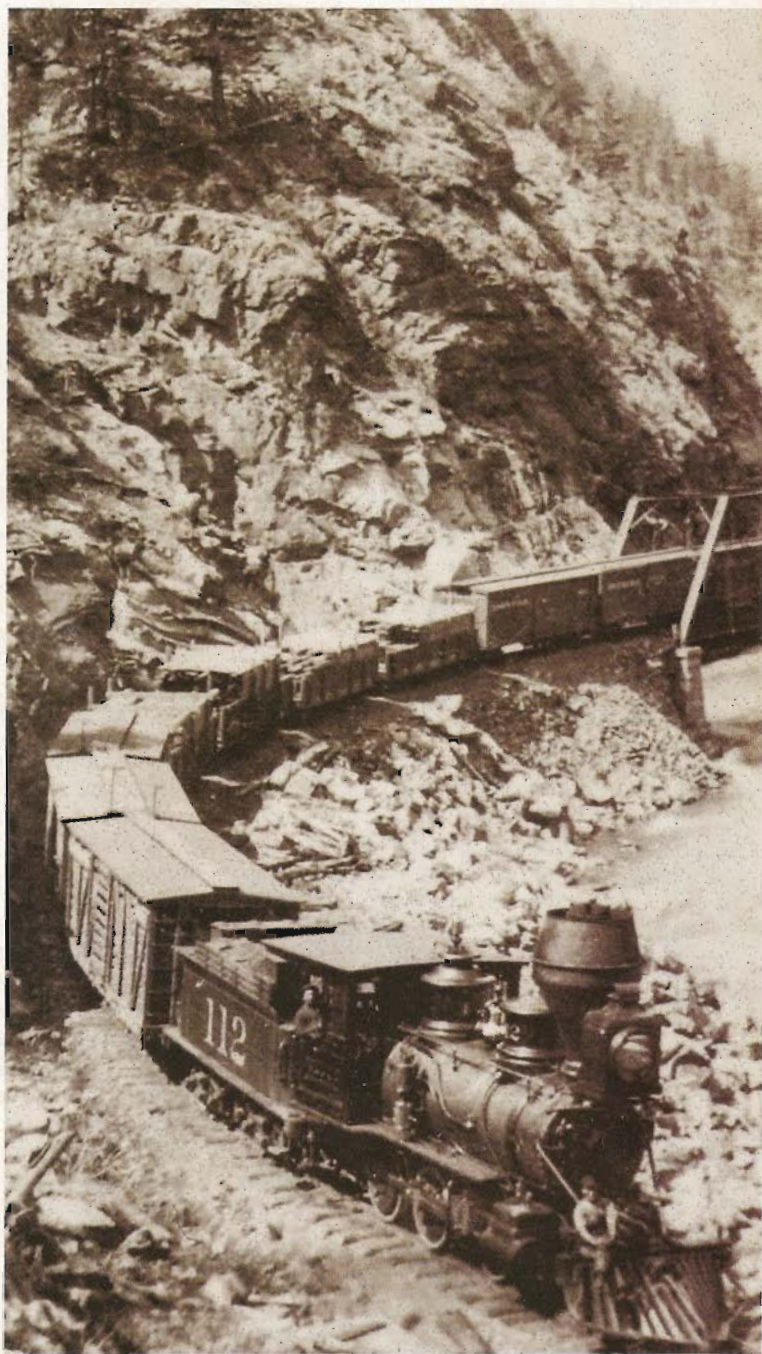
Vital statistics

Lots of documentation exists on the Cooke Moguls. Unfortunately much of it is contradictory and we're lacking the most authoritative source, the original builder's card. The earliest data we have is from the Union Pacific roster created in 1885 when the Union Pacific, parent company of both the South Park and Colorado Central, renumbered all its lines in a consistent numbering scheme. There the Moguls are listed as weighing 60,000 pounds; later folio sheets list total engine weight as 59,900 with 54,000 pounds on the drivers. According to the same roster, the Cooke Consolidations built at the same time weighed only 930 pounds more. However, later folios show the unrebuilt Cooke Moguls as weighing 61,300 with 55,300 pounds on the drivers and the Consolidations as 62,900. (The standard published references on the line, Mac Poor's *Denver, South Park & Pacific* and its *Pictorial Supplement* list the weight on drivers as 58,300, probably a misread of the folio sheet's 55,300.)

Whatever is correct, the Moguls were almost as large as the Consolidations. Both configurations had 150 psi boiler pressure, although due to their 40" drivers and 14½" x 18" cylinders, rather than 36" and 15" x 18" of the Consolidations, they had a slightly lower tractive effort: 12,909 pounds versus 13,463 according to the folio sheets. Even so they were more powerful than the Baldwin Consolidations already operating on both the South Park and Denver & Rio Grande.

In 1883 the Union Pacific began a program to equip all its mountain divisions with the new Westinghouse automatic air brake, so the Cooke Moguls and Consolidations are also notable for being among the first to come so equipped from the factory.

The Moguls were numbered 39 and 40 and 69-74 upon delivery to the DSP&P. Their sisters on the CCRR became 14



and 15. With the 1885 renumbering, the Cookes became 109-116 on the South Park and 107-108 on the Central. In 1890 both lines were reorganized, emerging as the Denver, Leadville & Gunnison and the Union Pacific, Denver & Gulf, but the locomotives retained the same numbers. The lines dropped out of UP control and were merged as the Colorado & Southern in 1899. The new Mogul numbers were 4-13, with 12 and 13 the former CCRR engines.

ks' South Park 2-6-0s



GEORGE SEBASTIAN-COLEMAN COLLECTION

▲ Denver, South Park & Pacific no. 112 rolls downgrade in Platte Cañon not long after June 1885, when it was renumbered from no. 69.

▶ Union Pacific, Denver & Gulf no. 107, just below the Georgetown Loop circa 1895, was one of two Cooke Moguls delivered to this predecessor of the C&S. Note the new smooth domes and pancake stack.



ALEX MARTIN PHOTO, MALLORY HOPE FERRELL COLLECTION

▲ The high line to Leadville had just opened when this photo was taken in front of the Boreas Pass enginehouse in the summer of 1884.



F. S. MCKAY COLLECTION

▲ The eastbound *Gunnison Express*, headed by no. 39, stopped for its portrait on the great rock wall of the Palisades in 1884.



ROBERT GRANDT COLLECTION

one line going to Leadville and the other to Gunnison.

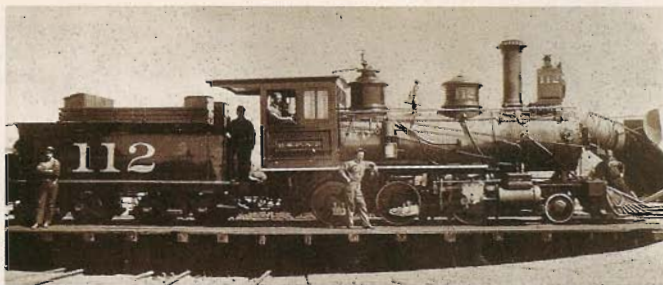
The original main line continued west, crossing the valley of the Arkansas River (and the Denver & Rio Grande), and then up Chalk Creek canyon and through the Alpine Tunnel from where it descended to Gunnison. Prior to July 1884, trains for Leadville followed the original main to the Buena Vista and then turned north to Leadville via trackage rights on the Rio Grande. After that date the "high line" from Como opened and trains headed north out of Como for not one but two crossings of the Continental Divide (Boreas and Fremont passes) on their way to Leadville.

The *Express* ran as a single train from Denver and was divided at Como (or earlier at Buena Vista). Even after 1910, when the Alpine Tunnel was closed and passenger service to the West ceased, the *Express* continued running to Leadville. Because so much of the South Park line was located in remote country, the most practical way to railfan the line was to ride it, and that's what the fans of the 1930s did. Not surprisingly then, the Moguls became their particular favorites, and familiar subjects of their photographs.

The drawings

The drawings presented here depict the engine as delivered by Cooke in February 1884. The choice of blue as the base color is based on some scanty evidence of Cooke practice and that typical 1880s style was to use colors other than black. Baldwin used a dark brown, and dark greens and reds were also used. Other colors are best guesses based on shading in the builder's photo. Veteran South Park modeler David Steer offers a different interpretation in Paint Shop on page 154.

MODEL RAILROADER published drawings of the Cooke Moguls in June 1960, including the rebuilt version. Those drawings had several detail problems and a few dimensional ones as well. Our new drawings are based on thorough studies of photographs, folio sheets, and the original erection drawings for the DSP&P Consolidations and for some Moguls built for the Kansas & Gulf Short Line Ry. Lacking erection drawings or an as-built engine to measure, I feel confident these drawings are as accurate as can be done.



R. H. KINDIG COLLECTION

Just outshopped with an extended smokebox and fancy capped stack, no. 112 sits on the Como turntable in the late 1880s.

engines of the rival Denver & Rio Grande. As early as the late 1880s a few engines received straight stacks and had their smokeboxes extended about two feet.

As delivered, the cabs had horizontal panels below the windows. Very soon some appeared with four vertical panels below the windows. Photographic evidence isn't sufficient to know if some were delivered with this new style, but eventually this became the standard cab. Likewise, some locomotives appear very early on with clerestory roof vents; whether this was a factory feature of some engines or a later addition is impossible to tell.

The engines kept their rakish pilots until their rebuilding in the first years of the 20th century. Some, like other South Park engines, had the intermediate slots filled creating a solid pilot, apparently serving as permanent plow. Other engines show small skiff plows attached to the lower edge of the pilot. As I describe in the December *Trains Magazine*,

most of the Cooke Moguls were almost wholly rebuilt between 1900 and 1902, and the resulting engines bore little resemblance to the originals other than being Moguls. However, numbers 11-13 remained almost as built until scrapped.

Modeling

An On3 brass model based on our 1960 drawings was imported by Balboa in 1972. It had a tender drive and was not highly detailed. However, models of nos. 21 and 22 have been imported in HOn3, Sn3, and On3. Although actually Brooks engines, the models represent them as rebuilt in the 1890s when they became virtual twins of the Cooke engines, so backdating one of these would be the best bet for reproducing an early Cooke.

Another possibility for O scale is the new Bachmann On30 train set. Its engine is based on nos. 21 and 22 and measures quite close to the correct dimensions. Moreover, converting it to On3 looks practical. ♣



LGB'S FAMOUS MOGUL

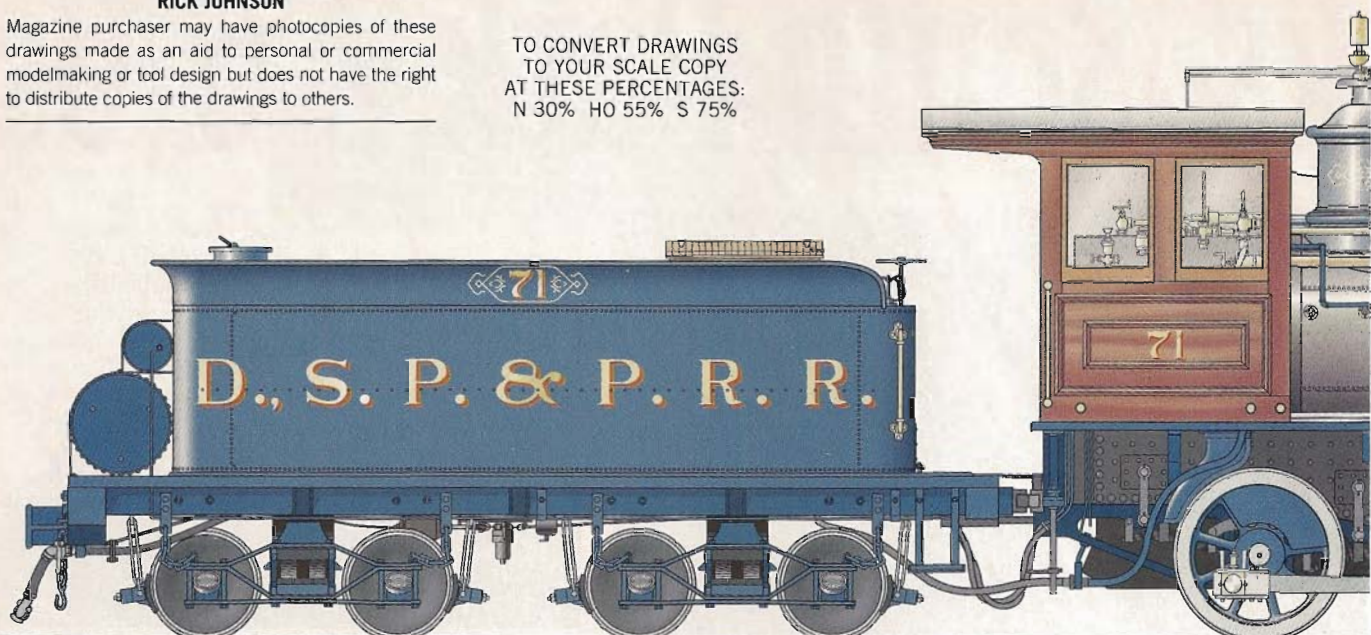
Thirty years ago, when the German firm Ernst Paul Lehmann Patentwerk introduced LGB (Lehmann Gross Bahn, or Lehmann big train), its G scale (1:22.5) line, it was swimming against the tide of ever-smaller model railroad equipment. After all, N scale (1:160) was the up-and-coming scale back then. The scale struggled in the United States as Americanized European-prototype trains. But G scale railroading got a big boost when LGB introduced its South Park Mogul in 1984. This chunky 2-6-0 gave Americans a steam locomotive that was realistic and ran well right out of the box. Since its introduction, LGB has offered a dozen variations of its Mogul in eight road names, and it has been in the catalog every year. Put simply, the locomotive has become a classic. Today large scale model railroading is growing by leaps and bounds, thanks in no small measure to LGB's South Park Mogul. —

Terry Thompson, associate editor Garden Railways

Drawn for MODEL RAILROADER Magazine by
RICK JOHNSON

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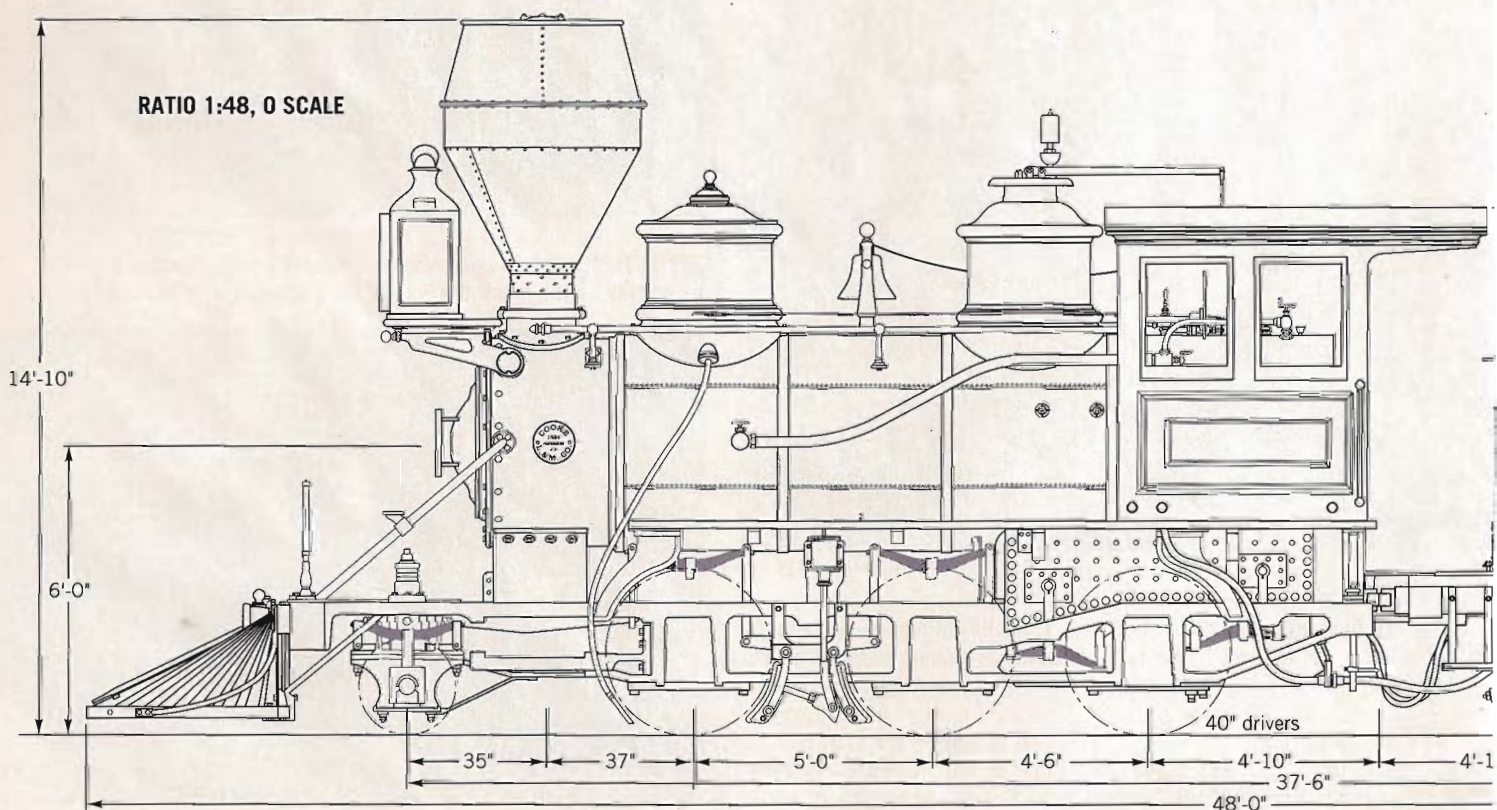
Brawny mixed-duty engines

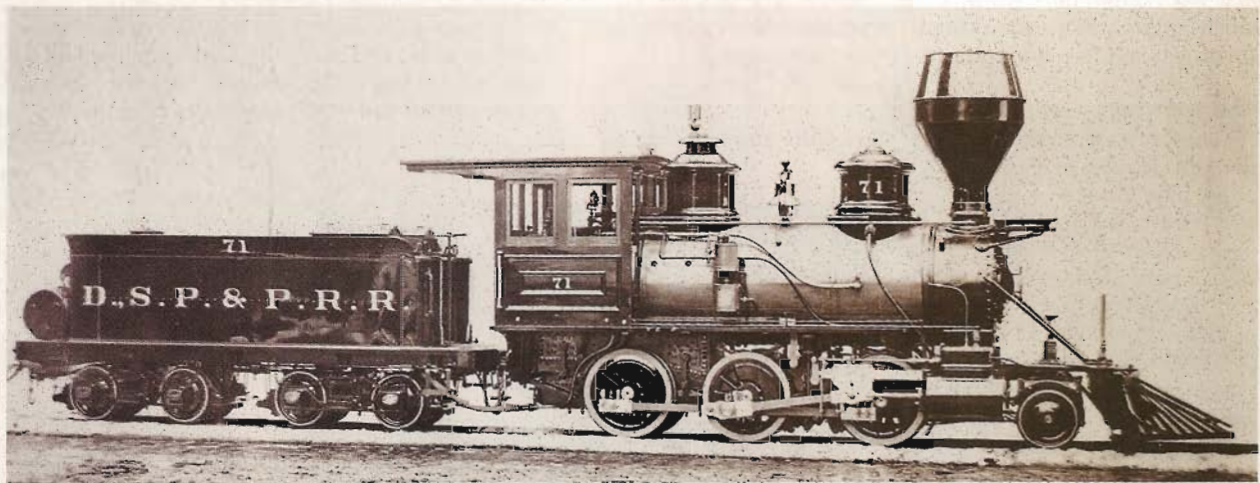
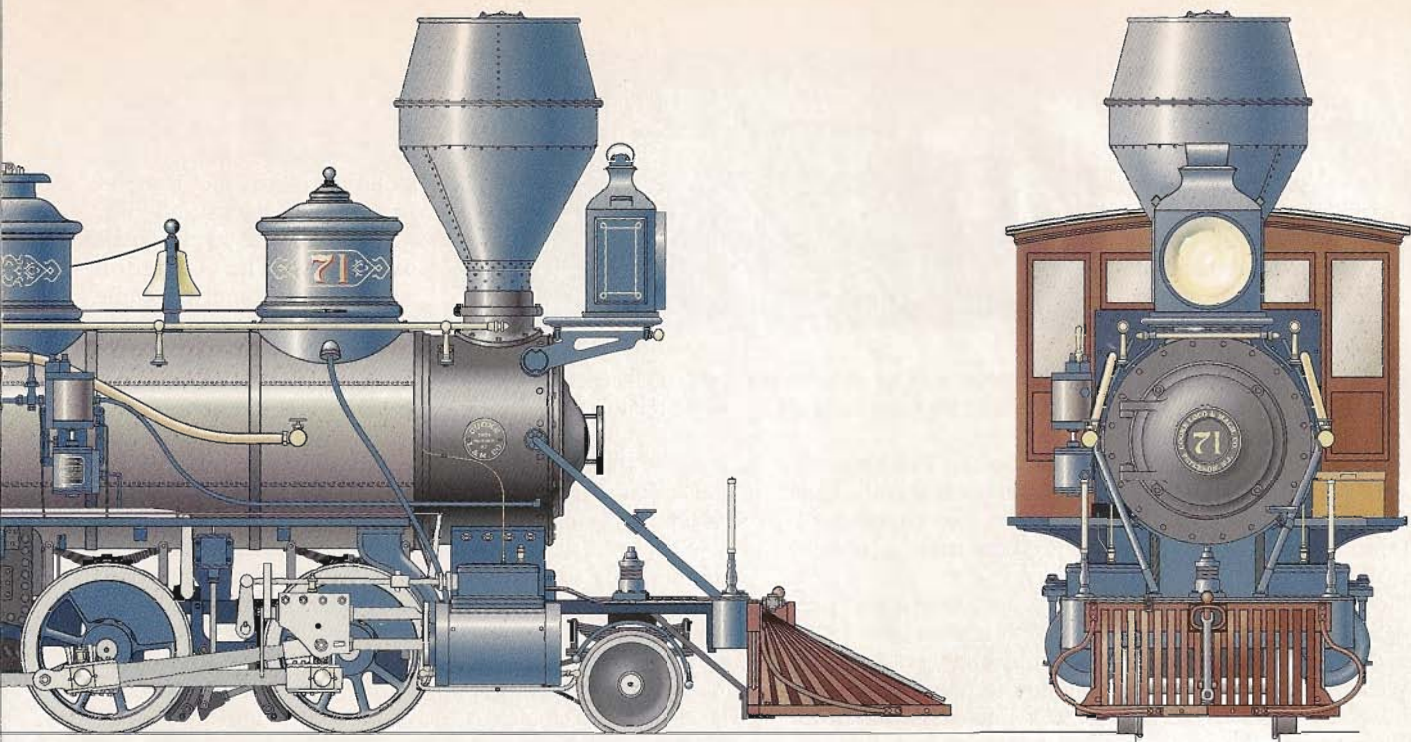
The Moguls would end their days classed as passenger power and used for that almost exclusively. However, the South Park appears to have intended them for dual service at the start. Early photos routinely show them heading up freights, just as they show Consolidations on passenger trains.

In a world where the *Express* from Denver to Gunnison averaged a startling 15 mph as did the scheduled freight, this dual service is not surprising. Despite the schedules, legends tell of mile-a-minute speeds on the flatlands west of Denver

and across the South Park itself. By the 1890s the Moguls' role as passenger engines seems to have solidified. Their sister Consolidations had been displaced to secondary service by yet larger engines, but the Moguls had found their niche on the railroad.

The South Park ran from Denver over Kenosha Pass and down to Como on the northern edge of its namesake South Park (park in Rocky Mountain parlance refers to a large, shallow, high-altitude valley). At Como the rails diverged with





MALLORY HOPE FERRELL COLLECTION

The Cooke builder's photo shows off the Russia Iron boiler jacketing which was applied to the Westinghouse air pump as well. Subtle color variations are also apparent, and our color rendering gives our best interpretation of the original paint colors.

