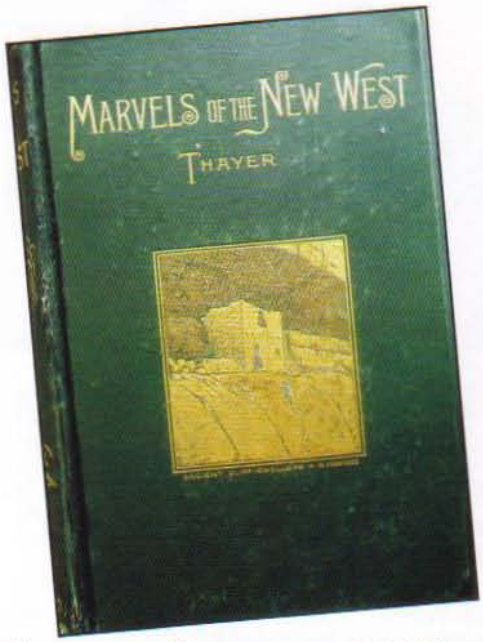
Engines Depicted in Marvels of the New West (1887)

By Robert T. Rhode

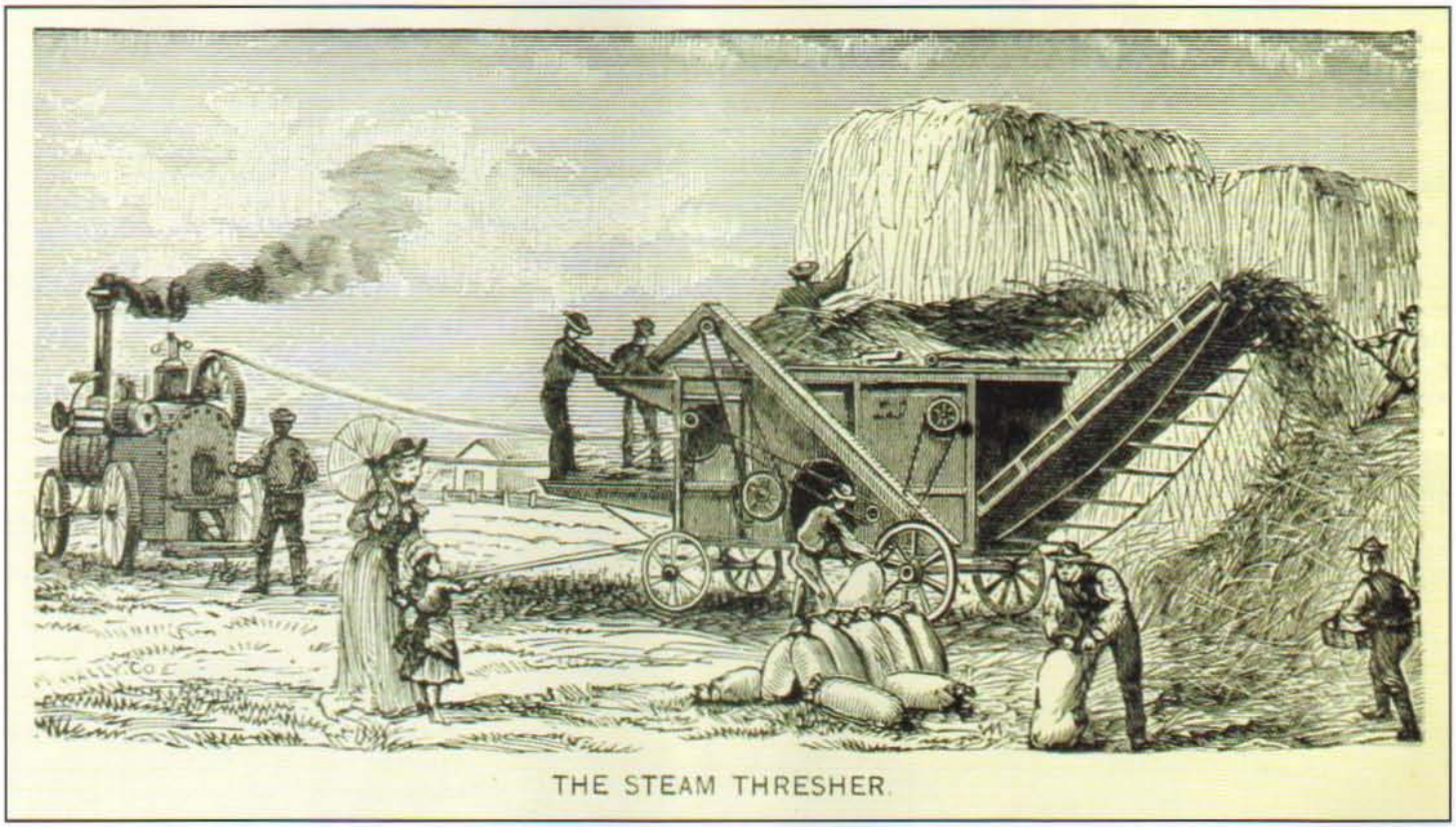


The eye-catching cover of William Makepeace Thayer's 715-page book entitled *Marvels of the New West* was itself marvelous with ornate lettering and fine art.

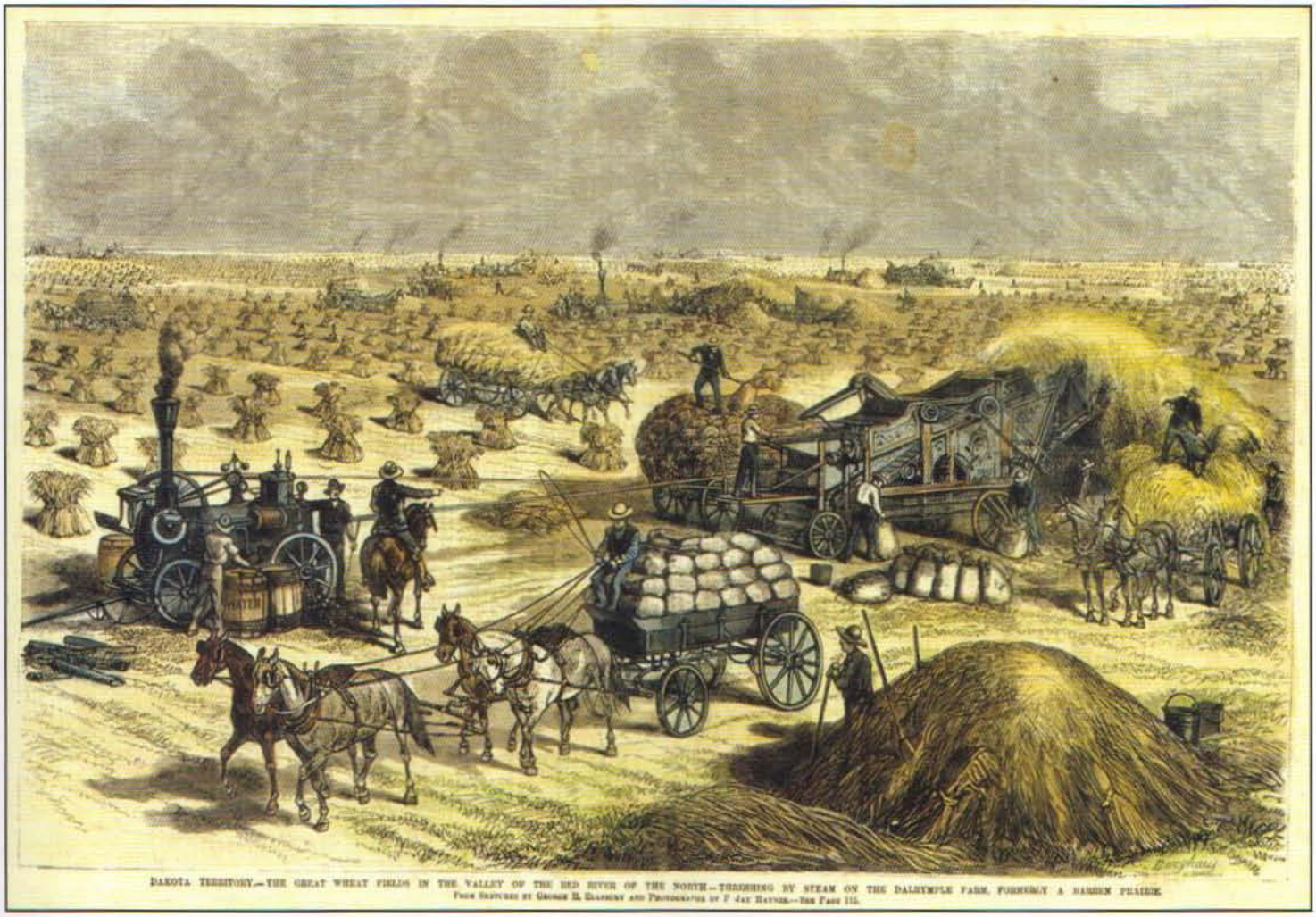
The well-known Norwich (Connecticut) publisher Henry Bill (1824–1891) produced *Marvels of the New West* (copyrighted in 1887), a book by the Reverend William Makepeace Thayer (1820–1898), Congregationalist minister who was best known for books on religious themes, biographies of Presidents of the United States, and stories for young readers. Page 644 of *Marvels of the New West* featured a cut, or engraving, of a threshing scene with the caption "The Steam Thresher." Although the surrounding text implies that the location could have been California, the threshing took place on the Oliver Dalrymple bonanza farms in Casselton near Fargo, North Dakota. In 1878, the Dalrymple farms boasted some 13,000 acres of wheat threshed by 15 steam threshers. In less than a decade, the Minnesota Wheat King's acres devoted to wheat exceeded 30,000, or more than 47 square miles! How can we discern that the art depicts Dalrymple's "kingdom"?

Without a doubt, the artist of "The Steam Thresher" worked from a photograph, but he took ample liberties with the machines in his source. Even so, he left plenty of clues about them. Immediately noticeable is the orientation of the engine, which faces *away* from the thresher to which it is belted.

In 1878, artist George H. Ellsbury (1840–1900) contributed to Frank Leslie's Publishing House a similar engraving. Ellsbury's cut appeared on page 112 in *Frank Leslie's Illustrated Newspaper* for October 19, 1878, and, five years later, was reprinted on page 103 in Hezekiah Butterworth's *Zigzag Journeys in the Occident: The Atlantic to the Pacific, A Summer Trip of the Zigzag Club from Boston to the Golden Gate* (Boston: Estes & Lauriat, 1883). Ellsbury's art was based on the work of the famous Frank Jay Haynes (1853–1921), who had established a photography studio in Moorhead, Minnesota, in 1876. Haynes took numerous photo-

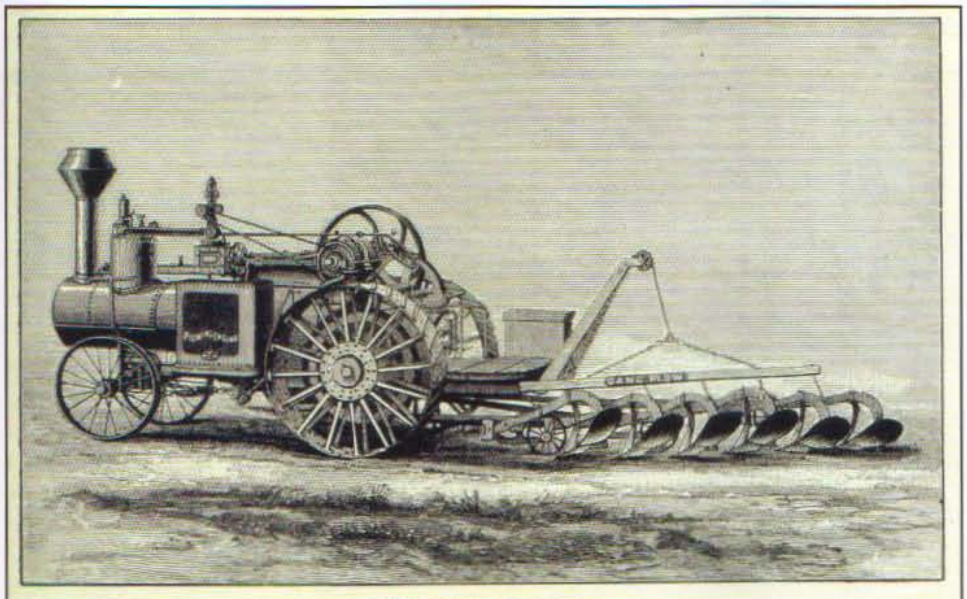


Page 644 in Thayer's tome carried this cut, or engraving, with the caption "The Steam Thresher."



DAKOTA TERRITORY.—THE GREAT WHEAT FIELDS IN THE VALLEY OF THE RED RIVER OF THE NORTH.—THRESHING BY STEAM ON THE DALRYMPLE FARM, FORMERLY A HARVEST PRAIRIE.

Page 112 in *Frank Leslie's Illustrated Newspaper* for October 19, 1878, carried George H. Ellsbury's cut, which was based on a photograph by the noted F. Jay Haynes. Similarities between Ellsbury's art and "The Steam Thresher" help prove that both engravings depict threshing on Oliver Dalrymple's bonanza farms.



STEAM GANG PLOUGH.

Page 637 in *Marvels of the New West* presented a cut of an elusive Frick "Plowing Engine" hitched to a gang plow.

graphs of operations on the bonanza farms. Ellsbury became land agent for Charlemagne Tower, a prominent lawyer from Philadelphia who owned stock in the Northern Pacific Railroad, which sold vast tracts of land. (For the standard scholarly work on the subject, see Hiram M. Drache's 1964 book entitled *The Day of the Bonanza*.) Stories of Ellsbury's successes and failures are so compelling that it is a temptation to present his biography here, but we will remain focused on his threshing scene.

In Ellsbury's art, the engine was belted to the thresher in the same way that the thresher was belted to the engine in "The Steam Thresher." Ellsbury's engine and threshing machine are recognizable as products of J. I. Case & Company's Threshing Works; for that reason, we can suppose that the engine in the photo on which "The Steam Thresher" was based must also have been a Case, even though engines from other manufacturers were put to work on the Dalrymple farm. As both threshers have a dark arched area, we can

further surmise that the threshing machine in the photographic source of "The Steam Thresher" was a Case machine. While we are making educated guesses, we can venture the additional guess that Ellsbury drew "The Steam Thresher"! On September 6th of the same year that Ellsbury created his engraving for *Leslie's Illustrated Newspaper*, President Rutherford B. Hayes and First Lady Lucy, known as "Lemonade Lucy" (because of her staunch support of temperance, which prompted her to serve only non-alcoholic beverages in the White House), toured the Dalrymple farm and observed steam-powered threshing. Haynes photographed the President and First Lady.

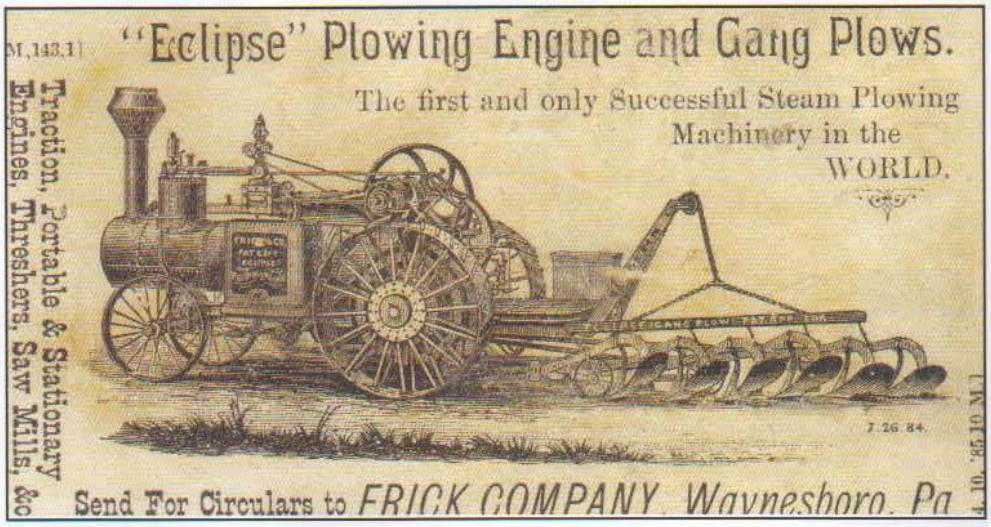
Included among the many illustrations depicting bonanza farming in Thayer's book is a cut of a Frick traction engine pulling a plow. Brenda Stant, an authority on Frick products, says, "A similar engraving has been used on Frick trade cards, etc." Brenda tells us that a factory photograph labeled "1884" depicts the same kind of plow in the illustration and is the only photo of such a plow that she has seen. Painted on the water tank on the side of the boiler are the words Frick & Co. Patent Eclipse Plowing Engine. Brenda continues, "An 1887 price list doesn't have the plows listed but says Frick manufactures plows and to contact Frick for a 'special price list' that includes them." The cuts in the 1887 *Marvels of the New West* and the 1887 price list "are the only two cuts I've ever seen of the steam gang plows," according to Brenda. (Note that both documents were published in 1887.)

Brenda shares our curiosity about why Frick designated the engine in the cuts as particularly suited to plowing; she says that "a Frick 1884 catalog talks about the new 'Plowing Engine,' but it doesn't give any information on what improvements make it a 'plowing' engine. I think this page was in the 1885 catalog as well, but, by 1893, there is no mention of the plowing engine or the plows." Brenda lacks catalogs between 1885 and 1893. She adds, "There is no mention of the plows in either the 1884 or 1885 catalog, only the plowing engine."

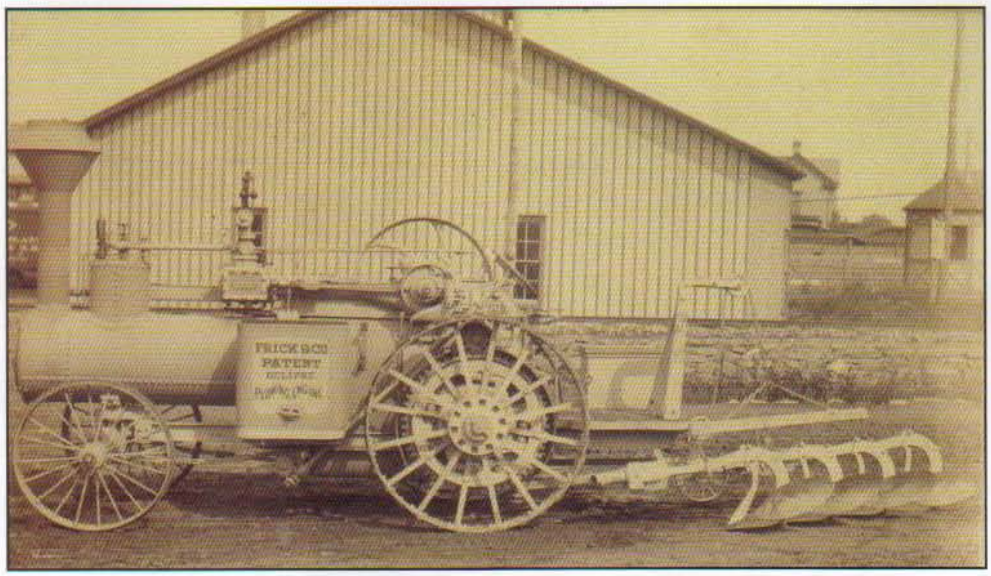
Brenda calls attention to "a photo out of the book *A History of Frick Company* [1953] of an experimental plow. It doesn't give the date of this photo, but this is the only photo I've ever seen of it. It must not have worked out or gone into production."

Brenda concludes, "I've seen cancelled checks from Frick to the Moline Plow Company. I always thought they bought their plows from Moline. Apparently, that isn't so. Perhaps they bought plow parts—like moldboards, shares, etc.—from Moline."

Mike Rohrer tells us that page 72 in *Agriculture of Pennsylvania, Containing Reports of the State Board of Agriculture* for 1884 features this report from September: "A new gold medal was offered for the best steam plow or digging machine. Two entries were made, one by Frick & Co., and the other by the Geiser Manufacturing Company, both of Waynesboro', Pennsylvania. The trial was announced for Friday, 19th instant*, at one o'clock, P.M. Owing to the Geiser machinery having a break during an exhibition on Wednesday, the Frick & Co's. gang of six plows, drawn by an Eclipse traction engine of fifteen horse power, was the only one able to exhibit. This it did to the entire satisfaction of the committee. The trial was on rough, dry, and very hard ground, and the work done was equal to that of horse power, at a rate of about fifteen acres per day. The entire machine can be operated by one man—costing from seventeen hundred to two thousand five hundred dollars. A bronze medal was offered for the



Brenda Stant captured this image of a trade card from an online bidding site. The illustration is similar to the cut featured in *Marvels of the New West*. In addition to the words "Frick & Co." on the hoist, the words "Eclipse Gang Plow Pat. App. For" (Patent Applied For) are on the frame. The wording "Frick & Company Patent Eclipse Plowing Engine" appears on the water tank on the side of the boiler. Curiously, the only words visible in the *Marvels of the New West* cut are "Gang Plow" on the frame and "Plowing Engine" on the tank. Perhaps the publisher did not want to give Frick free advertising.



This factory photograph of the Frick & Company Patent Eclipse Plowing Engine is dated "about 1884." Courtesy Brenda Stant

best model of a steam gang plow. The only one exhibited was that of S. L. Wilson, of Waynesboro', and as far as the committee could judge, was considered entirely practical. It can be drawn by any engine, requiring no special arrangement of engine."

The issue of how to achieve effective steam plowing kept its place near the top of national industrial priorities for much of the nineteenth century. No evidence has come down to us that Frick's plows were leaders in the field of steam plowing, but, for William M. Thayer, Frick's plowing engine and gang plow qualified as "marvels"!

* *Instant* (maybe from the Latin word *instante*) was understood to mean "current," which further meant "of this month." The abbreviation "inst." was frequently used in business and was carried over to personal letters.

Contact steam historian Robert T. Rhode at 990 W. Lower Springboro Rd., Springboro, OH 45066; e-mail: case65@earthlink.net

Right: The 1884 Frick catalog supplied this description of the "Eclipse" Plowing Engine. Courtesy Brenda Stant

Below: A Frick 1887 price list featured this cut of a so-called "Plowing Engine" and gang plow. While the document did not list the plows, it acknowledged that Frick manufactured plows and urged readers to contact Frick for a "special price list" including them. As the original booklet was too fragile to scan, Brenda photographed this image.

THE

"ECLIPSE" PLOWING ENGINE.

We call your especial attention to our latest achievement—the application of the "Eclipse" Traction Engine to plowing—a departure in engineering of the greatest utility and importance to the farming community.

Many difficulties have been successfully overcome, *and we claim to be the first to do practical, thorough* work with an engine pulling a gang of seven plows, and to prove that land can and has been broken and plowed better and cheaper than can be done by any other engine, or by horses.

The "Eclipse" Traction, with its great tractive or pulling power, strength and compactness of parts, ease of management and small cost for operating, is admirably adapted to plowing, and will haul seven plows and cut a clean furrow with each plow, twelve inches wide and from six to eight inches deep, as may be desired. Two men only are required to operate the engine and plows, and the work of seven plows can thus be accomplished in one-seventh of the time that they would require singly.

Following will be found a letter from one of our Western patrons, who made careful and exacting tests of our traction engine with results which show for themselves.

Further information and prices furnished on application.

ST. LAWRENCE, D. T., July 3, 1883.

FRICK & CO.—*Dear Sir:* Your letter of recent date is received and contents noted. I take this first opportunity to reply. This being my first experience in the use of traction engines for plowing, I had, of course, some things to learn by practical tests, which, in the course of a season's work, will show many things that can be better done, and more economically, another season. We also labored under many disadvantages, which will be greatly lessened next season, among which was a scarcity of water, there being but few wells dug yet. We had often to haul water two and three miles. Coal also had to be bought at high rates and hauled long distances, averaging in the past year's work about fifteen miles. Teams being very scarce and very busy, were much sought for and commanded high prices for their day's labor.

In showing the comparative cost of breaking prairie sod by steam and horse-power, I can only give the facts and figures as they were found here during the past season. With horse or mule teams it was unusual to see less than three, and in most cases four, to each plow. Their average day's work, during the season, was not to exceed two acres per day, for the days they were actually at work—and but few of them did so well. Allowing *that* rate, the cost would be—

One man, one day, with board,	$1 20
Three horses, one day, at $1.00,	3 00
One and a half bushel of oats, at 60c., and hay,	1 20
Total,	$5 40

Total cost for one day's work on two acres, $2.70 per acre.

With steam, we found that fifteen acres could readily be turned in one day, using five 16-inch Canaday Sulky Plows. If everything was favorable, more could be plowed. We many times turned ten acres in half a day, the cost per day being—

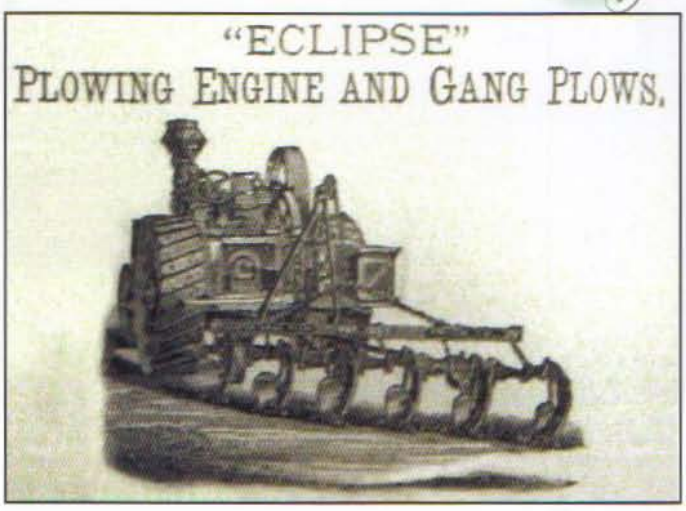
One engineer, with assistant to steer, and board,	$ 4 00
Two men to manage plows, with board,	2 25
One man and team to draw water, and board,	3 50
One ton coal, and hauling same,	12 00
One boy to do errands, and board,	75
Total cost per day (for 15 acres),	$22 50

Or $1.50 per acre with steam.

It will be seen that, with us, fuel was the greatest expense; in fact, was more than all else. This would not apply to any region where fuel was plenty, nor where it was within reasonable reach. Its transportation here makes it very high—so high, indeed, that many thought that alone sufficient to prevent successful work being done by steam.

The above statement of facts, and comparative cost of turning sod by the two methods, as treated side by side, shows for itself.

Very respectfully, JOSEPH MILLS.



This experimental plow, with one of the first "power take-offs," was supposed to move the shares in a loop while the tractor pulled the rig forward. Abe Lincoln is said to have proposed a similar plow.

Here is a photograph of a Frick experimental plow. It must not have succeeded or gone into production.