

THE PLOUGHMAN.

Vol. I.

Published by COLLINS & CO., 212 Water St., New York.

No. 1.

PLOWS & PLOWING.

It is impossible to say who was the first inventor of the plow. The earliest records speak of it as a well-known instrument of husbandry, and we are therefore left to conjecture alone as to its origin.

Ancient Plows.

The first plow of which we have any delineation, is figured roughly on the monuments of Egypt.

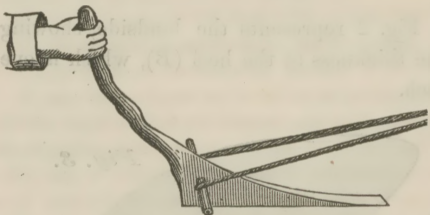


FIG. 1—Ancient Plow.

Fig. 1.—is believed to represent the original of all plows. It was sometimes formed of the limb of a tree, and sometimes of the body and tough root of a sapling, the lower end being hewed to a wedge. The plowman occasionally worked the implement by himself applying his foot to the projecting pin, like a spade, but was oftener assisted by a team, composed of a grown daughter and her mother, attached to the plow by rawhide or hempen thongs. This same contrivance is at the present day used for a plow in the Hebrides.

The plow still in use in Palestine is made entirely of three sticks, adjusted to support each other, as shown in the illustration. This is commonly drawn by a cow or an ass, and sometimes by camels. Figures 3 and 4 exhibit the plows of China and the East Indies.

These countries do not seem ever to have changed or improved their plows in any important respect.

Fig. 5—is an engraving of a Norman plow and plowman, from a sketch found in an ancient British manuscript. The plowman carries a hatchet to break the clods of earth, and the very faulty perspective shows it to be about the size of his team. The plow of the ancient Britons was very rude, no man being regarded as qualified to be a farmer until he could make his own plows. The custom was to fasten the

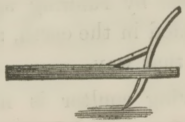


FIG. 2—Palestine Plow.

plow to the tails of oxen or horses, and compel the poor beasts to thus drag it through the ground. An act of the Irish Legislature was passed in 1634, entitled, "An act against plowing by the tails," which forbade the cruel custom, but it was still practiced in some parts of the island as late as the present century. The draft pole was lashed to the tail of the animal, and, as no harness was employed, two men were necessary, one to guide and press

upon the plow, the other to direct the animal, which he did by walking backwards in front of the miserable creature, beating him on the head on either side, according to the direction required. The beginning of the last century was signalized by a revival of interest in Agriculture in England, and attention was more strongly turned to the improvement of plows than ever before. A plow introduced from Holland, and known as the Rotherham plow (perhaps the name was a corruption of Rotterdam), was first constructed and patented by Joseph Foljambe, of Yorkshire, which he soon after sold to a Mr. Staniforth, who, however, did not manufacture them himself, but charged a royalty of two shillings and sixpence on those made by others; but when he attempted to raise the price to seven shillings and sixpence, the validity of his patent was contested, and set aside by the courts, on the grounds that it was not a new invention.

Ten years after the letters patent were granted to Foljambe for the Rotherham plow, Jethro Tull, an enterprising Englishman, published a work on "Horse Hoeing Husbandry," in which he advocated deep tillage, and the use of four coultered plows (similar to the ordinary knife coulter), but so arranged as to cut the furrow into four parts. Tull claimed great advantages for his four-coultered plow, but they were never very generally adopted; and as the same objects have since been accomplished in a more simple manner, it has fallen into disuse.

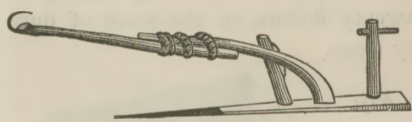


FIG. 3—Chinese Plow.

James Small, of Scotland, was the next great improver of the theory and practice of plow-making. He established his manufactory at Black Adder Mount, in Berwickshire, in 1763, and died about thirty years after, signalizing every one of those thirty years by some new improvement of the various parts of his plow. He took the Rotherham plow as a basis, and improved it in nearly every particular. Indeed, he left the implement at his death so nearly perfect that to this day it is used in many of the largest and best cultivated districts of Scotland, and is prized more highly than any other, being known as the *East Lothian Plow*.

In 1785, Mr. Robert Ransom, of Ipswich, England, obtained a patent for making plow shares of cast iron, and in 1803 improved his article by a mode of chilling or case-hardening them, for which he received a patent.

One of the first to improve the plow in this country was Thomas Jefferson, the third President of the United States, who, in a communication to the French Institute, attempted to solve the mathematical problem of the true surface of the mould-board, and to lay down intelligible and practical rules for its formation, for

the first time. In 1793, Mr. Jefferson put his theory to the test of practical experiment, and had several plows made after his patterns, and put them into use on his estates, in Albemarle and Bedford Counties, Virginia, and became fully satisfied of their practical utility.

The first American, after Mr. Jefferson, who set himself to work to improve the plows in common use, was a farmer by the name of Charles Newbold, of New Jersey, who invented the first cast-iron plow ever made in America, and whose letters patent were signed by John Adams, President of the United States, in June, 1797. Mr. Newbold spent upwards of \$30,000 in perfecting and introducing his plow, and then abandoned the business in despair, as the farmers had in some way imbibed the strange idea that the cast-iron plow *poisoned* the land, injured its fertility, and promoted the growth of rocks.

The next plow patented was invented by John Denver, of Maryland, in June, 1804. There is, however, no definite record as to its peculiarities, which is also true of a plow patented Feb. 24, 1804, by Hezekiah Harris, of Kentucky.

A patent was granted to David Peacock of New Jersey, April 1, 1807, which no doubt resembled Newbold's plow, as Newbold sued him for an infringement of his patent, and the case was settled by the payment of \$1,500 to Newbold. Peacock obtained another patent in 1822, consisting of some improvements in the various parts, but the chief feature was the famous lock coulter, which, it is believed, he was the first to introduce.

The following are the successive patents on plows granted to inventors who were striving to improve this important implement of agriculture.

Richard B. Chenoweth, Maryland.

John Klay, Maryland, Jan. 11, 1812.

Roswell Tousley, Scipio, New York, Jan. 11, 1812.

John Seltz, Pennsylvania, Feb. 8, 1813.

Mathew Patrick, New York, Jan. 2, 1813.

Horace Pease, Scipio, New York, Aug. 28, 1813.

Jethro Wood, Scipio, New York, July 1, 1814.

John Swan, Scipio, New York, July 5, 1814.

J. Morgan and J. B. Harris, Oct. 11, 1814.

David Peacock, New Jersey, May 29, 1817.

Jethro Wood, New York, Sept. 1, 1819.

This plow of Mr. Wood's became exceedingly popular, and did more to drive out the clumsy plows of the olden time than any other which had then been invented. There were sold in New York City, of Wood's plows, in 1817, 1,550; in 1818, 1,600; in 1819, 3,600; and in the year 1820, the sales were largely augmented. It is alleged that Mr. Wood not only made no profits by his efforts to improve the plow, but that he actually lost large sums by his enterprise. Mr. Wood's efforts were, however, lately recognized by

the New York State Legislature, who appropriated two thousand dollars to the heirs of Mr. Wood. Many other plows were patented subsequently, but as they founded their claims to public favor upon some real or fancied improvements, and soon went out of use, it is unnecessary to describe them.

In 1836, or 1837, Daniel Webster, the great statesman, invented a plow for work twelve and fourteen inches deep, cutting a furrow 24 inches wide, which is still in existence, the property of his friend Peter

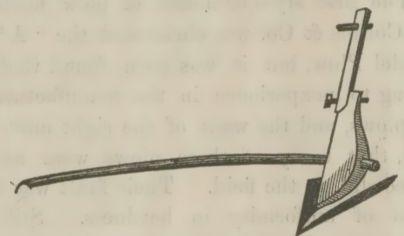


FIG. 4—East Indian Plow.

Harvey. This plow is TWELVE FEET long; the landside four feet long. The mould-board is of wood, plated with thin iron straps, in the usual way of strapping wooden mould-boards in those days, and the beam was some 28 inches from the ground. Mr. Webster designed this plow for a field on his farm at Marshfield, which was full of very strong roots, and it was accordingly made of great strength. Mr. Webster himself, with some six or eight assistants, held this plow, and expressed himself substantially as follows in regard to his monster plow:

"When I have hold of the handles of my big plow in such a field, with four pair of cattle to pull it through, and hear the roots crack, and see the stumps all go under the furrow out of sight, and observe the clean, mellowed surface of the plowed land, I feel more enthusiasm over my achievement than comes from my encounters in public life at Washington."



FIG. 5—Norman Plow.

To the various forms and sizes of wood and cast-iron plows heretofore mentioned, succeeded that important change in the material used for plows, viz.: the substitution of SHEET STEEL for cast iron. This was a great improvement in certain respects, as it enabled the manufacturers to greatly reduce the weight of the plows, without impairing the strength, and consequently lessened the draught of the plow; but experience has demonstrated, however, that in soils sticky in their nature there is generally present a proportion of sharp grit, which soon cuts through the thin sheets, rendering the use of this class of steel plows quite expensive to farmers.

THE COLLINS' SOLID CAST CAST-STEEL PLOW

MANUFACTURED ONLY BY

COLLINS & CO., HARTFORD.

Its Origin.

In 1860, F. F. Smith, an ingenious plow maker of Illinois, disheartened in a prolonged effort to produce a sheet steel plow, of uniform excellence, made his appearance at the works of Collins & Co., in Hartford Co., Conn., a corporation having a world-wide reputation for the excellence of their steel tools—with a new plan for making steel plows. The Company cordially joined him in his effort to improve the steel plow, and in a short time was produced the first CAST CAST-STEEL PLOW.

The First Product.

The first style or model of plow made by Collins & Co. was christened the "A" Model Plow, but it was soon found that, owing to inexperience in the manufacture of plows, and the want of the right material, that many of these plows were not successful in the field. Their fault was a want of uniformity in hardness. Still, many of these "A" plows were of the very best quality, as is proved by the fact that there is a steady demand for "A" shares in 1870, while not an "A" Model Plow has been made for EIGHT YEARS.

The Company expended thousands of dollars in experiments, and their perseverance was at last rewarded by the production of thoroughly and uniformly hardened sound and strong plows.

Mode of Manufacture.

These plows were made of a superior quality of molten cast-steel, poured into iron moulds, of such shape that the different parts are made of variable thickness, such parts as are most exposed to wear being cast of EXTRA thickness. These sections are then highly tempered, ground, and polished. The form of the plows, aided by the extreme hardness of the surfaces, and the extra thickness of the metal at points subject to the most wear, give these plows a durability never attained by any other.

Its Capacity for Scouring.

In all countries, here and there are found soils of such "sticky and gritty" nature combined, that manufacturers have not been able to produce iron or sheet-steel plows that would perfectly "scour" or clean themselves in them. Owing to the fact that they could not make them sufficiently hard, the sand or other substances denominated "grit" would scratch the surfaces, and thus give lodgment to the adhesive or sticky portion of the soil.

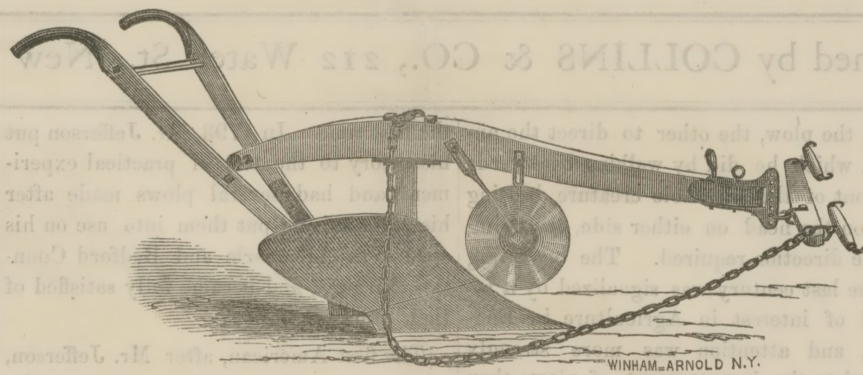
This difficulty is overcome by the Collins plow, because its hardness is such that the "grit" in the soil cannot mar its surface, while its fine polished surface "sheds" the most adhesive portion.

The advantages of the use of these plows is not, however, confined to their use in prairie or sticky soils, as hundreds who have used them in rough, stony land, and who, without exception, declare that they are the strongest and cheapest plow to use in such soils.

Unless a plow will scour it is impossible to do good work with it; besides, it must draw heavy, and cause much waste of time

in "cleaning it off." For these reasons any intelligent farmer should rather pay three times as much for a plow that will scour perfectly, than to buy a plow that will be a source of constant annoyance to the plowman, to say nothing of the "wear

element of its durability is the same quality which enables it to scour in sticky soils viz.: ITS HARDNESS. A hard knife, or even glass, when scratched upon its surface, will scarcely leave a mark that can be seen, while any good knife will cut a gash into



Mouldboard view of Plow with "Revolving Coulter" attached, showing mode of using a Drag Chain.

and tear" on the team. Hence, wherever sticky soils are found, the scouring quality alone of the Cast Cast-Steel Plow will render it indispensable.

Its Ease of Draft.

The unanimous testimony of all who have used these plows is that they draw much lighter than any other plows cutting the same width and depth of furrow. Their reasons for this are plain: The mould-board presents a sharp angle to the earth, and the "instep" is so high that the landside of the furrow-slice commences rising the instant it is cut, while the opposite side is kept low. By this means the furrow-slice is simply turned or rolled over instead of being bodily raised and pitched or thrown away from the plow. It is plain that it requires less power to roll a body over than to lift and throw it two or three feet; hence, as these plows "pitch" the soil less than any other, they must draw lighter. Again, the hardness of the steel enables it to take a mirror-like polish, causing it to pass through the earth with less FRICTION than any other. One worthy Kentucky farmer who had used the Cast Cast-Steel Plow with great satisfaction, stated to a neighbor that he had discovered the secret of its light draught, and that it was caused by an OIL which oozed out of the pores of the steel. This, we hardly need say, is not quite correct.

Its Great Durability.

The durability of the Collins Plow is no longer questioned.

Experience has proved that it will last several times longer than the best sheet-steel or iron plow in use.

any other steel plow made. Now, it is well known that the durability of a given thickness of steel in a plow is in exact proportion to its hardness. This is so plain a fact that it requires no argument to prove it. We will also state that the steel sections are hardened *entirely through*; it is no mere surface hardening, to be soon destroyed, but the steel is of the same hardness throughout.

In the sticky and gritty soils, it is found that the best sheet-steel plows will be worn entirely through in plowing eighty or one hundred acres, while in the same soils the Collins Plows have repeatedly plowed over three hundred acres WITHOUT SHOWING PERCEPTIBLE WEAR, and apparently were yet good for several times as much service.

These facts speak volumes. Our first plows were claimed to last *twice* as long as any other, but after ten years experience, we are confident that were we to say they will last ten times as long as any other, we should be much nearer the truth.

In view of these considerations, we claim these plows are CHEAPER at one hundred dollars each than any other plow at twenty dollars, on the score of durability alone.

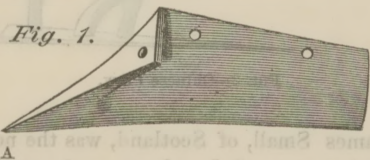
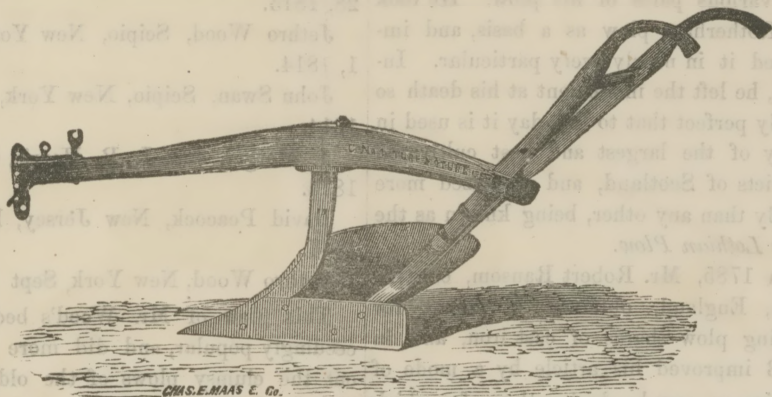


Fig. 1 represents the share of the Collins Plow, showing the thickness at the point, "A," which is solid three inches back. To attach new shares to plows, follow the directions given, viz.:

1st. Loosen the beam-bolt nuts that



Landside view of Plow, without "Coulter."

A feature peculiar to these plows is the casting of the different parts of variable thickness. Thus, the "shin" is one-half-inch thick, the "heel" is one inch wide, and the point is solid three inches back, while the share is not welded to the landside, but forms a part of it. But the chief

fasten the beam to the standard, then invert the plow.

2d. Remove the flat bottom brace and the old share.

3d. Attach the new share by first putting the landside bolt and screwing it partially up; then put in the coupling

plate-bolts, and replace the flat bottom brace by fixing it on the coupling plate-bolt, first partially screwing up the bolts replaced by this operation.

4th. Proceed to tighten all the bolts, commencing with the landside share-bolt. It may be necessary, in order to firmly seat the heads of the bolts, to hammer them while screwing up the nuts. An ordinary round punch or file shank is often useful to insert into the bolt holes to draw the sections to their places.

These shares can be sharpened by any blacksmith, as the steel is perfectly malleable, and works easily. Anything can be done with it that can be done with ordinary bar steel; care should be taken, however, not to *overheat* the steel. Knives, cold chisels, and other tools have been repeatedly made out of pieces of the steel in all parts of the country.

Fig. 2.

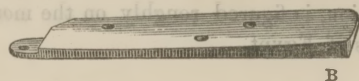


Fig. 2 represents the landside, showing the thickness at the heel (B), which is one inch.

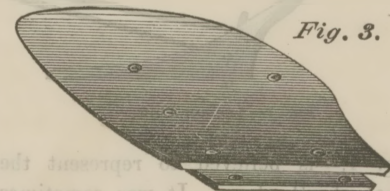


Fig. 3 represents the mouldboard, showing the thickness at the point (C), which is one-half inch.

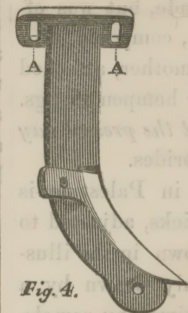


Fig. 4 represents the wrought-iron standard, showing the slots, (A A) for sliding the beam so as to take more or less land at pleasure, and also to permit the use of three horses abreast if desired. All farmers are aware that when they "give or take land" at the clevis, it will often alter the running of the plow, causing it to work badly.

The Revolving Coulter.

Those farmers who have not used a revolving coulter do not know its advantages. We think it should be used upon all plows, and that it will *PAY* for itself in the quality of work performed. Where small stones are mixed with the soil, the rolling coulter is apt to give trouble, as the stones at times wedge themselves between the coulter and share, and throw the plow out, but no fear need be entertained of breaking this coulter by running against large stones embedded in the earth, as it CANNOT be broken in that way.

The revolving coulter is made of the best quality of cast-steel, is sharp and thin, with slotted wrought-iron braces, so that it can be adjusted at any desired height or angle. Care should be used in adjusting this coulter, as it works poorly if not properly adjusted. To attach it, bore two half inch holes in the beam, one of them in the middle of the beam, three inches forward of the front standard-bolt, and the other eleven inches forward of the front standard bolt, 1½ inches from top of beam, attach the heavy flat braces in front perpendicularly.

THE "CAST-CAST-STEEL" PLOW.

ITS REMARKABLE DURABILITY.

FACTS & FIGURES!

Repairs for Eight Years.

Five out of Six of all the Plows Sold during the last Eight Years have had NO REPAIRS WHATEVER!

READ, and CONSIDER whether THE BEST PLOW is CHEAP or not.

The cast cast-steel plow was first placed before the public some ten years ago. It is well known that no extra shares, mould-boards, or landsides for these plows are made by other parties. Therefore, all repairs needed for these plows are supplied by Collins & Co.

The accounts of our North Western agents show, and an accurate account is kept of every different piece or repair sold, as well as of all plows, that the exact proportion of the whole number of shares, mould-boards, and landsides sold to the number of plows sold, is as follows:

- Only 1 landside to each 73½ plows.
- Only 1 mouldboard to each 39 plows.
- Only 1 share to each 6½ plows.

From these figures, it is certain that of all the cast cast-steel plows sold and in use during the past eight years

- 72 out of 73 have the same landside
- 5 out of 6 have the same shares
- 38 out of 39 have the same mould-boards

which were on when they left the factory. But this is not all.

The above simply shows the proportion of extra parts furnished for all purposes. The proportion of extra shares worn out or broken in use is probably one-third of of the whole amount.

Let it be remembered—

1st. That many of the extra parts went to replace breakages in shipping, and therefore did not go to replace "worn out" parts at all.

2d That many extra sections are still in the hands of the dealers yet unsold, and therefore have not yet gone to replace worn out ones.

3d. That farmers often buy extra shares when they buy their plows, and such should not be counted as worn out.

Now, if we make due allowance for these exceptions to needed repairs, we think it will be found that the proportion actually purchased by farmers to replace worn out parts, will be about as follows:

- 1 share - to each 20 plows.
- 1 mould-board to each 300 plows.
- 1 landside - to each 600 plows.

Consider the well-known fact, that the great bulk of our plows are sold to farmers who cannot get other plows to scour in their soils, or who have the sharp, gritty soils which cuts out sheet steel and other plows so rapidly. And we think these figures will prove we do not overstate in saying that the cast cast-steel is the most durable plow ever made.

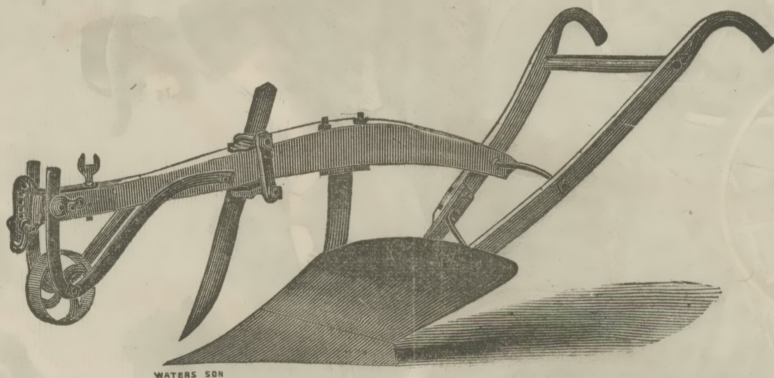
two inches shorter, consequently the furrow-slice is two inches narrower. Price, \$25 00.

C—No. 2 Plow, weighs 85 lbs., made either right or left hand; cuts a furrow 11 inches wide; is of admirable model, doing extra good work in sod, and also useful as a stubble plow. It cannot be surpassed as a light two-horse plow. Price, \$25 00.

C—No. 0 Plow, weighs 72 lbs.; made either right or left hand; cuts a furrow 10 inches wide and from 2 to eight inches deep; is a very light draft and strong two-horse plow, adapted especially for plowing heavy cotton, rice, or corn lands. Price, \$23 00.

"B" Model Plows

are intended for, and useful in STUBBLE LAND ONLY. They will not do good work in sod or turf land.



Mouldboard view of a Left-Hand Plow, with Knife Coulter and Gauge-Wheel attached.

List of Sizes & Styles

"CAST-CAST-STEEL" PLOWS.

The "C" Model Plows.

C—No. 4 Plow, weighs 95 lbs., cuts a furrow 14 inches wide, and is made either right or left hand as ordered. It will plow either turf or stubble-land in the most perfect manner, at any desired depth, from 3 to 12 inches. Price, \$25 00.

C—No. 3 Plow, weighs 90 lbs., cuts a furrow 12 inches wide; is made either right or left hand, and is of the same shape and material, and adapted to the same uses as the No. 4 plow, but the share is

B—No. 14, weighs 95 lbs., cuts a furrow 14 inches wide, and is designed especially for turning under stubble, cornstalks or other "trash." This plow is "bolder" than the C model, and consequently is not as light draft. Price, \$25 00.

B—No. 12 Plow, weighs 90 lbs.; is precisely the same as B No. 14 plow, but cuts only 12 inches wide. Price, \$25 00.

B plows are made either right or left hand, as ordered.

Turf, or Breaking-up Plow.

E—No. 12 Plow, made right hand only, cuts 12 inches wide, and is adapted solely to use in stiff sods, or as a prairie-breaker. Price, \$25 00.

One-Horse Plows—Right Hand only.

D—No. 9, cuts 9 inches wide; weight, 45 lbs. Price, \$15 00.

D—No. 8, cuts 8 inches wide; weight, 42 lbs. Price, \$15 00.

D—No. 7, cuts 7 inches wide; weight, 40 lbs. Price, \$15 00.

IMPORTANT NOTICE!

Orders must ALWAYS state whether right or left hand plows are wanted.

The prices annexed to descriptive list of plows are for plows complete, with clevis, but WITHOUT any coulter or gauge-wheel. If coulter or gauge-wheel is wanted, the order must distinctly specify the kind.

PRICE LIST OF EXTRAS

OR REPAIRS FOR PLOWS.

Revolving coulters, with fastenings, each	\$6 00
Knife coulters, do do	" 2 50
Extra steel shares for C, B, or E plows	" 4 00
Extra cast-iron shares for ditto	" 1 00
Extra steel shares for D plows	" 2 50
Extra cast-iron shares for D plows	" 50
Extra C, B, or E mould-boards	" 6 50
Extra ditto landsides	" 3 50
Extra D mouldboards	" 4 00
Extra D landsides	" 2 50
Extra beams	" 2 00
Extra handles, say whether for right or left hand plows	" 60
Extra clevises	" 1 00
Extra standards	" 2 00
Extra bolts	" 10
Steel beams, extra over wood beams	" 4 00
Gauge-wheels, with fastening	" 2 50

Gauge Wheels are furnished when ordered, but there is little necessity for them on The "COLLINS Plow," as they run perfectly level without a regulating wheel.

All prices given are for plows and extras in New York City, on board any transportation line.

We do not deliver any goods at any point but New York City, neither do we send out plows on trial, nor consign goods to be accounted for when sold. Orders must be accompanied by a remittance or references. Remittances, by draft to our order, or P. O. order, or registered letter, may be sent at our risk. Applications from dealers, or from parties desiring to act as agents, must be accompanied by references.

TESTIMONIALS.

WINCHESTER, FRANKLIN CO., TENN.,
March 25, 1869.

Your note requesting me to express my opinion in writing as to the value of Collins & Co.'s plows for use in this section is received. I take pleasure in saying that after using them two years, in all varieties of soil, it is to-day as good as new; never having had it sharpened during that time. For strength and durability I consider them unequalled, while for draft, I have proved by actual experiment that there is a gain of at least twenty per cent. over any other plow of the same size. I paid thirty-seven dollars for my plow. I have always regarded the money well invested, and shall continue to use their plow in preference to all others until I am thoroughly convinced that something better has been produced.

S. D. MATHER.

WYTHEVILLE, VA., April 28, 1869.
Messrs. COLLINS & Co.

Gentlemen:—Yours of 26th inst. just received; also cuts of your plows per express. I had the plow purchased from you (C No. 3) put in an acre lot this morning to show some friends the kind of work it would do. All who witnessed the trial, several of them old farmers, pronounced it the best work they had ever seen, and the draft to the team much lighter than the ordinary plow.

Yours, respectfully,
CHAS. L. FOX.

ROME, GA., March 19, 1869.
Messrs. COLLINS & Co., New York.

Gentlemen:—We take pleasure in attesting to the universal satisfaction expressed by the planters in this section of "Cherokee Georgia" who have been using the cast cast-steel plow manufactured by you. Although but recently introduced here, their reputation as a superior plow is becoming wide spread.

Those who have used them assert that they work admirably in every variety of soil, and especially recommend them for their comparative lightness of draft, capacity to scour, and their superiority in other respects over other steel plows hitherto considered the favorites.

Very respectfully, yours,
AYER, HILLS, & PANCHEN.

CALHOUN, GORDON CO., GA., April 6, 1869.
Messrs. COLLINS & Co.

Gentlemen:—I have received your circular mailed on the 28th ult. I was much pleased with the information I obtained from it in regard to your most excellent plows. I recently tried some of them, and must say that I have never seen their equal in all the qualities which compose a good plow. I am determined to introduce them on my own farm, and as I take an interest in such things beyond a mere selfish consideration, I will use my efforts to introduce them in this county, which produces the best lands in Georgia.

J. C. GARLINGTON.

SAVANNAH, GA., March 23, 1869.

Gentlemen:—In response to your favor of this date, I take pleasure in bearing testimony to the great value of the cast-steel plow of Collins & Co. More than two years ago I purchased four of them (two No. 0 and two No. 2): have used them three winters in breaking up ground, principally rice lands of all grades, from the lightest moor land to the heaviest clay, and have never used a plow which has given me more satisfaction, two mules turning over the rushes thoroughly without a coulter in front, and driving it with considerable ease. The durability of these plows make them comparatively cheap, although their original cost may deter many from using them. With an extra point, the plows I purchased of you, with one exception, have done my work for three seasons, and I think will last two more, with the addition of another extra point. I hope to see them extensively used in the South, as I am sure our agriculture will be promoted thereby.

Yours, very respectfully,
W. S. LAWTON.

RISEBORO, LIBERTY CO., GA., April 5, 1869.
I have used Collins & Co.'s cast-steel plows (D) for two years, and I must say of these plows that, for strength, durability, light draft, and most beautiful work, they are far superior to any plows I have ever used.

F. R. LYONS.

BUFORD'S DEPOT, BEDFORD CO., VA.,
Messrs. COLLINS & Co. May 4, 1869.

Gentlemen:—The last plows you sent me (F. Smith's Patent No. 3, left hand), I am glad to say, are very decidedly the best plows I ever saw. For light draft, good work, and ease to the plowman, I do not believe any plow can equal them. I have followed this spring about 120 acres blue grass sod with the two plows, and yet my smith's account for sharpening is only \$1.10; and they are now in good order.

Very truly your friend, &c.,
JAMES H. BUFORD.

WINCHESTER, FRANKLIN CO., TENN.,
March, 1869.

Dear Sirs:—After trying a number of the various kinds of sheet-steel plows brought to this country, we finally got hold of the cast cast-steel plows, and we must say they far exceed our most sanguine expectations. The soil in this region runs from a gritty gravel in places to a loose ashy clay soil. In the first, plows soon wear out, and in the latter they will not clean. But the cast cast-steel plows overcome all this, by standing grit, and they clean nicely, making a great difference in the draft. They are a great saving of horse-flesh, and save the plowman too; they are also strong, durable, and in their general working do so well that the little extra cost at first is soon repaid in pleasure and satisfaction to the plowman.

Respectfully,
JACOB ZERBE, MARTIN SCHARBER,
ISAAC ZERBE, SAMUEL SCHARBER,
JOHN EMRICH.

BOLIVAR, TENN., March 31, 1869.
Messrs. COLLINS & Co., New York.

Gentlemen:—We have sold your cast cast-steel plows to various persons, and the universal report is they are the best plows they ever used. We have used them ourselves, and know several that have used them; they are all enthusiastic in their praise. Their admirable shape and metal enable them to do one-third more plowing for the same amount of labor bestowed by the plowman and horse than any other plow our patrons ever knew.

Very respectfully,
BILLS & HILL.

"SEA SIDE" PLANTATION, EDISTO ISLAND,
S. C., May 25, 1868.

Messrs. COLLINS & Co.
I have used your cast cast-steel plows on my plantation for nearly two years, and take great pleasure in pronouncing them the best plows yet introduced for cultivating cotton lands. I ran twenty of these plows last year, and am using forty-five this year in the cultivation of twelve hundred acres of land.

These plows certainly do better work and make a much better bed for cotton than any I have tried, and I can, with perfect safety, recommend them for use by all cotton planters. On account of their great strength and durability, they are the best plows I am aware of, running freely, throwing a fine furrow, of very easy draft, and, at once, taking such an extremely fine polish, that they pass through the soil with little or no friction whatever.

Very respectfully your obedient servant,
JOHN WRIGHT.

BEAUFORT CO., S. C., April 27, 1869.

In accordance with your request, I have made inquiries as to the utility of the plow purchased from you. My brother, E. H. Wyman, used it, and I learn from him that it has fulfilled every indication, doing better work and being more durable than any plow he has ever used.

W. H. WYMAN.

NEW ORLEANS, July 9, 1869.

As I have been using the Collins cast cast-steel plow for the past three years, it affords me pleasure to make the following statement.

I have been sugar planting for more than thirty years, and have used and seen almost every plow made for this cane-growing region, and am free to say that the Collins plow is the very best I have ever used. Its expensiveness prevents many from trying them; but I consider them cheaper for me than any other plow, as they do better work, and it is a pleasure for the hands to use them; in fact, my men would use no other plow if they had their own way.

WM. A. SHAFFER,
(TERREBONNE PARISH, LA.)



Address : COLLINS & CO.,
212 WATER STREET,
NEW YORK.

COLLINS & CO'S

"ECLIPSE"

PRAIRIE AND PLANTATION

GANG PLOWS,

(CHAPMAN'S PATENT.)

The following are the various parts improved by this invention :

1st.—**The Jointed Axle**, by means of which the plows are thrown into any desired position, whether for transfer from field to field, for first furrow, or for regular work at any depth ; and while at work the frame is kept perfectly level, although the wheels are of the same size, one running in the furrow and the other on the unplowed ground. The joints also, while they secure the greatest strength and firmness, are of such construction, that they are virtually stiff when the plows are at work.

2nd.—**The Levers**.—The right hand lever, if thrown back the whole distance, places the plows in position for the first furrow, or, if a less distance, in position for work on *sidehill*. The left hand lever is most used, and is to lift the plows out of the ground, which is easily and simply done by pressing its movable clamp upon the wheel, so that the labor of lifting the plows is thrown entirely upon the team. This lever also regulates the depth of furrow, which is changed at the operator's pleasure, by simply moving the set-screw attached to the *arc*. According as this lever is drawn back a long or short distance the plows enter the soil to a greater or less depth.

3rd.—**The Spring Seat** relieves the plowman from shocks or fatigue. It is in the best position to manage the levers and team, and is so elevated so as to place the driver above and out of any dust that may arise while plowing.

4th.—**The Frame** is suspended in such a way as to effect a balance, thus avoiding use of castor-wheels in the rear or any strain on the necks of the animals.

5th.—**The Pole, or Neap**.—The pole is fastened to the frame in such a manner that the plows will always be kept level in direction of their length whether there be a variation in the size of the animals or in the depth of the furrow.

The plows are always our best Cast Steel, whose good qualities are too well known to require description.

6th.—**Lightness of Draft**, partly due to the Cast Steel plows and partly to the lightness and simplicity of the machine.

At a recent *dynamometer* trial the draft of these plows was accurately shown as follows :

In heavy matted grass *turf* the draft of the PRAIRIE GANG, with coulters, turning a furrow 22 x 6 inches (and carrying a heavy plowman) was 800 to 825 pounds.

The PLANTATION GANG, in same soil, cutting furrow 19 x 6 inches, showed a draft of 625 pounds.

In a stubble-field, heavy sandy loam, the draft of the Prairie Gang was 450 pounds, and the Plantation Gang was 300 pounds. It will be seen from these figures that two horses will do the work of plowing two furrows at a time, although in some soils three horses will be necessary to do the work easily.

Only two sizes of these Gangs are made, viz. :

PRAIRIE GANG PLOW, cutting 22 inches wide and from 1 to 10 inches deep, price complete, \$130.00.

PLANTATION GANG PLOW, cutting 19 inches wide and from 1 to 7 inches deep, price complete, \$100.00.

Orders will be filled in the order they are received. Preference given always to orders accompanied by a remittance.

Address

COLLINS & CO.,

212 Water Street, New York.