

LIGHTEST IN DRAFT.



FARMERS' FAVORITE

GRAIN DRILL.

MANUFACTURED BY

BICKFORD & HUFFMAN,
MACEDON, WAYNE CO., N. Y.

S. N. GALLUP, Gen'l Agent, MACEDON, N. Y.

J. M. CHILDS & CO., UTICA, N. Y.

General Agents for Eastern New York.

LIGHTEST IN WEIGHT.

GREETING.

In extending to our Patrons, the Dealers, Farmers, and Planters, of the United States, the congratulations of the season, we do so with the earnest wish that the New Year may be to each of you more prosperous and pleasant than its predecessor. As year after year has woven each its broad chapter into history, we have striven to leave somewhere on its pages, an imprint of effort in your behalf and interest. Your continued acknowledgment and increasing patronage, is to us flattering evidence that the effort has not been entirely fruitless.

The motives which prompted us have gathered strength from garnered success, and, with renewed inspiration, we are more than ever determined to deserve the patronage you are so abundantly bestowing upon us. Having doubled our ability to manufacture since the close of the season of 1880, we feel reasonably confident the business of the present year will not find us as did the last, with a thousand complaining patrons, not one of whose orders we could fill. Thanks for past courtesy and patronage, we solicit a continuance of your favors, as we shall merit, and determined to spare no effort to please you, we await your orders.

BICKFORD & HUFFMAN.

[JANUARY 1, 1881.

S. N. GALLUP, *General Agent,*
MACEDON, N. Y.

J. M. CHILDS & Co., *Utica, N. Y.,*
General Agents for Eastern New York.

FARMERS.

Experience, most convincing and effective teacher, had long since thoroughly taught the investigating, thinking farmer, that novelty and newness of feature in the construction of an agricultural implement, as indeed in methods of cultivation, were among the most unreliable and deceptive evidences of value and improvement. The mania of following off the strange and novel a few years since so wide-spread and prevalent, has wrought out its own cure in the great waste and improvident expenditure of money and the oft-multiplied failure to reach even ordinary attainment of results for which such generous confidence and prodigal contribution had been offered.

Something more, something beyond this must characterize that implement that seeks to and does attain an enviable reputation and deserved popularity. There are certain qualities that must enter into and be a part of the successful Grain Drill, as is demonstrated by the experience of those who have used them, and frankly acknowledged by every manufacturer.

The standard of comparative value of the drills in the market are as easily determined by the ratio in which they possess these qualities as can the relative value of two adjoining farms. **First**, it must have a "**Force Feed**"—not such a feed as merely assists, by the agitation or friction of the grain, its passage through the distributor. An eminent agriculturist thus puts it: "Any device whose moving parts do not completely pass under, and act as propellers or carriers upon, and which ALL the grain is relatively at rest, or still in its passage, may not truthfully be called forced feed, since, in a measure, it would depend upon friction, and the jarring or trembling of the parts for its power to distribute; and Force Feed implies something entirely independent of and above the influence of these forces."

He thus plainly states the logic and the law, whose unprejudiced application will save you from all errors either of fact or conclusion.

In its light, those only are entitled to recognition by the family cognomen of, **Force Feed**, which carry upon the inner face of the flange, or periphery of their distributing wheel, the grain to be distributed, as it would be carried upon an endless belt, and at the proper moment empties its burden, in a continuous, unbroken stream,—and of the very few drills that possess this characteristic in any degree, a wide difference in value is apparent.

Second, It must have the ability to change quantity accurately and with exactness, that desired amounts of seed may be used on each acre. This end can only be attained by a device which unqualifiedly possesses the first, and is not possible, even then, when the amount is varied by changing the relative position of the working parts of the distributor or feed.

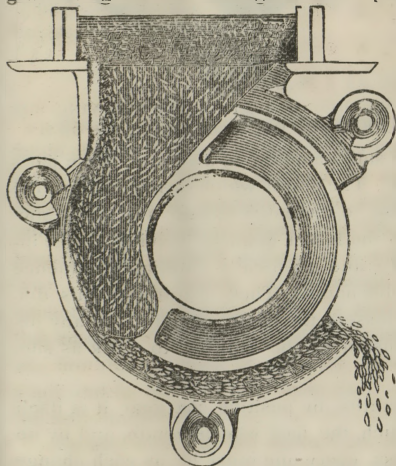
CHANGE OF QUANTITY

Holds second place in the elements which secure satisfactory work, being subordinate in importance only to the distribution. With the astonishing advance marked by the last decade, in the methods used and the facilities invoked and utilized for the work of sowing grains, many glittering theories have been galvanized into transitory life and meteor-like have for a moment dazzled.

The crucial test has shown how false their brilliancy, how deceptive their promises, and among the number none have attained greater popularity upon merest assumption of possible merit, or more studiously mislead and deceive the farmer, than the loud-mouthed, gearless change of quantity. **No one fact** was more pertinently demonstrated by the examination and verdict of Prof. John Coleman and his associates in the Jury of awards at our International Exposition, after most careful and exhaustive examination and comparative test of all exhibitions, in this class, an examination so complete and pertinent as to place their verdict above question and impeachment, from an error either of omission or commission, most effectually settled, and we trust above all cavil and controversy, that no device for the distribution of grain in which the change of quantity is effected by the change of position, or place, of any

working part of the distributor, is worthy of mention or award ; in fact, all such devices were so faulty in principle as to meet from them as pronounced and emphatic disapproval, as they were unanimous in their neglect to recommend, for either award, prominent notice, or even favorable mention, any device with movable parts of feeder for adjustment to quantity, by enlarging or decreasing the size of the channel or opening through which the grain is emptied.

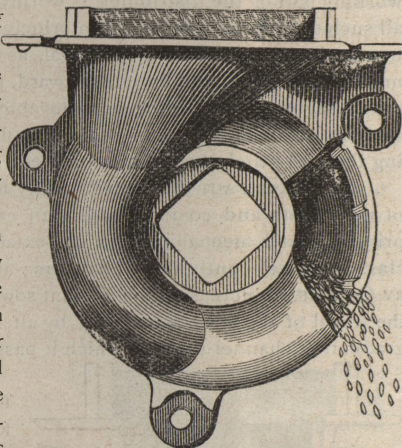
ANOTHER FACT more prominently brought to view, in the history of their tests and comparisons, than ever before. is this—that of all principles and mechanical devices extant, for changing quantity, one class is pre-eminently above all others ; and that class known as CHANGE BY COG GEAR, increasing the amount sown by increasing the rapidity of the travel of the stream, and not by altering the size of the opening or graduating channel through which it passes.



SECTION OF DISTRIBUTER SHOWING THE
FEED FOR WHEAT AND SMALL GRAIN.

The accompanying cuts show the construction of the double force-feed distributor and the difference between the runs or openings for fine and coarse grains. They also serve to illustrate the manner of delivering the seed, which, it will be observed, is from the internal flange of the feed wheel. This flange serving as a bottom for the distributor, the grain rests upon it, consequently, when the wheel is revolved, the seed travels *exactly* with it, thereby ensuring of the flow of grain to be in a steady unbroken stream. The two of the flanges, as shown by the cuts, these between which the feed is drilling

volves, forms the outer walls of a complete measuring channel or throat, through which the grain is carried by the rotary motion of the wheel, thus providing the means of measuring the seed with as much accuracy as could be done with a small measure. The quantity sown per acre is governed by simply increasing or diminishing the speed of the feed wheel, which is done by placing a larger or smaller gear-wheel on the end of the stud-shaft that drives the distributor; this change is easily and quickly made, and is both positive and accurate.



SECTION OF DISTRIBUTER SHOWING THE
FEED FOR OATS, CORN & COARSE GRAIN.

In changing quantity from a small amount to a greater, these parts still retain their relative positions. The power which carries forward the grain is applied alike in either case, to the entire stream, and not to simply the same amount it reached in the lesser quantity, leaving all the increase of quantity to the uncertain and practically unreliable influence of friction and accident for its discharge. These features of this distributor clearly and admirably possess the essential points of any device which can, under any circumstances, be entitled to rank as successful.

Changing and controlling quantity, by positive cog gear it is itself verified, altering the speed at which the feed wheels rotate, and by no contrived means. One quantity correct, every one must be, as each change of with mathematical precision.

The great superiority of this method of altering quantity over any method which seeks to do it by enlarging or extending the throat or channel, through which the stream of grain is graduated, will be apparent when the fact is known that the one-sixteenth of an inch increase in the diameter of such throat, or graduating channel of each distributor, would add from sixteen to twenty pounds to the amount distributed per acre. It will thus be seen how a small derangement of parts would absolutely destroy the reliability of such a method of change, and how utterly helpless, when once deranged the farmer would be to correct or repair the injury.

The simplicity of the parts necessary for changing quantity super-added to their strength and durability, as compared to the delicate and nicely adjusted mechanism which must be used in any other method, insures much longer service, without failure to perform the required duties.

FERTILIZING.

The Grand Truths Fertilizers have written across the broad wheat fields of America, and so immutably graven upon the page of agricultural progress, can be dimmed by no sophistry, however dazzling; their logic is as tangible as the golden grains with which they have burdened the bursting granaries of the land; theirs is an eloquence of beauty and fragrance constantly appealing to us from landscape and lawn, bud and bloom. Commercial manures are the acknowledged masters of their domain, giving to worn and barren soils the fruitfulness that adorned their virgin fertility, whose magic touch deepens the color and doubles the vigor of plant life on average farm lands, and assuring a fair and favorable return from their use, even upon a large portion of the best lands cultivated.

So well accepted are these facts that the pertinent inquiry of the practical farmer is, How can I best and most satisfactorily apply these manures? and to this one reply is almost universally made: By drilling them in with your grains.

For thirty years we have been engaged in building a Fertilizer attachment in connection with grain drills. We built the first American drill for this use. We have built more of them than all our competitors; and while their manufacture has been marked by constant change and evolutions in hitherto fruitless endeavor to equal or surpass us in this kind of work, our device has constantly and unquestionably maintained its superiority, and never more clearly than to-day has its reputation been beyond the reach of its competitors. In the past thirty years many times has the novelty and newness of some other device for a moment attracted attention and incited an exclamation as much of surprise as admiration; but in the crucial test of field work, they have held but momentary attention. In fact, the great demand for this sort of implement has kept constantly before the people some new claimant for favor and attention, one succeeding another, and so to-day we are as for years we have been, surrounded by competition most earnest and pronounced; but if you will diligently inquire into their history, the most earnest of these are simply taking their first lessons in the experiences of field work, at least are in the experimental state of embryo, from which it is as yet quite uncertain whether they come forth in any marked degree successful. One fact is patent, they have not as yet measurably satisfied their progenitors; for no two seasons have they been built alike. Change has evidenced their failure, as made apparent to their builders.

One fact is beyond controversy or question. Our Fertilizer attachment is adapted to a wider range of work than any other built. It has stood the test of work, meeting a degree of success and approval such as none of its competitors can truthfully claim. Its simplicity, its freedom from breakage, the unlimited range of quantity it has, and the ready and positive control it gives the operator in work—elements not possessed by any other device of the kind—give it most enviable prominence and claim upon your attention—make it most desirable and valuable to you.

Simple in construction, its every part easy of access, it is capable of performing much more labor than intricate mechanism would allow, with less labor and vexation, either for man or team, and so perfectly adapted to satisfy the wants and caprices of every locality and each variety of farm work, it stands pre-eminently at the front.



DRILL-PLANTING CORN.

160 Bushels Shelled Corn per Acre Possible.

For ten years we have earnestly and constantly advocated the drill planting of "Field Corn," and placed at the disposal of the farmer the best implement in the world for this work. The small beginning has grown so rapidly it covers the entire agricultural heavens. The grand success which has been evolved from its adaption, whether we view it in the light of labor saved or the immense increase of yield, has arrested the attention of the farming world, and is commanding their approval.

With your corn planted in drills, each blade will seek, and usually attain, all the advantages of growth and maturity possessed by its most favored companion. This result is as easily attained as any other, and proves entirely more remunerative to you, the producers. Instead of 25 to 50 bushels corn per acre, you may just as well secure 50 to 100 bushels per acre planted; and instead of having 35 to 50 per cent. of the produce soft, or pig corn, have 95 per cent. of it great royal ears, whose golden smile so temptingly invites and challenges the efforts, and all this secured without an added effort except the gratifying and almost involuntary one of gathering the ripened store from Nature's granary, of which she so temptingly proffers you the key.

With the Farmers' Favorite you can plant 15 to 20 acres per day without any marking being done in your field, and with a positive certainty it is well done. The drills of corn are made to stand any distance apart you desire, within the limit of range of your drill, as, with the 8-inch drill, you can plant the drills 32, 40 or 48 inches apart, and using the 7-inch drill, 35, 42 or 49 inches apart. The grains can be made to fall in the drill at an average of 8 or 10 inches distance from each other. This, you readily perceive, gives each blade of corn an opportunity for growth and the maturing its ear it would possess if it stood isolated and alone in your garden, and it insures a much finer growth of ear, more perfectly filled with grain, and must very largely increase the product of the field. The labor of cultivating and cleaning it of weeds is not so great as in the ordinary way of tending hill planted fields; FOR INSTANCE, you plant a field inclined to a large growth of weeds; as soon as the weeds start at the surface—and start they will 'on such ground, before the corn appears—go over it with a light harrow, or take a wire tooth wheel rake, and so adjust it as to permit the points of the teeth to touch the ground at a level with your wheel rims, seat yourself upon it, and drive over a large field in a few hours, scarifying and stirring the entire surface, and an hour's sun has withered and killed the entire growth of weeds. Repeat the operation the second time when the blades have just nicely pierced the surface, and you have most effectually demoral-

ized the weeds, while this early cultivation has very greatly invigorated and benefitted the corn. A cultivator will not keep perfectly clean every inch of surface in your field, except about three inches where each drill of corn stands, for, using the drill which is carried upon wheels, you will find your drills of corn to be remarkably straight, and you can work much closer than to ordinary hills, and besides the corn stands in perfect line single file, not in bunches huddled or spread as accident may have determined, in the planting.

Upon one of the poorest fields of "Rural Farm" (*see full and interesting report in RURAL NEW YORKER, Jan. 1, 1881*), four acres drill planted to Chester County Mammoth, yielded 113 69.100 bushels shelled corn per acre, the best acre producing 159 37.100 bushels shelled corn, and this with only 350 pounds of Fertilizer used on the entire field. Their advice is so pertinent, we give it in substance:

Thoroughly pulverize and prepare the soil. This is as essential as the Fertilizer.

Select and use the choicest seed, such as is best adapted to soil and climate.

Drill in the seed six or even three inches apart. At first hoeing, cut out plants so as to leave them standing a proper distance apart, suited to the size of the variety of corn planted.

Do not use a plow after planting. **Keep** the surface of the ground mellow and free of weeds.

Cultivate shallow and surface flat. Rolling will compact the earth about the grains of corn and insure early germination.

Remember, to secure early yield, you must give your crop the best of care.

Using the "Farmers' Favorite," you can fertilize every grain of corn without extra labor.

ANY DRILL WITH ADJUSTABLE THROAT TO DISTRIBUTOR, CAN NOT SUCCESSFULLY PLANT CORN OR BEANS, BECAUSE WHEN THE THROAT IS REDUCED TO OBTAIN PROPER AMOUNT, A LARGE PORTION OF SEED IS BROKEN AND THOSE DRILLS USING A FLUTED ROLLER ARE UNABLE TO EVEN SOW CORN OR LARGE PEAS WITHOUT MATERIAL INJURY FROM BREAKAGE.

them to throw it out of gear, while the chains which suspend the tubes are slack, and before they commence to lift the tubes.

The Draft Truss, to which the Evener is attached, is a large addition to the ordinary method of applying draft, securing the best advantages for moving the drill in its work, and at the same time putting it under the most perfect and natural control of the team; the direct line of draft it secures gives perfect balance to the instrument without a constant pressure upon the horses' necks, to preserve a proper position.

The Frame, and all hardwood parts of the Drill, are all oil finished, with the exception of the wheels (which, running in the dirt, are painted), thus showing the quality of material and workmanship, as fully to the purchaser as if he were permitted to give it personal inspection while unfinished in our shop.

All Material used in its construction is first-class.

The Manufacture is by competent and experienced workmen, especially trained and educated to this business. We have in our shops a score of men who have been in our employ a decade, and several of them a quarter of a century. These men perform their labors under the immediate personal supervision of our MR. BICKFORD, the Patentee, who, for more than thirty years, has been the head of the house, and who has the pride and ambition of the inventor as well as the interested zeal of the manufacturer, as incentives prompting him to add to its merited repute, the popularity, an excellent manufacture and elegant finish, as surely beget.

SPECIAL FEATURES OF THE **Farmers' Favorite Grain Drill.**

A CONTINUOUS SOLID STEEL AXLE, materially increasing strength and durability, and lessening draught.

THE "ORIGINAL" GENUINE FORCE FEED, WITH DOUBLE DISTRIBUTERS, making two Drills in one—adapting it to all varieties of work, securing uniformity of distribution under all conditions.

THE BONANZA GRASS SEEDER, stands at the head of the Force Feed Grass Seeders, working equally well in front or rear of Drill, the seed in either position falling upon the ground perfectly broadcast. Positively distributing all grass seeds—large, small, or mixed.

THE COMMON SENSE SPRING TUBE. All its parts metal. Exposure to weather or variations of temperature will not effect its working quality; the working parts all between the drag bars, are out of the way, and if the spring fails can be used as a peg or pin tube, awaiting your convenience for repairs.

DOUBLE REVERSIBLE STEEL POINTS ON TUBES. Bevel rolled, wearing three times as long as ordinary points, and retaining their shape in wearing.

FLEXIBLE HANGINGS FOR GRAIN FUNNELS, saving the Rubbers from bending, and greatly increasing their wear.

THE GENUINE DAVIS TUBE SHIFTER. Its construction and location places it in reach and control of the operator, from any point in rear of the Drill. Operated easily and readily.

ADAPTED TO PLANTING AND FERTILIZING CORN AND BEANS, in drills, and at proper distance for field crop; which method of planting has produced most astonishing results.

THE CHANGE GEAR, held in position and place by a patented door of casing, which saves removing either pin or nut, to alter quantity, and which snugly encloses and protects both gear and lever from contact with dirt or gravel, or an accidental change of position and quantity,

so possible and common in other drills, from the loosening of a nut or thumb-screw, without which they can make no change of quantity,

THE DRAFT TRUSS, provides for the perfect even balance of the Drill, making the pressure uniform and light upon the horses' necks, whether the tubes are running in loose, light soil, or in heavy, hard ground. Also obviating side-draft, by using both wheels as drivers.

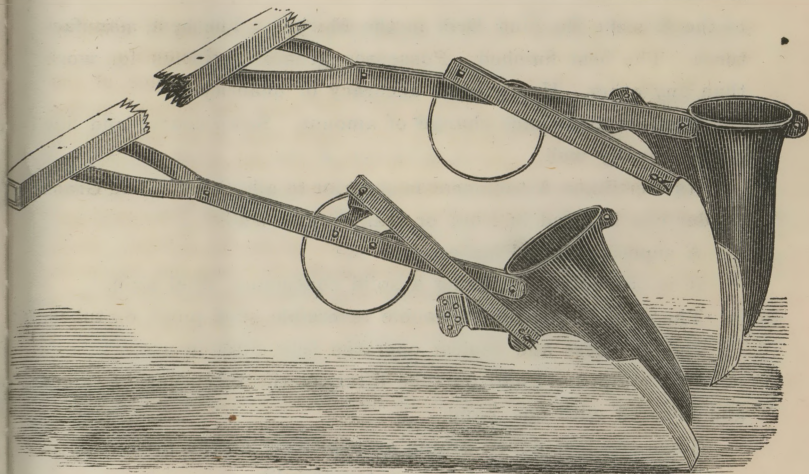
THE FERTILIZER ATTACHMENT. In principle, as in performance, it has proven the best. Its mechanical construction, the developed experience of a generation. The box roomy, containing neither shaft, rod, post or bar, to pack by their motion, or by their support to assist the bridging of damp fertilizers. The stirrers moving on a plane with and just above a heavy anti-corrosive, zinc bottom, capable of adjustment to desired amounts.

THE MANUFACTURE AND FINISH of our goods have personalized them from their constant uniformity of excellence. We do not think we overstate the fact when we say no agricultural implement in the American market shows a higher attainment in this direction. Using material of first quality, employing experienced workmen, each responsible for his own peculiar branch of the work—the result, a greatly superior standard of manufacture. All hard-wood parts, except the wheel, oil finished forbids the use of putty, and leaves the material and workmanship as open to examination and criticism in the finished goods as during its manufacture while the native wood, with here and there a touch of the artist's pencil, surmounted with the nicely striped and ornamented vermilion body, and contrasted with the black metal trimmings, becomes a thing of beauty.

FINALLY; Remember in the choice of an implement with which to plant your grains, it becomes as surely an important factor of success or failure as either seed or soil.

Let neither persuasion or price mislead you to adopt an inferior article.

We guarantee our goods to be the best of their class, adapted to a wider range of work than any competitor, and cheaper than low priced goods can be.



THE COMMON SENSE SPRING TUBE

Is a new departure in this field, and is remarkable for its simplicity of construction, efficient and practical in its operations, possessing in an eminent degree all the qualities of endurance and adjustability to work found in the pin or peg tube. Using no gum or rubber in its construction, but operated by a metal spring applied to the work so as to secure the best possible results and greatest power. It is a **Scientific Marvel**. Metallic in all its parts, it is impervious to exposure, and the changes of climate and weather; retains its vitality and vigorous action under those conditions which greatly impair the value, and soon destroy the satisfactory working of any spring tube depending upon a gum or rubber spring for its operation.

Another peculiar and marked advantage this device possesses over all others in use is, that the greatest power for return of the tube to place, is exerted by the Spring when the tube is least removed from its natural position, thus compelling its immediate and positive return.

THE FARMERS' FAVORITE

Is the Easiest Running Drill in the Market. The best manufactured. The best finished. Possesses greater facilities for work than any other. Has greater accuracy of quantity.

Positive and exact change of amount. Sows coarse and fine grains equally well.

Its Fertilizer Attachment is superior to all others' The Grass Seeder can be used in front or rear equally well.

A superior Corn Planter.

It is the only Drill using a solid continuous steel axle.

The only Drill using a double reversible steel point on tubes.

Has the best and easiest operated tube lifter in use.

Has a Spring Pawl on tube lifter, so the tubes can be raised and lowered with one hand.

Sows the last dozen grains as positively as the first.

Throws in and out of gear automatically.

Can be as readily reduced in quantity as increased when full of grain.

Perfectly balanced when loaded for work.

The only Drill that is furnished with Davis' Tube Shifter, Double Registering Surveyor, Whiffletrees and Neckyoke without extra cost.

Its manufacturers have had the largest experience in Grain and Fertilizers Drills and make them a specialty.

No equal statement of facts can be made in favor of any other drill.

They entitle it to your patronage.

FULLY WARRANTED.

Seeding Centennial Trial Field.

United States Centennial Commission,
Philadelphia, Nov, 16, 1876.

Messrs. BICKFORD & HUFFMAN.

Gentlemen: I desire to express to you my obligations for the prompt and efficient manner by which the International Reaping Ground was drilled and fertilized by your Drill, gratuitously furnished and operated. The distribution of grain was remarkably exact, the greatest variation in forty-seven acres being one pint to the acre, and the entire field without a blank.

In the seeding of the field, a most important result was developed in reference to the respective merits of drilled and broadcast fertilizing; that portion of the field where the fertilizer was drilled in with the grain, producing a crop equally strong and fruitful as the other portion, where twice as much more fertilizer was broadcasted.

Respectfully,
BURNET LANDRETH,
Chief of Bureau.

OUR DRILLS ARE SOLD UNDER THE FOLLOWING WARRANTY AND NO OTHER:

We warrant each Drill known as Farmers' Favorite, manufactured by us, to be made of good material, in first-class manner, and to distribute every variety of Field Grain and Fertilizer evenly and continuously, as stated in the directions accompanying each Drill; they being followed, a trial of one day, or so much of the same as shall be desired for continuous use, and trial shall be given the purchaser in which to test its working quality. If not found correct and reliable, notice must be immediately given the agent of whom purchased, and opportunity given him to correct its failure. If he cannot do this, the Drill may be returned and the sale cancelled.

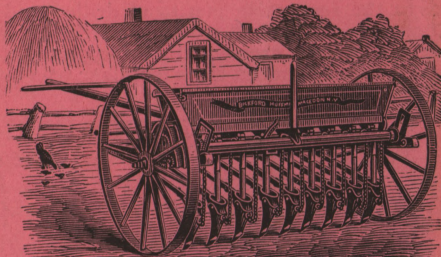
IF COMPLAINT IS NOT MADE AS ABOVE,
and the party use the Drill longer than above stated, the warranty is thereby waived, and he will be required to pay for the same.

BICKFORD & HUFFMAN.

BEST IN MANUFACTURE AND FINISH.

MONARCH OF THE SEEDING.

**GREATLY
IMPROVED FOR 1881.**



AGENT

Union and Advertiser Co's Print, Rochester, N. Y.

MOST RELIABLE IN WORK.