

THE CELEBRATED
HAGERSTOWN GRAIN, SEED
AND
FERTILIZING DRILL
BRANDED
THE BEST!



MANUFACTURED BY
HAGERSTOWN
AGRICULTURAL IMPLEMENT MANUFACTURING CO.,
HAGERSTOWN, MD.

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HAGERSTOWN

PATENT GRAIN,
SEED AND FERTILIZING DRILL.

1879



MANUFACTURED BY THE

Hagerstown Agricultural Implement Manufacturing Company,

HAGERSTOWN, MARYLAND.

Incorporated under the General Laws of the State, January 1st, 1869.

Hagerstown Mail Steam Job Print, Md.

TO THE PUBLIC.

GENTLEMEN :

We desire to express our thanks to our numerous patrons for the very liberal patronage extended to us in the past, and it affords us much pleasure and gratification to say that we commence this year with very encouraging prospects, having greatly increased our facilities for manufacturing, by the addition of new machinery of the latest and most approved inventions, the erection of additional buildings, and in many other respects improved our works, we will therefore be able not only to maintain for our implements their present high reputation, but add to their present excellence in every respect where it is possible to do so.

The superiority of our implements created a demand for them during the past year far beyond our expectations, and consequently beyond our ability to supply, which compelled us to decline orders amounting to hundreds of our most favored implements, which we regret to say resulted in the disappointment of many of our patrons, who were compelled to purchase or use inferior implements or machines from necessity. In order to avoid a similar occurrence this year, we advise all to send in their orders early, as the demand toward the close of the season may again exceed our estimate, and consequently those who order late may again be disappointed.

Yours Very Respectfully,

Hagerstown Agr'l Imp't Manuf'g Company.

OFFICERS:

ALPHEUS R. APPLEMAN, *President.* | WM. H. PROTZMAN, *Vice President.*
HENRY K. TICE, *Treasurer.* | JOHN M. KNODLE, *Secretary.*
D. F. HULL, *Superintendent.* | A. MILLER, *General Travelling Agent.*

DIRECTORS:

ALPHEUS R. APPLEMAN, HENRY K. TICE, D. F. HULL,
WM. H. PROTZMAN, A. MILLER.

THE CELEBRATED HAGERSTOWN GRAIN, SEED AND FERTILIZING DRILL BRANDED **THE BEST!** **FOR SOWING GRAIN**

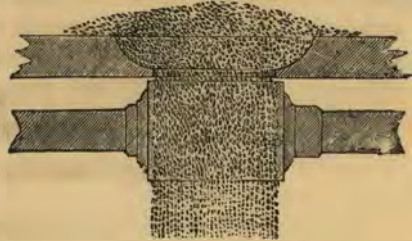
this patent Drill has one inelastic or metal roller, and one elastic or gum roller. As they revolve towards each other, they draw down out of the hopper a regular, even layer of grain. The inelastic roller will never, under any circumstances, admit more than one layer of grain to pass through at the same time. Therefore they are as constant and regular feeders as it is possible to make.

The Best and Most Perfect Force Feed.

We have not been in the habit of calling this a force feed, but as there is so much said about force feed by the makers of other drills, we will say, without boasting, that it is the most perfect force feed, and really the only perfect force feed, that is made. The following cuts give an end view and a side view of our feed, which shows that the grain must go down constantly and regular and cannot possibly go otherwise, like other drills claiming to be force feeds, and force it out in bunches:—



END VIEW.



SIDE VIEW.

REGULATING THE FEED.

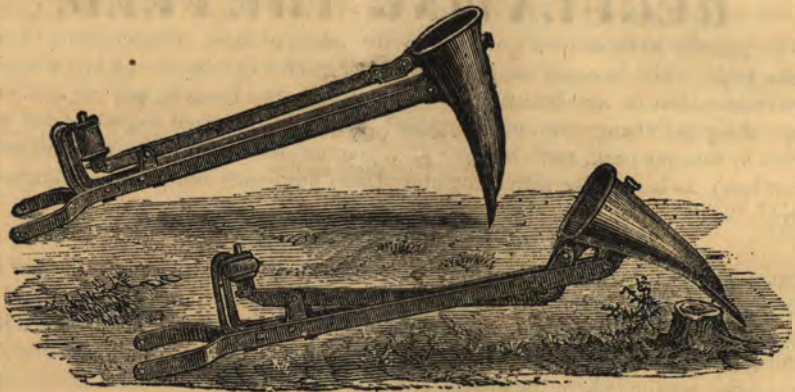
The quantity to be sown is governed by the length of these rollers coming in contact with the grain, which is regulated by an iron slide, which can be moved in a few seconds to sow more or less in any quantity, from one peck to two bushels, and NO COG WHEELS to carry along and change, and not compelled to take off one sized cog wheel and put another on to sow one peck, more or less, (when you may only want to sow one pint or quart, more or less), as is the case with many other Drills now made and for sale throughout the country.

The Patent Spring Hoes

have gum springs 2 1-8 inches long and 2 inches in diameter placed at the end of the spring bar. This spring bar has its fulcrum near the gum spring. The other end of the spring bar connects with the patent *Check Link*. This check link is so arranged in connection with the gum spring that the gum spring cannot be affected by the pressure against the hoe when seeding where the ground is a little hard in places, or loose stones lay upon

it, or are partly buried. As the gum spring holds the spring bar to the check, so that the spring bar and the check link are just enough below a straight line to yield when the boot or hoe comes in contact with a stump, or rock, or root, or anything that would cause something to break, then it will yield to the jar and pressure, and as soon as it is over the stationary object, the spring, will throw the boot back to where it was, at the proper place, and the check link will check and hold it there as firmly as if it were stationary, and the boot will run steady and not *wobble*, and *jerk*, and *hop* along. So, having a perfectly regular feed, and hoes that run perfectly steady, and yielding to nothing but stationary obstructions, the grain is sown as regularly as it is possible to sow it. There are other spring hoes made, differing very much from the Hagerstown, and are very much inferior. One of them uses a gum spring about the size of our gum spring, but it is placed between the boot and the fulcrum of the spring-bar, and the spring-bar connects with a link that has no check to keep the link and the spring bar at a proper distance below a straight line, and, therefore, it will yield in seeding ground that has become a little solid in places, or to stones laying on top of the ground, or partly buried, and will go *hopping*, and *jerking*, and *dragging* along, making it *impossible* to put the grain in regularly, and when used a few years, you will generally find some of the springs forced together by a screw, which is intended to regulate the spring bar and link, but which fails to do so; but, on the contrary, almost entirely destroys the use of the gum spring, and puts the drill in worse condition than if it were depending on pegs to break. When the spring gets forced together, the boot cannot yield far enough to go over as high a stump or rock as it should, and not having pins to break, it breaks something else. The Hagerstown has no such screws, and needs none. This defective arrangement of gum spring hoes has been in use in this section of country at least fifteen years, but has been almost entirely abandoned, except by farmers who have the old drills, and cannot sell or trade them off to any advantage for the Hagerstown Drill. There was another arrangement of gum spring hoes on a drill that was brought here, and used at a trial of drills, where it failed to work satisfactorily, and has since been used to some extent, but with very little success. This arrangement had the gum spring in the shape of a ring, which was stretched over two pins with heads that projected above the drag bars.

☞ Please take notice of the foregoing description of these gum spring arrangements, and always buy the Hagerstown and you will have "THE BEST." The following cuts show the hoe in position; also in passing an obstruction:—



SOWING DEEP OR SHALLOW.

This is regulated by a *Patent Moveable or Sliding Fulcrum* of the spring bar, and seat for gum spring, which is so arranged that, by loosening two bolts, they can be moved to throw the boot at ANY DESIRED ANGLE, so that if the ground is light and soft, the shovel can be thrown back, so it will not go in too deep, and if the ground is hard, or settled, and solid, the shovel can be thrown forward to plough properly the most solid ground, so that you can sow your grain any depth you desire. *This device is used only on the Hagers-town Drill.* The hoes of all other drills are regulated by moving a pin, in which case the hoe can only be moved a certain distance, and not always as you desire.

By a patented invention of ours the gum tubes are attached so as to allow them to revolve, avoiding the wearing at certain points only, which soon makes them useless, as is the case with those that do not revolve, and the whole set may be easily taken off in a few minutes and laid away at the end of the season, which prevents damage, resulting from continuous exposure to the air. By this mode of attachment the tubes readily accommodate themselves to the hoes when changed from a straight line to a zigzag position and back again, which in some conditions of the ground is repeated at short intervals. The tubes that we are now using are the best that are made, being thick and strong and yet very elastic, and in all respects superior to those used in former years by ourselves, and at present by many, if not all, other manufacturers of grain drills.

Shifting the Hoes.

We attach to our Drills Davis's Patent Hoe Shifter, by which the hoes can be changed from a straight line to zigzag and back again, at pleasure, without the loss of any time.— By the use of this attachment the trouble and annoyance consequent upon the accumulation of weeds, corn stalks, or other matter in front of the shovels, is avoided by throwing them zigzag until the obstructing matter passes off between them, when in a moment they may be moved to a straight line again, which is their best position when the condition of the ground will admit of it.

To Lift the Hoes

we use a neat iron lever, to which is attached a trip catch to hold up the hoes, and by the same lever they may be easily raised or lowered with one hand whilst the team is moving.

Out of Gear.

All the working parts of the Drill are thrown out of gear by simply raising the hoes by means of the lever.

Pin Drills.

We also make Drills without the gum spring hoes, which are styled Pin Drills, for the accommodation of those who desire a lower priced implement.

The Patent Axle.

We have patented an axle which is superior to those used by makers of all other drills. They have wings or supports which materially strengthens the frame, and are so constructed and fastened to the frame that the wheels have what is termed gather, similar to the wheels of a wagon, which is the reason why our Drills are of much lighter draft than those of other makers. Again, the axles are so formed that the cross piece to which they are bolted is thrown sufficiently forward of the spindles so as not to be in the way of the boots when raised to a position to pass over an obstruction. The spindles are made of wrought iron and turned true. Each of these improvements are essential in the construction of a

good Drill and cannot be dispensed with in making a first-class Drill, and one having an ordinary revolving axle cannot have either of these advantages.

The Patent Shield

over the gear wheels covers them entirely, so that in seeding among corn stalks and weeds they can never get into the wheels to clog or break them.

The Land Surveyor.

This Surveyor is entirely correct and differs very much from those we formerly used and is very much improved. The face is five inches in diameter and is marked off into twenty-four parts, and at every fourth mark a figure is placed from 1 to 6, and by the revolution of the finger or pointer the number of acres and parts of an acre, if any, are indicated. It is very convenient to set in starting as it is hinged to the hopper, and can therefore be thrown out of gear and set as desired.

Our New Patent Guano or Fertilizing Attachment.

This Attachment is of the greatest importance in localities where fertilizers of any kind are needed, and these localities are becoming more numerous and extended every year, according to the increase and extension of knowledge, experience and appreciation of the benefit derived from the use of fertilizers, because of the increased unproductiveness of farming lands. And for the benefit of those who have had little or no experience in the use of fertilizers, we print in the back part of this pamphlet a few certificates of good farmers, who gave them cheerfully for the benefit of their fellow-farmers. Read those certificates and see that fertilizers of various brands or kinds have been used in this section of country for 25 or 30 years, and the quantity used is being increased every year, not that more per acre is being used, but more farmers are using it; and owing to the large and increased quantity being used from year to year, very many different arrangements or devices have been gotten up to sow fertilizer, but none as successful as ours, owing to the fact that we and our predecessors have been living in a section of country where it was first introduced and now most extensively used, and we have therefore made many experiments with a view to perfect our drill in this particular as well as in all others, and have to-day

The Champion Fertilizer Sower of America.

The more prominent of the others work too much of the fertilizer in the hopper, which causes it to become sticky and pasty, and chokes the machine up, and often causes it to break. Experience has proved the fact that the less the fertilizer is worked in the hopper the better the holes are kept open. So the device, or arrangement, that will work as little of the fertilizer in the hopper, and the most effectually keep the holes open, and work the fertilizer through regularly, is the best device, or principle. Experience has proved another fact, that it is impossible to sow fertilizers regularly if the feeders or stirrers move in one direction, because it will adhere to the front side of the stirrers and form a mass, passing over the holes without feeding, and the feed holes or openings through which the fertilizer must pass out, would paste shut or close up. It has proven another thing, that a stirrer with a broad bottom or deep sides, or both, will not answer well, for if the stirrer is over 1-8 inch wide on the bottom, in passing over the opening, which, in some cases, must be small (not over an 1-8), it closes the opening entirely as it passes, and consequently the stream of fertilizer for the time being is stopped, and if the stirrers have deep or wide sides moving against the fertilizers, they move or agitate too much of the fertilizer, and too much sticks to them. And another thing, the openings through which the fertil-

izers pass should not have thick, dull edges, as they will cause the openings to clog up if they are set to sow a small quantity, even if the stirrers are right. These things, and many other experiments, have been tried by others and ourselves years ago, and have found them unsatisfactory, and therefore abandoned them for what we are now using.

Our Feeders or Stirrers

are made of 1-4 inch round steel and supply the feed holes and force the fertilizers out by only stirring or agitating that fertilizer which is near the openings or feed holes. These feeders or stirrers have a *reverse motion*, so that what adheres or sticks to them or the edges of the feed holes over which they pass one way, is cut loose by immediately reversing and passing over the feed holes the other way.

The Patent Slides,

forming the openings through which the fertilizers are passed or sown, open from the centre and have sharp, beveled edges, so that no fertilizer can paste or adhere to the openings and shut them up. The openings formed by these slides are oblique with the stirring fingers, so that the fingers do not and cannot at any time obstruct the passage of the fertilizer out of the hopper, as they have heretofore done in all other drills. We have used these patent slides two seasons and every farmer that used them speak in the very highest terms of them, and every farmer that sees them is highly pleased with them. They are certainly just the thing.

The Grass Seed Attachment

is placed behind the drill, so that the grass seed is evenly distributed over the surface of the ground behind the shovels or hoes. It cannot therefore be covered too deep, as is often the case when the grass seed is sown in front of the hoes or shovels. This hopper is hinged so that it can be turned down and cleansed out at any time, which will be very much appreciated.

FOR SOWING OATS

we use a moveable rake, which keeps the oats from bridging over the feeders. This is necessary to make a reliable oats sower, and by using this we have as complete and reliable an oats sower as can be made. Those who want a drill we ask to examine thoroughly our HAGERSTOWN DRILL, as we now build it, before they purchase one. All those who have owned, used and seen used most all other make of drills will tell you it is THE BEST they have ever used or saw used.

IMPROVEMENTS.

We still keep our Drills up to the standard we claim for them: *The Best* in workmanship, finish, durability, and doing the work right in every respect.

Annexed are a few certificates of experienced Drill men—farmers and others—who have used and saw used these implements, to any of whom we refer all those who desire information in regard to them. Read some or all of the following certificates and see that our implements have been used with success and satisfaction for 10 years, and they have been greatly improved during that time.

The general principles of our grain and fertilizer sowers have been used with the best satisfaction from 12 to 17 years, and to-day they are the best in use, while some manufacturers change the principle of their feeders every few years. You will observe by some of the old certificates that we used to call our drills the Keller, but we now call them the Hagerstown Drill.

CERTIFICATES.

Superiority as a Grain and Seed Sower.

ORVILLE, OHIO, Oct. 1st, 1877.

John W. Emmert, Esq., Mansfield, Ohio, Sir:—The Hagerstown Grain Drill is giving entire satisfaction. On the 28th of Aug. there was a drill trial at Jonas Yoders, Smithville Station, between the Champion, Superior and Hagerstown drills. The Superior was afraid to go in. The Champion folks broke their drill and the Hagerstown stood the test and Mr. Yoder bought it. Also

On the 3d day of Sept. there was a drill trial at John W. Miller's, Smithville Station, between the Champion and Hagerstown drills. Miller was to decide on the two drills. They drilled on until night; then the decision was made in favor of the Hagerstown drill. The Champion agent had to take his drill home after night, 9 miles.

EBERLY & SHISLER.

TO THE PUBLIC.—Having been extensively engaged for the last fifteen years manufacturing and selling drills, during which period I have made and sold six different kinds of drills, and for the last eight years I have sold the Willoughby Patent Gum Feeder and Spring Shovel Drill, believing it to be the best in use, and so said by farmers who practically tested the different drills then out.

During the last four years the Keller drill came into market with his Patent Elastic and non-Elastic Feed, one metal and one gum feeder, which did its work regularly under all circumstances, and was faultless in sowing grain. Myself and others contended that, while it was faultless, it would not work after the rollers became worn smooth. During the past season I discovered this Keller machine gaining ground rapidly on the Willoughby, among our best and most reliable farmers. To satisfy myself I made a thorough canvass among our best farmers, who had used all the various drills, and I found them to unite on this point. The Keller drill feeds any quantity of grain with the utmost precision under all circumstances and vastly superior to the gum feeders. They were also unanimous that the Keller drill was more preferable in many other respects to all drills they had ever seen or used, some of them having used as many as four different kinds, including the Willoughby. With a volume of evidence thus made up by the most practical farmers, by the most reliable men, whose influence and custom was going in the direction of the Keller drill, none finding fault, and loud in its praise as the best drill, I was induced to drop the Willoughby and take the Keller, aiming now, as heretofore, to supply my customers and the public with the best implements to be had.

WM. HALL.

HAGERSTOWN, March 28, 1868.

CANTON, OHIO, Sept. 24th, 1875.

Hagerstown Agricultural Implement Manufacturing Co., Gents:—I bought and used one of your No. 9 drills this fall and cheerfully say it is the best drill I ever saw or used. I think the grain sower is perfect and cannot be beat, as it is a perfect force feed and sows perfectly regular and even, and in any desired quantity, and can be instantly changed to sow a little more or a little less than the usual quantity if desired, and the spring hoes and slide block to change the angle of the hoes to any desired angle to suit the ground and circumstances; is also a perfect arrangement, as I can set the hoes to put in the grain as deep or shallow as I want it. The drill is in every respect the best I ever used. I take pleasure in recommending it to every farmer who wants to buy the best drill in the market.

JOHN CARNES.

SOMERSET Co., PA., June 24, 1872.

Hagerstown Agricultural Implement Manufacturing Co., Gentlemen:—I will let you know that the Seed Drill I got from you proved to be one of the best drills ever sent to this county. The man that got it told me he would not give it for any other drill he ever saw.

Yours truly,

SAMUEL BOGER.

GREENVILLE, VA., April 13, 1874.

Messrs. Burkholder & Hanger, Gentlemen:—The Hagerstown or Keller Grain, Seed and Fertilizer Drill I bought of you last fall has given perfect satisfaction. We have used the Willoughby and Bickford & Huffman and have no hesitancy in declaring our preference in favor of The Best. We pronounce it No. 1.

JNO. S. CROBARGER.

HORATIO GRIFFITH, at Lisbon, Howard Co., Md., says: Stewart & Price, of Frederick, sent me two Keller

drills to sell on trial. I tried one myself. One of my neighbors being on the ground to see it work, soon made up his mind to buy the other one.

DALTON, OHIO, Feb. 16, 1869.

Hagerstown Agricultural Implement Manufacturing Co.:—Thirteen years I hired drills to do my sewing; six different drills I used, until in 1868, when I bought one of yours, which is the best to sow grain regular; it is the best to put the grain in to a regular depth of any that I ever used, which I call one of the main principles; and the advantage of two wet seasons we had since I got yours, was the good set the shovels have, and being something heavier than usual in our drills made here, covered the grain well, where some of the neighbors had chains and rails tied to their drills to cover the wheat and others harrowed theirs after drilling. I recommend yours as the best I ever used in all respects.

EMANUEL WENGER.

JOSEPH KEMP, of Damascus, Montgomery Co., Md., says: I have sold two Keller drills last season, sent to me by Stewart & Price, Frederick, Md. They have given entire satisfaction and are all the go in this section now; will supersede all others hereafter.

ARBOR HILL, Augusta Co., Va.

Messrs. Burkholder & Hanger:—The Keller drill I bought of you last fall has proven to be as represented—The Best. Its combined attachments all work perfectly. I having used the Willoughby Gum Spring and Bickford & Huffman drills I do consider the Hagerstown or Keller superior to either of the others.

GEO. W. FAUBER,

Supt. of Augusta Co. Poor House.

URBANA, OHIO, Sept. 25th, 1875.

Hagerstown Agricultural Implement Manufacturing Co., Gents:—I bought and used one of your grain drills this fall and I can cheerfully say it is the best arrangement I ever saw for sowing grain. It sows the grain perfectly even and regular and does not bunch it as the Buckeye and Superior drill do, which are the leading drills in this section; or like any of our Western drills do. And another advantage I have in your drill over other drills: I can set it instantly to sow as much or little more than the usual quantity, as I desire, which is very conveniently done by a lever in the rear of the hopper. And another advantage I have in your drill is, it will not cut the grain like our Western drills, and it certainly runs much lighter than any of the others that I have tried; and taking all these advantages in consideration, I do cheerfully recommend it to any farmer as the best drill in the market.

JACOB PENCE.

"THE BEST" DRILL HE EVER SAW.—Mr. Stevenson, near Cherry Run, West Va., says: The Keller drill which I bought of Stewart & Price, at Frederick, Md., is the best drill I ever saw. All my neighbors were delighted with it, having hired it to them after I was done seeding. Any person who wants a drill, I can recommend the Keller, as there is none better that I know of.

ARBOR HILL, April 13, 1874.

Gentlemen:—I have been using the Keller drill for several years. It works well in all its parts. I consider it the best I ever saw.

D. SPECK.

WE WANTED TO BUY "THE BEST" AND WE GOT IT.—David and Daniel Rinehart, of Union Bridge, Md., say: The Keller drill which was bought of Stewart & Price, in Frederick, is the most perfect we have ever used. Any person who wants a valuable drill for sowing his grain and fertilizers regularly, we can cheerfully recommend the Keller drill as the best.

URBANA, OHIO, Nov. 17th, 1875.

I was present on my home farm at a field trial of Buckeye, Superior and Hagerstown drills, about the 9th of October. My judgment was that the Hagerstown drilled the wheat the most regular and run deeper in the ground. It certainly did the work much more satisfactorily than either of the other drills. I was so much pleasee with the Hagerstown drill that I purchased it, although I had other drills, as many as I needed, for my farms.

JOS. EICHLBERGER.

The undersigned certify that they have used the Keller drill and regard it as "The Best" drill they ever used. Having used other drills, such as are attached to our names, we recommend the Keller as superior to them, from actual use and experience in the field.

REAVES S. SCRUGGS, Bedford Co., Va.

J. J. SCOTT, " " "

P. H. CHRISTIAN, Amherst " "

Used "Wagoner" and "Bickford & Huffman" drill.

URBANA, OHIO, Nov. 17th, 1875.

Gents:—Your Hagerstown drill I bought this fall is certainly the best grain drill I ever seen or used. My wheat has come up splendid. My wheat was very poor; had grown in the shock before I threshed, but all seemed to come up splendid. I only sowed 1 1/4 bushels, and it is plenty thick. It seems as thick as my neighbor's, who sowed 1 1/2 bushels to the acre. I think his drill cut so much of the wheat is the reason of it. I would not be without your Spring Hoe

Drill for double the cost of it. I drilled in my corn ground with it, and it done the work right without using any chains on the hoes, while my neighbor borrowed my log chain to put on his hoes to make them go in to cover the wheat, and my neighbor had a new drill that he bought this season—a Buckeye.

GEO. GIVEN.

WAYNESBORO', VA., Dec. 12, 1873.

Messrs. Burkholder & Hanger, Gentlemen:—The Hagerstown drill I bought of you has given entire satisfaction.—From my experience with drills I consider the Keller the best on the market. I want no better.

JACOB COINER.

CANTON, O., Sept. 21, 1875.

Hagerstown Agricultural Implement Manufacturing Co., Gents:—I bought and used one of your best No. 9 drills this fall and have no hesitancy in saying that it is the best drill I ever used. It gave me satisfaction in every respect.

JACOB E. ESSIG.

NEW HOPE, VA.

Messrs. Burkholder & Hanger, Gentlemen:—In answer to your query concerning drills, I have used the Bickford & Huffman and Willoughby and Wagoner, and have used the Keller or Hagerstown drill for two years. I regard it The Best, and recommend the Keller to those wanting a first-class drill.

JACOB COFFMAN.

CANTON, O., Sept. 21, 1875.

Hagerstown Agricultural Implement Manufacturing Co., Gents:—I borrowed one of your "Best" drills, No. 9, this fall, from my neighbor, Jos. A. Weilandt, and done part of my seeding with it and watched the operation of it very closely in sowing grain and seed and it worked first-rate. The grain sower and also the seed sower sows very regular and even and in any desired quantity. I have used some half dozen different makes of drills, among which was the Farmers' Friend, Buckeye and Laird drills and consider yours decidedly the best I ever used or saw.

DANIEL HELTZEL.

We, the undersigned, also used the above drill in putting in part of our crop this fall and it gave us entire satisfaction, and we cheerfully concur in the above certificate.

JOHN SHOCK,
JACOB SHOCK.

CECILTON, MD., March 1st, 1878.

Mr. C. B. JONES, Dear Sir:—The Hagerstown drill I bought of you last fall, I consider the best in the country and am entirely satisfied with its working.

Respectfully,

JAS. D. LOLLER.

LOCUST GROVE, Kent Co., Md., Feb. 6th, 1878.

Messrs. Griffith & Turner, Gents:—I superintended and worked with the Hagerstown drill, bought by Thomas Shall cross, from your agent, Geo. M. Beaston, and do not hesitate to say it is the best I ever worked with, having used quite a number of others on previous occasions.

WM. MATHEWS.

Superiority as a Fertilizer, Grain and Seed Sower.

DOVER, Del., Feb. 18, 1878.

Hagerstown Agricultural Implement Manufacturing Co., Hagerstown, Md.

Gents:—From present prospects we shall want about 200 of your complete Grain and Fertilizer Drills this fall. And we hope you will increase your facilities for manufacturing them, so you can supply our demand. Notwithstanding you could not fill our orders the past two years, we have sold more drills than all other drill agents in this State combined, and there was some 8 or 10 of them. And if you can fill our orders this fall, we shall sell more of your Drills again than all the agents of other drills combined in this State. There is no other make of drills sold in this State that will begin to compare with your drill in all its working parts. Yours, respectfully,

HARPER & BAKER.

Mr. C. B. Jones,

CECILTON, MD., March 1, 1878.

Dear Sir:—I have used several of the leading Grain and Phosphate Drills, but like the Hagerstown Drill I bought of you last fall better than any I ever used before.

JAS. W. CLARK.

C. B. Jones, Esq.,

CECILTON, MD., March 1, 1878.

Dear Sir:—The Hagerstown Drill I bought of you last fall gave me entire satisfaction, both in seeding wheat and sowing phosphate.

JAS. A. BROWN.

Messrs. Griffith & Turner,

LOCUST GROVE, MD., Feb. 6, 1878.

Gentlemen:—Last fall I purchased a complete Hagerstown Drill from your agent. I sowed about 120 acres of wheat

with it, and used phosphate on the whole of it. I also used the seed sower in connection on about 40 acres. The wheat, grass seed and phosphate was all sowed evenly. We had no trouble with it. We think it the best Drill in the market.
THOS. J. SHALLCROSS.

MOUNT PLEASANT, DEL., February 14, 1877.

Messrs. Harper & Baker,

Gentlemen:—The Hagerstown Grain, Seed and Fertilizer Drill I bought of your agent, A. P. Carnagy, last fall, has given entire satisfaction. From my experience with drills I consider it The Best in the market. The fertilizer attachment and grain arrangement are perfect. The drill works like a charm.

W. S. CLEAVER.

CLAYTON, DEL., March 1st, 1877.

The Keller Drill I bought of W. G. Hill, last fall, has given me entire satisfaction. It sows wheat and phosphate with perfect regularity and evenness, and for lightness of draft and durability, it cannot be excelled.

DAVID L. SPRUANCE.

McCLELLANDSVILLE, New Castle County, Del., Feb. 22d, 1877.

Messrs. Harper & Baker,

Gentlemen:—Having used the most improved Grain Drills sold in our markets, we are prepared to certify that the Keller's Patent Grain, Seed and Fertilizer Drill, which we purchased last fall, excels in light draft, simplicity of arrangement and even distribution of grain and phosphate, and we cheerfully commend it as the Best.

WM. H. & JAS. P. SMITH,
JAMES HASSINGER,

E. B. KERNS,
C. RANKIN,

WM. RANKIN,
ROBERT H. STEEL,
GEORGE W. STEEL.

NEWARK, March 20th, 1877.

Messrs. Harper & Baker,

I have used the Hagerstown Drill for two years, and it is the best grain and phosphate drill I have ever used.

GEORGE A. CASHO.

RETIREMENT, Near Middletown, New Castle Co., Del., March 28, 1877.

Messrs. Harper & Baker,

Gents:—The Hagerstown Drill I bought of your agents, L. V. Aspril & Son, Odessa, Del., I find to be just what you recommended it to be: having used it for one season with entire satisfaction, finding it lighter of draft; equally as durable; more easily adjusted to sow any amount of grain or phosphate required, less easily choked by small particles of chaff, and giving a more even distribution of wheat and phosphate, than any I have ever used; and I have used six or eight different kinds of drills. I unhesitatingly pronounce it superior to, and destined to supercede all others offered in this community.

Yours, truly,

R. W. COCHRAN.

Near Middletown, New Castle Co., March 28th, 1877.

Messrs. L. V. Aspril & Sons,

Sirs:—The Hagerstown Phosphate and Seed Drill I bought of you has given entire satisfaction, and I take pleasure in recommending it for good work, light draft and simplicity, being more easily adjusted to sow any amount of grain and phosphate than any I have used or seen. I cheerfully recommend it to any one wanting a first-class drill.

Yours, truly,

WM. A. COCHRAN.

Loudon Co., Va., March 1, 1870.

Mr. W. Vandevanter, Dear Sir:—The drill purchased of you last fall is the best I have ever used. The Guano Attachment works perfectly. The arrangement of the Gum Spring overcomes the objection to most of the Gum Spring drills, in that there is no strain or pressure on the Gum Rolls to injure their elasticity. The feeding of the grain between a gum and metal roller insure a more equal distribution than when the grain is fed by two gum rollers.

Very respectfully,

N. R. HEATON.

HAGERSTOWN, MD., September, 1873.

Mr. Dewalt Williard, of Broad Run, Frederick County, Md., says his sons, D. J. & C. F. Williard, of Poolsville, Montgomery County, Md., bought one of the Keller Drills last season (1872) of Stewart & Price, of Frederick, Md., and put in their grain along side by side with the Bickford & Huffman Drill, and they could see very plainly every row the Keller sowed, the fertilizers being distributed so much more evenly. That sowed by the Keller was as even on the top as if it had been sheared off, while that sowed by the Bickford & Huffman was uneven in height, caused by the fertilizer not being distributed regularly. He says the Keller Drill is decidedly the best he ever saw.

FREDERICK CITY, MD., Dec. 12, 1874.

Hagerstown Agricultural Implement Manufacturing Co., Hagerstown, Md.

Gentlemen:—One of our customers (John Geesey) from near Lewistown, Frederick Co., was here to-day and is so much pleased with the Keller Drill that he thinks there is no machine to compete with it for sowing all kinds of grain

and fertilizers. He says that he tried all kinds of fertilizers, and it made no difference in what condition he would put it in the drill, it would sow it regularly all the time. He could get nothing it would not sow. He then made a compost of salt, coal dust and other most sticky and greasy stuff he could get, filled his drill box, and let a heavy rain come on it, soaking it through, and, after the ground got dry enough to seed, tried it again, thinking if it would sow that, which he did not expect it or any other drill to sow, he was satisfied he bought the best drill. He hitched up his horses and started, and, to his surprise, saw the compost come down just as regularly as before. He thought it could not be possible that any drill could sow greasy compost in such bad condition, but it seems it made no difference what he put in the Keller Drill it would sow it regularly. He says he was favorable to the Bickford & Huffman Drill as being the best drill, and was somewhat prejudiced against other makes of drills, but heard other farmers speak in such high terms of the Keller that he concluded to give it a trial, and a thorough trial too, and must now acknowledge that the Keller is the Best Drill and perfect in every respect. He says that about the finishing up of his seeding his horses ran off with a wagon, and, coming in contact with the drill, turned it over, and dragged it about fifty yards upside down, spilling all the contents out. His heart ached, thinking his drill was ruined, and hesitated about going to look at it for fear it was badly broken, but, upon examination, found everything all right, and was not injured in the least. So it was fairly tested as to durability and doing good work. If you want any more information from him, his address is Lewistown, Frederick Co., Md.

Yours, truly,

STEWART & PRICE.

BALTIMORE Co., April 30th, 1875.

Messrs. Griffith & Turner:—In answer to inquiries about the Hagerstown Drill I bought of you last fall, I can say that I have used both the Bickford & Huffman and the Wagoner Drill, and consider the Hagerstown Drill far superior to either of them, there being less clogging in the Fertilizer Sower. Yours,

W. H. HARKEN.

ROCKINGHAM Co., VA., Feb. 1, 1869.

Messrs. Miller, Protzman & Co., Gentlemen:—I purchased one of your make of drills last season. After considerable experience in the use of other drills, I do not hesitate to pronounce this the best. I can drill as much with this drill with two horses as I could with the others with four horses, and must say I regard it as the most perfect farming implement I have ever used.

Yours respectfully,

SAMUEL KLINE.

Near Dover, Del., March 1, 1875.

Messrs. Harper & Baker, Gents:—I purchased one of the Hagerstown Patent Grain, Seed and Fertilizer Drills of you last season. After considerable experience in the use of other drills, I do not hesitate to pronounce this The Best, and I regard it as the most perfect farming implement I ever used.

EVAN R. LEWIS.

Mr. H. L. Knight, of Dover, a gentleman of considerable experience in the use of drills, writes: "The Hagerstown Patent Grain, Seed and Fertilizer Drill, bought of Harper & Baker, Dover, is for simplicity, durability and lightness of draft, and for uniform distribution of grain, grass seed and fertilizer, The Best Drill I ever used. It is certainly a great improvement over the Bickford & Huffman and other drills I have owned and used."

Near Whiteleysburg, Caroline County, Md., April 1, 1875.

Messrs. Harper & Baker, Gents:—The Drill we bought of you last fall has proven to be as recommended—The Best. Its combined attachments all work perfectly. We have used the "Farmer's Favorite," or Bickford & Huffman, Woodside, and other drills, and we consider the Hagerstown much superior to the other drills.

Yours respectfully,

E. C. & R. J. CARTER.

Mr. John Wesley Cooper, near Sandtown, writes that after considerable experience with the Improved Bickford and Huffman and other drills, he considers his Keller Patent far superior to all other makes, as both its grain and fertilizer arrangements are less complicated and work much better than any other that he has ever used.

SMYRNA, DEL., Sept. 7, 1874.

Messrs. Harper & Baker, Dover, Gentlemen:—The Hagerstown Grain, Seed and Fertilizer Drill I bought of you last fall, has given entire satisfaction. From my experience with drills, I consider the Hagerstown, as its name implies, The Best Drill in the market. The Fertilizer attachment and Grain arrangement are perfect. I want no better. They only want to be known to be universally used.

WM. C. MITCHELL.

WILLEYSBURG, Kent County, Del., March 3, 1875.

Messrs. Harper & Baker, Gents:—Find the Hagerstown Drill I bought of you to be just what you recommended it to be. Have used it for two seasons with entire satisfaction, finding it lighter of draft, equally as durable, more easily adjusted to sow any amount of grain or phosphate required, less easily choked by small particles of chaff, and giving a more even distribution of wheat and phosphates, than any I have ever used. I unhesitatingly pronounce it superior to and destined to supersede all others offered in this community. Very respectfully,

JAMES A. SMITH.

Messrs. Harper & Baker, Gents:—The Hagerstown Drill I bought of you is The Best drill I ever used. Don't believe its equal is manufactured.

DOVER, DEL., August 1, 1875.

JOS. PARVIS.

Messrs. Harper & Baker, Dover, Del., Gents:—The Hagerstown Drill I bought of Parkinson & Son, your agents at this place, last year, gives me entire satisfaction. I first bought an Improved Delaware or Hamilton Patent Drill on trial and could not make it sow Star Bone Phosphate properly, and it would not sow grain as regularly as I thought it should, so I returned it and took out the Hagerstown Drill on trial at an advanced price. I would not give my Hagerstown Drill for a half dozen of the Delaware or Hamilton Drills, if I was compelled to use them to put in my grain. Consider the Hagerstown has decidedly the best grain arrangement and the only drill that I have ever seen or used that would sow all kinds of phosphate properly. I want no better drill.

FREDERICA, DEL., Nov. 18th, 1876.

B. V. CLARK.

Messrs. Harper & Baker, General Agents for Keller Drill, Dover, Del.

FELTON, DEL., January 1st, 1876.

Gents:—The Keller Drill I bought of you is just what you recommended it to be, The Best. I want no better. My neighbors drilled wheat with it that had never been fanned, and it drilled it through all O. K. I also used some coarse, sticky phosphate and found it impossible to choke the drill. There are several men who want to buy one of this make next season.

Yours respectfully,

JONATHAN C. BROWN.

L. V. Aspril, Odessa, Del., a reliable, energetic and pushing foundryman and machinist, writes us Dec. 9th, 1875, that his customers who bought Keller Drills are much pleased with them, and that he will turn his attention to the sale of this drill another season. Mr. Aspril has for several years previous to this manufactured and sold the Delaware and Hamilton Patent Drill.

Near St. Michaels, Md., May 1, 1875.

Messrs. Griffith & Turner, Baltimore, Sirs:—I used one of your Hagerstown Drills last fall and take great pleasure in saying that I never used an implement that performed its various duties so effectually and with so much ease. I drilled wheat, fertilizer and grass seed at the same time, and on examining this spring find all distributed evenly and well.

Truly yours,

I. E. McDANIEL.

SYKESVILLE, May 4, 1875.

Messrs. Griffith & Turner, Baltimore, Gents:—In reply to your inquiry as to my opinion of the Hagerstown Drill, will say it has given entire satisfaction as a grain and seed sower and fertilizer distributor. It excels any other drill I have ever seen or used. I have used several other drills, but consider the Hagerstown far superior. I have no hesitation in endorsing it as the best in use.

JOSEPH BARLOW.

Carroll County, May 1, 1875.

Messrs. Griffith & Turner, Dear Sirs:—I can say that I think the Hagerstown Drill is the best in use. I have used one for five years and it works as well as the day I got it. A small boy can tend it. The guano feeder is so placed that it is easy to see if running regularly. I liked them so well that I bought another.

Respectfully yours,

ROBT. LEE.

SYKESVILLE, May 1, 1875.

Messrs. Griffith & Turner, Sirs:—I bought one of the Hagerstown Grain Drills in the fall of 1873, and must say that it does good work, sows both wheat and guano very well. The best drill I ever used.

Respectfully,

JOSHUA WARFELD.

COCKEYSVILLE, May 1.

Messrs. Griffith & Turner:—I take pleasure in testifying to my very satisfactory experience with the Hagerstown Drill. It has been in use three years and has seeded no less than 100 acres each year, with no apparent wear except the gum pipes which were replaced last fall. I have sown several varieties of fertilizers with it, varying in quantity from 100 to 400 lbs. per acre. The gum springs save much time in working over rocks and stumps, and altogether the drill is superior to any I have ever seen in use.

Truly,

Z. POTFET.

PIKESVILLE, MD., April 29, 1875.

Messrs. Griffith & Turner, Gentlemen:—Yours of the 28th, asking my opinion of the Hagerstown Drill, was received yesterday, and in reply would say that we have been using that implement for several years, and find it to sow grain, grass seed and different fertilizers with entire satisfaction. It is very easily managed and not apt to get out of order.—After using one that I bought of you seven years since, I was so much pleased with it that I bought another last fall, and the men who work it seem to be perfectly satisfied with its mode of operation. From my experience in the use of this drill I feel free to recommend it to any farmer who is desirous to have a durable, efficient and easily managed implement.

Respectfully yours,

JOHN FISHER.

BALTIMORE, May 3, 1875.

Messrs. Griffith & Turner:—In answer to your inquiry about the Hagerstown Grain, Seed and Fertilizing Drill, will say it gave me general satisfaction and consider it the best in the market.

Respectfully, etc.,

JOSHUA F. C. WORTHINGTON.

32 South Street, Baltimore.

Messrs. Griffith & Turner, Gents:—I purchased of you last fall a Hagerstown Drill, with which I seeded about one hundred acres of wheat without missing a row. The guano attachment was most perfect and gave equal satisfaction in distributing that article. Can with confidence advise persons in need of a drill to purchase the "Keller."

Very respectfully,

R. W. RAISIN.

RANDALLSTOWN, Baltimore Co., July 24, 1876.

Messrs. Griffith & Turner, Gents:—Yours of 20th ult. to hand. The Hagerstown Drill bought of you last fall came up to our fullest expectations, sowing both grain and various fertilizers most admirably. We used dissolved and ground bone—Turner's Excelsior and Moro Phillips—all of which, with proper attention, can be sown regularly and any desired amount, from one to four hundred pounds. We used it with wheat, rye and oats with perfect satisfaction.

EDW. S. & R. P. CHOATE.

ELLCOTT'S CITY, Baltimore Co., July 25, 1876.

Messrs. Griffith & Turner:—In answer to your inquiry about the Hagerstown Grain, Seed and Fertilizing Drill will say that the drill I purchased of your house five years ago gave me entire satisfaction in every particular, and I believe it to be the best grain, seed and fertilizer distributor made. Yours respectfully,

WM. O'DONNELL.

ELLENGOWAN, Baltimore Co., July 27, 1876.

Messrs. Griffith & Turner, Gents:—Having used your Hagerstown Wheat and Fertilizing Drill, I take pleasure in saying that it gave me entire satisfaction.

ELISHA PARKS

BLACR HORSE, Aug. 2, 1876.

The Hagerstown Drill I purchased last fall has proven to be as represented, "The Best." Its combined attachments all work perfectly, and also has given entire satisfaction.

WM. F. HENDERSON.

PARKTON, Baltimore Co., Md., Aug. 9, 1876.

Griffith & Turner:—The Hagerstown drill I bought last fall gave entire satisfaction. Although I seeded a very rough piece of land, I was astonished at the accuracy with which it distributed both the grain and fertilizers. I would not sell it for double its cost if I could not get another.

JACOB GETTLE.

LOCUST GROVE, Kent Co., Md., Jan., 1878.

Messrs. G. & T., Gents:—I bought of your agent, Geo. M. Beaston, one of the Hagerstown Drills and must say I consider it The Best, both in the seed sower and phosphate attachment, that I have ever used. I sowed Peruvian Guano and had no trouble whatever.

S. J. HEILL.

Increase the Quantity and Quality of Your Wheat, Rye, Oats and Barley.

Many who cultivate the soil can and should grow more wheat, rye, oats and barley to the acre and of better quality than they are now raising, without additional cost for labor and with a small additional outlay for fertilizers. To such tillers of the soil we say, the means are within your reach that will, so certain as you adopt them, yield a large increase of grain to the acre, both as to quantity and quality. It is almost needless to remind many farmers that every year their wheat crop is decreasing in quantity and quality, and their soil becoming less productive; you all know it and we shall not here discuss why or how it is, but simply confine ourselves to the method of remedying it and thereby increase the profits of the farmer's labor and investments while tilling the soil and furnishing the food for the million. Six years' experience among the farmers of the Shenandoah Valley, Va., Franklin Co., Pa., Frederick, Montgomery and Washington counties, Md. These farmers, cultivating among the oldest and at times the least productive lands in the country, are now producing among the largest yields and of the best quality to the acre of Wheat,

Rye, Oats and Barley. Come among them and ascertain why, and how it is, that they have thus increased their crops, or if you cannot come, read the facts as they have stated them, and as we have gathered from them for the purpose of demonstrating that your crops can be largely increased, sufficient to pay you more than a hundred per cent. on your investment, we have prepared and gathered these statements for the following reasons:

1st. We know from a practical experience of more than six years, that the certain and economical plan to benefit your crop is to pass your seed and fertilizer under the soil at a proper depth, mixed together, at one and the same operation. We know there is no implement for doing this work that equals "THE BEST" (the "KELLER PATENT"), with our own improvements.

2d. We have ascertained the fact that a Grain, Seed and Fertilizing Drill, that will drill in at one operation your Wheat, Rye, Oats and Barley with your Grass Seed and your Phosphates and Guano, or Bone Dust, Ashes, Lime, Plaster, &c., at one and the same time, putting your Grain and Fertilizer in the ground and sowing your Grass Seed at one operation, is a novelty to some farming communities.

3d. Because some farmers do not believe or do not know the fact that drilling in grain and Phosphates or Guano, and that class of Fertilizers, passing both Seed and Fertilizer mixed together under the ground to a proper depth at the same time, is the best and most economical way to seed and manure.

4th. We make these efforts to give to the inexperienced farmer the practical facts and experience of old farmers farming older lands, who have toiled through many seasons of poor crops and continued failures, until by practical tests they are now producing from 20 to 40 bushels of wheat where they formerly grew but from 15 to 20 bushels.

5th. We collect these facts and distribute them because we are certain it will be but a few years at most before the entire farming communities of the U. States will use the Grain, Seed and Fertilizing Drill, with which to put their Grain and Fertilizers into the ground at one operation.

6th. We feel sure that the farmer who seeks information, who aims to profit by his labor and investment, will soon be in search of an implement that will drill his wheat and fertilizer into the ground together at one operation. We feel sure that he will buy the best drill he can find, and we are equally certain that we build "THE BEST" (not only in name) for that purpose. We know the Keller Drill is, with our improvements, a perfect and complete machine; no experiments, but a thoroughly tested machine of twenty years' standing. For these reasons, and many others not stated, we have collected these facts, certificates and testimony of our leading and intelligent farmers, asking the farmer who concludes to drill in his Phosphates, Guanos, Ashes and Fertilizers of that class to send to us for pamphlet and examine our Grain, Seed and Fertilizing Drill.

Drilling Grain and Fertilizers.

It is almost useless to argue on the question of Drilling Wheat, Rye, Oats and Barley, or distributing Grass Seed as against the old method of broadcasting, shoveling or harrowing in seed. The following shows about a fair representation of the difference in the growth of wheat when drilled and when broadcast and more especially if drilled in with fertilizers:





DRILLED.



BROADCAST.

It is generally admitted that with the Drill you can save from one to two pecks of seed to the acre, and obtain equally as good results in the germination of the seed as by any of the old processes of seeding. The reasons are plain: In broadcasting, or shoveling, or harrowing in, some seed is lost by remaining on the surface of the ground, being carried off by birds or fowls, or failing to germinate, or after germination scorched out by the hot sun or destroyed by cold, other seed is covered too shallow, with not sufficient soil to protect and sustain it, and others again are often shoveled in too deep for the seed to send forth a vigorous, healthy plant. In dry, windy weather, especially in light soil, more or less seed is uncovered and thereby lost; in alternate freezing and thawing much is lost by expansion, the opening of the earth exposing the tender roots to danger of being winter-killed. Every farmer knows he is liable to those losses and wastage of seed when he broadcasts, and hence he provides one to two pecks per acre of seed more than is required in order to cover losses. But when you drill in no seed is lost or wasted; the seed is passed into the ground in the bottom of a furrow of proper depth and is covered with a proper quantity of earth, leaving two ridges of soil on each side of the furrow. Here you have your seed sufficiently protected from birds and fows and from the heat of the sun, with sufficient covering to furnish the moisture that is needed for the germination. After germination takes place and the young shoot is above the ground, you have two ridges of soil on each side of it, and dry, windy weather will serve to blow these ridges in the furrow around the shoots of the plants, and alternate freezing and thawing will serve to crumble the ridges in the furrow, thereby covering and feeding the young plants, imparting protection and vitality when most needed. Such are a few of the facts that serve to show us how and why the drill is resorted to as the best and most economical plan of seeding. There is still another point in the drill that is as valuable to the farmer as sowing his seed, and that is: *For Sowing and Distributing his Fertilizer.*

Every farmer, no matter how rich and productive his lands may be, admits that taking crops from them year after year will exhaust their productiveness, unless the lands be continually supplied with materials that will serve to put on the land that which the continued crops take from them. We do not propose to argue how or what it is that these continued crops are taking away from your lands, nor say what article you shall use to reinstate them to their original productiveness. But one thing we shall contend for, and that is, you can find among some of the fertilizers of the day properties or substances that will materially aid you in imparting the lost vitality to your land, thereby increasing your crops. Bone dust, guano, and a hundred brands of fertilizers, are at your hand to test and see which will best subserve your purpose. We know some of these fertilizers, and we know they seldom, if ever, yield less than a hundred per cent. on their cost when properly ap-

plied—that is, when they are drilled in with the seed, and the fertilizer and the seed pass together into the bottom of the furrow. We know, from a large amount of information gathered from our best farmers with from two to twenty years' experience in the methods of fertilizing, that it is the best and safest investment a farmer can make, and, under this head, we claim the following advantages for the drill as an implement for applying fertilizers over any of the other methods of broadcasting and distributing fertilizers:

1st.—We claim the same beneficial results to the crops are obtained with one-half the quantity of fertilizers by drilling seed and fertilizers into the ground together.

2d.—We claim that by the use of our drill little, if any, of the fertilizing matter or substance is wasted or lost.

3d.—We claim that the fertilizers are placed exactly where they should be and where they will do the most good by attracting moisture to the seed to assist germination by being directly among roots of the new shoots and furnishing food for the young plant.

4th.—We claim that your phosphate, guano, plaster, bone, ashes, &c., are thus placed where you want them at the same operation while drilling your seed, and without additional cost for labor, except the trouble of putting them into the fertilizing hopper.

In addition to the advantages of the drill for sowing fertilizers, we claim the following advantages to the crop:

1st.—Your seed germinates sooner.

2d.—The young plants are more vigorous, and are better adapted to resist unfavorable weather.

3d.—The grain ripens from two to eight days earlier.

4th.—The heads are better filled, and the wheat or grain materially improved in quality and commands a higher price.

In evidence of these statements, read the testimony of a few of our farmers, not only in theory, but the practical results of this method of farming and drilling in their fertilizers.

CENTENNIAL TEST.

Some of the leading drill manufacturers have each issued a circular purporting to show the test of grain drills made by the International Jury of Awards at the Centennial Exposition of 1876.

Examine any one of those statements and compare it to the following general statement and you will find they show up to advantage such parts of the general test in which they could get the best record for their own drill.

One of the manufacturers left the record of the Hagerstown Drill out, in order to give theirs the best, as the record of the Hagerstown Drill was best of all.

The first of the following tables show the general test.

The second one the extreme and the least variations.

The third the variations of each drill from the amount to be sown while in each position, which was 120 pounds or 2 bushels to one acre.

Table Showing General Test in the Different Positions.

DRILL.	1-8 Acre.										One Acre.									
	On a level.		Right hand elevation.		Left hand elevation.		Down hill.		Up hill.		On a level.		Right hand elevation.		Left hand elevation.		Down hill.		Up hill.	
	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.
Hagerstown or Keller.....	14	4½	13	12½	13	12	13	12½	14	0	114	2	110	4	110		110	6	112	½
Empire.....	14	15½	15	0½	16	0½	14	12½	18	8½	110	10	120	2	128	2	118	2	150	2
Champion.....	14	12	15	0½	14	5½	13	9	15	13½	118		120	4	114	14	108	8	126	10
Farmers' Favorite.....	18	2½	17	15½	18	6½	17	13½	18	13½	145	4	143	12	147	4	142	12	150	14
Hoosier.....	19	11½	20	4	20	12½	18	8½	21	8	157	10	162		166	4	148	6	172	
McSherry.....	16	4½	16	3½	16	3	14	6½	17	11¾	130	4	129	10	129	8	115	8	141	14
Buckeye.....	16	3	14	8½	17	4½	13	12½	18	14	129	8	116	4	138	2	110	2	151	
Farmers' Friend.....	15	6½	15	6	15	6½	13	5½	16	5½	123	4	123		123	6	106	14	130	12

Table Showing the Extreme and the Least Variations.

DRILL.	Extreme variation sowing one acre, all positions.		Greatest variation of a single tube on one acre.		Least variation of a single tube on one acre.	
Hagerstown or Keller.....	4 lbs.	2 oz.	1½	oz.	½	oz.
Farmers' Favorite.....	7 "	6 "	2½	"	1½	"
Champion.....	18 "	2 "	4½	"	3½	"
Farmers' Friend.....	23 "	14 "	7	"	5½	"
Hoosier.....	21 "		10	"	4	"
Buckeye.....	40 "	12 "	13	"	8	"
McSherry.....	26 "	4 "	10½	"	5½	"
Empire.....	33 "		7	"	6½	"

Table Showing Variations of each Drill from the Amount to be Sown while in each Position.

	Hagerstown or Keller.		Hoosier.		Farmers' Favorite.		McSherry.		Farmers' Friend.		Empire.		Champion.		Buckeye.	
Variation on each Drill from the amount set to sow in a level position.....	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.
Right hand elevation.....	5	14	37	10	25	4	10	4	3	4	6	2			9	8
Left hand elevation.....	9	12	42		23	12	9	10	3	6	8	2	4		13	12
Down hill.....	10		46	4	27	4	9	8	3	6	8	2	27	4	18	2
Up hill.....	9	10	28	6	22	12	4	8	13	2	1	14	11	8	9	14
	9	15½	52		30	14	21	14	10	12	30	2	6	10	31	

The above tables show very decidedly that the Hagerstown Drill is the best of all drills known. Notwithstanding the Hagerstown Drill shows the least variation, the cause of even what it did vary was owing in a great measure to the fact that in the hurry to get it finished and shipped we neglected to test it. But even under those circumstances we can show that the *one elastic* and *one inelastic roller feed varies less* than any of the cast iron cog feeders.

The most important feature in a drill is to have it distribute the grain and fertilizer as evenly as possible and as near the same quantity in all positions,

whether on the level, up hill, down hill, and along the side of a hill, with either wheel elevated. In these different positions you will find the *Hagerstown* varies the least. *In this we challenge any other drill in the world.*

The second table shows the extreme variation sowing one acre in all positions. The *Hagerstown* only varied 4 lbs. 2 oz., while the others varied from 7 lbs. 6 oz to 40 lbs. 12 oz. In the greatest variation of a single tube on one acre the *Hagerstown* only varied $1\frac{1}{2}$ oz., while the others varied from 1 1 2 to 8 oz. So it is easily seen that with the great convenience of regulating the *Hagerstown* and the great accuracy in distribution, we have decidedly the best feed in use to-day, for both grain and fertilizer.

PRICES AT THE WORKS.

Making so many kinds of drills, we thought best to number them for convenience in ordering, either by letter or telegram. The kind of drill will be known hereafter by the number instead of naming the attachments.

EIGHT-TUBED DRILL, 8 Inches Apart.

No. 1—Sows grain, seed and fertilizer, and has spring hoes changeable by lever.....	\$125 00
No. 2—Same as No. 1, but without seed sower.....	120 00
No. 3—Sows grain, seed and fertilizer, and has spring hoes changeable without lever.....	120 00
No. 4—Same as No. 3, but without seed sower.....	115 00
No. 5—Sows grain, seed and fertilizer, and has pin hoes changeable by lever	117 00
No. 6—Same as No. 5, but without seed sower.....	112 00
No. 7—Sows grain, seed and fertilizer, and has pin hoes changeable without lever.....	112 00
No. 8—Same as No. 7, but without seed sower.....	107 00
No. 9—Sows grain and seed and has spring hoes changeable by lever.	90 00
No. 10—Same as No. 9, but without seed sower	85 00
No. 11—Sows grain and seed, and has spring hoes changeable without lever	85 00
No. 12—Same as No. 11, but without seed sower	80 00
No. 13—Sows grain and seed, and has pin hoes changeable by lever	82 00
No. 14—Same as No. 13, but without seed sower	77 00
No. 15—Sows grain and seed, and has pin hoes changeable without lever	77 00
No. 16—Same as No. 15, but without seed sower	72 00

NINE-TUBED DRILL, 7 Inches Apart.

No. 17—Sows grain and seed, and has spring hoes changeable with lever.....	96 00
No. 18—Sows grain, and has spring hoes changeable with lever.....	91 00
No. 19—Sows grain and seed, and has spring hoes changeable without lever	91 00
No. 20—Sows grain, and has spring hoes changeable without lever	86 00
No. 21—Sows grain and seed, and has pin hoes changeable by lever ..	87 00
No. 22—Sows grain, and has pin hoes changeable by lever.....	82 00
No. 23—Sows grain and seed, and has pin hoes changeable without lever.....	82 00
No. 24—Sows grain, and has pin hoes changeable without lever.....	77 00

☞ The above are the prices delivered on the cars at Hagerstown, Md.

☞ A liberal discount allowed to the trade.

Price List of Duplicate Parts

OF THE

HAGERSTOWN DRILL.

We have a separate list for parts used on drills made before 1878. All parts used on both drills are found in the first part of the following list.— Those used only on the single drill in the last part. We call the drill without the fertilizer attachment Single Drill, and with the fertilizer attachment Double Drill. In ordering repairs be sure to give the number and name as you find it in this list. If you order a numbered part by telegram you need only give the number. The side with gear wheels and shield Right Side, and the opposite Left Side.

No.

1	Perrule to tongue for yoke.	.75
7	Lever for wheat slide	.25
12	Holder to lever for wheat slide.	.15
23	Hinge for hopper lid	.25
24	Hinge for hopper lid.	.25
26	Lever for guano slides.	.25
71	Keeper to wheat slide.	.10
85	Sliding fulcrum on drag bars for spring bar.	.50
86	Boot for pin breaking.	1.00
87	Boot for gum spring.	1.00
88	Lug on roller to hoist boots	.25
95	Box, centre, complete.	.75
100	Guard for lever to shift hoes.	.50
108	Axle butt, wrought spindle, (left hand).	1.50
109	Axle butt, wrought spindle, (right hand)	1.50
110	Box, double, for shifting rollers	.50
112	Hub for ground wheel (left hand).	1.50
113	Hub for ground wheel (right hand).	2.00
114	Wheel, gear for on hub	1.50
115	Wheel, gear for on shifter to throw in and out of gear.	.50

119 Shield, double over gear to shift hoes	.25
122 Stand to hopper, bored for shafts, (left hand)	2.25
123 Journal with cap to roller to hoist boots	.25
124 Shield to gear wheels	1.75
125 Lever to hoist boots (malleable iron) with hook and handle for same	1.25
126 Eccentric wheel to drive oats stirrer	.50
127 Shifter to throw in and out of gear	1.00
130 Eccentric journal with cap to roller to hoist boots	.50
132 Bell crank to drive grass seeder	.10
133 Pinion, bevel, for on crank (20 cogs)	.50
134 Wheel, double gear, (49 cogs in bevel wheel)	1.50
135 Stand for hopper, right side, bored for shaft	2.75
137 Surveyor wheel, outside	.35
138 Surveyor wheel, inside, with pin for pointer	.25
140 Shifter to shift boots without lever (maleable iron)	.50
142 Surveyor face with box, bored for shaft	1.50
143 Surveyor hinge	.15
145 Angle plate, with pin for guano lever	.15

Parts Unnumbered for Both Drills.

Box with slot hole for T plate to work in	.50
Crank with journal 15-16 x $6\frac{1}{2}$ and pin $\frac{7}{8}$ x 1 1-2	1.50
Catch at hopper to hold up shovels	.15
Check link	.25
Cap for gum spring	.05
Chain for boot	.25
Elbow to drive oats stirrer	.10
Feeder, gum, for on round shaft	.40
Ferrule, with cogs to shift hoes, with arm for rod	.40
Ferrule, with cogs to shift hoes, without arm for rod	.30
Feeder, gum, for on square shaft	.40
Feed roller, brass, with square holes	.40
Feed roller, brass, with round holes	.40
Gauge piece to wheat slides	.10
Hook to lever to hold up boots	.15
Handle to lever to lift boots (iron)	.15
Keepers, (wrought iron) with caps on, to guano stirrer bar, each	.20
Keeper, (cast iron) to lower slide to grass seeder	.05
Lug against end of hopper for elbow to oats stirrer	.10
Mud shield to left hand hub	.25

Oil can.....	10	
Oats stirrer.....	1.25	
Plate T, with eye running through bottom to connect pitmen rod (wrought iron) .. .	.75	
Pin (linch)	.05	
Points or shovels, less than a set, each.....	.25	
Points or shovels, per set	1.75	
Pinions on feed roller shafts, each	.30	
Slide for wheat feed.....	1.50	
Slide for gnano, front one....	} Patented oblique openings {	1.00
Slide for guano, rear one....		1.00
Surveyor shaft for iron surveyor, with worm.....	.50	
Stool for gum spring.....	.25	
Spouts, stout gum ones, each.....	.65	
Spouts, stout gum ones, per set	4.50	
Spout clamp, (malleable iron).....	.12	
Spring, gum, for hoes.....	.40	
Washer for square feed roller shaft, with set screw	.05	
Washer for round feed roller shaft, with set screw.....	.05	
Washer for linch pin	.05	
Wheel, ground, 2 1 2 x $\frac{1}{4}$ tire (left hand).....	4.50	
Wheel, ground, 2 1-2 x $\frac{1}{4}$ tire (right hand) with hub turned for gear wheel.....	5.00	
Yoke, (neck)	1.25	

For Single Drills Only.

No. 89—Shield over gearing.....	
" 91—Stand for hopper, left hand	1.75
" 92—Stand for hopper, right hand	1.75
" 99—Shifter to throw in and out of gear.....	1.25
" 101—Hinge, part to hopper lid, left hand	.60
" 102—Hinge, part to hopper lid, right hand	.60
" 103—Hinge, part to hopper, left hand	.40
" 104—Hinge, part to hopper, right hand	.40
" 105—Lever to work slide to regulate wheat feeder.....	.50
" 107—Wheel to drive feed rollers.....	1.50
" 117—Bell crank to drive oats and seed sower.....	.10
" 120—Lever to hoist boots.....	1.25
" 136—Surveyor face, with box for shaft.....	1.50
" 139—Surveyor hinge	.15

NOTICE.

There is to my certain knowledge Drills being manufactured and offered for sale in this and other sections of the country on which are used some of my patents in whole or in part, and I hereby give notice that The Hagerstown Agricultural Implement Manufacturing Company have the exclusive right to use my patents in manufacturing Grain, Seed and Fertilizing Drills. And any one else making, using or selling a Drill or Drills on which are used any of the claims of my patents are infringing and are liable to prosecution for damages. The following are my claims that are being infringed:

In my patent 44,098, dated Sept. 6th, 1864, the claims read thus: First—The combination of the rubber spring D with the caps E and G (or their equivalents), the central rod L and the shovel or share substantially in the manner and for the purpose set forth. Second—I claim the arrangement and combination of the lever C, stirrup H, provided with caps G, with the rod L and cap E, substantially in the manner and for the purpose set forth.

In my patent No. 50,140, dated Sept. 26th, 1865, my claims read thus: First—The above described check link for the purpose of limiting the motion of the lever or bar G, substantially as set forth. Second—The arrangement and combination of the link H, the bar or lever G and the boot A, with the spring for giving flexibility to the boot and shovel, substantially in the manner and for the purpose set forth.

In my patent No. 61,545, dated January 29th, 1867, my claims read thus: First—In the arrangement of a flexible boot or shovel plough with a lever and spring. I claim placing the fulcrum of the lever between the boot and the spring substantially in the manner and for the purpose set forth. Second—I claim the vibrating seat I for supporting the spring in combination with the lever substantially as set forth. Third—I also claim the use of the washer W, or its equivalent, in combination with the cap S and spring L substantially as described. Fourth—I claim the above described arrangement of the thumb screw T and guide pin P for compressing the spring and thus increasing the tension of the same substantially as specified.

In my patent No. 61,544, dated Jan. 29th, 1867, the claims read thus:

First—I claim the combination of the gear wheel L, with the pinion M and gear wheel N, substantially as set forth.

Second—I claim the peculiar axle O, with the bed plate O, for fastening the axle to the frame substantially as described.

Third—I claim protecting the gear wheels of wheat drills or seed planters against sticks, weeds, and other obstructions, by means of a box or its equivalent substantially as described.

The substance of the first claim of my patent No. 44,098, is the combination of the rubber spring with the caps or washers at the upper and lower end of the spring, with flanges to hold the spring to its place, or their equivalent, to prevent the wearing of the hole in the rubber spring.

The substance of the first claim of my patent No. 50,140, is the link holding the spring bar flexible and limiting the motion of same.

The substance of the first claim of my patent No. 61,545, is placing the central bearing of the spring bar between the boot and the spring.

The substance of the second claim on my patent No. 61,545, is making the seat on which the gum spring rests to vibrate, so as to press straight against the spring, as the end of the spring bar works up and down.

The substance of the second claim of my patent No. 61,545, is an axle with wings or arms extending out from each side of the body of the axle along the side rail of the frame and fastened with a bolt passing through each of the wings and at each side of the mortise in the rail, instead of passing one bolt through the body of the axle and through the mortise in the rail, by which the rail is materially strengthened, the weakening of the axle by boring a hole through it is avoided, and a more firm and substantial fastening secured.

I have already notified some manufacturers of spring-hoe Drills to discontinue the use of any of the above patents, and any agent or farmer selling or using any Drills with any of my patents attached will be dealt with according to the Patent Laws made and provided for in such cases.

JOHN F. KELLER.

The following are a few decisions on infringements:

HAGERSTOWN, MD., Sept. 3, 1877.

"An infringement takes place whenever a party avails himself of the invention of the patentee without such variations as will constitute a new discovery. (*Rich vs. Lippincott*, Grier, J., Pa., '53).

See *Curtis on Patents*, Part IV., Sec. 202.

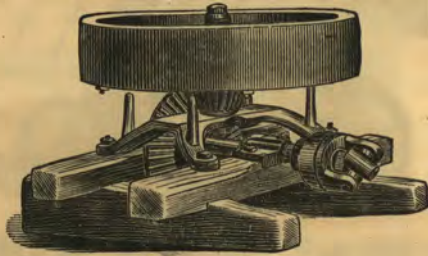
"It is therefore an infringement to make a patented machine for use or for sale, though in fact it is neither used nor sold; it is an infringement to use it, though made by another; it is an infringement to sell it, whether made by one's self or by another, because the statute vests the exclusive right of doing all these things in the patentee." Same, part IV., 208.

Making, using or selling a patented machine is an infringement. (*Brooks vs. Bicknell—McLean*, J., Ohio, 1843).

To infringe a patent right, it is not necessary that the thing patented should be adopted in every particular. If the patent is adopted substantially by the defendants, they are guilty of an infringement. (*Root vs. Ball—McLean*, J., Ohio, 1846).

If a person uses the invention of a patentee, he infringes; whatever new invention he connects it. (*Brooks vs. Fiske, Sprague*, J., Mass., 1857). Mere formal changes of machinery do not evade a patent. (*Sickles vs. Borden, Aelson*, J., N. Y., 1856).

POWER JACK.



Price with 24-inch band wheel, suitable for power, with 88 right hand turns of the shaft to 1 of the team \$20.00

Send for circular and price list giving full particulars.

SPRING-TOOTH RAKE.

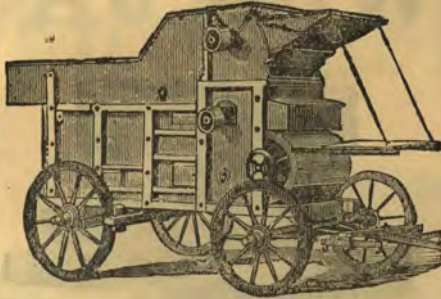


**THE HAGERSTOWN LOCUST HUB, Also IRON HUB,
SPRING-TOOTH RAKES.**

Prices \$30, \$32, \$33 and \$35. Circulars giving full description sent on application.

All of the following prices of Machines are at the works or delivered on the cars in Hagerstown, Md.:

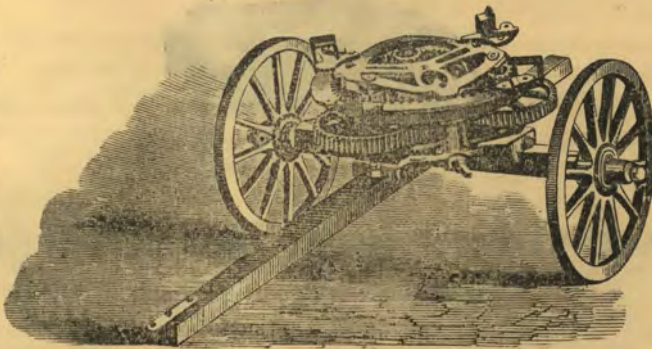
Victor Double Huller Clover Machine,



THE BEST IN THE WORLD.

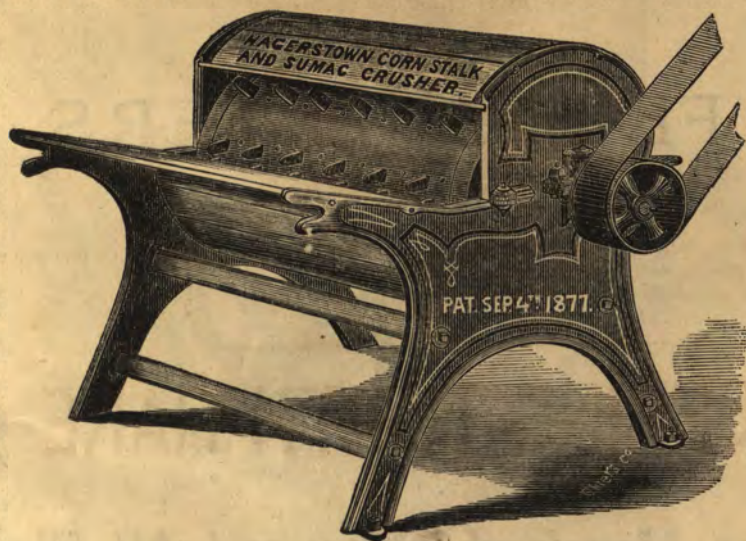
Price of No. 2 machine with elevator .	\$350.00	ble skeins, neck yoke and double	
Price of No. 3 machine with elevator .	380.00	trees	50.00
Price of Gearing for the above machine	25.00	Price of Brake for wagon	7.00
Price of Stacker 12 ft. long with 1 1/2 inch belts	25.00	Best or 2d best quality of belting at manufacturers' prices.	
Price of 4-wheeled wagon with thim-		Send for circular and price list giving full particulars.	

Triple-Geared Horse Power.



Price eight to ten-horse power with 5 levers, with 14 feet of 1 1/2 inch iron shaft	\$135.00	Price of six to eight-horse power, with 4 levers, with 14 ft. of 1 1/2 inch iron shaft	95.00
Price of 2-wheeled Truck for Power, with wheels to take off to set for operation	25.00	Send for circular and price list giving full particulars.	

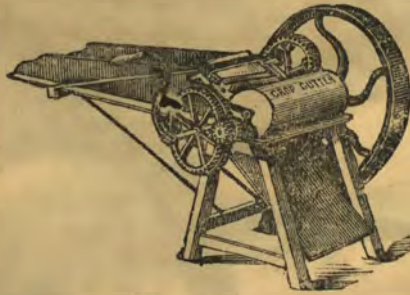
CORN STALK AND FODDER CRUSHER!



This is a new and patented principle, and we think the best machine now offered to the public, for preparing corn stalks and fodder for feed for stock. It is more durable, less liable to get out of order, and makes the fodder in better condition for the stock to eat. We make 2 sizes, No. 1 and No. 2. The cylinder to the No. 1 is 27 inches long and 12½ diameter and has 45 rubbers made of the best quality of wrought iron (not cast or malleable), made like or similar to the rubbers in the upper cylinder of our Clover Hul- lers. They are 1½ inches long, with wide sides, all nicely fluted to roughen them, and they are thicker on their backs than their points. The concave is in 5 pieces and filled with 57 rubbers, same as in cylinder, and they are placed in the cylinder and concaves, so that by the revolution of the cylinder, in consequence of the backs of the rubbers being thicker than their fronts, the space between the sides of the rubbers in the cylinder and the concaves diminish as they pass each other. The No. 2 is the same as No. 1, except the cylinder, which is 7 inches longer and has 56 rubbers, and the concaves are 7 inches longer and have 75 rubbers. In feeding the machine the feeder stands at the side and feeds the fodder in cross ways. By this process it is readily seen that the fodder will be broken and rubbed or masticated much better than can possibly be done with a cutting box of any kind, and the fodder free from those sharp cutting ends caused by the cutting process in cutting boxes, and being free from those objections the stock eat the fodder up much cleaner and it is much better for them; and the farmer is not annoyed with the knives getting dull and all the consequences resulting therefrom.

Price of No. 1 \$40, No. 2 \$50.

FEED CUTTERS.



The Maryland, Star and All Right.

The above cut represents the Maryland Cutter, of which there is 2 sizes. There is also 2 sizes of the Star Cutter. Price of above from \$10 to \$42. Circulars giving full description sent on application.

“VICTOR”

**A LARGER VIEW
OF OUR**



DOUBLE HULLER CLOVER MACHINE.

We also Manufacture the Celebrated
DOUBLE HULLER
PATENT CLOVER MACHINE,

Triple-Geared Iron Horse Powers, Power Jacks,

Locust Hub, Spring-Tooth

Horse, Hay and Grain Rake,

CORN STALK AND FODDER CRUSHERS AND FEED CUTTERS,

Hay, Straw and Corn Stalk Cutting Boxes,

(Engravings see inside as per index).

Agents wanted in all unoccupied territory. For Circulars or information,
address

A. MILLER, Gen'l Agent,
Hagerstown, Md.

 Each Machine is warranted to work well, to be well made and finished, with good material.

BRANCH OFFICES.—For convenience, and in order to lessen the freight and to insure more prompt delivery during the season, we have established branch offices at the following places for the sale and distribution of our Implements :
CINCINNATI, O., | MANSFIELD, O., | KANSAS CITY, MO.

For Sale by