

THE
GRANITE
Mower and Reaper
CIRCULAR.

MANUFACTURED AT THE
"GRANITE AGRICULTURAL WORKS,"
LEBANON, N. H.

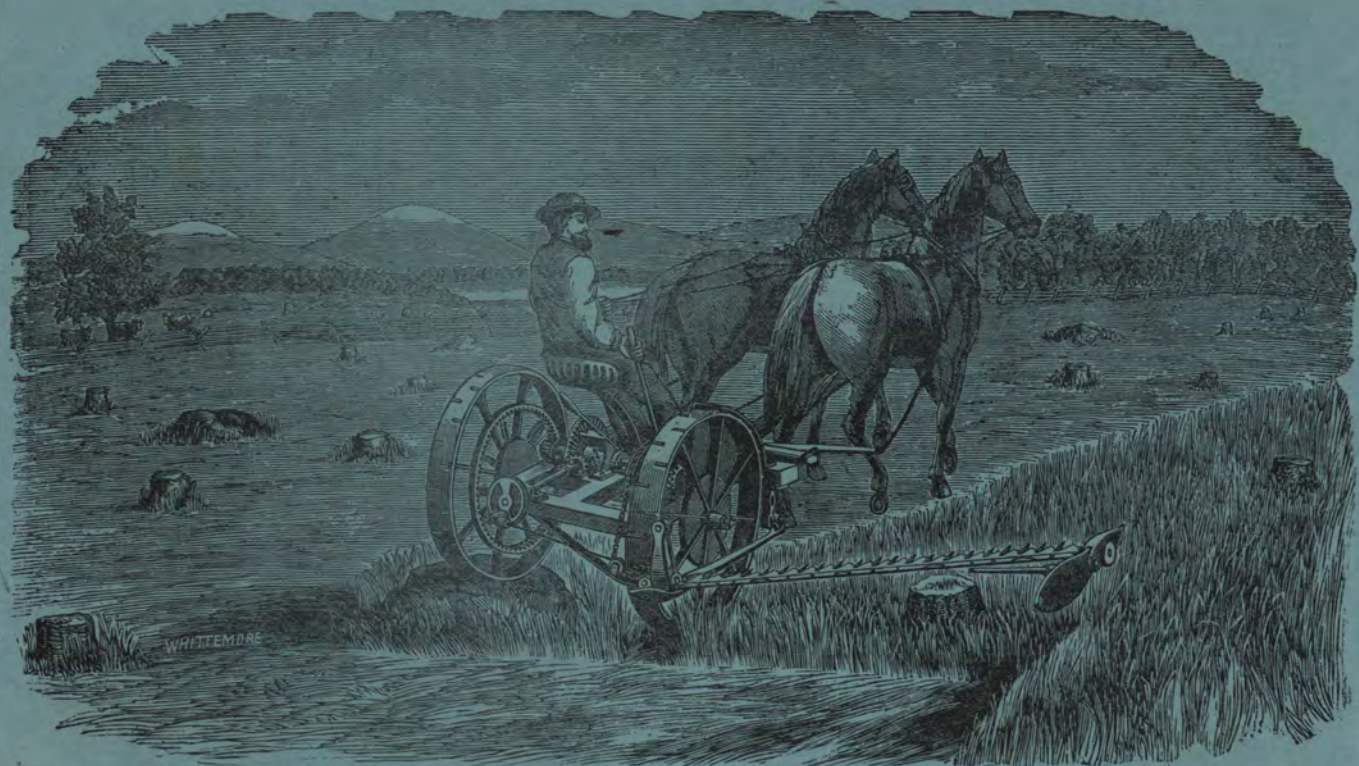
Warner's Revolving Wheel Rake, Randall's Patent Independent Wood Tooth Rake, and two styles of Wire Tooth Rakes for sale.

Also, Horse Hay Forks, and Haying Tools generally.

MAHAN & CO.,
Manufacturers and Proprietors, Lebanon, N. H.,

To whom all Correspondence should be addressed.

Rose & Miller, Steam Printers, Syracuse, N. Y.



Running over a Rock with the Finger-Bar raised to Pass a Stump.

016D
1870

GRANITE MOWER & REAPER

CIRCULAR.

MOWING MACHINE.



WE desire to respectfully call the attention of farmers, and all others interested, to our improved GRANITE MOWER, which we feel confident will meet the wants and receive the hearty approval of all practical farmers. The Granite Mowing Machine has now been in successful operation during five successive seasons, and has thus far given satisfaction to all who have used it. We have added several improvements for the coming season, by which we are enabled to furnish the farmer with a much better machine than we have done before, and are confident that we can show, by ocular demonstration and documentary evidence, that in a practical test on the hay-field, it will prove itself superior in many very important respects, to all other machines now in use. We are well aware that there is a great variety of Mowing Machines now before the



The Granite at Work on Smooth Ground.

public, nearly all of which work well uponst smooth farms or upon smooth meadows. Some possess advantages in one respect, others have them in another.

Our aim, in constructing the Granite Mower, has been to combine in one machine, so far as possible to do so, all the requisites of a perfect Mower. Our efforts have been directed to the production of a machine that could be successfully used upon rough and uneven surfaces. We have been successful in this respect, and at the same time have a machine which must obviously work well on smooth surfaces. A demand for such a machine has long existed among farmers. A large portion of the farming community are unable to obtain smooth meadows of which to make mow-fields, and hence a large majority of the agricultural classes have been deprived of the advantages of machinery during the hay season, a deprivation severely felt by the farmers. To meet this great want we have perfected a machine that combines in itself all the characteristics and qualities necessary for successful operation upon the roughest New England meadows, combining "lightness of draught—the lightest without exception—and flexibility of movement, with sufficient strength to meet all the contingencies of use upon rough and uneven surfaces.

The following are some of the characteristics and advantages of the Granite Mowing Machine :

For Cutting Lodged Grass.

This machine has no rival. The points of the Guards can be raised or depressed, and when moving on a level, or on a plane with the surface of the ground, the point of the Guard is one-eighth of an inch below the point of the section on the cutter-bar; hence, when the points of guards are depressed they *lift up and cut off* every blade of grass they pass under. On many machines the points of the guards slope up above the plane of the sections, and hence cannot possibly bring so much grass up to the scythe as though the guard were of a different shape, however much it might be depress-

ed. The raising and depressing the points of the guards is done by the driver while the machine is in motion, and without stopping the team. *A very important advantage.*

Fine Meadow Grasses Without Clogging---The Reason Why.

The pitman rod and scyther are very light, and hence require but little power to start and stop them, which is done twice at each revolution of the crank. The wheels are high, hence the weight of the machine is drawn over the ground very easily. The machine runs wide, so that the wheels run in the paths made by the swath-board and on the ground instead of on the cut grass. The motion of the scythe is rapid and strong. The cogs on rims of wheels are close together and of good length, hence they cling to the ground very firmly. A machine defective on any of the above points, cannot possibly work successfully on *very* fine meadow grasses. A machine, either of whose wheels runs on the cut grass, will choke and clog and utterly fail, while one running on the turf would work successfully—for to insure a constant vibration of the scythe, we must have some solid foothold on the ground from which the wheels can impart the power. Any machine whose wheels run narrower than it cuts, will necessarily have trouble where extra power is required, for with cut grass between the wheel and the ground, that power cannot be imparted. The same is true of all single wheel machines.

For Mowing among Small Stones and on Bog Meadows.

The guard fingers are close together; their points can be elevated so as to cause the entire finger-bar to slant upward at the front, while the back of the bar rests on the ground; this cuts the grass higher than when running on a level; the points of the guards are above every stone that is small enough to get in between them; if they strike larger ones, they are immediately turned one side, the finger-bar passes over or under them, while the guards are so close that the scythe is thoroughly protected.

Why our Granite Machines are More Durable than Others.

We first have the simplest machine now in use. It has not half the number of parts found in some kinds; but very few bolts; is made from the very best of steel and iron, with a wood frame for the iron work to rest on. We use a cast iron frame for the gearing, which rests on top of the wood work. This keeps the gearing in place, and always firm, while the wood furnishes a sort of tension, which serves to relieve the jar while the machine is in motion, and prevents breaking when the machine strikes fast rocks or other obstructions. There are no little springs or tatches, nor a spring-key about the machine to be lost or get loose. Every nut about the machine is in sight of the driver from his seat. Every bearing on the machine can be oiled by the driver without leaving his seat. All the working parts of the machine are on top of the frame, and above the axle—nothing beneath the axle—hence nothing can be broken by striking fast rocks while passing them between the wheels. The machine will pass obstacles between the wheels, from fourteen to seventeen inches high. In this respect the machine surpasses all others.

THE GRANITE MOWING-MACHINE has 34 and 38 inch drive wheels, with rims four inches wide, cogs on outside three inches apart, and two thirds distance across the rim, thus insuring sufficient tractive power for the finest meadow grasses, without danger of clogging, under any ordinary circumstances. It also has a very steady and uniform motion, which is not affected in any kind of grass, and hence, in this respect, we claim it to be the best machine in the country.

Position of Finger-Bar.

The Granite Mower possesses one other very important feature, which is the manner in which the finger-bar is attached to the frame, and also its position. We are well aware that in some sections of the country there exists a great prejudice in favor of front cut machines, which is founded only in imaginary advantages. Our machine is what is termed a rear cut.

This plan of attaching a finger-bar to the main frame, we claim to be the only true principle upon which a machine can be constructed and made to operate successfully upon rough and uneven surfaces, and for the following very good reasons :

1st. With the finger-bar in the rear of the machine, the driver is enabled to discover all obstructions in season to avoid them much better than if he were from two to three feet behind the cutters ; and especially is this true in tall grass.

2. In turning corners, the team can be constantly moving forward, thus obviating the necessity of backing at every turn, which, with a fractious team, is very difficult.

3d. The draw-bar upon the Granite Mower is so arranged that it permits the finger-bar to pass in and out of dead furrows and over knolls better than it could possibly do if it were in front, for as the wheels, which are in advance, rise upon a knoll, the points of the guards are elevated, and as the machine passes off, the points are depressed, thus enabling the machine to cut the grass at a uniform height over knolls and through dead furrows, which is a very important item.

4th. It relieves the weight from the horses' necks, which, in all front cut machines is more or less severe, often disabling the team for use.

5th. It requires less draught, as our finger-bar is drawn instead of being pushed, as is the case with most front cut machines. It is very obvious that any given load can be drawn upon the ground much easier than it can be pushed. To illustrate this : take a common wheelbarrow and attempt to push it up a hill or over a log or other obstruction, and then draw it over, and observe the difference.

6th. Whatever lifting force is exerted on the cutters by the draw-bar in advancing, is transferred directly on the drive wheels, where it is used for power, thus increasing the tractive force of the machine, while in front cut all this power is exerted to relieve the drive wheels of their own weight.

7th. The position of our finger-bar insures more strength in the machine, as it is drawn instead of being pushed. Also,

is attached to the main frame with wrought iron connections, connected at opposite corners of the frame diagonally, thus distributing over the whole frame the force of any check that might be occasioned by striking an obstruction with the finger-bar.

Position of Driver's Seat.

The seat arrangement in the Granite Mower renders the driver's position more safe than in any front cut machine. Unlike most rear cut machines, our seat comes nearly opposite the cutters, instead of being from one to three feet in front. The elevating lever is placed at the right of the driver, and just in advance of the seat, thus preventing the possibility of the driver being thrown in front of the cutters in this direction. The position of the seat is such that the driver can not feel the force of any shock, however severe, accompanied by the stopping of the team, by striking an obstruction with the



finger-bar. In front cut machines, the force of any shock resulting from striking an obstruction with the finger-bar, operates to throw the right hand drive wheel from the ground, or to throw up the rear end of the frame, which, in either case, throws the seat to the front and left, and of course, if the driver should go at all, it would be to the right and upon or in front of the cutters. Rear cut machines operate upon exactly the reverse principle to this, and hence if they throw the driver (which very seldom occurs), it would be to the left.

And now, farmers, we append six other good reasons why we solicit your earnest attention to the Granite Mower, and desire your patronage should you determine to buy a machine.

1st. It has more tractive power than any other machine of the same weight, and hence can not be clogged under any ordinary circumstances.

2. It will perform the same amount of labor with less power than any other machine in the country.

3d. It is geared higher than most other machines, and hence performs its work better, with greater accuracy and less power, as we can fully demonstrate.

4th. It can be safely used upon a side-hill, when other machines can not be used at all, for the reason that it runs wider than most machines.

5th. It makes less noise in running than most other machines.

6th. The Granite Mower, by its simple arrangement, combines more strength with a less weight of material than almost any other machine in the country.

Description of Various Parts and Advantages, in Detail.

Hanging Finger-Bar to Frame.

There are two classes of machines, with hinged finger-bars, before the public. One has a loose pole, with oscillating or vibrating frame, with finger-bar hinged direct to the front inner corner of the main frame. The objection to this class is,

that the front end of the frame and the inner shoe are necessarily placed so near the ground that they have a tendency to push up the cut grass before them, thus causing great annoyance, when used upon fields having a very heavy growth of grass, or upon rough, knotty ground. The other class is what are termed the double-hinged, flexible finger-bar machines, and have a rigid pole attached to the main frame, with one or more coupling arms intervening between the heel of the finger-bar and main frame. The Granite Mower is of this class, with this distinction from others of the same class, namely: the cutting apparatus is back of the line of the drive wheels, instead of being in front; also, this machine admits of the points of the guards being elevated or depressed, as may be desired, when used upon rough or uneven surfaces. This the farmer will find to be of great advantage, when mowing newly stocked fields, or brook meadows. The advantages of having the finger-bar behind the drive wheels, are, (1) the machine can be turned better at corners; (2) it permits the driver to see obstructions before he gets upon them, thus giving him time to raise the bar to avoid them without stopping his team. The double-joint and tapering draw-bar, used upon the Granite Mower, will admit the outer end of the finger-bar to drop from ten to fourteen inches below the plane of the drive wheels, and from twelve to twenty inches above, thus making it more perfectly adapted to rough farms than any other machine in use.

Folding the Finger-Bar.

This, upon the Granite Machine, is done very quickly and easily, and when thus folded, is entirely out of the driver's way, and in a convenient position for transportation from place to place.

Guard Fingers.

We use a short, strong, malleable iron guard, that will not break or bend—this guard is faced with a plate of cast steel against which the cutters work, thus forming the most per-

fect shear cut. These plates are so put in as to admit of being sharpened by filing or grinding, as they become worn. By this means the cutting apparatus of this machine may be kept in the most perfect order, and may be made to last twice as long as the common style of finger-bars.

Shoes and Wheels.

We use a truck upon the outer shoe, for adjusting the height of cut, and also to aid in passing over rough ground, and in backing. The inner shoe should be constructed so as not to push up the cut grass before it. In the Granite, the inner shoe follows so closely behind the right hand drive wheel that it serves all the purposes of a truck, as used on other machines, without any of its objections. The drive wheel rides down the cut grass, and assists the shoe in passing obstructions, by lifting it over them by its own movements.

Fastening Guards to the Bar.

Two methods, most commonly practiced in fastening guards to the finger-bar, are to rivet with one or more rivets, and to bolt them with a single bolt (we prefer the latter), and thus obtain a sure and tight fastening, which can be rendered tighter as they work loose from wear, and will also admit of being easily removed to replace guards, when broken or worn out.

Position of Guards.

The guards should be placed close together on the bar, as when thus placed, they afford a much better protection to the cutters than when placed from three and a half to four inches apart. We use a short, strong guard that will not break, and place them close together, thus furnishing a protection from small stones and other obstructions.

Boxes.

Babbited boxes are found to be much more durable than common cast iron ones, and have less friction, and can be readily removed with but comparatively little expense. We also use a patented self-adjusting composition box, for the crank-pin wrist, which prevents all possibility of cramping or binding, in this particular.

Knife Bars and Heads.

The breaking of knife-bars of mowing machines, during the harvest-time, has hitherto been a great source of annoyance to farmers, occurring, as these breakages often do, just at the time when the machine is needed most. Iron heads and steel bars are equally liable to serious defects, caused by the heat required to weld them on, which destroys the quality of the iron. This class of bars, with the hole for connecting rod, punched above the line of cut, are almost certain to break, sooner or later, from the constant strain brought to bear upon them. The Granite Mower has a light, wide knife bar, made from the best quality of cast steel, which is not liable to get out of position like an iron bar, and, being wide, is not weakened by the rivets passing through it, as is the case with narrow bars, thus giving all the advantages of a light bar, with sufficient strength for all occasions.

In the Granite Mower the knife head is made of wrought or malleable iron, and riveted on the bar. The eye is made just above the line of cut, and works under a guide or bottom which secures it in position, and prevents all possibility of breaking the knife-bar at the head, as is frequently the case with other machines. We have not known of a single instance in which a knife-bar of our manufacture has been broken at the head—a fact worthy the consideration of farmers.

With an experience of five years in making knife backs in this manner, *we have never known one to be broken while in use, a fact worthy of note to the purchaser.*

Crank Balance and Connections.

A well-adjusted crank balance, as found in the Granite machine, is necessary to regulate the motion of the cutters. Both the knife-bar and connecting rod should be as light as possible, and still retain sufficient strength to resist the constant strain brought to bear upon them, without breaking, as the knife-bar has to start and stop at each revolution of the crank. A heavy knife and clumsy connection will greatly

increase the draft of the machine, as well as cause other serious inconveniences.

Throwing in Gear.

This, upon the Granite machine, can be done very quickly and easily by hand or by foot, from the driver's seat.

Frame.

We use a wood frame for supporting the gearing, and other parts of the machine. Wood frames are found to take up a great amount of the jarring occasioned by the rapid motion of the gearing, and are much lighter for the team than iron frames; also, gearing placed on a wood frame, will last much longer than when placed on an iron one.

Mounting the Driver's Seat.

We use a neat cast iron seat, mounted upon steel springs, bolted to the frame, thus making a neat, convenient, and very easy position for the driver..

Elevating Lever.

A lever for elevating the finger bar is of vital importance. This, upon the Granite machine, is placed at the right of the driver's seat, in a convenient position for operating, and entirely out of the driver's way, while directing the movements of the team. When the lever is down, it can be instantly secured in position for holding the finger-bar above the ground.

Passing Obstructions.

No mower is perfect unless capable of passing obstructions when in any position. The finger-bar of the Granite machine can be elevated from twelve to twenty inches at its outer end, and from eight to twelve inches at the inner end or heel.

Manufacture.

The Granite Mower is made from the best quality of stock to be found in the market, with good and skilled labor, and practical and experienced superintendents in every department. Its quality of workmanship and finish is second to none; and we can assure the farmer that in purchasing the Granite Mower from us, he will get a perfect machine, durably accurate in all its details.



The "Granite" on the Road.

ONE HORSE MACHINE.

We call the attention of all farmers, with small farms particularly, to our one-horse mower, for the present season, made entirely from new patterns, and made in a neat and thorough manner, and just the thing for those who keep but one horse that could be used upon a machine. This is emphatically the very best one-horse mower to be found in the country. It is light and very easy draught for the team. Those in want of a machine will do well to give it a trial.

Warranty.

The Granite Mower is warranted to cut the grass as well as the best mowers with a scythe, at the rate of one acre per hour, or from eight to fourteen acres per day, with a span of horses and a competent manager. Every purchaser is allowed to cut three acres of grass on trial, and in case anything proves defective, immediate notice must be given to the proprietors or their agents, and time allowed to send a person to put it in order. If then the machine does not work, it will be taken back, and the money refunded, or a perfect machine sent in its place, at the option of the purchaser.

Apply to or address

MAHAN & CO., Lebanon, N. H.

Two complete scythes, two extra knife sections, two extra guard-fingers, two whiffletrees, evener, neck-yoke, wrench, oil-can, extra screw-wrench, bolts, rivets, cold-chisel and punch, accompany each machine, together with full directions for setting up and using.

In ordering the following parts for repairs, the side of the machine to which they belong should be given, thus:

Drive Wheel,	-	-	-	Right Hand.
Drive Wheel,	-	-	-	Left Hand.
Ratchet,	-	-	-	Right Hand.
Ratchet and Gear,	-	-	-	Left Hand.

In ordering the following extras, the number of the machine and the year of its purchase should always be given.

PRICE LIST OF EXTRAS FOR MOWER AND REAPER.

No.		Price,	No.		Price,
1	Drive Wheels, each,	\$6 00	24	Guards, each,	.50
2	Internal Gear,	4 00	25	Buttons for Knife, each,	.16
3	Pinion for internal Gear,	.50	26	Pole iron,	.75
4	Bevel Gear,	2 00	27	Pawls, each,	.10
5	Pinion for Bevel Gear,	.50	28	Pawl Springs, each,	.05
6	Right hand Ratchet,	1 50	29	Pawl Holders, each,	.50
7	Inside Shoe,	2 50	30	Complete Scythe, 4 feet 6 inch,	6 00
8	Outside Shoe,	1 25	31	Complete Scythe, 4 feet,	5 50
9	Truck for outside Shoe,	.40	32	Complete Scythe, 31-2 feet,	5 00
10	Boxes for Main Shaft, each,	.40	33	Knife Sections,	.25
11	Boxes for Bevel Gear Shaft, each,	.50	34	Knife Head,	.75
12	Box marked A, babbitted,	1 00	35	Knife-Bar, complete,	1 50
13	Lever Stand, B,	.75	36	Finger-Bar, complete,	12 00
14	Draw Iron C,	2 50	37	Clutch for Bevel Gear,	.75
15	Lever Iron, D,	1 00	38	Crank Balance,	2 75
16	Fender for Bevel Gear,	1 25	39	Crank Shaft, Complete,	5 00
17	Shipper Guide, E,	.50	40	Wrist Pin,	1 00
18	Fender for Drive Wheel,	1 25	41	Elevating Chain,	1 00
19	Knife Guide, F,	1 00	42	Seat Springs,	2 50
20	Pitman Guide, G,	.50	43	Seat,	1 25
21	Pitman, complete,	3 00	44	Shipper Lever,	1 00
22	Pitman Box,	.75	45	Spring Key,	.10
23	Oil Cap,	.25			

 In ordering the above, send name and number of piece. The number here corresponds with the number cast on the piece.

RECOMMENDATIONS.

DERBY CENTER, Vermont.

MR. C. B. MAHAN: Dear Sir—I cheerfully detail my experience and estimation of the Granite Mowing Machine purchased of you. We have used the machine very thoroughly this summer, in different kinds of grass, and in many rough places; and what I state of the machine is without prejudice. I think I have given it a fair trial. I would state, however, that I still own and have constantly used, for four seasons past, one of "Wood's Light Mowers." I consider the Granite Mower, in many important points, by far the best machine I have seen. The arrangement of the cutters, whereby they are placed in the rear, is one improvement over "Wood's." It enables the driver to see all obstacles in season to avoid them, and in turning corners the team can be constantly moving forward.

I also esteem the adjustment of the cutters to be another improvement, whereby a much greater degree of strength and durability are obtained; also an immense advantage for uneven and rough ground.

These are only a few of the reasons why I feel free to recommend the Granite mower as a first class machine, doing the very best work, and in the most satisfactory manner.

Yours respectfully,

JOHN DAILEY.

GLOVER, Vermont.

This certifies that I have used C. B. Mahan's Granite Mowing Machine during the past season, with entire satisfaction, both on rough and smooth ground, and think it the best machine, as it makes excellent work and is very easy for the team. I would also state that I owned and used a Buckeye Mower previous to purchasing the Granite.

AMASA F. CLARK.

BERLIN, VT.

Messrs. C. B. MAHAN & Co.—In reply to your inquiries in regard to the Granite Mowing machine, I would say that it has worked to my entire satisfaction, during the past season, without any breakage whatever. I like it much better than I had expected, as I was somewhat prejudiced in favor of the Buckeye Mower, having owned and used one the year before. But after proving the Granite Mower, I like it much better than I did the Buckeye, for various reasons. The draught is lighter, that of the Granite Mower being only what would be required in light stubble plowing. While I was using the "Granite" I had it tested with a dynamometer. The draught was only 175 pounds, which, I think, is the lightest I have ever known on the same quality of grass, which was quite ripe and dead, and about one and one-fourth tons per acre. I do not recollect of ever having clogged the Granite Mower in mowing anything that would quite frequently clog the Buckeye.

Yours truly,

CORNELIUS PERRIN.

NEW BOSTON.

C. B. MAHAN: Dear Sir—Your Granite Mower, which came yesterday, works finely—better than any machine I am acquainted with, and I have used and owned several different kinds. I am highly pleased with it, and think that if you had some of your machines here, you could dispose of several of them.

Yours truly,

EUGENE WASON.

BOSCAWEN, N. H.

MR. MAHAN, Dear Sir—We have cut about twenty acres with the machine you sent us. I have seen no machine in this section of the country, or in any other, that cuts the grass so well, or is so easily managed, or that is so light draught as the Granite Mower. I have owned and used mowers for several years, and I consider yours by far superior to any machine I have used or seen used.

Yours respectfully,

L. M. CHADWICK.

EAST WAKEFIELD, N. H.

C. B. MAHAN : Dear Sir—In reply to your inquiry as to how I like the mowing machine purchased of you this year, I have to say that it has proved perfectly satisfactory in all respects. It does the work better than can be done with a scythe by hand, spreads the hay well, and for rough ground is much better than I had expected it. I have paid out comparatively nothing for repairs, though I used the machine in many rough places, and among small stones and bushes. I consider the Granite Mower, for all kinds of work, to be superior to anything I have yet seen, and would cheerfully recommend it to my brother farmers who wish to make their haying easy and cheap.

Yours truly,

IRA HANSON.

NOTTINHAM, August 14, 1866.

Mr. MAHAN : Dear Sir—I have received the two machines which you sent me, and having used one of them, am certain that there has been no machine offered to the public that will work as well on all kinds of ground as the "Granite." It was so late when I received them that the people, having nearly finished their haying, did not wish to purchase this year; but all that have seen it, think it the best they have ever seen.

Yours respectfully,

M. B. HARNEY.

BARTLETT, N. H.

C. B. MAHAN : Dear Sir—I have tried the Granite Mower that I purchased of you this season, and I like it well. I consider it superior to any other. If you had three or four machines here, this season, I could have sold them without any trouble. You could sell a large number of machines here, the coming season, if you would send them in.

Yours truly,

FRANK GEORGE.

WATER VILLAGE, N. H.

C. B. MAHAN, Esq. : Dear Sir—I have used your Granite Mower, and prefer it to any other with which I am acquainted. It is light in draft; quick in motion; cuts easily is easily managed, and capable of standing rough use.

Yours respectfully,

RICHARD BEACHAM.

SKOWHEGAN, Me., October 13, 1866.

C. B. MAHAN, Esq. : Dear Sir—This may certify that the Granite Mowing machine purchased of your agent the past season, has given entire satisfaction. I have worked it on wet, heavy grass, also on fine, with uneven surface. The machine performed its work well, and is easy to manage and light for a team. I have had no repairs to make, and I consider the Granite Mower the best machine in the country. I have examined the Buckeye, Wood's, Cayuga and others, and consider the Granite Mower a superior machine, and would recommend all farmers who want a machine, to buy the "Granite."

Yours respectfully,

NATHAN ANTILL.

SKOWHEGAN, Me., August, 1866.

C. B. MAHAN, Esq. : Dear Sir—This may certify that I have examined and worked the Granite Mower. I gave it a thorough trial on wet, heavy grass, with an awkward team, and it worked perfectly well, and cut the grass neatly; and I can cheerfully recommend it to be a first-class machine, equal to the best, although I own a Buckeye, and have for years; yet for its lightness of draught and easy management, I can recommend the Granite Mower to all who want a mower.

Yours truly,

THO'S L. PRATT.

C. B. MAHAN : Dear Sir—This may certify that I have examined the Granite Mower and have seen it worked, and consider it, in my opinion, as good a machine, all things considered, as there is in use. I own a Cayuga Chief, yet I can recommend the Granite Mower to all who want a good machine.

Yours with respect,

JOHN L. KENDALL.

STOCKBRIDGE, Vt., January 1, 1867.

C. B. MAHAN & Co. . Gents—The one horse Granite Mower I purchased of you last year, worked to a charm. I find it is much easier for my horse than I had expected. It requires no more labor to mow in the warmest weather in July than it would to draw a light cultivator in my corn on the mellow meadow. My machine has cut some

twenty-five or thirty acres without the least repairs, and is, apparently, as good as on the day I bought it. I have examined other machines with a view of purchasing before I purchased the "Granite," and had about concluded to buy the Kniffin mower, which is a very fair machine, when my attention was called to your mower. I would not now exchange my Granite Mower for any other in the market, "for the price I paid for mine to boot."

Yours truly,

DAVID JONES.

IRASBURG, VT.
C. B. MAHAN: Dear Sir—You wish to know how I like the Granite Mowing machine purchased of you last season. I have simply to say that we like it well—better than we had expected. I have worn out an "Allen" mower on my farm. I always thought this did good work, and called it a good machine, but after using the Granite mower a few days, I discovered the difference. The Granite mower has a very light draught—can be operated as easily for one horse as the "Allen" for two. The granite is very light and durable, more so than most other machines; is simple and not liable to get out of order.

Yours respectfully,

WM. L. LOCKE.

LOUDON, N. H.
C. B. MAHAN. Dear Sir—The Granite mower purchased of you last July, has worked well. I have given it a pretty thorough trial, and although my team was a very poor one for a mowing machine, I made excellent work with it. I cut nearly all the grass on my farm; used the machine among rocks and stumps, in wet and dry grass, with equal success. I consider the Granite Mower a very superior machine, and better adapted to meet the demands of farmers having rough farms than any other in the country.

Respectfully yours,

A. G. MOORE.

DANVILLE, VT.
C. B. MAHAN, Esq.:—This certifies that I used one of your Granite Mowers on my farm last season, and am well satisfied with its operation. I have had considerable experience with mowing-machines, having owned and used three on my farm for several years. I used the "Farmer" machine last year; have also used the "Woods" machine. I consider the Granite mower a very superior machine, and one that will suit the farmer.

Yours respectfully,

WM. DOLE.

LACONIA, N. H.
Mr. C. B. Mahan: Dear Sir—I would state that I have not yet regretted purchasing a mowing-machine; neither have I regretted that I bought the Granite Mower of you, instead of buying a Buckeye. I used the Granite mower on my farm last year with entire success. I mowed in many places where I had not intended; certainly on rougher ground than I had ever before known to be mowed with a machine. I like my machine well, and think it the easiest running machine in the country. I have had no repairs done on my machine. It has stood it well, considering where I used it.

Yours respectfully,

R. C. CAWLEY.

PITTSFORD, VT.
C. B. Mahan, Esq.: Dear Sir—This is to certify that I found the mowing-machine I purchased of you last July, all it was recommended to be, fulfilling, in all respects, my highest anticipations. I have quite a large farm to mow over, and some of it is pretty rough. I had been looking for three or four years for a mower that would work satisfactorily on my farm. I have used several (including Union, Buckey, Woods and New-England) different kinds of machines, but did not like any of them well enough to buy, until I tried the Granite Mowing machine. I have used this during the past season, on both rough and smooth ground, on thick and thin grass, and am fully satisfied that it is not equalled by any machine in this State, and I think that my experience with it and other machines will warrant me in saying that I consider the Granite mower the best machine in the country, for all kinds of work.

Yours respectfully,

HORACE EMMONS.

DERBY, VT.
C. B. Mahan, Esq.: Dear Sir—I have used one of your mowers during the past season with entire satisfaction. I would state however, that your machine was not the first with which I have had experience. I have owned and worn out a Ketchum, and used up a Buckeye. I consider the machine I purchased of you to be much better than any thing I have ever seen for mowing grass. It is very easily managed, and of very light draught for the team. My machine has had no repairs, and for aught that I know, is good for many years yet. It works well in all kinds of grass.

Yours truly,

JACOB CHASE.

GILFORD, N. H., Jan. 23, 1866.

Mr. C. B. Mahan: Sir—The Granite mower, purchased of you last season, has given perfect satisfaction, fulfilling in every respect, all we had anticipated. We gave it a thorough and extensive trial on rough and smooth land, and in many places where we had never contemplated using a machine at all, and must say that it works nicely. I found the draught to be very light, and the machine much easier for the team than other machines. The quality of its work can not be surpassed. I would advise all my brother farmers, who contemplate buying mowing-machines, to get the Granite in preference to any other.

Respectfully yours,

LEVI GOVE..

GILMANTON, N. H.

Mr. C. B. Mahan: Dear Sir—The Granite Mowing machine, purchased of you last year, has given entire satisfaction in all respects. I cut some thirty-five acres of grass, used it on smooth and rough land, wet and dry grass, and I find that it works equally well in all places—better than I had expected. The mowing-machine has saved me a large amount of labor. I have never passed haying with so little work as I did last year.

Yours respectfully,

JAMES DREW.

FIELD TRIALS.

Of these we give only a few of the many in which the Granite has demonstrated its superiority.

At Springfield, Vermont, June 26th, 1867—

Granite, Draft,.....	225	Clipper, Draft,.....	250
Buckeye, ".....	280	Woods, ".....	300

At Fairfax, Vermont, July 6, 1867—

Granite, Draft,.....	175
Buckeye, ".....	200
Woods, ".....	200

Derry, N. H., June 25th, 1868—

Granite, Draft,.....	275
Buckeye, ".....	400
Kniffin, ".....	350

The Granite is now the lightest draft Mower or Reaper in the market, and as a Reaper, weighs 200 pounds less than any other two-wheeled machine and are more reliable.

Trial of Mowing Machines.

The proprietors of the Granite Mowing machine gave notice that there would be a trial of mowers in Derry on the 25th of June, and invited all proprietors or agents of other machines to come and exhibit their machines and show what they could do. Accordingly, at an early hour in the afternoon the farmers of Derry and vicinity congregated at the farm of H. P. Hood, to the number of nearly 200, to witness the operation. There were seven machines present for trial, viz: The Granite one and two horse machines; the Buckeye, one and two horse machines; the Kniffin, one and two horse machines; and the Union, a one horse machine.

The land that the trial was on was a new-laid-down piece of clover and timothy, the surface quite uneven, and the stones picked in heaps on part of the ground, and on a part of it they were not picked at all, and the grass was quite heavy and lodged on a part of the piece, and on other parts was quite light.

There was a piece of the ground selected, and each machine was required to mow two swaths, to test the work of the machine. They were then required to mow one swath up grade in heavy grass, with a peiramer attached, to test the power required to operate the machine. The machines that were tried all did their work well, and your judges are of the opinion that either of the machines would give satisfaction in the hands of a good operator, but they find a considerable of difference in the power required to operate them, which is as follows: The Granite two horse machine, four feet cut, required 275 pounds to operate it, it being 5 35-48 pounds per inch of the cut. The Buckeye, 4 feet 8 inches cut, required 400 pounds to operate it, it being 7 1-7 per inch. The Kniffin, 4 feet 3 inch cut, required 350 pounds to operate it, it being 6 44-51 pounds per inch. For want of time, the one-horse machines was not tried by the instrument, but it is presumed that the power required to operate them would be in about the same proportion as the two horse machines.

R. W. THOMPSON,
T. R. ROBBIE,
I. G. GODDWIN.

Derry, July 1, 1868.

THE GRANITE SELF-RAKE REAPER.

Successful two-wheel Self-Rake Reapers are of comparatively recent origin. The earliest successful efforts with Self-Rakes were made on single wheel machines. Single wheel Reapers have now virtually closed their career, to give place to the more convenient and practical two wheel machines for Reaping. As a few years since the two wheel machines steadily and slowly superseded the old clumsy single wheel machines of the day, so now, for the same reason and in the same way, the single wheel Reapers are giving place to the two wheel machines. We will not occupy space here to point out the differences or advantages which the two-wheel reapers have in common over the old single wheel machines, but will simply call your attention to a few of the many advantages which our Reaper attachment, as applied to the Granite Mower, has over other two-wheel Reapers. And here we will say, that all the good points which our machine presents *as a mower*, are equally important and necessary in a good Reaper. Its extreme simplicity, its light weight, its great strength and durability, are points without which no machine can long prove successful, or give satisfaction to the farmer.

We use on our machine the celebrated Revolving Self-Rake, which is everywhere acknowledged to be the most successful working rake now in use. This Rake is very simple and not likely to get out of order, and will pick up lodged and tangled grain better than any other Rake now in use. In fact, it is the only one that is worth anything for this purpose. We use no reel—the rake does the whole work. We shall use an arrangement on the Granite Reaper which will enable the operator to change the velocity of the Rake, and thus discharge the grain from the table in a continuous gavel (which is quite necessary when the grain is to be dried in the swath before binding), or the operator can, by a slight change in the Rakes, discharge gavels at intervals of nine feet, eighteen feet or thirty-six feet, or gavels can be discharged at the will of the operator, and at any desired distance apart.

The raking attachment of the Granite is bolted to the table, and always remains there, it being never necessary to remove it for any purpose. Thus attached, the table requires no extra room in packing away for winter. The Rake always maintains the same natural position to the platform—and the plat-

form is always free to rise and fall and otherwise adapt itself perfectly to the inequalities of the surface over which it is passing, thus we have a perfect acting jointed finger-bar, both in reaping and mowing, a very important feature in this machine.

For reaping we use a separate Finger-Bar, Scythe and Draw Bar—thus giving the buyer a perfect cutting apparatus for each purpose. Every practical farmer will at once appreciate the importance of this arrangement. Many makers of machines attempt to use the same cutting apparatus for both grain and grass—and the result is seen in the almost utter failure to meet the wants of the farmer with their machines. No machine that is perfect for cutting grass, will be capable of cutting grain successfully, and *vice versa*.

In the Granite combined machine, we give the farmer a perfect Mower, wholly distinct from the Reaper in every essential respect; and as a Reaper, we furnish an equally perfect machine. The secret of this lies in the fact that in all the respects in which there is actually any difference between a *successful Mower* and a *successful Reaper*, we furnish a separate and distinct machine. The driving wheels and gearing are the only parts of our machine that are used in common.

The platform is so attached to the main frame of the machine, that the driver can, from his seat, without stopping his team, change the height of cut ten inches, after the platform has been adjusted to any particular height, so that if we are cutting a piece of grain that is very uneven—tall in places and in others very short, we can, by this arrangement, make our bundles of a uniform length. The Granite combined machine can be changed from a Mower to a Reaper in *ten minutes*, by any one of ordinary skill.

The platform or table of the Reaper is supported on castor wheels at each end, placed a little in the rear of the cutters, so as to balance well. By this arrangement, we have no extra weight thrown upon the right hand drive wheel of the main machine, as is the case in all machines where the inner side of the table is suspended from the frame of the machine and carried there. The vexatious inconveniences of this arrangement has been fully illustrated in the harvest of 1869. With this extra weight on the inside drive wheel, it is almost sure to cut into the ground and increase the draft of the machine, and on soft bottom, it is almost impossible to run a machine so constructed. The Granite, when arranged for reaping, has no more weight on the drive wheels than when mowing, and can be turned at the corners almost as easily as when mowing, while the aggregate weight of the whole is from 259 to 400 pounds less than any other Self-Rake Reaper now in the market. In view of these considerations, and many

more that we might add, we respectfully solicit your orders, assuring all who may so far favor us as to give the Granite a trial with other first class machines or alone, that they will not be required to purchase the machine, unless it shall prove satisfactory. We hope every practical farmer, in want of a good combined machine, will give the Granite a trial, and thus prove whether "these things are so." If the machine suits you, you shall have it on as favorable terms as you can procure any other first class machine.

Lebanon, N. H., Jan. 1, 1870.

MAHAN & CO.

PRICE LIST FOR 1870.

DELIVERED ON BOARD OF CARS AT THE FACTORY

No. 1 Mower cuts 4 1-4 feet.....	\$115 00
" 2 " " 4 1-2 "	125 00
" 3 " " 4 3-4 "	140 00

Combined Machine—Hand Rake.

No. 6 machine cuts 4 1-4 feet.....	140 00
" 7 " " 4 1-2 "	150 00

Combined Machine—Self Rake.

No. 4 mows 4 1-4 feet, reaps 5 feet.....	190 00
" 5 " " 4 1-2 " " 6 "	210 00

Granite Reapers—Self Rake.

TWO-WHEEL MACHINES.

No. 8 Reaps 5 feet.....	150 00
" 9 " 6 "	170 00

Reaping attachment to No. 1 mower.....	75 00
" " " No. 2 "	85 00

Mowing attachment to No. 8 Reaper.....	40 00
" " " No. 9 "	50 00

Farmers buying Mowers this year, can have the Reaping apparatus supplied at any time in the future. Also, parties buying Reapers can have the Mower attachment in the same way, being careful always to give the number of the machine when ordering.

WARNER'S PAT. REVOLVING WHEEL RAKE.

Patented November 5, 1864.

The accompanying cuts represent Warner's Patent Revolving Horse-Rake; the rake-head being the same as the old revolving head. The draw shafts from the head are attached by a hinge joint to the end of the shaft, back of the axletree, to accommodate the folding of the rake, for transportation

from field to field, or over the highway. The position of the rake, when folded, is seen in the cut.

The rake is operated by means of a lever, which is attached to a journal at the center of the rake head, on which are two cams, which the latch or stop butts against. There are, also, two cams, which the spring on the top of the lever hooks on to, thus connecting the lever with the head by a grip that can only be loosened at the will of the operator. To back, the operator bears upon the end of the lever at his side, when the rear teeth are elevated, and the rake may be backed, if desired; and by lifting the lever the forward teeth are elevated, when the rake may be driven over obstacles.

The rake is revolved by means of a spring on the end of the lever, in the operator's hands, by which the latch or stop is drawn from the cam; then the rake revolves, and the stop flies back to catch the next cam to prevent its revolving the second time.

In offering to you the above named and illustrated horse-rake, the subscribers have the utmost confidence that it is the rake best adapted to gathering hay upon all reasonably smooth meadows.

The practical working of it has been thoroughly tested during four haying seasons, as the following certificates will show; and many more might be added to the number if it were necessary; but we feel that every farmer is so well acquainted with the old revolving horse rake, that he can want nothing more to convince him of the utility of our rake.

The rake may be managed by a boy, or any one competent to manage a horse and operate the lever.

All correspondence should be addressed to

MAHAN & CO., Lebanon, N. H.



TESTIMONIALS.

Waltham, Vt., August 29, 1865.

H. N. Tracy: Sir—I have used your Revolving Wheel Rake the past haying season, and it has worked to my perfect satisfaction, and beyond my expectations. It is very easily managed, of light draft, and leaves the hay in the best possible condition to tumble and pitch, and I am satisfied that it can be worked with perfect success on any ground that ought to be mowed with any mowing-machine.

Yours truly,

E. D. BARTON.

Essex, Vt., August 25, 1864.

H. N. Tracy, Esq.: Dear Sir—After having used Warner's Patent Revolving Wheel Rake, which I purchased of you this season, and to rake over one hundred acres of coarse and fine hay, with rough and smooth bottom, I can cheerfully recommend it to my brother farmers as being one of the greatest improvements for hay gathering of the age. It is easily managed by any smart boy from twelve to fourteen years of age, on all tolerably smooth meadow land; in fact, I think it can be successfully used on all lands where the old wooden revolver will work, and all any one has to do to become thoroughly convinced of its merits, is to buy a rake and use it.

Respectfully yours,

C. H. NICHOLS.

CYLINDER PLOW.



Also, we wish particularly to call the attention of Farmers to the superior Plow manufactured by us called the *Cylinder Plow*, the superiority of which, over all other Plows offered to Farmers, is fully established by actual experiment with the Dynamometer, which was applied to several of the best Plows manufactured in New-England, including the celebrated Eagle and Prouty & Mears' Plow, made by Nourse, Mason & Co.; and at this trial, which was at Greenfield, Mass., the *Cylinder Plow* did the same work better than any other Plow, with ONE-THIRD LESS POWER. At another trial with the Dynamometer, in New York, No. 20 Eagle Plow, carrying a furrow 12 1-2 inches wide, and 6 1-2 inches deep, the average draught, 420; to the same team, on the *Cylinder Plow* No. 2, the size of the Eagle, same width and depth of furrow, average draught, 305 lbs. Here was certainly a marked difference in the draught required for the two Plows, working under the same circumstances, and doing the same amount of work. We make SIDE-HILL and RIDGING PLOWS of the same pattern.

Permit us to call your attention to some remarks from the editor of the *American Agriculturist*, on the draught of Plows, which were suggested to him at a challenged trial of the manufacturers of several kinds of Plows which he witnessed at Flushing, L. I. He says:

"Unquestionably the plow is the most important implement of agriculture, as now conducted. That it is to be supplanted, at no distant day, by other mechanical agencies for breaking up the earth's surface, we can hardly doubt; but now the plow lies at the base of all good tillage, and it is THE implement with which is performed the bulk of the work for preparing the ground for all field crops. Upon the perfection of his plow mainly depends the success of the farmer. A plow ill fitted for breaking and turning the soil, or one requiring a needless expenditure of team power, is costly at any price, compared with one which does its work well with much less power. A plow that can be moved with a steady draught of 300 lbs., may be worked all day by a team of given power; while another, requiring 400 lbs. steady draught, would keep the same team pulling at their utmost strength, worrying and fretting them, and rapidly exhausting their strength. It is perhaps safe to say, that the team which could draw a 300 lb. plow easily, would last twice as long, that is, twice as many years, with the same amount of food, if kept on such a plow, as if driven before a plow of 400 lbs. draught. Or, to put it in another form, if a man can with one style of plow do a third more work in a day—equivalent to a saving of 75 cts. or \$1, it is certainly bad economy to use an inferior implement. Doubtless it would be PROFITABLE to burn half of the poor farm implements now in use, and buy better ones. It is important, then, for farmers to take into account the draught of a plow, as well as other items.

This matter was suggested by some experiments we witnessed near our residence, April 15, to test the relative draught of several plows. Those which we noted most carefully, were two "Eagle Plows No. 20," of cast iron; one "Eagle Plow No. 19 1-2," of cast steel; and No. 2 of a new patent, called the "Cylinder Plow." A dynamometer was placed between the team and the plow, to measure the amount of draught required. Every precaution was taken to have the width and depth of furrow the same for each plow.

One trial was upon stiff sod, with a span of horses. Eagle Plow, No. 20, cast iron; furrow 12 inches wide and 1-2 inches deep. Average draught shown by the dynamometer, 570 lbs.

Eagle plow No. 19 1-2, a trifle smaller than No. 20, made of steel; furrow 12 by 6 1-2 inches. Average draught, 520 lbs.

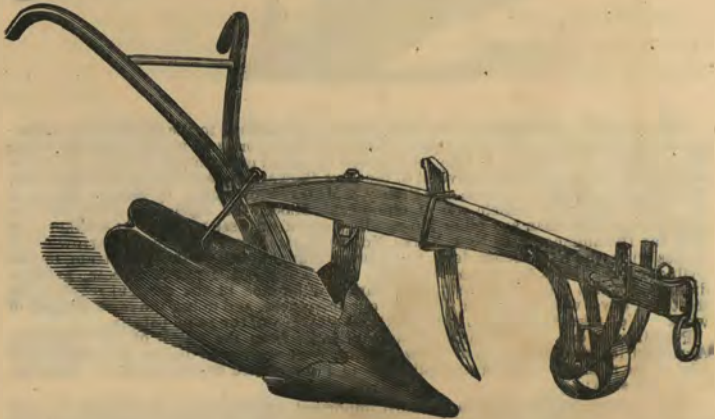
Cylinder plow No. 9, cast iron; furrow 12 by 6 1-2 inches. Average draught, 410 lbs.

A trial was then made upon another farm, upon a less compact soil—a soil not so tough as the above—and with a steady ox team. An Eagle plow, by another manufacturer, No. 20, cast iron, in use in the field, was tested with the dynamometer. Width of furrow 12 1-2 inches, depth 6 1-2 inches. Average draught, 420 lbs.

The same team was then attached to the Cylinder plow, No. 2, about the same size as the Eagle plow No. 20. Width of furrow 12 1-2 inches, depth 6 1-2 inches. Average draught, 305 lbs.

Here was certainly a marked difference in the draught required for two plows, worked under precisely the same circumstances, and doing the same amount of work equally well—a result which we should not have credited, had we not witnessed the experiment, and even assisted in directing them, for we have long been partial to the "Eagle Plow." There are several new features in the Cylinder plow, which are claimed to be important, though we gave most attention to the draught, as much had been claimed for this."

EXCELSIOR SIDE HILL PLOW.

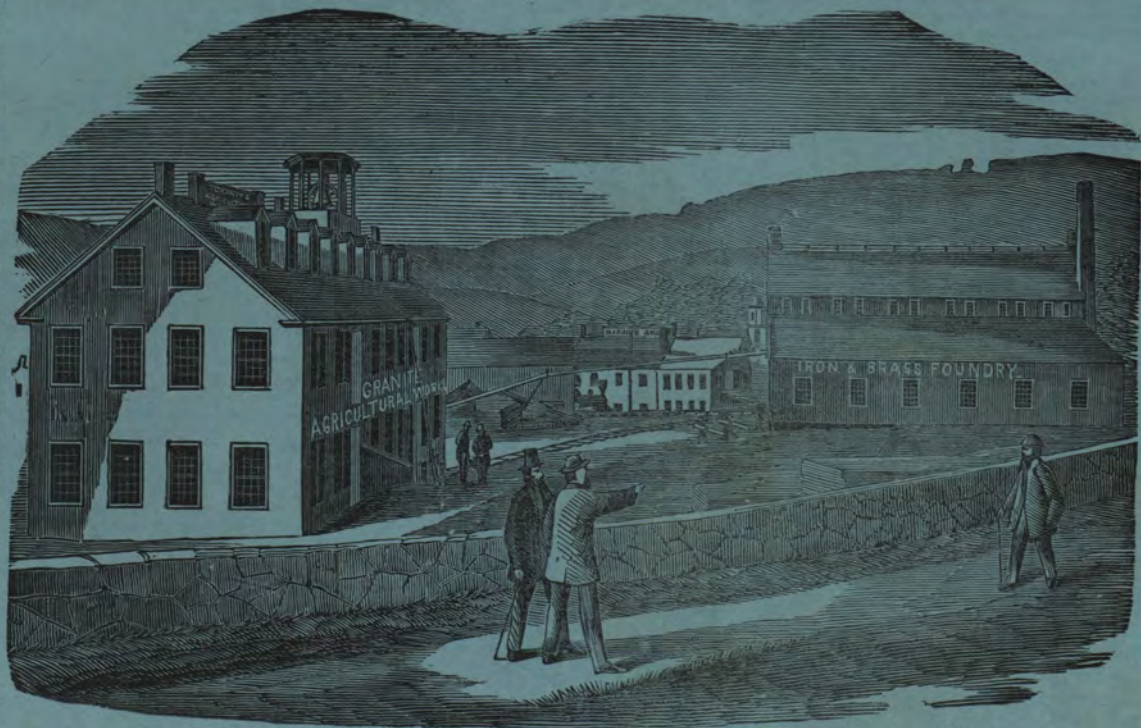


The above cut represents our improved Excelsior Side Hill Plow, which is emphatically the best Side-hill or Swivel Plow made in this country. During the past three years that we have made this Plow, it has steadily increased in popularity among farmers. The demand for them is constantly increasing. A large number will be made for the coming season, and we hope to have enough to supply all who want. This Plow is *warranted to turn a furrow on level land as well as the best flat land Plows in use.* The advantage of using this plow are very obvious. 1st. We save all dead furrows or ridges, which are very objectionable when the mowing machine is used. 2d. Any team will work much easier and longer by plowing on one side of a lot and allowing the oxen or horses to "take turns" in walking in the furrows. Every man who wishes to secure the very best plow in the market, should buy this. One trial will always convince any farmer of its superiority. We give everybody the privilege of a thorough trial, if wanted, but have never had a single plow returned. Give it a trial.

PRICES:

No. 0, Full rigged,	\$14 00.
" 1, "	15 50.
" 2, "	17 00.

No. 1 is a medium size, and best adapted to the wants of the farmer. It turns a furrow from 12 to 18 inches wide, and from 6 to 9 inches deep, and is strong and durable. No. 1 is the size represented in the cut.



Granite Agricultural Works," Lebanon, N. H.

Granite Agricultural Works, LEBANON, N. H.



MANUFACTURERS AND DEALERS IN

Agricultural Implements,

INCLUDING THE

GRANITE MOWER AND REAPER,

*Plows, Cultivators, Horse Rakes, Horse Hoes,
Horse Hay Forks and Hay Elevators, Hay
Ladders, Horse Powers and Threshers,
Wood Sawing Machines—both Circular
and Drag Saws, Seed Sowers, Corn
Planters, Corn Shellers, Porta-
ble Hominy Mills,
Wine Presses, Cider Mills and Presses, Cast Iron
Road Scrapers, Iron Seed Rollers, Root
Cutters, Straw Cutters, Stoves—Box
and Parlor, Cast Iron Sinks,
&c., &c., &c.*

Also, Manufacturers of

Iron and Wood-working Machinery,

IRON AND BRASS CASTINGS OF ALL KINDS.

Repairing and General Jobbing Done at Short Notice.

MAHAN & CO.,
LEBANON, N. H.,

To whom all Orders should be addressed.