
ALFRED HALL'S
PATENT
BRICK MOULDING MACHINE,
AND
AUSTIN ADAMS'
PATENT
REVOLVING BRICK RECEIVER.

IF Gentlemen receiving this Circular, by mail, are most respectfully solicited to communicate the same to those engaged in the manufacturing of Bricks, in their vicinity.

TO MANUFACTURERS OF BRICKS.

The Subscriber, being the Proprietor (by purchase) of **MR. HALL'S PATENT BRICK MOULDING MACHINE AND TEMPERING MILL**, as secured by Letters Patent, from Her Majesty, Queen Victoria, dated Westminster, October 2, 1845, for the Province of Canada, most respectfully tenders his grateful acknowledgments for patronage hitherto received, and begs leave to present, for the consideration and approval of those concerned, the above Machines, to which he has appended his **PATENT REVOLVING BRICK RECEIVER**, by which means the process of moulding, carrying off, and drying the Bricks is done upon the **STOCK MOULD PRINCIPLE**. Having thoroughly tested the utility and advantage derived from the combined operation of these two Machines, he can, with perfect confidence, recommend them to Brick Manufacturers, as decidedly preferable to any method hitherto adopted on this Continent. Their construction and operation will be found remarkably simple ; not liable to accidents ; easily worked ; performing their labor with neatness, uniformity and expedition ; and, producing a smoother and better brick than can be made by any other method.

Persons desirous of introducing into their Yards these Machines, are referred to the numerous recommendations contained in this Pamphlet.

Individuals wishing to be supplied with Machines for the ensuing summer, and especially those residing in Canada West, will do well to forward their orders on or before the first of April, 1848, as the Subscriber intends leaving Montreal at that time, for the purpose of superintending the erection of Machines in that section of Canada, and will be most happy to render his aid in the erection of Machines purchased prior to that time.

Applications (by mail) for Machines, must be directed, "A. ADAMS, *Patentee*, Montreal," or "JOHN ROSS, Toronto.

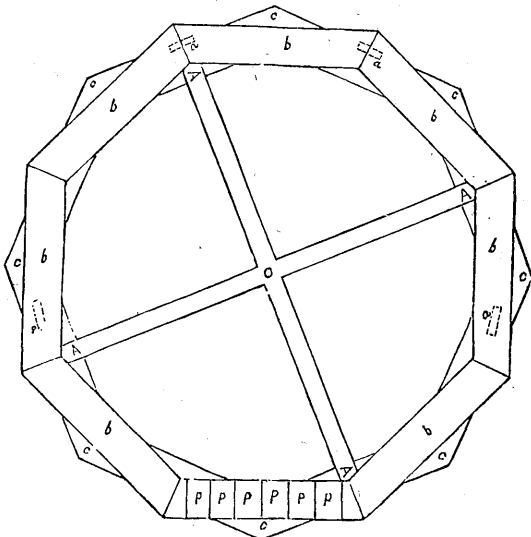
AUSTIN ADAMS.

Montreal, February, 1848.

The Patentee would also most respectfully refer those wishing to purchase to the following References :—

JOS. WOOD, Esq., M.P., Chatham North,	MICHAEL BARNES, Toronto, C. W.
JOHN EAGAN, Esq., M.P., Onslow, C.E.	ALBERT ROUNDS, St. Johns, C. E
The HON. N. PAPINEAU, Petit Nation.	JOHN BELL, Quebec, C. E.
CHARLES TORRY, Esq., Petersburg, C.W.	JAMES SHEPPARD, William Henry, C. E.
Mr. SHERIFF SMITH, Barrie, Lake Simcoe.	Mr. SHERIFF RATTAN, Cobourg, C. W.
Mr. HALDANE, Goderich, C. W.	MALCOLM M'NEIL, do do
JAMES FREED, Dundas, C. W.	JOSEPH FAULKNER, Hamilton, C. W.
DONALD MILLER, Cornwall, C. W.	

ADAMS' REVOLVING BRICK RECEIVER.



A A Cross Bars to which rim is fastened.
 b b Upper row of planks and rim.
 c c Lower do do

a a Rollers or wheels which support and on which rim revolves.
 O Centre post and pin.
 p p Pallets on which bricks fall from mould.

This machine consists of a circular wooden frame, of eight or more sides or less as may be required, which revolves horizontally on its own axis, on rollers set at right angles, to the radius of the Machine, and which are fastened into perpendicular posts, under the circumference of the same; the same being kept from moving laterally out of its position by an iron or wooden pin projecting upwards from a post planted either in the ground or morticed into a sunk frame immediately under the centre of the frame, and passing through the cross bars to which the rim is bolted. The rim is formed by 2 rows of plank, 2 inches thick, and 10 inches wide, cut so as to break joints, and is fastened together with bolts, and then bolted to the cross bars; surrounded on the outer edge by a one inch board, standing on its edge, and rising one inch above the upper row of planks forming the rim; on the edge of this upright board, the mould, with the newly made bricks, being placed, is thrown forward, thus discharging the bricks upon the pallets, when the rim being turned round on its own axis, carries the bricks to the point where they are placed upon the barrows. The great advantage of this machine is in allowing the regular distribution of the work among the different hands employed in making and removing the bricks, and preventing them from interfering with each other, thus saving great delay and expense. The above rim or wheel, is placed at an angle from the moulding machine attached to the Pug-mill, and revolves within the horse walk.

No. 1.—The following programme will show, at one glance, the power and hands necessary to produce 5,000 Stock Bricks per day, viz :—

- 1 horse to grind the clay.
- 1 man to make the clay and fill the mill.
- 1 man to mould, empty and sand the moulds.
- 2 boys, about 12 years old, to take the bricks from the wheel, and place them on the drying hakes, and
- 1 boy, about 8 years old, to sand the pallets.

It must be evident to every observer, however, that a horse grinding clay for only 5,000 bricks per day, will do his work much more effectually than if forced to grind clay for 10,000 per day; having but 5,000 instead of 10,000 to make, the horse will, by the above process, grind a much stiffer clay, which makes a far superior brick, to those made on what is styled the slop principle.

No. 2.—Yet the same machine may be made to make, on the Slop Principle,—a method generally adopted in the United States with these machines,—10,000 or 12,000 per day, with

- 1 horse to grind the clay.
- 2 men to prepare the clay and feed the mill.

- 1 man to mould.
- 3 men to carry off and lay the bricks on the yard.
- 2 boys, from 12 to 14, to attend to the drying, edging, and haking, and 1 yard man.

No. 3.—A person wishing to make Bricks on the Stock Principle, at the rate of 10,000 per day will require

A change of horses to grind the clay, it being necessary to use stiffer clay than that used for slop bricks.

- 2 men to prepare the clay and wheel to the mill.
- 1 man to mould.
- 1 man to empty the moulds on the Receiver.
- 3 boys, 12 to 14 years old, to take them from the Receiver and place them on the drying hakes.
- 1 small boy, 8 to 10 years old, to place the pallets on the Receiver and sand them.

Cost for making 5,000 Stock Bricks per day.

2 men at 3s. 4d. each,	-	-	-	-	-	-	0	6	8
2 boys at 1s. 8d.	"	-	-	-	-	-	0	3	4
1 small boy,	-	-	-	-	-	-	0	0	10
1 horse,	-	-	-	-	-	-	0	2	6
							0	13	4

Cost for making 10,000 per day on the Stock Principle.

4 men at 3s. 4d.	-	-	-	-	-	-	0	13	4
3 boys at 1s. 8d.	-	-	-	-	-	-	0	5	0
1 small ditto, 1s. 3d.	-	-	-	-	-	-	0	1	3
2 horses,	-	-	-	-	-	-	0	5	0
							1	4	7

Cost for making 10,000 per day on the Slop Principle.

7 men at 3s. 4d.	-	-	-	-	-	-	1	3	4
2 boys at 1s. 8d.	-	-	-	-	-	-	0	3	4
1 horse,	-	-	-	-	-	-	0	2	6
							1	9	2

Thus it will be perceived that it costs less to make stock bricks than it does to make slop, the Brick Receiver is used in making stock, but not in making slop bricks.

The foregoing programme has been carefully drawn up from the system adopted and perfected in my own yard, during the years 1846 and 1847, as far as regards the hands employed, but the prices are assumed, as wages materially differ in different sections of the coun-

try. It will be evident, after a careful examination of the said programme, that the system designated, No. 1, is best adapted to any yard where the amount to be made does not exceed four or five hundred thousand bricks per season; where that number or even less is to be made, the hands composing the manufacturing gang, should, when once accustomed to work together, be continued without interruption until the whole moulding is accomplished, by which system their work will go on much smoother than if they are changed from one department to another;—much confusion, loss of time, &c., is avoided. In my own operations I am so tenacious on this point, that I uniformly, in cases of sickness, or other causes of absence, supply that department from others, and when the amount is moulded I stop.

By the term *slop mould*, I mean that process in which the clay is worked very soft and the bricks dried by laying them on drying floors. By the term *stock bricks*, I mean that process in which the clay is worked much stiffer, and the bricks placed directly on the drying hakes. The mould in both cases being submerged in sand instead of water to promote the free discharge of the bricks. The sand best adapted to the purpose is fine sharp sand as free as possible from clay or glutinous substances. Most kinds of fine sand may be made to work well, by immersing it in water and pouring the water off immediately, in which case the said substances are washed off. Moulding sand should be dry. It may be found that some specimens of sand may not work so well, if too dry, which may be ascertained by experiment.

FORMING A BRICK YARD.

Great care should be taken to save labor; the drying ground should be slightly elevated, and well drained, occupying as little space as possible; a piece of ground 180 feet square is sufficient to dry one million of bricks in one season; the mill and apparatus should be placed in the centre of one of the sides of this square, the clay heap should be on the opposite side of the mill and moulding apparatus; the kiln ground should always be along the side of the square, directly opposite the mill, &c.; the square should be divided into divisions of 12 feet wide, running from the side on which the mill stands to the kiln ground.—Hakes or long sheds should be erected, viz:—of two boards 10 or 11 inches wide, on each side, a little sloping, so as to shed off the rain; these sheds are erected on posts, sunk in the ground, with a piece of board, cut sloping both ways, nailed to the upper end, so as to form something like the gable end of a house—the posts being 11 feet 6 inches apart, will allow the boards, which should be 12 feet long, to lap 6 inches, without cutting or chamfering.—The ground under these sheds should be raised 3 or 4 inches, so as to allow the water

from the sheds to fall outside of the raised ground. The green bricks are to be taken from the revolving wheel and placed directly upon the hakes, (one row on each side) on their edges, leaving a space of half an inch between each brick; if placed too close together they are liable to crack. Be careful to break joints, as the hakes are being raised, always allowing the successive rows to stiffen a little, before you add the next row.

To secure Bricks in the event of Storms.—Shelters, two and a half feet wide, made of inferior boards, with 2 legs, set sloping against the hakes, which in changeable weather, can be changed from side to side.

Where the above method is understood, it is uniformly preferred; the labor of taking care of the bricks is much less—and the security much greater.

PROCESS OF PREPARING CLAY FOR BRICKS.

It improves most kinds of clay to winter it, either by trenching or wheeling it out, allowing it to freeze as the process advances, taking care that the clay shall be situated as nearly as possible to the moulding apparatus, but not so as to interfere with the horse-walk, the object of which will be seen to be to save distance in wheeling to the mill; when preparing for grinding, it should be carefully turned over in beds in an oblong position of the most convenient width and thickness and *most thoroughly drenched* (you cannot wet it too much) as the process advances, so that when left to soak from two to four days, as the clay may require (some specimens requiring more time than others) every part will become soft, when thus prepared, wheel over it the proportions of sand which shall be found necessary as a component as well as to secure it from crusting over; and in wheeling to the mill, be careful to cut the beds so as to give every barrow of clay its due proportion of sand as it goes to the mill; the above process will be found to be of the greatest importance, as the better the clay is prepared the easier the work for the horse and the moulder; bricks made from clay thus prepared are sound; great care should be taken after clay has been prepared for three or four days, to keep up the supply by preparing as much every day thereafter as shall be used, in which case every day's clay will have been prepared three or four days before using; should the clay become too stiff by standing, water may be added to bring it to the right consistency as the barrow-man is supplying the mill. In many brick yards the clay is prepared in pits within the horse-walk, and it is to be feared in most cases for want of knowing a better method. The method adopted in my yard, with great success, is as hereafter described, viz: Calculation should be made to have the Clay heap placed as near as possible to the mill and moulding apparatus, but not so as to interfere with the horse-walk, which

should be somewhat elevated on the side next the clay, say from 12 to 18 inches, which will allow a run of planks to be laid down to communicate from the clay prepared to the mill, by which arrangement the horse will pass over the plank with ease. This arrangement ordinarily will save time, as it is not full work for a man to fill the mill from a pit within the walk, it will be found, by experiment, that the clay being made as aforesaid the man who would otherwise only fill the mill from the pit, would, with great ease, load his barrow and wheel the clay from the bed prepared as above, and should the number of bricks, made per day, not exceed 5000. the same man would find ample time to prepare as much clay each day as he would use, thereby actually saving the whole expense of filling the pit; it will also be seen that by the above method, the difficulty of removing the machine from one pit to another will be obviated.

CLAY.

It is worthy of remark in regard to clay, that there are a great variety of specimens, most of which, if not all of them, will make a good brick, provided it be scientifically employed. Many of the milder specimens which approximate to a sandy or loamy soil are susceptible of being wrought with good effect without any admixture. Most, if not all, of the stronger specimens, whatever their colour or texture, will require the addition of from one-eighth to one-fourth sand, fine pit sand is generally good, but it will be found that sand approximating to soil or clay which renders it unfit for mason or brick work, will generally answer the purpose best; coarse river sand should never be used in making bricks, as well as the coarser specimens of pit sand, if other can be conveniently procured. It will require considerable care to ascertain the proportions of sand and clay to be added in new brick yards, unless the hands are men of great experience, and even then there are many failures.

AUSTIN ADAMS.

RECOMMENDATIONS:

Montreal, February 14, 1848.

We, the undersigned, visited Mr. Austin Adams' Brick Yard, in August, 1847, and after a careful inspection of his machinery, viz: three of Alfred Hall's Patent Brick Machines, aided by Mr. Adams' Revolving Brick Receiver, we found the number of bricks made by the three machines to be as follows, viz: the first machine, in charge of two men, and two boys for carrying off, made twenty bricks per minute; — the second machine, twenty-five per minute, and the third machine, with the same number of attendants, made thirty bricks per minute! Certainly this last machine is as complete and profitable an

apparatus as ever came under our observation, and must be of the greatest utility to those interested in the manufacturing of bricks, and, in our opinion, the bricks are harder pressed and of a far superior quality to any hitherto made by hand in this country.

J. R. BRONSON, }
H. MOSS, } *Architects.*
J. B. BRONSON. }

*To whom it may }
concern. }*

Montreal, January 1st, 1848.

We, the Undersigned, bricklayers, residing and carrying on that branch of trade in this city, do hereby cheerfully make the following declaration, that during the last two years we have extensively employed bricks manufactured by Mr. Austin Adams of this city, by using Mr. Alfred Hall's Patent Brick Moulding Machine, to which he has appended his Patent Revolving Brick Receiver, by which process Mr. A. moulds his bricks upon the stock principle, and we have thoroughly examined the process of its operation, and cannot well conceive of a more correct or cheaper method of manufacturing bricks; they being smoother, sounder, and more unique, and much superior in every point than any other bricks made in this country, by any other process, and give much better satisfaction to the public.

JOHN JACKSON, E. FRANKLIN, }
ROBERT MOOR, L. CHESTER, }
P. M'DERMOTT, B. M'DERMOT, } *Bricklayers.*
BOUCHER ET DEGUISE, WM. HYLAND, }
ROBERT JACKSON, VILAT CASSANT }

Montreal, 24th Jan. 1848.

We, the Undersigned, master builders, residing in Montreal, hereby certify that we have used (extensively) during the past year, Mr. Austin Adams' bricks, manufactured by him with Mr. Alfred Hall's Patent Brick Moulding Machine, to which he has appended his Patent Revolving Brick Receiver, and can truly recommend them as being a superior brick to any we have used in Canada.

ROBERT REID,
JAS. COUSINS,
ALEX. BURNS.

Montreal, Jan. 24th, 1848.

I, Robert Goodwillie of the city of Montreal, master builder, do hereby certify, that during the year 1847, I have used, somewhat extensively, bricks manufactured by Mr. Austin Adams of this city, with the use of Alfred Hall's Patent Brick Moulding Machine, to which he has appended his Revolving Brick Receiver, by which Ma-

chine he moulds upon the stock brick principle, and I can safely state that the said bricks are much smoother, sounder, heavier, and more uniform, and much superior in all respects, to any other bricks manufactured in this city by other methods, and willingly recommend the said machine to all persons manufacturing bricks.

ROBERT GOODWILLIE.

Montreal, Sept. 1st, 1847.

I, John Richardson of the city of Montreal, do hereby certify, that I have been in the Brickmaking business for fifteen years, during which time I have had all my bricks made by hand in the usual stock-moulding manner, until the present season, when I purchased one of Hall's Patent Brick Moulding Machines, together with Mr. A. Adams' Patent Revolving Brick Receiver, from Mr. Austin Adams of this city, with which I can make bricks far superior to any ever moulded by hand—the bricks being placed on hakes as in all stock yards. And I feel perfectly satisfied that I can place them on the hakes at one half the cost of hand-moulding, if not something less.

In the plan adopted by Mr. Adams, in his yard, there is far less liability to waste than in the method generally adopted of laying bricks upon the ground.

JOHN RICHARDSON.

St. Johns, Sept. 9, 1847.

This is to certify, that I have used one of Mr. A. Adams' Brick Moulding Machines for the past summer, and am well satisfied that, by the use of which, I can make more and better bricks than I can by hand. I also perceive that bricks thus made are preferred. And I further state that I can make 10,000 bricks per day, without difficulty.

ALBERT ROUNDS.

Montreal, 13th Sept. 1847.

I, David Robinson, do hereby certify, that I have been moulding bricks for Mr. Austin Adams for two years, with Hall's Patent Brick Moulding Machine, and that I can easily mould twelve thousand bricks per day, being a regular day's work, or I can mould fifteen thousand per day, provided the pugmill will give sufficient clay for that number, with men to carry off. The bricks being laid on the ground as in the manner generally adopted. The bricks are moulded in sand and are of a far better quality than hand-moulded bricks can possibly be made.

DAVID ROBINSON.

Wm. Smith of the city of Montreal, brick maker, deposeth and saith that he has been extensively engaged in brick making for the last forty years: ten in England, and thirty in Montreal, Lower Ca-

nada, has during that time made himself acquainted with the various methods of moulding bricks; he has also thoroughly examined the process now adopted by Mr. Austin Adams in this city, in which he uses exclusively Hall's Patent Moulding Machine, appended to which he has his Patent Revolving Brick Receiver, which two connected, form a most perfect system for stock moulding;—Moulding and taking easily 10,000 bricks per day, in the ordinary working hours. The bricks being much sounder and smoother, with better fronts than any I have ever made by hand, and were I to continue the business, I would not on any account, be without the said Machine and Revolving Brick Receiver. The whole process can be easily performed by two men and four boys with perfect ease and regularity. I only add that the system is to be admired from its simplicity and correctness, there being no liability to accident, and doing the whole work in the most perfect manner.

Mr. Adams is also working with said machine by laying the bricks on the ground to dry with great success, but of the two methods I give my decided preference to Mr. A.'s improvement upon the stock principle. Since Mr. A. has brought his improved stock brick into market he has gained ground, and is now taking the lead of the market although extensive brickyards are multifarious. The bricks made by Mr. Adams are of the larger size.

WM. SMITH.

Sworn before me this 13th day of September, one thousand eight hundred and forty-seven, at the city of Montreal.

BENJ. BREWSTER, J. P.

Montreal, Sept. 30, 1847,

For the last 5 years, I have followed the occupation of Moulding Bricks. In 1846, I worked for Mr. Adams, (who used Hall's Patent Brick Moulding Machine,) on the slop principle, during which time I ordinarily moulded from 10,000 to 12,000 bricks per day, they being taken away. In the year 1847, I continued to work for Mr. Adams, with the same machine, to which he connected his Patent Revolving Brick Receiver, by which he moulded stock bricks, by its aid I was enabled to mould from 5,000 to 6,000 bricks per day, empty and sand the moulds myself, or from 10,000 to 11,000, the moulds being emptied and sanded by another person, and the bricks thus made are much better than those made by any other process adopted in this country.

THOMAS MAGISON.

Montreal, 30th Sept. 1847.

My trade is brick-moulding, I have been acquainted with the various methods of moulding bricks in Scotland, and during the past summer I have used one of Mr. Alfred Hall's Patent Brick Moulding Machines, with the aid or addition of one of Mr. Austin Adams'

Patent Revolving Brick Receivers, which certainly forms one of the most perfect, at the same time, the most simple apparatus for grinding clay and moulding bricks, that I can well conceive of, I have been able daily during the summer, to mould with ease, from ten to eleven thousand stock bricks per day, and better bricks I never saw in this or the old country.

THOMAS LUMSDEN.

Dundas, Oct. 9th, 1847.

This may certify that I have used one of Mr. A. Adams' Patent Brick Machines during the past summer, which I purchased, after the trouble of ascertaining that some of the largest brick manufacturers (of long experience, and who had tried and had seen various other inventions for the purpose tested,) had adopted this machine in preference to all others. I am fully satisfied with the working of the machine, and cannot well conceive of any other contrivance which is likely (after being fully tested) to supercede this. I also fully enter into the practicability of making Stock Bricks with this machine, by affixing Mr. Adams' Patent Revolving Brick Receiver, as exhibited at the Provincial Fair, held at Hamilton, on the 6th and 7th instant, which I have purchased, in order to adopt this system wholly in future.

JAMES FREED.

Montreal, 1st Dec., 1847.

I am by profession a bricklayer, and have used a large quantity of bricks in the years 1846 and 1847, made by Mr. A. Adams, by his patent brick apparatus, and have found them far superior, in every point, to any other bricks made in this part of the country, they being sounder, smoother, and more uniform, subject to much less waste, and much easier laid, and at considerable less expense.

WM. P. TABB.