BRICK MAKING MACHINE

ABSTRACT

The present invention relates to the Brick Making Machine (BMM) and the process of making the brick. Its principal object is to provide a machine of simple construction by which bricks may be manufactured at minimum expense and the numbers of labours employed are to the minimum. The bricks produced will be equal to the ordinary brick of commerce made with else method. In the machine applying a fresh quantity of material to one die will result in the discharge of a finished brick from another die. The process provides the production of bricks of uniform size and density by the use of pressure to exactly the same extent from opposite sides of the brick being formed.

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I CLAIM

1. A brick-making machine(BMM) comprising the main parts as Cabin, chasis, Hydraulic power pack, electronic box, Raw material stock, means of power, main worm, motors, gear motors, die gear motors, generators and tyres wherein the maximum width and maximum height of the machine is 2955.56 and 2997.50.

2. The claim as claimed in claim 1 wherein the cabin has the operator to operate the machine using different gear levers.

3. The claim as claimed in claim 1 wherein the Chasis has a maximum length of 5405.60mm, maximum width of 2955.56 mm and maximum height in a range of 2997.20 mm.

4. The claim as claimed in claim 1 wherein the electronic box has the starter of all electronic connections and the generator is the main source of power to the machine.

5. The claim as claimed in claim 1 wherein the Raw material stock is the combination of the clay and various proportions of water.

6. The process of making the bricks by brick making machine as claimed in claim 1 wherein the wet clay bricks with strong base is made.

7. The process of making the bricks by brick making machine as claimed in claim 1 wherein the machine have 3 screw worm and 2 blade worm that mix the raw material.

8. The process of making the bricks by brick making machine as claimed in claim 1 wherein the machine moves in the forward direction and put the bricks in straight line one by one.

9. The brick making machine (BMM) as claimed in claim 1 hereinbefore described with reference to the ongoing description and drawings.

10. The process of making brick as claimed in clam 6 hereinbefore described with reference to the ongoing description and drawings.

Dated this 24th February day of 2014.

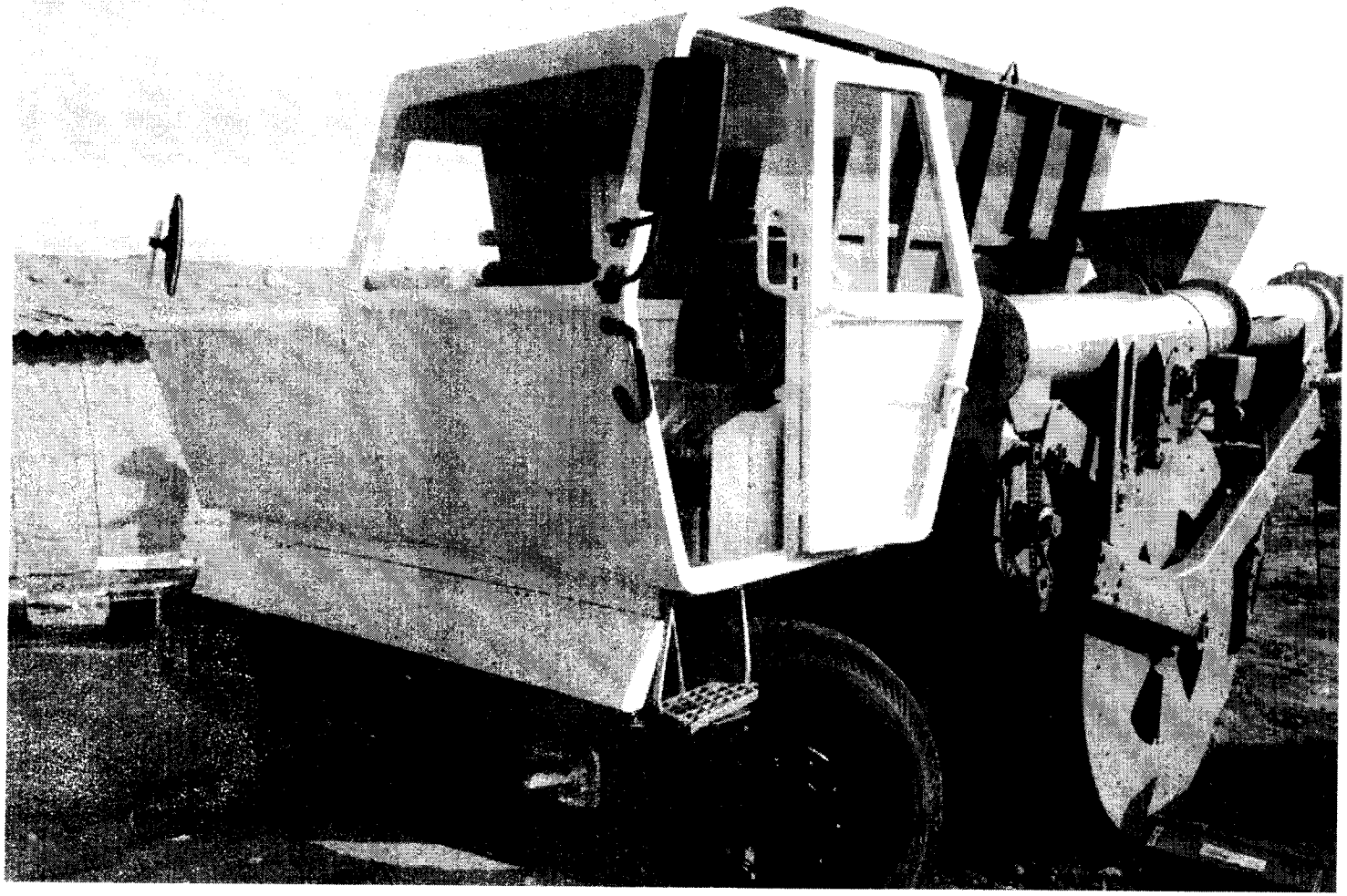


FIG.-1

Brick Moving Machine	
S.no	Part Name
1	Cabin
2	Chasis
3	Bumfer
4	Hydrulic Power Pack
5	Electronics box
6	Raw Material Stock
7	Sand Stock
8	Generator
9	2 Main Work Gear Motor
10	Main Worm
11	Sand Stock Gear Motor
12	Die Gear Motor
13	Rear Tyre
14	2 stock Gear Motor
15	Die
16	Roter Gear Motor
17	Wastage Convayer Belt
18	Wastage Worm
19	Roller Wheel
20	Hydrulic Lift Cylender
21	Moving Gear motor
22	Front Tyre
23	Lift &Steering Control Lever
24	Power Steering Cylender

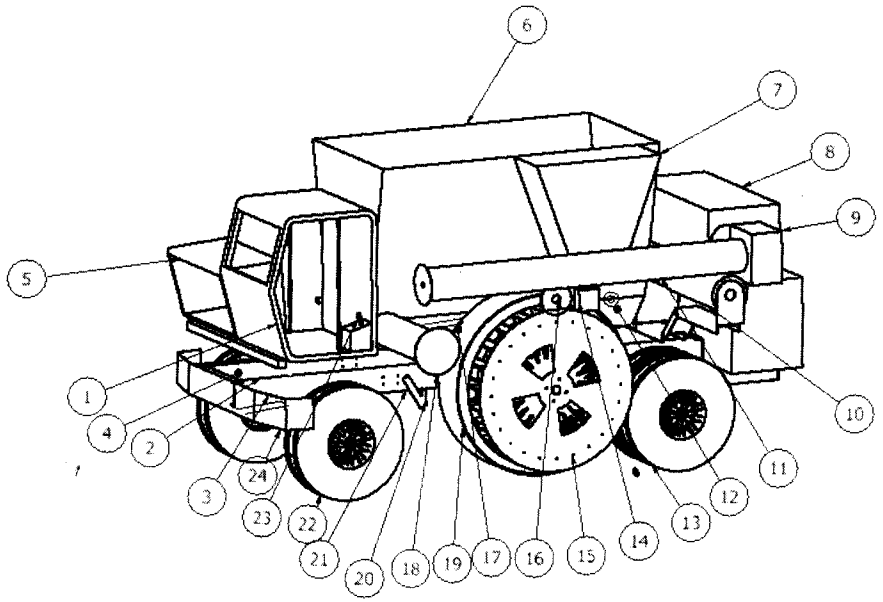


FIG. 2

Name of Applicant: VILAS CHHIKARA

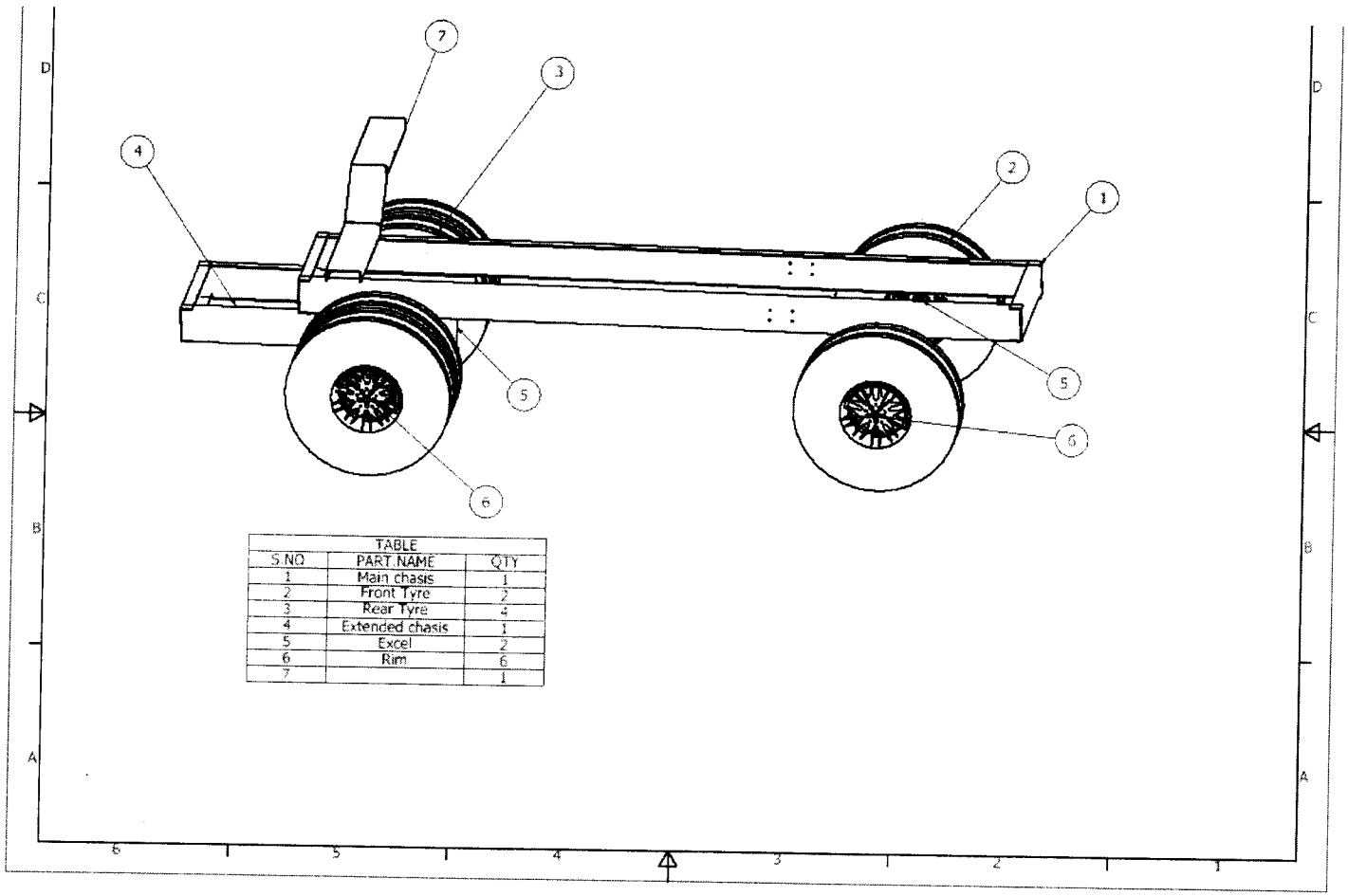
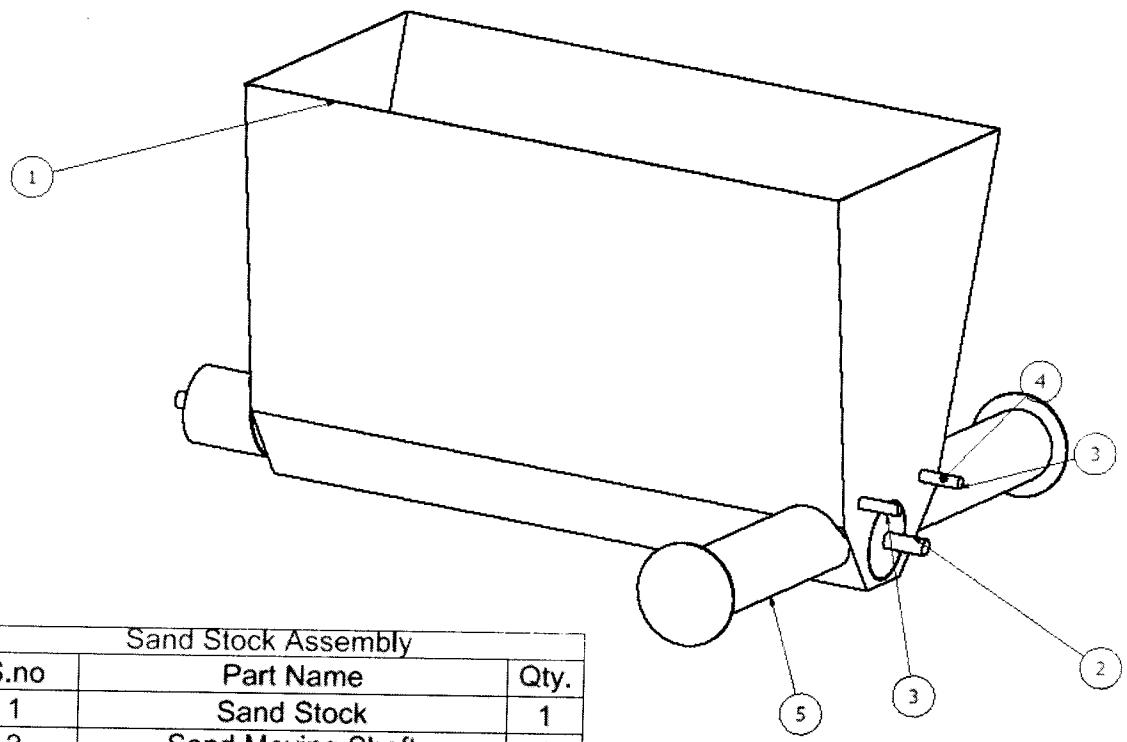


TABLE		
S.NO	PART NAME	QTY
1	Main chasis	1
2	Front Tyre	2
3	Rear Tyre	4
4	Extended chasis	1
5	Excel	2
6	Rim	6
7		1

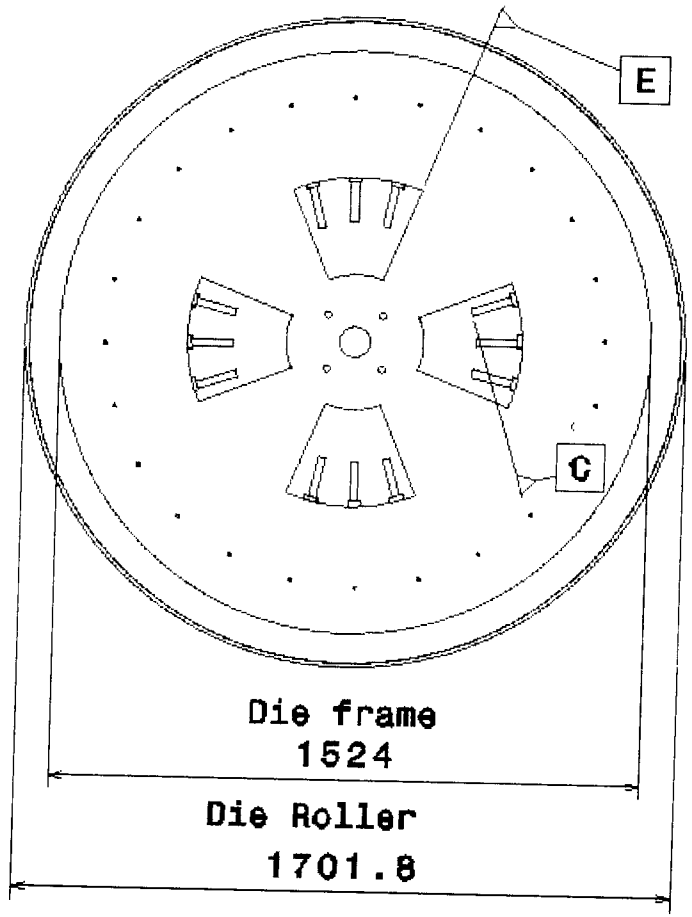
FIG:- 3

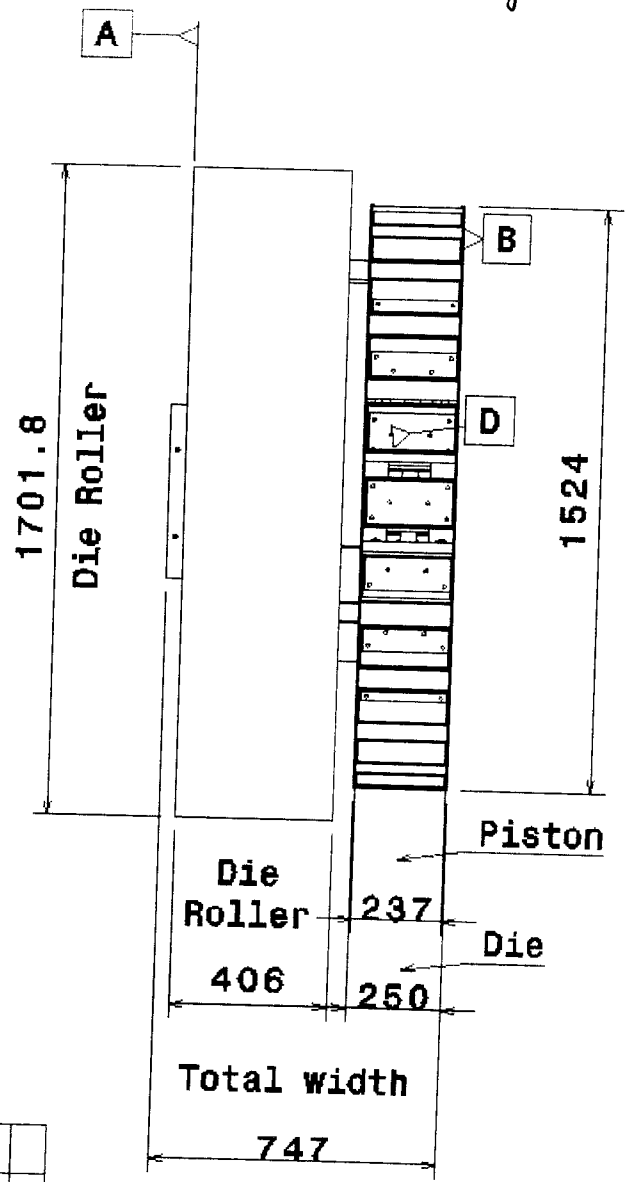
Name of Applicant: VILAS CHIKARA



Sand Stock Assembly		
S.no	Part Name	Qty.
1	Sand Stock	1
2	Sand Moving Shaft	1
3	Sand Mixture Shaft	2
4	Wastage warm	1
5	Gear Box Pipe	1

FIG. - 4





PART	A	B	C	D	E
NAME	Die Roller	Die Frame	Piston	Brick frame	Die window
QTY	1	2	48	24	4

FIG. 5

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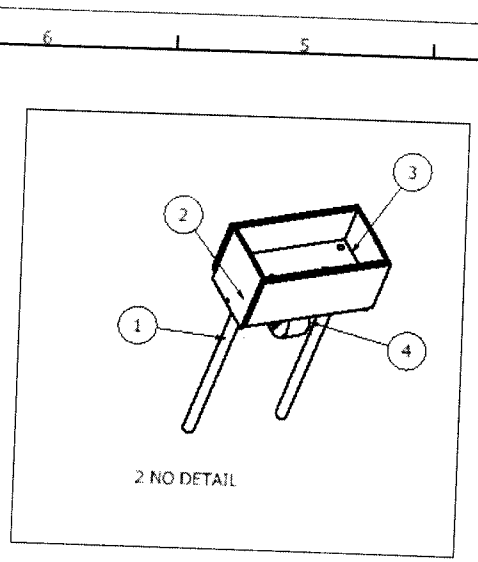

FIG-6A

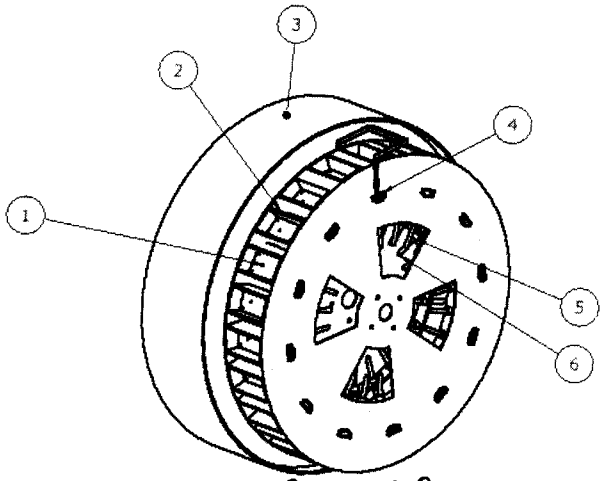

FIG-6B

Die Assembly		
S.no	Part.no	Qty
1	Piston Rod	2
2	Brick frame	1
3	Piston	1
4	Cam pully	1

Die Assembly		
S.no	Part Name	Qty
1	Piston	24
2	Brick frame	24
3	Roller wheel	1
4	Cutting Adjester	24
5	Spring	48
6	piston Rod	48

FIG.-6

Name of Applicant: VILAS CHHIKARA

TABLE

Gear motors

• Gear & break motor	::- 20 HP
• Raw material stock gear motor	::- 20 HP
• Main worm gear motor	::- 12.5 HP
• 2nd main worm gear motor	::- 12.5 HP
• Wastage worm gear motor	::- 10 HP
• Die rotating gear motor	::- 5 HP
• Roter gear motor	::- 5 HP
• Die cleaner gear motor	::- 1.5 HP
• Sand stock worm G. motor	::- 1 HP
• 2nd sand gear motor	::- 0.5 HP
• Wastage convayer belt G. motor	::- 1 HP
• Hydraulic power pack	::- 2 HP

FIG. 7

FIELD OF INVENTION

The construction industries have boomed up in the past and will increase with the upcoming years. Brick is one of the main ingredients required in this industry. Bricks are usually made manually and if made by machine, then also only 2% of it is made. Then also the man power is required to complete the process. The bricks are picked by the labour on plate or trolley and also taken to the main site by labour. The labours are fetched including the old and at times child labour too. They are forced to do the work. This at times results in low capacity. The machines do not have their own in-built mixture compartment, so they want prepared raw material for making bricks. The bricks do not use the wet raw material and the raw material is hard so the clinch (base) is not strong and they make a sound of breaking up.

The need is for the machine which makes the work easier and moreover the number of bricks required can be made without wasting the material used. This will remove the need of excess manpower, the material is not wasted and desired numbers of bricks are made. Moreover the machine is eco-friendly and non polluting and is as per ISO rule.

The machine consists of many parts which include the cabin, chasis, bumper, Hydraulic power pack, electrical box, Generator, 2^{nd} main worm and gear motor, sand stock gear motor. This machine also consist of die gear motor, rear tyre, 2^{nd} sand gear motor, die, Roller and gear motor, wastage conveyer belt, wastage worm and gear motor, roter wheel, Hydraulic lift cylinder,

moving gear motor, front tyre, lift and steering control lever and power steering cylinder.

The machine moves in the forward direction and put the brick in a straight line. The machine do not need workers for picking the prepared bricks because the brick making machine put the bricks in straight line one by one. This provides a uniform pattern. The machines have three screw worm and 2 blade worm that mix the raw material like paste and forward the raw material to the next stage. The bricks are made from wet material where the raw material is clay.

The main feature of this brick making machine is that the bricks are water absorber and that is why the bricks clinch (base) is strong.

The machine can make 100 bricks in a minute and the machine also done one man work only in 5-7 minute and the two three workers include an operator who can do the work easily. The machine can reach the raw material stock and fill their stock compartment with the help of excavator and easily reach their working palace and start producing the bricks. The brick making machine can produce 1800-2000 bricks at a time after the raw material is filled.

This invention relates to machines for the formation of bricks or blocks for building purposes, and has for its principal object to provide a machine of simple construction by which bricks may be manufactured at minimum expense and the numbers of labours employed are to the minimum. The

bricks produced will be equal to the ordinary brick of commerce made with else method.

A further object of the invention is to provide a machine in which the operation of applying a fresh quantity of material to one die will result in the discharge of a finished brick from another die.

A still further object of the invention is to provide for the production of bricks of uniform size and density by the use of pressure to exactly the same extent from opposite sides of the brick being formed.

The speed of the machine is 1.3 km/hr according to 100 brick/ 1 minute). The speed is increase or decrease as per the requirement. The main source of power (electricity) is a 125 HP generator. The types of power are- AC, DC and Hydraulic. All the measurements taken are in mm.

With these and other objects in view, as will more fully here in after appear, the invention consists in certain novel features of construction and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly claimed in claims, it being clear that the minor change in the dimensions does not alter the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention is for the process and Brick making machine. The process uses the various parts for the various functions. These and various other features and advantages of the present invention will become better

understood upon reading of the following detailed description in conjunction with the accompanying drawings where

FIG 1 is a photograph of the Brick Making Machine (BMM)

FIG. 2 is a schematic view of Brick making machine with various components.

FIG. 3 is the schematic view of the chasis in accordance with one of the embodiment of the present invention;

FIG. 4 is shows the set up of the Raw material stock in accordance with one embodiment of the present invention;

FIG. 5 is a cross sectional view of the Die gear motor in accordance with one embodiment of the present invention;

FIG 6 is the cross sectional view and assembly of the die assembly in accordance with one embodiment of the present invention; and

FIG 7 is the table of the energies of various gear motors.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

DETAILED DESCRIPTION OF THE DRAWING

The various embodiment of the present invention are described hereinafter with reference to the figures. It should be noted that various figures are intended to facilitate the description of the specific embodiment of the invention. They are not intended as exhaustive description or as a limitation to the scope of invention.

FIG 1 provides the view of the Brick Making Machine as a whole in actual, the assemblance of all the parts and the view of the machine.

FIG. 2 provides the various parts of brick making machine. The FIG shows the various components of the brick making machine. The Machine consist of a Cabin 1 which is main part of the machine from where the operator operates the machine which has a Maximum length of 5405.60mm, Maximum width of 2955.56mm and Maximum height of 2997.20mm The specified width of front glass and length too is specified. Operating gear is present for giving direction like down, right, left and up. A Chasis 2 is present for the wheel support. The Bumper 3, present in front for the safety. The Hydraulic power pack 4 is 2 HP with 15 litres of oil capacity which gives the boost to the control valve and then the control valve distributes the hydraulic power in two cylinders. The one cylinder gives the right or left directions to the machine and the other is used for up and down the Die.

The Electrical box 5 situated on the front of the machine and on the right side of cabin it contains starter of all the gear motor, drives, Mcb's and all other electric connections. The panel ensures the safety of the operator in case the earthing system stop its work then the connectors situated in the panel stop working and the machine also suddenly stop working. The Raw material stock 6 is situated behind the cabin surrounded by standard steel and up side open. The sand stock 7 is present with raw material stock. A Generator 8 is present in the machine. 125 HP generator is the main source of power of the machine. Diesel is the main fuel in this. The power supply is in AC, at the back side of the machine.

2nd main worm gear motor 9 continues the flow of raw material as well as the main worm and push the material on the die upper compartments after this the roter push the raw material on rotating de frame(farma) and the wastage is also forwarded and dropped by the 2nd main worm to the wastage worm. The main worm 10 continue the flow of the raw material, this is the inbuilt drive that determines automatically how much raw material is given to the 2nd main worm. It also has a screw worm to give the flow to the raw material to the next stage like 2nd main worm. The sand Stock gear motor 11 is present. Die Gear Motor 12 helps to rotate the die and roter wheel situated on the right side of the die. When the operator put down the die it starts work automatically and when the operator take it up it goes on offline mode and stop working, this is in both automatic and manual mode and operated from the cabin by the operator. The Rear tyre 13 is present. They are four in numbers. The sand gear motor 14 distribute the sand over the die

frame(frama) in equal capacity before filling the raw material on the die frame (frama).

The Die 15, Roter and Gear motor 16 and Roller wheel 19. The die of machine is the backbone of the machine because die gives the new shape to the raw material and finalize the work of the machine and change the raw material into the brick. When the machine accelerate suddenly the Die starts its miracle work when the machine on forward motion on that time the Die roller rotate on the positive side of the motion on that time the die gives the new shape to the raw material and drop the brick smoothly on the surface area of the land and finalize the work. A roller wheel attached with Die helps him to gives the plane site for doing die's work smoothly and balances the die level according to working place surface shape. The die is hanging on this roller 88.9mm from roller levelling. Its capacity of the work is 100 brick in 1 minute.(1.3km/hr) the capacity of brick making can be increased or decreased as per as our desire.

The wastage conveyor belt 17 dropped the extract wastage to wastage worm, comes from the die frame (frama) or a little bit cutting from a steel were fitted between the die frame(frama) or conveyor belt. The wastage worm and gear motor 18 in serial no. 6(4), wastage worm push the wastage to raw material stock and gear motor is also in s.no.-6(5). The main work of Moving gear motor 21 is to give the accelerate the machine built with automatic breaks when the machine is in offline mode the break starts his work and the machine remain jam. There are two taflon rolling brushes fitted in die back side before raw material filling station both of them rotate on opposite side of

each other and smoothly clean the rotating die frame(farma). The on-off system is also related to the die working. The energy of different gear motors differ depending on the functioning. The FIG. shows the different energies.

The raw material stock and sand stock gear motor helps to rotate the screw worm and mixing raw material cutter as a result the raw material mix as we want after this step drop the raw material from the stock compartment to main worm. The speed of the machine is 1.3 km/hr according to 100 brick/ 1 minute). The speed is increase or decrease as per the requirement. The main source of power (electricity) is a 125 HP generator. The types of power are- AC, DC and Hydraulic. All the measurements taken are in mm.

FIG. 3 provides the arrangement of the chasis. The Maximum length provided is 5405.60mm; Maximum width is 2955.56mm and Maximum height 2997.20mm. The Chasis comprises of Main chasis 1, the block in which are arranged front tyre 2 and rear tyre 3. The front tyres are two in number and rear tyre are 4 in number. It also has the extended chasis 4 and excel 5 and rim 6.

FIG. 4 provides the Raw material stock. This is one and only tank for raw material or the sand stock 1.One Sand moving Shaft 2 and two sand mixing shaft 3 and these mixing shaft and one screw conware mixes and forward flow the raw material. The capacity of this tank is 1800-2000 bricks at one time and the raw material is also loaded by Excavator. The clay mixes with the different proportions of the water.

FIG. 5 provides the die frame. The fig. shows the die roller A, Die frame B, Piston C, Brick frame D and Die window E.

FIG. 6 provides the cross sectional view of the die assembly. The die Assembly A shows how its fitted The A shows piston rod 1 which is 2 in number. The brick frame 2 is one in number. The piston 3 is also 1 number. The cam pulley one in number is also present. The Die Assembly B shows the assembly assemblance.

FIG 7 provides the different Gear motors and the energies in the form of a table

A brick-making machine (BMM) comprising the main parts as Cabin, chasis, Hydraulic power pack, electronic box, Raw material stock, means of power, main worm, motors, gear motors, die gear motors, generators and tyres where in the maximum width and maximum height of the machine is 2955.56 and 2997.20 such as here n before described with reference to ongoing drawings and descriptions.