B. F. Field,

Mortar Mixer.

Patented Oct. 7, 1856

№ 15,847.

Fig: 1

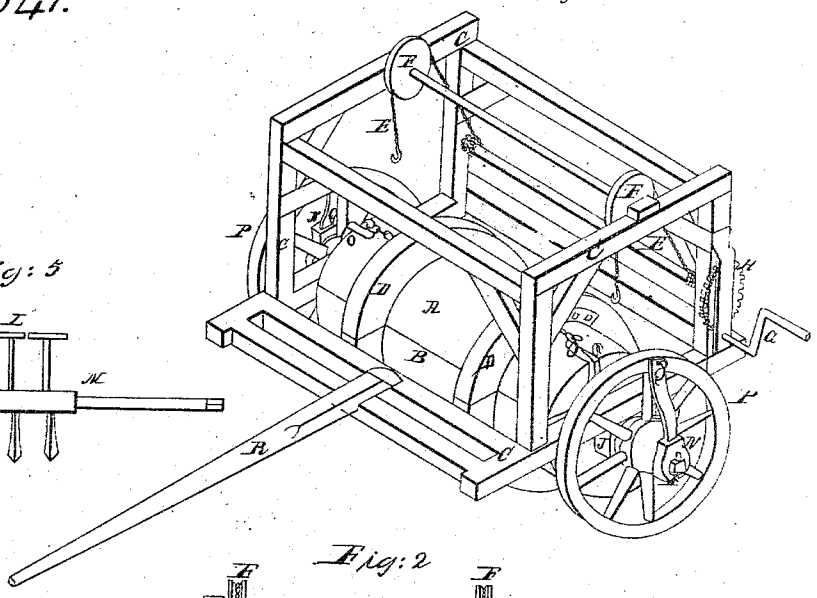


Fig: 3

Fig: 2

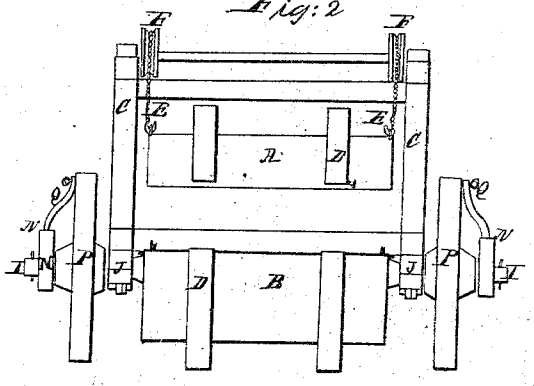


Fig:

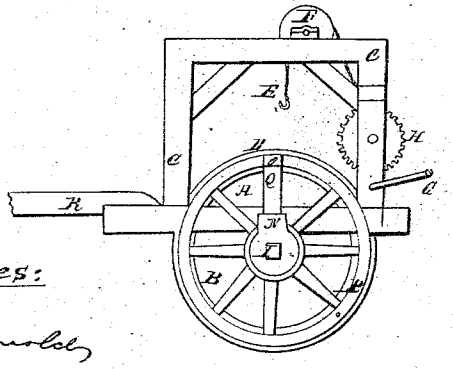
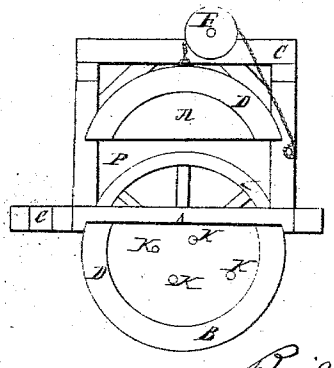


Fig: 4



Witnesses:

Wm L Arnold

Inventor:

Benjamin F. Field

UNITED STATES PATENT OFFICE.

BENJAMIN F. FIELD, OF BELOIT, WISCONSIN.

MACHINE FOR MIXING MORTAR.

Specification of Letters Patent No. 15,847, dated October 7, 1856.

To all whom it may concern:

Be it known that I, BENJAMIN F. FIELD, of Beloit, in the county of Rock and State of Wisconsin, have invented a new and useful Machine for Mixing Mortar; and I do hereby declare that the following is a true and full description of my invention, reference being had to the accompanying drawings and the letters of reference marked thereon, the same letters referring to the same parts in all the figures.

Figure 1 is a perspective view of the machine; Fig. 2, a section taken across the frame behind the cylinder, showing the top of the cylinder raised. Fig. 3, a side elevation of the machine; Fig. 4, a section, across the cylinder with the top of the cylinder raised; Fig. 5, stirrers and clearers that may be used in place of the rods K K, &c., (Fig. 4,) if desired.

A and B represent a hollow cylinder made in two parts, of which A is the top part and B the bottom part, the bottom part being more than one half of the cylinder; C C, &c., the frame resting upon the gudgeons (or axle) of the cylinder A B, the top part of which has attached to it wheels, chains, &c., for raising the top part of the cylinder when it is to be filled and also when it is to be emptied; D D, rims (or fellies) attached to the cylinder (A B) upon which it rolls as the machine is dragged along the ground; E E, chains (or ropes) for raising the top part of the cylinder (A) (Fig. 2 and Fig. 4;) F F, pulleys; G and H, crank gears, &c., for winding up the chains (E E;) I I, gudgeons (or axles) attached to the ends of the hollow cylinder (A B) turning in the boxes J J as the cylinder rolls along, and extending through the wheels P P and also through the hubs (N N;) J J, boxes attached to the frame and holding it upon the cylinder; K K, &c., rods extending through the cylinder lengthwise at different distances from the center; L L, (Fig. 5,) stirrers and clearers attached to bar M which may be used instead of the bars K K, &c., the bar M extending through one of the gudgeons of the cylinder that would require to be made hollow for the purpose; M, bar holding stirrers and clearers L L; N N, hubs fast upon the gudgeons I I; O O, clamps for holding the parts of the cylinder A B together when closed; P P, wheels made a little smaller than the rims (or fellies) D D on the cylinder to hold up the machine when the top part A of the cylinder is raised and the bottom part B is turned over to discharge the loads; Q Q, levers and pins to secure the wheels P P to the hubs N N when the load is to be discharged; R, the tongue.

That part of my machine which is represented in the drawings as a cylinder (A B) may be made with flat sides instead of curved ones if preferred and it may be constructed of wood or of metal; but if of the former it should be lined with sheet iron both to make it more durable and to prevent the mortar from sticking to the sides of it. When wood alone is used it may be found best to use, in place of the mixing rods K K (Fig. 4) stirrers and scrapers (Fig. 5) attached to a bar which shall lie in the middle of the cylinder (A B) extending through one of the gudgeons (or axles) made hollow for that purpose. The gudgeons (or axles) I I may be made of iron with flanges (or wings) so as to be firmly secured to the heads of the cylinder by bolts or in any other way that shall be equally strong; but I do not confine myself to any peculiar construction in these subordinate parts of my machine.

The wheels P P are loose upon the axles II except when the load is to be discharged, when they are made fast to it by means of the hubs N N and the bars and pins attached to them.

The clamps (O O) are at their lower ends hooked to the bottom part B of the cylinder and are kept in place by hooks and springs attached to the upper part of cylinder.

The rods K K (Fig. 4) may be placed crosswise of the cylinder instead of lengthwise as represented and produce in some degree the same effect in mixing the mortar.

The operation of my machine is as follows: It is taken to the sand bank and placed with the top part of the cylinder A uppermost; the clamps O O are unhooked and taken off and the top part of the cylinder A is raised by means of the chains, pulleys, gears, and crank (E F G H, &c.,) attached to the upper part of the frame C. The bottom part of the cylinder B is then nearly filled with sand, lime, and water in the proper proportions, after which the top is replaced and secured by the clamps O O. It is next drawn to the place where the mortar is to be used, the cylinder rolling

along the ground upon its rims or fellies D D, the wheels P P, which are like common cart wheels, being loose upon the axles I I and riding clear of the level ground. A short distance will be found sufficient to mix the mortar in the most thorough and effectual manner.

When the machine is to be unloaded the clamps O O and the top of the cylinder A are removed as for filling and the wheels P P are made fast by the hubs N N to the gudgeons or axles I I of the cylinder. As the machine is now drawn forward the bottom part of the cylinder B is turned over the wheels P P supporting the whole machine and being fast to the gudgeons I I secure the complete revolution of the bottom part of the cylinder B while the load is dropped upon the ground.

What I claim and desire to secure by Letters Patent is—

The use of a revolving box of a cylindrical or other form made to roll upon the ground for the purpose of mixing the mortar by the action of the cross rods substantially as described while at the same time it serves to carry the material from place to place in combination with the method substantially as described for discharging the mortar from the revolving box.

BENJAMIN F. FIELD.

Witnesses:
WM. D. ARNOLD,
E. P. KING.