

J. A. Mc Gillivray,

2 Sheets, Sheet 1.

Hay Press.

N^o 45844.

Fig. 1.

Patented Jan. 10, 1865.

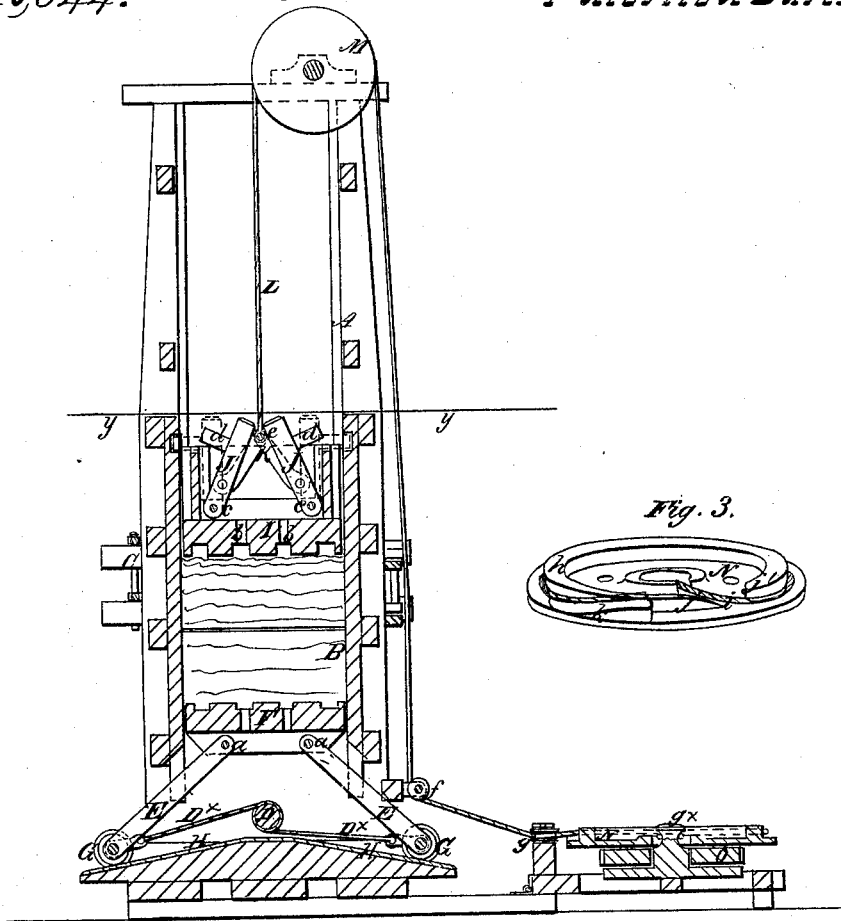
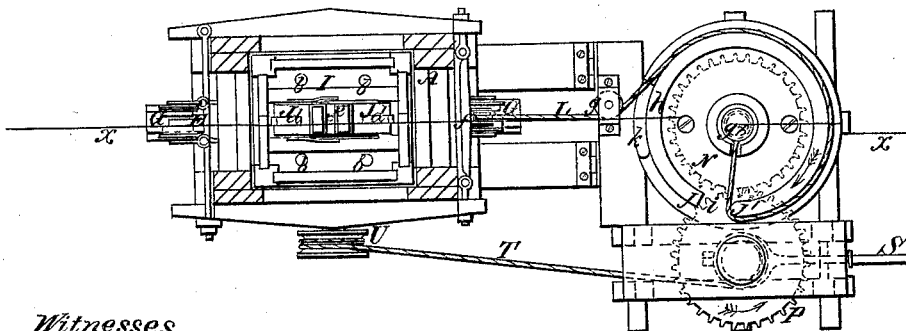


Fig. 3.



Fig. 2



Witnesses.

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2 Sheets - Sheet 2.

Hay Press.

N^o 45,844.

Patented Jan 10, 1865.



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UNITED STATES PATENT OFFICE.

JAMES A. MCGILLIRRAE, OF DYER, INDIANA.

IMPROVEMENT IN PRESSES.

Specification forming part of Letters Patent No. 45,844, dated January 10, 1893.

To all whom it may concern:

Be it known that I, JAMES A. MCGILLIRRAE, of Dyer, in the county of Lake and State of Indiana, have invented a new and Improved Beater-Press; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, Sheet No. 1, is a side sectional view of my invention, taken in the line *x x*, Fig. 2. Fig. 2, a horizontal section of the same taken in the line *y y*, Fig. 1; Fig. 3, a detached perspective view of the trip-wheel by which the beater is operated. Fig. 4, Sheet No. 2, is a side elevation of the invention.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved press for baling purposes, and of that class which are provided with a beater for compacting in the press-box the material to be pressed previous to the pressing operation.

The invention consists in a novel and improved means for operating the beater, and also in an improvement in the beater itself, as well as an improvement in the means employed for pressing the article or material after the beating operation has been performed, whereby certain advantages are obtained which will be hereinafter set forth.

A represents an upright framing, in which the press-box B is fitted, having doors C at two opposite sides of it. In the lower part of this framing, underneath the press-box, there is placed a horizontal shaft, D, which has ropes D* attached to it at opposite points, so as to wind upon it in opposite directions, said ropes projecting from opposite sides of the shaft, and being connected to the lower ends of levers E E, the upper ends of which are connected by pivots *a* to the under side of the follower F in the press-box, as shown clearly in Fig. 1. The lower ends of the levers E E are provided with rollers G, which travel on inclined ways H, the latter projecting upward from their outer toward their inner ends underneath the follower, as also shown in Fig. 1. By this arrangement it will be seen that in the

operation of the press I combine the lever with the inclined plane and obtain a quicker movement of the follower, and one attended with less friction, as there is less lateral pressure on the follower than when the lower ends of the levers travel over horizontal surfaces, as in the ordinary presses of this kind.

I represents the beater, which works within the press-box B, and is constructed of cast-iron with holes *b* in its bottom, to admit of the escape of air from the press-box when the beater descends. (See Fig. 1.) This beater has two arms, J J, attached to it by pivots *c c*, the latter passing through the lower ends of the arms, and each arm has a sheet-bar, *d*, projecting from its outer side at right angles. The two arms are connected by a toggle, K, to the joint *e* of which the hoisting-rope L is attached, the latter passing over a pulley, M, on the top of the framing A and down underneath a pulley, *f*, at the lower part of the framing, and thence around a pulley, *g*, on which a horizontal trip-wheel, N, is fitted and allowed to rotate freely. This trip-wheel N has a concentric rim, *h*, on its upper surface near its edge. This rim is not a continuous one all around the wheel, a space, *i*, being allowed between two ends, *j j'*, one end, *j*, being beveled to form an inclined plane, and the other end, *j'*, being rounded, but having a vertical position to form an upright ledge to catch against the rope L. To the outer side of the rim *h*, near the inclined end *j*, there is another inclined plane, *k*, which has an opposite position to the inclined end *j* of the rim *h*, as shown clearly in Fig. 3. The trip-wheel N is attached to the upper surface of a toothed wheel, O, which is fitted loosely on the arbor *g*, and the wheel N gears into a wheel, P, to the upper end of the shaft Q of which the power is applied.

On the shaft Q there is placed loosely a drum, R, which has a lever, S, connected to it. By raising and lowering this lever the drum R may be connected with and disconnected from the wheel P, any suitable clutch arrangement being used for the purpose. The levers E E are operated from this drum R by a rope, T, passing from a pulley, U, on shaft D to drum R.

The operation is as follows: The substance or material to be pressed and baled is placed

in the press-box B, and the shaft Q being rotated, the drum R is, by means of the lever S, kept out of gear with the wheel P, so that the levers E E of the follower F will not be operated. The wheel N however is rotated and the end *j'* of the rim *h* at each revolution of N catches the rope L and draws upward the beater I, the rope being tripped from the rim by the inclined plane *k*, so as to allow the beater to drop after the wheel N has nearly made one revolution. By this arrangement the beating operation is performed by a continuous rotation of the driving-shaft, there being no back action in tripping the rope. After the beating operation is performed, the beater is secured in the upper part of the press-box, the bars *d* of the arms J J fitting in holes *l l* in the sides of the press-box. The drum R is then thrown in gear with the wheel P, and the levers E E are actuated to perform the pressing operation.

The holes *b* in the beater I constitute an important feature of the invention, causing, by the escape of air from the press-box, the beater to fall with a force due to its gravity.

I claim as new and desire to secure by Letters Patent—

1. The employment or use of a cast-metal beater, I, provided with holes *b*, to admit of the escape of air from the press-box, substantially as set forth.

2. The trip-wheel N, constructed and arranged, substantially as shown, for operating the beater I, in combination with toothed wheels O and P, as described.

3. The two levers E E, in combination with the inclined planes H H, for operating the follower F, substantially as set forth.

JAMES A. MCGILLIRRAE.

Witnesses:

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