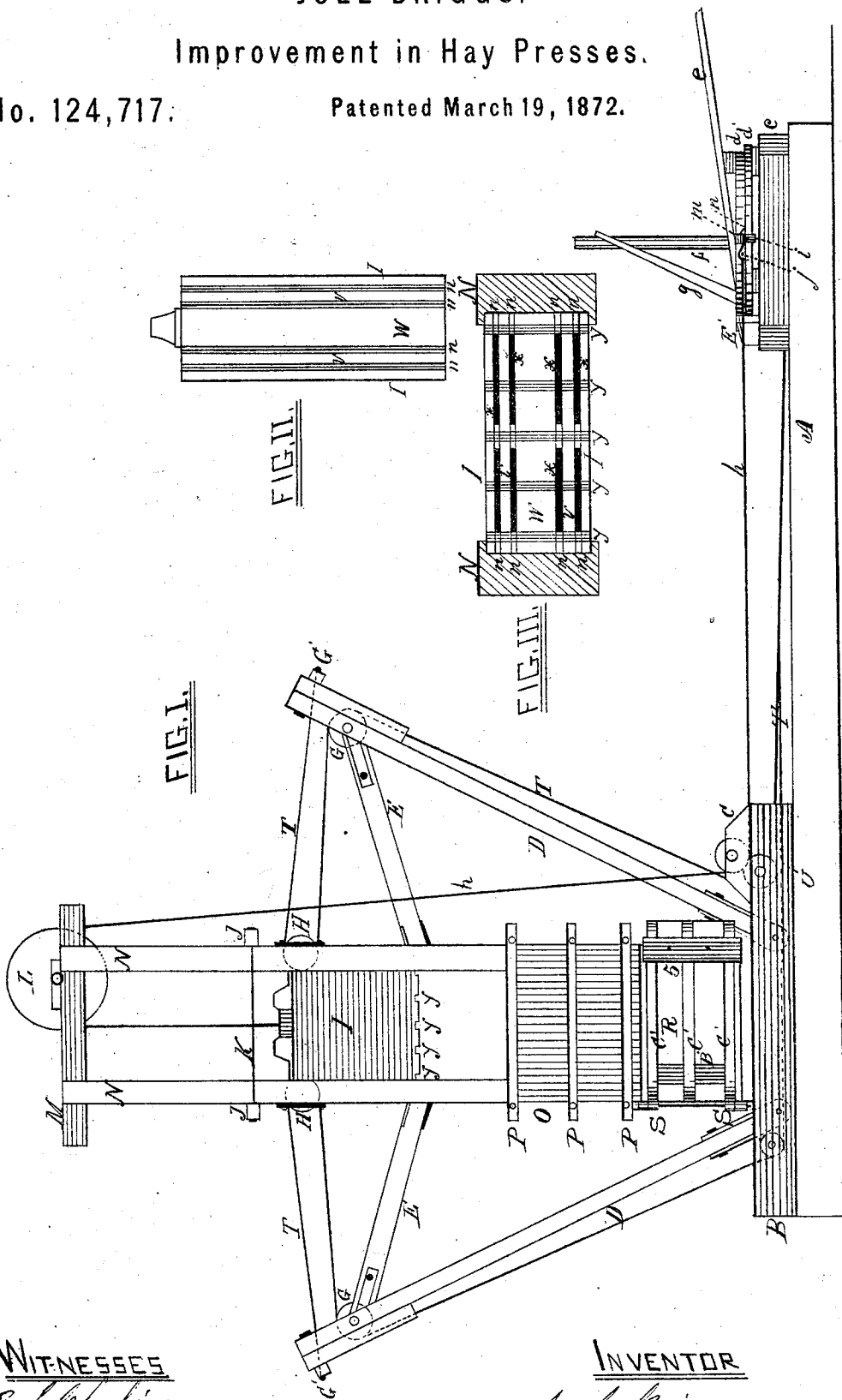


JOEL BRIGGS.

Improvement in Hay Presses.

No. 124,717:

Patented March 19, 1872.



WITNESSES
G. L. Chapin
E. Gibson.

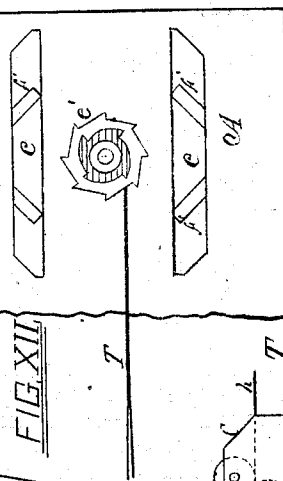
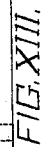
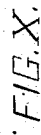
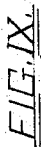
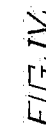
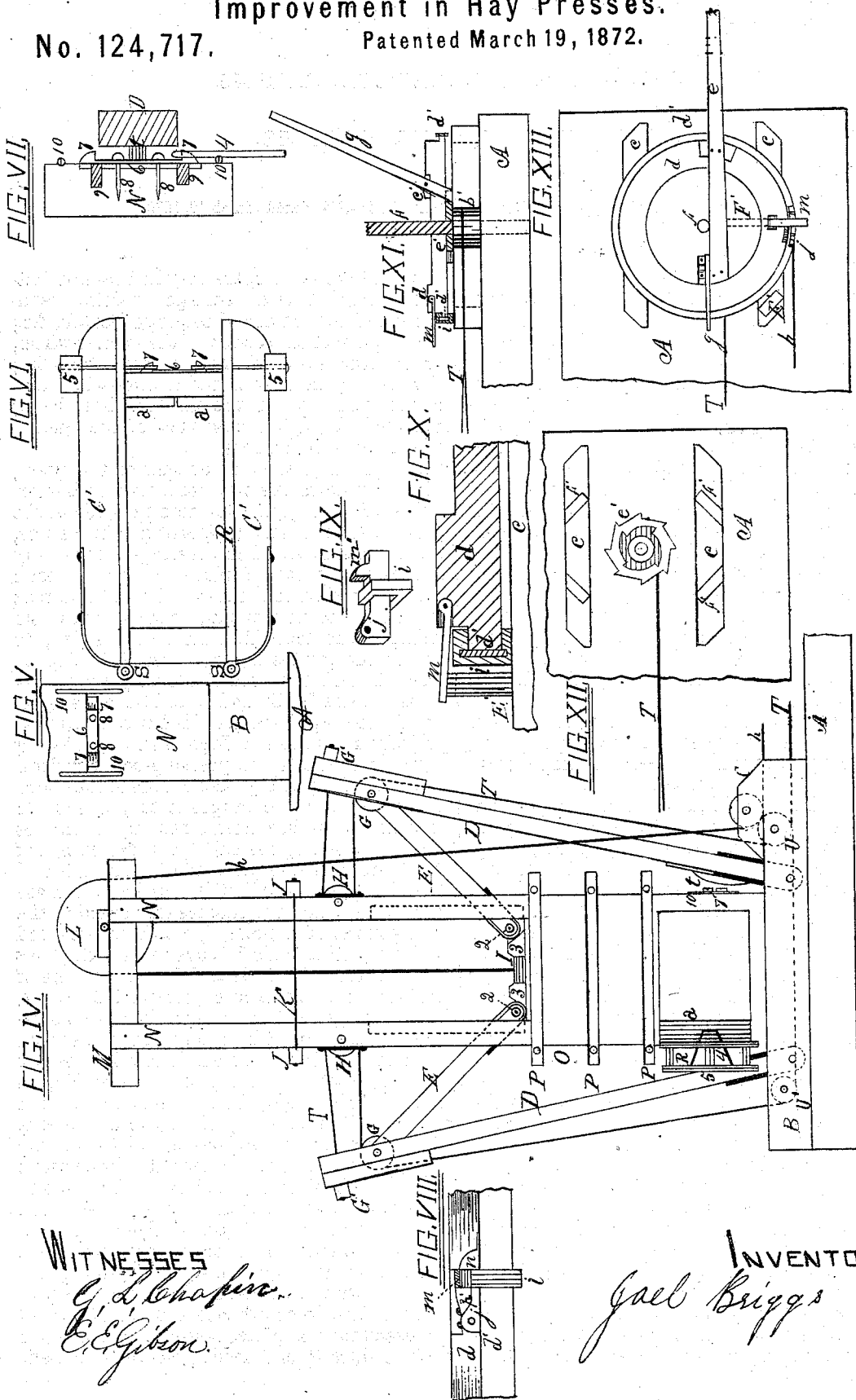
INVENTOR
Joel Briggs

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INVENTOR
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UNITED STATES PATENT OFFICE.

JOEL BRIGGS, OF HOMEWOOD, ILLINOIS.

IMPROVEMENT IN HAY-PRESSES.

Specification forming part of Letters Patent No. 124,717, dated March 19, 1872.

SPECIFICATION.

I, JOEL BRIGGS, of Homewood, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Hay-Presses, of which the following is a specification:

The nature of the present invention consists, first, in the novel construction and arrangement of the doors of the press, they being opened automatically by the main levers at the proper time to tie the bale. Second, in the novel construction and combination of the master-wheel, drum, lever, and toggle device, by means of which the beating and pressing is done by one operation and without stopping the team. Third, in the novel construction of the beater, it being made of several pieces of timber, so put together that vertical air-pipes are formed, and the full force of the beater comes upon the hay, the air readily passing through the beater and not cushioning under it, as the whole is hereinafter described and shown.

A represents the floor or earth foundation on which the press is set, there being any suitable bridge arrangement and track for the team to travel over in the usual manner.

In the drawing, Figure 1, Sheet 1, represents a side elevation of my improved press in position as when the beater is being elevated; Fig. 2, an enlarged vertical end view of the beater; Fig. 3, an enlarged inverted view of the beater and horizontal section of the guides in which it runs. Fig. 4, drawing 2, is a side elevation of the press with the master-wheel and attachment removed, the levers being in position as when the beater is used as a platen and is being forced down to press the hay into the pressing-box. One door is shown as open in this figure. Fig. 5 is an enlarged broken side view of one of the guides, showing the catch for the door and the rods or plates against which the bent rods of the door bear; Fig. 6, an enlarged horizontal section of both the doors, fastenings, and hinges; Fig. 7, an enlarged horizontal section of one of the beater-guides and levers, showing also the bent rods for fastening the doors, the catches, the spring-catch, and the means by which the lever pushes the spring-catch back into a recess in the guide; Fig. 8, an enlarged broken view of the periphery of the master-wheel, lock, &c.; Fig. 9, an enlarged perspective view of the toggle-slide, which runs on the periphery of the master-wheel, and to

which the rope for operating the beater is fastened. Fig. 10 is an enlarged vertical semi-section of the master-wheel, toggle-catch, &c.; Fig. 11, a vertical section of the master-wheel, drum, ratchet-wheel, and toggle-catch, &c.; Fig. 12, a plan view of the ratchet-wheel and master-wheel track, the master-wheel being removed; Fig. 13, a plan view of the master-wheel and attachments.

B represents the foot or base of the press, which supports the two standards or beater-guides, N, said guides forming the ends of the pressing-box O and supporting a cross-tree, M, and pulley L. The pressing-box is firmly supported by bars P placed on its opposite sides, and clamped together by suitable rods in the usual manner of making such mechanism strong. The doors R of the press are hung to one of the guides N by hinges S S, Fig. 1, Sheet 1, and they are made very strong by cross-timbers B', C', and 5, and the ends opposite those hinged are provided with inwardly-projecting flanges a a, Figs. 4 and 6, drawing 2, which shut into the pressing-box and form one end of it up so high as the tops of the doors. The object of these flanges is to prevent the pressure in the box from straining the hinges S S and loosening the bale. The fastenings of the doors consist of bent rods 4, Figs. 4, 6, and 7, which pass through the timbers 5, and are very strong; and the catches for fastening the rods consist of a plate, 6, which is provided with projecting ends 7 7, over which the bent rods 4 catch. This plate 6 is held to one of the guides N by nails or screws 8 8, Fig. 7, Drawing 2, so as to be pushed back into a recess in the guide N by means of a projection, t, on one of the principal levers D, coming in contact with it, (the plate 6.) See Figs. 4 and 6. This arrangement is such that, when the lever D is drawn up closely to the outside of the guide N, the projection t will strike the plate 6, push it in and unlock the projections 7 from the bent rods 4, and allow the doors to open at such time as the hay is pressed and ready to be tied. This arrangement for automatically opening the doors is very convenient and important, inasmuch as hard hand labor is saved, while much time is gained in this particular. The doors are closed by hand. 10 10 represent rods or plates fastened to the edges of the guides N, and used to prevent the bent

rods 4 from wearing the wood. The principal levers D D are pivoted to the base or foot B, and to their upper ends are pivoted levers E E, which force the beater (when used as a platen) down into the press, said levers E falling back out of the way, (by their own weight,) as at Fig. 1, Sheet 1, when the beater is being elevated by rope *h*. This rope runs over a pulley, L, under a snatch-block, C, and fastens to a toggle-slide, *j*, Fig. 1, Sheet 1, and Figs. 8, 9, 10, 11, and 13, Drawing 2. This toggle-slide runs on a plate, *d*, Fig. 1, Sheet 1, and Figs. 10, 11, and 13, Drawing 2, and it is held in place by a loop, *i*, and is provided with a catch, *m'*, (shown more clearly at Fig. 9,) which locks against a pivoted arm, *m*, and is carried around with the master-wheel *d*, carrying the rope *h* with it, until the arm *m* is raised up by a cam, E', Fig. 1, Sheet 1, and Figs. 10 and 13, Drawing 2, at which time the toggle-slide is freed from the catch *n* and slides back on the plate *d'* as the beater I falls. As soon as the beater has fallen another revolution of the master-wheel catches the toggle slide and again raises the beater I. After sufficient hay has been beaten in the press, and when the beater is down, the pivoted arm *m* is turned over back, as shown by dotted lines F', Fig. 13, Drawing 2, and the lever *g* is thrown outward so as to bring its lower end into a notch of ratchet *e'*, Figs. 11 and 12. This will lock the wheel *d* and drum together, so that the sweep *e* will rotate the drum and draw on the rope T, and, consequently, draw the top ends of the levers D to the guides N and cause the levers E to push the beater I down, as shown in Fig. 4, Drawing 2. The rope T is doubled for part of its length, one part passing under a pulley, U, Figs. 1 and 4, over pulleys G and H, and fastening to a block, G', the other part passing through base or foot B, under a pulley, U', and over the same arrangement of pulleys as that part which operates at the right of the press, Figs. 1 and 4, and first described.

The beater is made of several pieces of wood, as shown in Figs. 2 and 3, Sheet 1, so as to form vertical air-passages through it. A thick center piece, W, inter pieces *v*, and outer pieces I are held apart by twelve strips, *n n n*, so as to leave vertical openings *x x x*, the several parts being securely bolted together. By means of these openings the air does not cushion on the hay—consequently a much harder stroke is made by a given weight of hammer.

The lower end of the beater has grooves *y y* for the convenience of tying a pressed bale. The bottom of the press has the same kind of groove for the same purpose. The master-wheel *d* is supported by bearings *f f*, &c., which are fastened to timbers *c*, which, in practice, are staked down to the ground.

By reference to Fig. 1, Drawing 2, it will be seen that blocks 9 9 of rubber are inserted in the guide N to force the plate 6 out so that the bent rods 4 will catch onto the projections 7 7 when the doors R are to be shut. Coil-springs may be substituted for rubber, but the latter is considered the best.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The doors R arranged to open automatically by means of the bent rods 4, catch 6 7 7, rubber spring 9, and levers D provided with projections *t*, in combination with follower I, substantially as and for the purpose set forth.

2. The combination of the master-wheel *d*, drum *b'*, ratchet-wheel *e'*, lever *g*, double rope T, levers D E, beater I, toggle-slide *j*, and arm *m*, as and for the purpose specified.

3. The beater, constructed of the several pieces of wood W V I *n n n n*, so as to form vertical openings *x* through it, as and for the purpose specified.

JOEL BRIGGS.

Witnesses:

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E. E. GIBSON.