

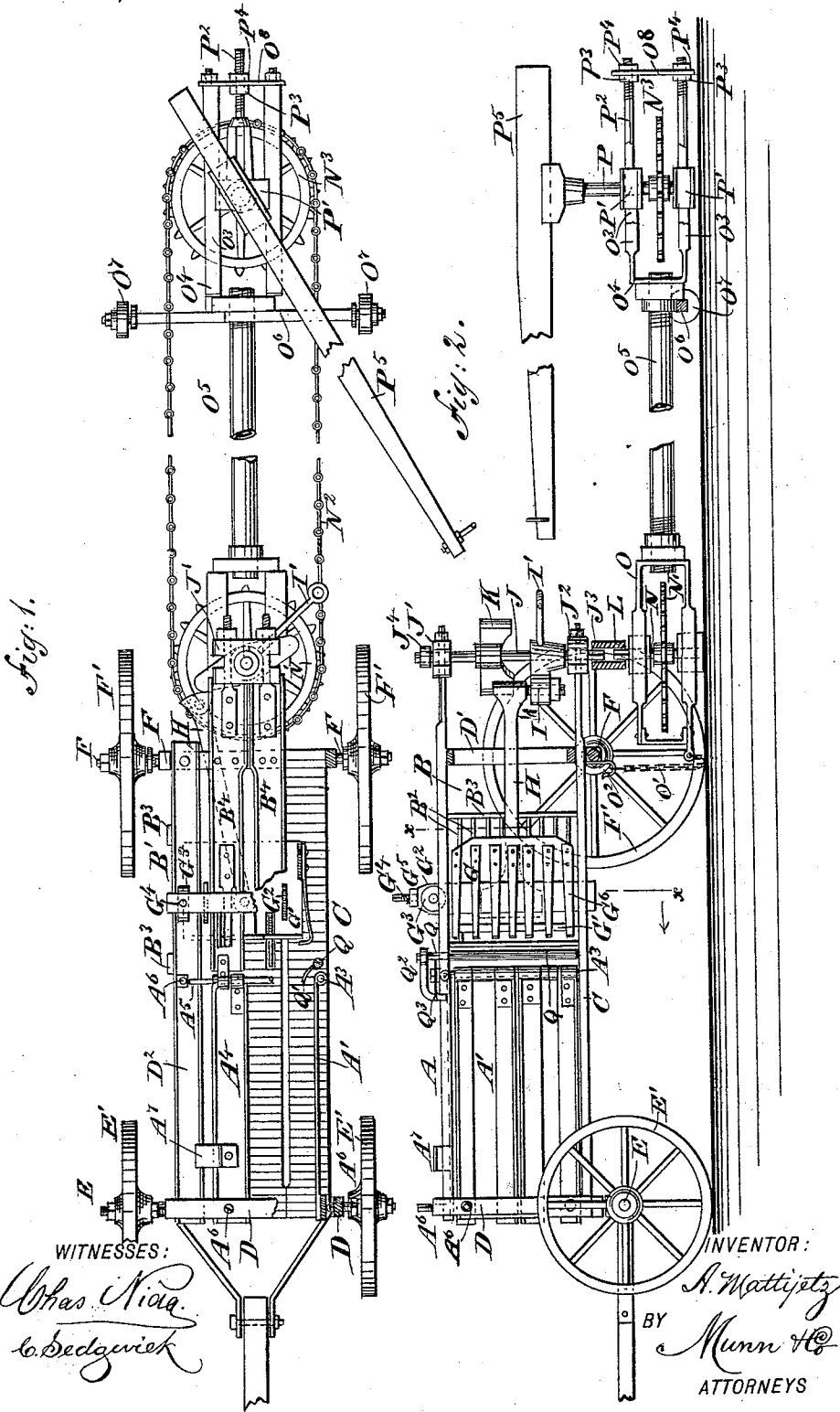
(No Model.)

2 Sheets—Sheet 1.

A. MATTIJETZ. BALING PRESS.

No. 471,012.

Patented Mar. 15, 1892.



(No Model.)

2 Sheets—Sheet 2.

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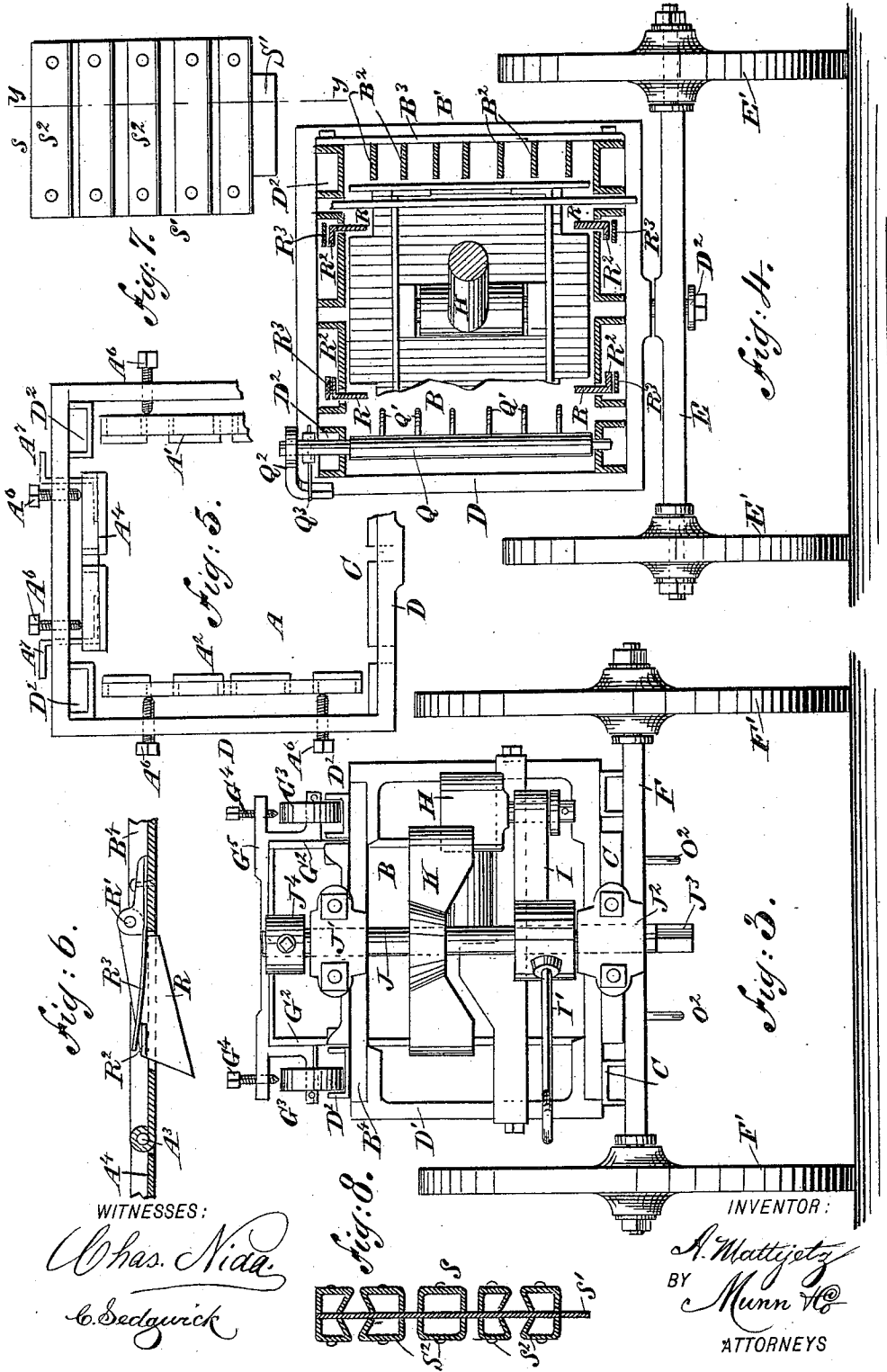


Fig. 6.

Fig. 7.

Fig. 5.

Fig. 4.

Fig. 3.

Fig. 8.

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UNITED STATES PATENT OFFICE.

ANDREAS MATTIJETZ, OF GIDDINGS, TEXAS.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 471,012, dated March 15, 1892.

Application filed April 15, 1891. Serial No. 388,970. (No model.)

To all whom it may concern:

Be it known that I, ANDREAS MATTIJETZ, of Giddings, in the county of Lee and State of Texas, have invented a new and Improved Baling-Press, of which the following is a full, clear, and exact description.

The invention relates to baling-presses such as shown and described in the Letters Patent of the United States No. 422,138, granted to me on February 25, 1890.

The object of the invention is to provide a new and improved baling-press which is simple and durable in construction, very effective in operation, and more especially designed for rapidly and conveniently baling hay and like material into large or small bales.

The invention consists of certain parts and details and combinations of the same, as will be hereinafter fully described, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the improvement with parts broken out. Fig. 2 is a side elevation of the same. Fig. 3 is an enlarged end elevation of the same. Fig. 4 is an enlarged transverse section of the same on the line xx of Fig. 2. Fig. 5 is an enlarged end view of the baling-chamber. Fig. 6 is an enlarged sectional side elevation of one of the stop-plates for the hay. Fig. 7 is an enlarged face view of a rear follower-plate, and Fig. 8 is a transverse section of the same on the line yy of Fig. 7.

The improved baling-press is preferably constructed of channel-iron, so as to make the entire press very light and at the same time very strong. The baling-press is provided with a baling-chamber A, in line with which is arranged a follower-chamber B, both chambers having a fixed bottom C, the rear end of which is secured in the bottom of a rectangular frame D, while a similar frame D' is connected with the said bottom near its front end, as is plainly illustrated in the drawings. The rectangular frame D is connected at its bottom with a king-bolt D², engaging the axle E, carrying the front wheels E', while the bottom of the rectangular frame D' is rigidly connected with the rear axle F, carrying the rear or

hind wheels F'. The baling-chamber A has its sides A' and A² formed of longitudinal bars pivotally connected at the front ends on vertical shafts A³, secured in the corner bars of the bottom C and in the bars D², connecting the upper ends of the rectangular frames D and D' rigidly with each other. The top A⁴ of the baling-chamber A is also formed of several bars extending longitudinally and pivoted on a transversely-extending shaft A⁵, supported on the shaft A³, as is plainly shown in Fig. 1. The free or rear ends of the sides A' and A² and of the top A⁴ are free to swing inward or outward against the inner ends of set-screws A⁶, screwing in the sides and top of the rectangular frame D. (See Fig. 5.) By adjusting the set-screws A⁶ inward or outward the discharging-opening of the baling-chamber A can be increased or diminished according to the size of the bale to be made. It will be understood that the set-screws A⁶ may be so adjusted that the opening of the baling-chamber is rendered uniform throughout, or they may be screwed inward, so that the sides and top converge at one end, the larger end being at their connection with the shafts A³ and A⁵ and the smaller end at the front or discharge opening of the baling-chamber. In order to prevent the top A⁴ from swinging too far downward into the baling-chamber, lugs A⁷ are secured on said top and are adapted to engage the tops of the corner bars D², previously mentioned. (See Fig. 5.)

The follower-chamber B, which is a continuation of the baling-chamber A, has one side and its end open, the other side B' being formed of longitudinally-extending bars B², secured on vertical rods B³, fastened at their lower ends to the outer bar of the bottom C and at their upper ends to the outer corner bar D². (See Fig. 4.) The bars B² are flat, so as to permit of the passage of the prongs of the fork handled by the operator in loading the hay into the follower-chamber. In this follower-chamber B is adapted to reciprocate the follower G, formed with a solid front plate G' and provided with uprights G², extending through the top of the follower-chamber to carry on their outer ends rollers G³, adapted to travel on the U-shaped corner-plates D², so as to ease the reciprocating

movement of the follower within the follower-chamber B.

In order to retard the movement of the follower G, screws G⁴ are employed, screwing in a transverse bar G⁵, connecting the upper ends of the uprights G² with each other. The screws G⁴ are adapted to abut against the periphery of the friction-rollers G³, so as to act as brakes on the same. On the side of the follower G at the open side of the follower-chamber B are secured longitudinally-extending prongs G⁶, having their free ends bent inwardly in front of the front plate G⁷ for a purpose hereinafter more fully described. The follower G is pivotally connected with a pitman H, pivoted on an arm I, mounted to turn loosely on a shaft J, arranged vertically and fitted to revolve in suitable bearings J¹ and J², of which the former J¹ is supported on the top bars B⁴ of the follower-chamber B. The lower bearing J² is secured to the middle bars of the bottom C in the rear of the rear axle F. The shaft J is held in place by a collar J⁴, secured on the upper end of the shaft and resting on the upper bearing J¹. A handle I¹ is formed on the arm I, so as to conveniently return the follower G after a quantity of hay has been pressed, as hereinafter more fully described. In order to move the follower G inward to press the hay, a double arm K is provided, secured on the shaft J and adapted to abut with its ends on the outer end of the pitman H, so that when the shaft J is rotated one end of the said arm acts on the outer end of the pitman H, thus forcing the latter inwardly, thereby moving the follower upon the hay loaded in front of the follower into the follower-chamber at the open side of the latter. The lower end J³ of the vertical shaft J projects below the bearings J² and is polygonal in shape and adapted to engage a correspondingly-shaped collar L, engaged by the upper polygonal end of a shaft N, arranged in line with the shaft J and mounted to turn in suitable bearings in a U-shaped frame O, adapted to rest on the ground. The front end of the frame O is provided with a chain O¹, adapted to be hooked upon hooks O², supported on the rear axle F. On the shaft N is secured a sprocket-wheel N¹, over which passes a sprocket-chain N², also passing over a sprocket-wheel N³, secured on a shaft P, mounted to turn in bearings P¹, fitted to slide longitudinally in guideways O³, formed in a frame O⁴, rigidly connected by a rod O⁵ with the frame O. This frame O⁴ is provided with a transversely-extending axle O⁶, on the ends of which are mounted small wheels O⁷, adapted to travel on the ground, so that the rollers O⁷ and O⁴ travel with the baling-press proper when the latter is moved about from one place to another. The bearings P¹ are each provided with a rearwardly-extending screw-rod P², engaging a frame O⁸, held on the rear ends of the frame O⁴. Nuts P³ and P⁴ screw on each screw-rod P² on the front and rear of the frame O⁸, so as to con-

veniently adjust the bearings P¹ in the guideways O³ to take up all slack in the chain N². On the upper end of the shaft P is secured a draft-beam P⁵, to the free end of which is attached a team for operating the baling-press, so that when the team pulls on the said draft-beam the shaft P is rotated and, by the sprocket-wheels N³ and N¹ and the sprocket-chain N², imparts a rotary motion to the shaft N, which by the collar L imparts a rotary motion to the shaft J, and the latter, by the double arm K, imparts a forward motion to the follower G, as previously described.

On the feed side of the follower-chamber B next to the shaft A³ is arranged a vertical shaft Q, provided with inwardly-extending lugs Q¹, adapted to engage the hay during the time the follower is receding, so as to prevent a return movement of the hay pressed into the baling-chamber A. The shaft Q is mounted to turn at its lower end in the front corner bar of the bottom C, while the upper end is mounted to turn in the front corner bar D². On the upper end of the shaft Q is secured an L-shaped arm Q², the free end of which is engaged by a spring Q³, which has the tendency to throw the shaft Q into such a position that the lugs Q¹ extend transversely. The spring Q³ also permits the shaft Q to turn when hay is pressed into the baling-chamber by the follower G, the hay acting on the lugs Q¹, so as to cause a swinging motion of the shaft Q.

In order to further prevent the hay from passing rearward into the follower-chamber from the baling-chamber, stop-plates R are provided, of which two are arranged in the bottom C and a like number are held in the top plates B⁴ of the follower-chamber B. (See Figs. 1 and 4.) Each of the stop-plates R (see Fig. 6) passes through a slot in the respective plate upon which it is mounted downward into the follower-chamber near the entrance to the baling-chamber. The front end of each plate R is slightly pointed, so as to readily engage the hay to prevent of return movement of the latter from the baling-chamber. The under side of each plate R is slightly inclined, so that when the hay is pressed forward by the follower G the said plate is free to swing upward or downward by the pressure of the hay, turning on its pivot R¹ on the respective top or bottom plate upon which it is mounted. Each of the stop-plates R is provided at its free end on the top with a flange R² to prevent the plate R from passing too far inward. A spring R³, secured on the top or bottom of the follower-chamber, presses on the said flange R² to hold the same in a normal or innermost position.

In Figs. 7 and 8 is illustrated a rear follower-plate S, formed with a central plate S¹, on which are secured on both sides longitudinally-extending U-shaped bars S², placed suitable distances apart, so as to form passageways for the entrance of the wire for tying the bale.

The operation is as follows: When the several parts are in the position illustrated in Figs. 1 and 2 and the follower G is in its outermost position near the rectangular bracket D', then the operator can pitch the hay with a fork or other means into the open side of the follower-chamber in front of the follower G. When a sufficient quantity of hay has been placed in the follower-chamber and the draft-beam P⁵ is actuated, one of the ends of the arm K acts on the pitman H, so that the follower G is moved forward, and thereby presses or forces the hay into the baling-chamber A, said hay passing under and over the top and bottom stop-plates R and moving the same outward, and at the same time the hay presses against the lugs Q' of the shaft Q and swings said lugs forward. As soon as the end of the arm K has passed the pitman H the operator takes hold of the handle I' and moves the same to the left, so that the arm I acts on the pitman H, which latter draws the follower G backward into its outermost position. When the follower G recedes, then the spring-pressed stop-plates R again move inward by the action of their springs R³. At the same time the shaft Q swings to its normal position by the action of the spring Q³, so that the lugs Q', in conjunction with the stop-plates R, prevent the hay from moving backward out of the baling-chamber. The operator then again fills the space in the follower-chamber B in front of the follower G, the latter being again moved forward by the other end of the arm K at the time the team has made about one-half revolution in dragging the draft-beam P⁵ around its course. It is understood that whenever a sufficient quantity of hay has been pressed into the baling-chamber A by the follower G one of the follower-plates S is inserted transversely at the time the follower recedes, so that on the next forward movement of the follower the hay in front of the latter pushes the follower-plate forward with the hay into the baling-chamber A. When this follower-plate is at or near the discharge end of the bale-chamber A, then a bale is finished in the baling-chamber and is tied by wires passed between the beams of the sides of the baling-chamber and the grooves between the bars S² of the follower-plate. It is understood that a follower-plate is inserted at the rear end of a bale. The above operation is then repeated.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In a baling-press, the combination, with a baling-chamber and a follower-chamber arranged in line with the said baling-chamber, of a follower mounted to reciprocate in the said follower-chamber and supported on wheels mounted to travel on the top of the said follower-chamber, substantially as shown and described.

2. In a baling-press, the combination, with a follower-chamber and a reciprocating follower in said chamber, of a pitman connected to the follower, means for operating the pitman, a shaft, an arm mounted loosely on the shaft and pivotally connected to the pitman, and a handle carried by the said arm, substantially as and for the purpose set forth.

3. In a baling-press, the combination, with a follower and a pitman connected to the follower, of a rotary shaft, a double arm carried by the shaft and adapted to engage the pitman, an arm mounted loosely on the shaft and pivotally connected to the pitman, and a handle secured to the loose arm, substantially as described.

4. In a baling-press, the combination, with a follower-chamber, of a follower held to reciprocate in the said follower-chamber and provided with uprights extending through the top of the said follower-chamber, friction-rollers mounted on the outer ends of the said uprights and adapted to travel on the top of the said follower-chamber, and set-screws screwing on a cross-bar of said uprights, the said screws being adapted to engage the said friction-rollers to brake the same, substantially as shown and described.

5. In a baling-press, the combination, with a follower-chamber, of a follower held to reciprocate in the follower-chamber and provided with uprights extending through the top of the follower-chamber, and friction-rollers mounted on the outer ends of the said uprights and adapted to travel on the top of the said follower-chamber, substantially as shown and described.

6. In a baling-press, the combination, with the main frame and a follower-operating shaft, of two connected frames, one of which is connected with the main frame and the other provided with an axle upon which are mounted wheels, a shaft mounted in one of the frames and connected with the follower-operating shaft, sliding bearings mounted in the wheeled frame and provided with rods projecting through the frame, nuts on the said rods, a shaft mounted in the sliding bearings, a sweep on the last-named shaft, a sprocket-wheel on each shaft, and a sprocket-chain connecting the sprocket-wheels, substantially as herein shown and described.

7. In a baling-press, the combination, with a follower-chamber having an open side, of a follower mounted in the said chamber and provided on the side at the open side of the chamber with longitudinally-extending prongs, substantially as and for the purpose set forth.

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