

S. S. RAY.

TAMPING DEVICE FOR COTTON PRESSES.

APPLICATION FILED AUG. 28, 1908.

Patented Feb. 16, 1909.



INVENTOR
SILVESTUS S. RAY.
BY *Munn & Co.*
ATTORNEYS

ATTORNEYS

UNITED STATES PATENT OFFICE.

SILVESTUS S. RAY, OF MAYSVILLE, GEORGIA.

TAMPING DEVICE FOR COTTON-PRESSES.

No. 912,889.

Specification of Letters Patent.

Patented Feb. 16, 1909.

Application filed August 23, 1908. Serial No. 459,606.

To all whom it may concern:

Be it known that I, SILVESTUS S. RAY, a citizen of the United States, and a resident of R. F. D. No. 2, Maysville, in the county of Jackson and State of Georgia, have made certain new and useful Improvements in Tamping Devices for Cotton-Presses, of which the following is a specification.

My invention relates to an improved means for tamping cotton in a cotton press preparatory to compressing it into bales.

The device is preferably used in those balers having rotary bale chambers which can be swung under the tamping device and the cotton packed down into one chamber, while the cotton in the other chamber is being compressed by a hydraulic plunger or other suitable means.

An object of my invention is to provide a device which does away with the necessity of using steam power for driving the plunger, but which may be run by any suitable power, such as water power or a gasolene engine, and which, at the same time, is so constructed as to transmit great power to the rammer.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the device. Fig. 2 is a plan view, and Fig. 3 an end view.

Referring now to Fig. 1, I have shown therein a base frame A, carrying at one end thereof the two uprights B and C, which are provided with the corner pieces D and E. At the top of the uprights B and C is a triangular guide member F, provided with an opening arranged to receive the top of the reciprocating plunger or rammer. Secured to the bottom frame A of the device is a lowered guide member G which is provided with a squared opening, through which the plunger rod extends.

The plunger itself consists of a flat plate H provided on one side with an upwardly extending guide plate I. The plunger rod J consists of three portions, the lower portion *a* being square in cross section, the upper portion *b* being of a cylindrical shape, while the central portion *c* constitutes an enlargement of the bottom portion and is of an oblong rectangular section. This central portion is provided with a slot *h* for the reception of one end of the walking beam lever K. The lever K is pivoted upon an intermediate upright support L, the latter

being provided with openings *l* for adjusting the height of the lever, while the lever itself is provided with openings *k* for adjusting the lever relatively to the support L. The upper end of the inclined lever is pivoted to a link M, which, in turn, is pivoted in the slot *h* in the rod J.

The opposite end of the lever is connected by means of a crank arm N to the crank disk O carried by the shaft Q, which is journaled between the supports P and P', and which has rigidly secured to it a large gear R. The gear R meshes with a smaller gear S on a shaft T, also carried by the supports P and P'. The shaft T projects through the upright P' and is provided with a reduced portion *p*, upon which there is carried a longitudinally slidable sleeve U provided with a groove *u*, and having teeth *v* arranged to mesh with similar teeth *w* on the collar of a sprocket wheel W. The sleeve U is prevented from turning by means of a key on the shaft T. The sprocket wheel W is loosely mounted on the shaft T but may cause the rotation of the latter when the teeth of the clutch sleeve U are in engagement with the teeth on the collar of the sprocket. This may be accomplished by means of a shifting lever X, which is fastened to the frame A at one end, and is provided with a ring or loop arranged to enter the groove *u*, whereby the sleeve may be shifted into and out of engagement with the sprocket.

From the foregoing description of the various parts of the device, the operation thereof can be readily understood. As before stated the tamper is designed to be operated in connection with a cotton baler of the rotary chamber type. After the framework A is secured in position the cotton receiving chamber is swung under the tamping device. The sprocket wheel W is in constant rotation, being driven by any suitable power. When it is desired to set the tamper in operation, the lever X is shifted and the clutch sleeve U is brought into engagement with the teeth on the collar of the sprocket wheel, thereby imparting motion to the shaft T and driving the small gear S. The provision of the large gear R causes a considerable increase in power, so that great force is exerted on the end of the walking lever K through the crank mechanism. As the crank revolves, it imparts a reciprocating motion to the plunger at the other end and on account of the pro-

vision of the swinging link *m* and the guides I, F and G, a true vertical reciprocatory movement of the plunger is maintained.

I am aware that it has been proposed to
5 operate cotton tampers by means of steam power applied to the opposite end of a swinging lever and I do not claim broadly the provision of a device operated by a lever of the walking beam type. In actual practice it is
10 found inconvenient to use steam power, and yet considerable pressure must be exerted on the reciprocating tamper in order for it to accomplish its purpose.

It will be seen that I have provided mechanism which can be operated by any suitable
15 source of power, and which does not require that power to be shut off, but through a clutch mechanism can be disconnected from the source of power in a convenient manner
20 while the machine is in operation.

I claim—

1. In a cotton tamping device, a base, a pair of upright supports carried by said base, upper and lower guide members fastened to
25 said supports, a plunger provided with a lateral guide plate and arranged to be reciprocated in a vertical direction below said base, a plunger rod secured to said plunger and arranged to be guided in its movement
30 by said upper and lower guides, a walking

lever pivotally secured to said plunger rod, a support therefor, a crank mechanism connected with said lever, a large gear upon the shaft carrying the crank mechanism, a lower
35 shaft, a smaller gear on said shaft and arranged to mesh with the large gear, a sprocket wheel loosely mounted on said lower shaft, and a clutch mechanism carried on said lower shaft and arranged to engage said sprocket wheel for imparting motion to said gears. 40

2. In a cotton tamping device, a base, a pair of upright supports carried by said base, upper and lower guide members fastened to said support, a plunger provided with a lateral guide plate and arranged to be re-
45 ciprocated in a vertical direction below said base, a slotted plunger rod secured to said plunger and arranged to be guided in its movement by said upper and lower guides, a walking lever having one end arranged to
50 pass through the slot in said plunger rod, a link secured to the end of said walking lever and arranged to swing within said slot, and a crank mechanism for operating said walking lever.

SILVESTUS S. RAY.

Witnesses:

N. H. WHITE,
W. M. SAILOR.