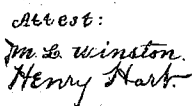


F. L. ROBISON.
BALING PRESS.

Patented Jan. 28, 1896.



Inventor:
F. L. Robison,
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Atty.

UNITED STATES PATENT OFFICE.

FRANK L. ROBISON, OF ALBION, ASSIGNOR OF ONE-HALF TO ALASCO C. ROBISON, OF CANANDAIGUA, NEW YORK.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 553,599, dated January 28, 1896.

Application filed September 29, 1893. Serial No. 486,827. (No model.)

To all whom it may concern:

Be it known that I, FRANK L. ROBISON, of Albion, in the county of Orleans and State of New York, have invented a new and useful Improvement in Power Baling-Presses, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

The object of my invention is to improve baling-presses, driven by steam or other power, by means of the construction and arrangement of parts hereinafter shown and described, and particularly pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a side elevation of my improved press. Fig. 2 is a plan of the same. Fig. 3 is a side elevation of the gear-frame. Fig. 4 is a vertical longitudinal section of the gear-frame on the dotted line 4 4 in Fig. 2, parts being shown in various positions by full and dotted lines. Fig. 5 is a front end elevation. Fig. 6 is a horizontal section on the dotted lines 6 6 in Figs. 1 and 4. Fig. 7, drawn to a larger scale, shows rollers on the traverse pin.

Referring to the parts shown, B is the frame of the machine, it being substantially of common form in machines of this nature, consisting of four equal longitudinal timbers held in the form of a prism or parallelopipedon by cross-ties and binding-bolts of a suitable kind.

A is a metal gear-frame within the main frame B, holding two equal vertical master gear-wheels *a a*, as shown.

b is a driving-shaft for the master-wheels, resting in horizontal bearings *c c* at the forward end of the main frame. This shaft is provided with pinions *e e* to engage the master-wheels, also inertia wheels *d d* and a band-pulley *f*, to which power is transmitted by a belt from a steam-engine or other motor.

C is the driving-head or follower for pressing the hay, adapted to travel along bearings within the main frame.

D is the pitman connecting the follower with the master-wheels and playing between the latter, as shown.

The gear-frame is formed with a large central opening and vertical side walls, the latter having longitudinal flanges *p* to meet the timbers of the main frame. The master-

wheels are independent of each other and occupy the opening in the gear-frame, each being formed with an outwardly-projecting hub *t*, resting in bearings *s*, in the sides of the gear-frame. Each master-wheel is formed with a large arm *g*, Fig. 1, having a radial slot *h*, (see Fig. 6,) the wheels being placed so that said slots are opposite each other. The head of the pitman is provided with a transverse horizontal pin *i*, Figs. 6 and 7, projecting at its ends through the slots *h*, which slots are traversed by the pin as the wheels are revolved. The pitman swings in a vertical plane in the space between the master-wheels and is connected with the follower by a horizontal pin *l*, Figs. 4 and 6.

The vertical sides of the gear-frame A have formed in their interior opposing surfaces two equal circular grooves *k*, Figs. 4 and 6, into which the extreme ends of the traverse pin *i* also project, as shown. Now it will be understood from the construction and arrangement of the parts above described that the master-wheels drive the traverse pin *i* as they are rotated, while the grooves *k k* guide and control the pin. The grooves *k* are eccentric with the master-wheels and pass near the axis of said wheels, as shown in Figs. 4 and 6. When, therefore, the traverse pin *i* is passing the parts of the grooves near the axis of the master-wheels it moves quite slowly and the follower is being urged against the hay with great force; also, when the traverse pin *i* is passing the parts of the grooves farthest from the axis of the master-wheels it is being moved rapidly, the follower then being acting upon loose hay. In other words, by this construction of the parts the follower is moved relatively rapidly when doing the least work (pressing loose hay) and slower and with greater force when being driven against the body of hay pressed hard. The hay is introduced into the press at *m* in the usual way, a hopper (not shown) of common kind being employed on top of the frame over the opening *m*.

The gear-frame is made in two equal parts, it being divided longitudinally and joined by tie-bolts *r*, Figs. 2 and 5, passing through projecting lugs *u*, Fig. 3.

I usually employ antifricition-rollers *o o o o*,

Fig. 7, on the traverse pin *i* to roll in the grooves *k k* and slots *h h*. There is frequently great stress thrown upon the traverse pin, and these interposed rollers tend greatly to
 5 relieve the friction between the contiguous parts.

I usually construct the press with openings *n n*, Figs. 4, 5, and 6, through the front of the gear-frame through which to introduce oil to
 10 the grooves *k k* and for other purposes, though these openings are not essential.

The driving-shaft *b* may be placed above the master-wheels instead of in front of them, as shown, and in some cases I regard thus
 15 placing it preferable to placing it in front.

What I claim as my invention is—

1. In a baling press, the combination, with a main frame, of a gear frame therein, comprising two equal parts, each of which is provided with projecting lugs at each end, a bearing at the middle, and a circular groove eccentric thereto, said gear frame being provided with a large central opening, a master wheel journaled in each bearing, and lying
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in said opening, and having a radially slotted 25 arm, a pin through the arms, having its ends in the grooves, a pitman upon the pin, and a plunger connected with the pitman, substantially as set forth.

2. In a baling press, the combination, with 30 a main frame, of a gear frame therein, the sides of which are each provided with a bearing and a circular groove eccentric thereto, and the front end being provided with a recess leading into the groove, a master wheel 35 journaled in each side and provided with a radially slotted arm, a pin through the arms and having its ends projecting into the grooves, a pitman upon the pin, and a plunger connected with the pitman, substantially as 40 set forth.

In witness whereof I have hereunto set my hand, this 21st day of July, 1893, in the presence of two subscribing witnesses.

FRANK L. ROBISON.

Witnesses:

ENOS B. WHITMORE,
 M. L. WINSTON.