

(No Model.)

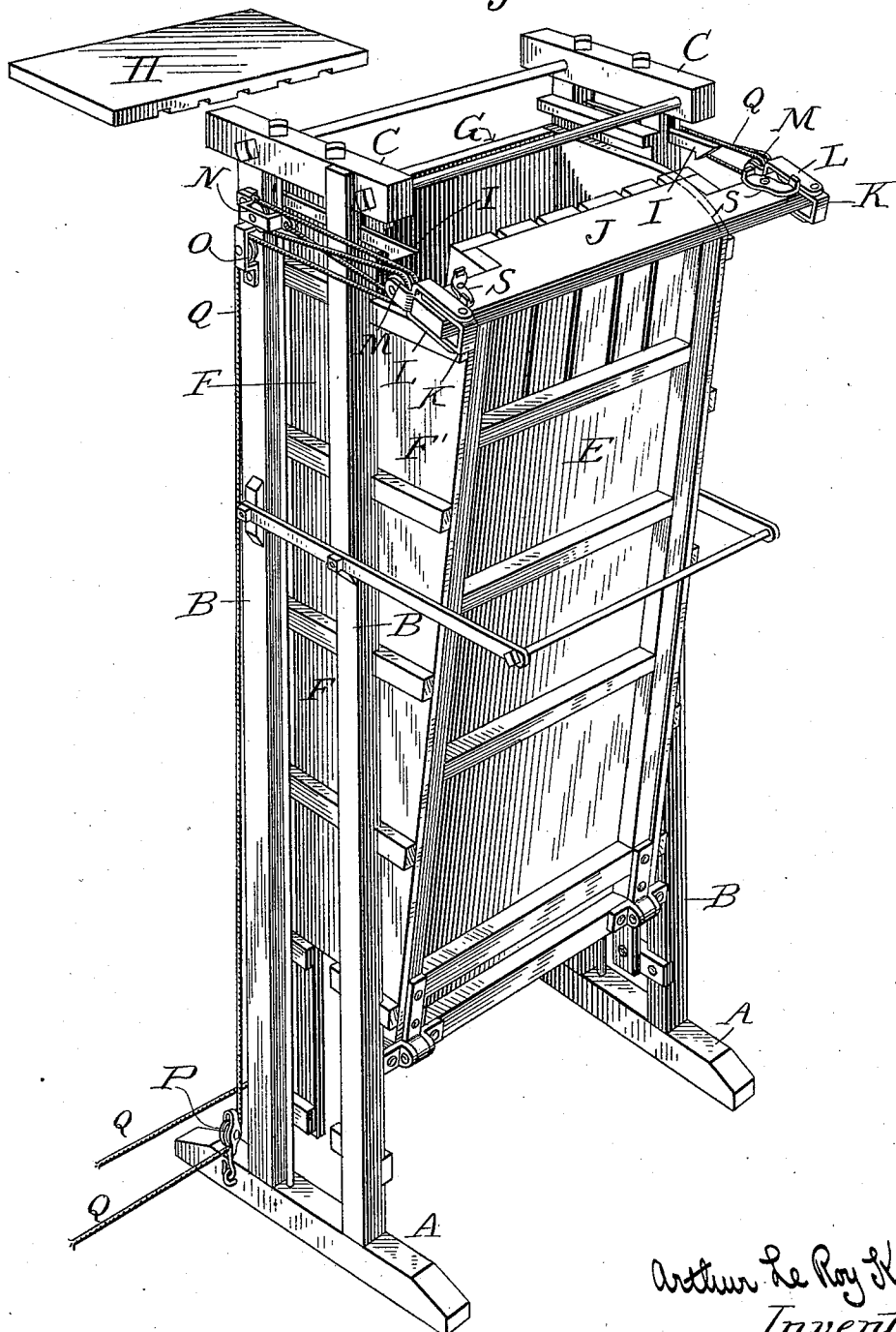
2 Sheets—Sheet 1.

A. LE R. KOHLER.
BALING PRESS.

No. 570,027.

Patented Oct. 27, 1896.

Fig 1



Attest
W. C. Burdine
D. Burdine

Arthur Le Roy Kohler,
Inventor:

By Dodge & Sons,
Attys.

UNITED STATES PATENT OFFICE.

ARTHUR LE ROY KOHLER, OF GENEVA, NEW YORK.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 570,027, dated October 27, 1896.

Application filed July 31, 1896. Serial No. 601,244. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR LE ROY KOHLER, a citizen of the United States, residing at Geneva, in the county of Ontario and State of New York, have invented certain new and useful Improvements in Baling-Presses, of which the following is a specification.

My present invention pertains to baling-presses, the objects, advantages, and construction of which will be hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of press; Fig. 2, a similar view looking at the opposite side of press and showing the power mechanism and the connections between it and the press, and Figs. 3 and 4 top plan views illustrative of the different positions of the locking device for the swinging door and the power-relieving mechanism.

The press illustrated, and to which I have shown my invention applied, is what is commonly known as a "vertical" press, the hay or other substance to be baled being fed into the top and the plunger working from the bottom upwardly. Under the construction of this type of press, now generally in use, the hay when loaded into the press must from time to time be compressed or packed down in order to secure the requisite amount necessary to produce a full bale. This is usually accomplished by treading upon the charge, and after it is forced down adding more. This method is necessarily slow, and unsatisfactory in many other ways. One object of my invention is to do away with this method of completing the charge.

A still further object of my invention is to provide such connections between the power mechanism and the press that the said power mechanism may be employed to close a movable side or member of the press and thus secure the initial compression, heretofore manually obtained; also, to have the power actuate the bale-compressing mechanism as a continuing operation of the foregoing initial compression, and thus do away with any stoppage of the power and the consequent delay and loss.

Referring to the drawings, A A designate the sills, B B the uprights stepped therein,

and C C the upper cross-bars, these parts being stayed and connected to insure the requisite strength, and forming the frame of the press, within which is secured or formed the baling-chamber. This chamber is formed by fixed side D, hinged side E, and fixed sides F F, the latter being continued outwardly from the frame and forming wings or extensions F' F'. A door G is formed above the side D, and a cover H is also provided, designed to be held in place by ways or guides secured to the uprights. The side E is hinged at its bottom to a cross-bar secured between the uprights A A at the bottom of the press-chamber. When the press is open and in the position to be charged, the side occupies the position indicated in Figs. 1 and 3; that is, its upper end is swung outwardly and occupies a position at the extreme outer edges of the wings or extensions F' F'. When closed, the side occupies the position indicated in Figs. 2 and 4, in which position it is held by means of latches I or the like. The side occupies the inclined or open position when the press-chamber is to be charged, and when in such position the area of the chamber is increased to such an extent that no beating down or compression of the material being worked upon is necessary to obtain the requisite amount to make a full charge. When the chamber has been completely filled with the loose material, the cover is placed over against the side E, and when said side is drawn in it forces the cover to its proper position for pressing.

I will now describe the means by which the side is closed and the power transferred directly from the side-closing mechanism to the power mechanism for working the plunger and effecting the final compression.

To the upper end of the side E is fixed a cross-beam J, and to each end of this is pivoted a link or bail K. To the other end of this link is pivoted a second link L, the side arms or bars of which are just far enough apart to permit it to be folded over the other link when in the position indicated in Figs. 1 and 3. When in this position, the closed end of link L will be in the nearest possible position to the cross-bar J. A pulley M is secured to each of the links L, and

pulleys N N, O O, and P P are secured to each side of the frame. Ropes Q are fastened to the frame and pass back and forth over the pulleys M, N, and O, down and
5 around the pulleys P, the ends being fastened together and terminating in a link R.

To the cross-bar J, inside of the links K, are pivoted arms or levers S. The ends of the levers or arms are turned up, forming
10 toes or projections, the inner one designed to bear against the face of one of the uprights, while the other bears against the link K when the pivoted side E is closed. It will be noticed upon reference to Figs. 1 and 3 that the
15 inner end of the lever S extends toward the center of the press, while the outer end of the arm is upon the opposite side of the pivotal point, so that when the side E is closed the outer end of the lever will be swung
20 around or forced against the link K and cause it to turn on its pivot. This takes place just at the moment the side is locked, and as the strain is continued on the ropes Q and the pivotal points of the links being no longer
25 in a direct line the link L will draw the link K around to the opposite side of the cross-bar J or into the position indicated in Fig. 4, and thus relieve the side from further strain and yet not necessitate the stopping of the
30 power mechanism.

T denotes a windlass provided above the framing with a toothed wheel U. The sweep W is free to turn upon the axis of the windlass, except when connected thereto by a sliding
35 bolt X, designed to engage the toothed wheel and to be controlled by a handle or lever Y, pivoted to the sweep. To the handle is pivoted a pin a, working in guides b, and designed to connect the link R to the
40 sweep when the side is being closed.

Z denotes a cable connected at one end with the plunger or compressing mechanism of the press and at the other to the drum of the windlass.

45 The plunger mechanism is not herein set forth in detail, as it forms no part of the present invention.

The operation of the press and attendant mechanism is as follows: The pivoted side E
50 being open and the parts in the relation shown in Fig. 1, the chamber is filled with the material to be compressed. When the chamber is filled, motion is imparted to the sweep to which the link R is attached through the bolt a. A comparatively small move-
55 ment will suffice to bring the side E to its closed position, and as it is locked the links are thrown out of line and swing around, as above described. As they are swinging
60 around the operator throws the handle or lever Y, disconnecting the link R, and bringing the drum of the windlass into action, which, drawing on the cable Z, imparts motion to the plunger.

65 It will be noticed that the movement of the sweep is not interrupted when the transfer of power from one part of the press to the

other takes place, nor is there any undue strain placed upon the side E while the transfer is being made.

70 Having thus described my invention, what I claim is—

1. In a press, the combination of an initial compressing mechanism; a secondary compressing mechanism designed to complete the
75 article; a power device for operating said parts; and means for causing the transfer of the power from one to the other of said mechanisms without stopping the power device.

2. In a press, the combination of an initial compressing mechanism; a secondary compressing mechanism designed to complete the
80 article; a power device for operating said parts; means for causing the transfer of the power from one to the other of said mechanisms without stopping the power device; and
85 means for relieving the initial compressing mechanism while the transfer is being made.

3. In a press, the combination of the frame; a compression-chamber provided with a movable
90 side; power mechanism for operating the press; connections between said power mechanism and the movable side; means for automatically relieving the side from further
95 action of the power mechanism when said side is brought to a closed position; and locking devices for the side.

4. In a press, the combination of the frame; a compression-chamber provided with a
100 swinging side; links K pivoted to the upper free end of the side; links L pivoted to the links K; levers S also pivoted to the upper part of the gate and designed, as the side is closed, to abut against the frame and to throw
105 the links out of line; and means for drawing the side to its closed position.

5. In a press, the combination of the frame; a compression-chamber provided with three
110 fixed sides and a fourth side pivoted to the lower end of the press and designed to swing outwardly therefrom; wings or projections extending from the fixed sides of the press and designed, together with the swinging side,
115 to form an enlarged chamber; links K connected to the outer upper end of the swinging side; links L pivoted to the outer end of links K; levers S also pivoted to the upper end of the swinging side and designed when the press closes to bear against the frame and
120 force the links outwardly; and catches for holding the pivoted side when brought into its closed position.

6. In a press, the combination of the frame; a compression-chamber provided with three
125 fixed sides and a fourth side pivoted to the lower end of the press and designed to swing outwardly therefrom; wings or projections extending from the fixed sides of the press and designed, together with the swinging side,
130 to form an enlarged chamber; links K connected to the outer upper end of the swinging side; links L pivoted to the outer end of links K; levers S also pivoted to the upper end of the swinging side and designed when the press

closes to bear against the frame and force the links outwardly; catches for holding the pivoted side when brought into its closed position; a plunger; a power mechanism; connections between the links and the power mechanism; and connections between the plunger and the power mechanism, substantially as set forth.

7. In a press, the combination of the pivoted side designed to give an initial compression to the material being worked upon; a plunger for obtaining the final compression; a wind-

lass; connections between the pivoted side and the windlass; connections between the plunger and the windlass; and means carried by the windlass for disengaging the connections between the side and the windlass and bringing the plunger into action.

In witness whereof I hereunto set my hand in the presence of two witnesses.

ARTHUR LE ROY KOHLER.

Witnesses:

ADELINE F. GAYLORD,
CHAS. S. BURRALL.