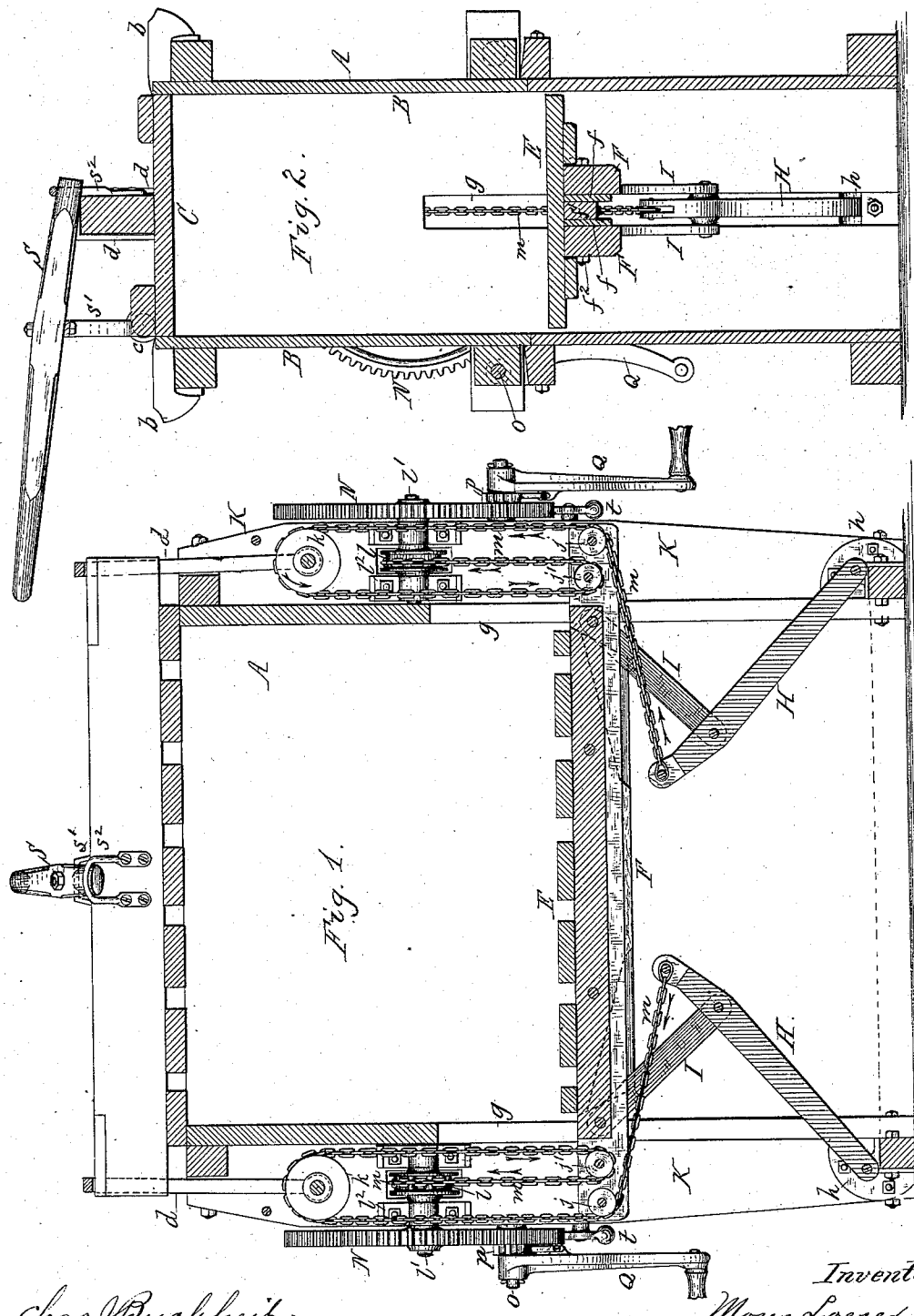
(No Model.) 2 Sheets—Sheet 1.

M. LOESER.

Baling Press.

No. 235,542. Patented Dec. 14, 1880.



Chas. J. Buchheit.
Edw. J. Brady.
Witnesses.

Inventor:
Moses Loeser
By Wilhelm & Bonner
Attorneys.

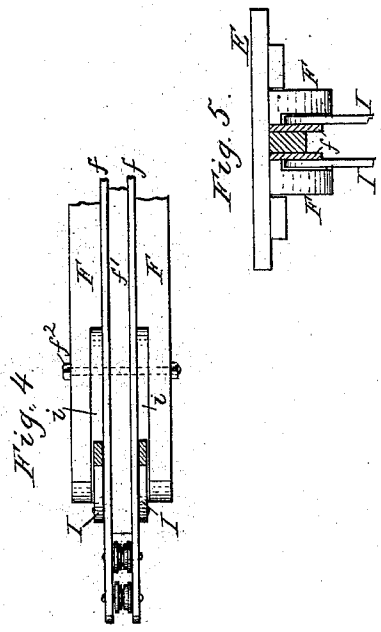
N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C

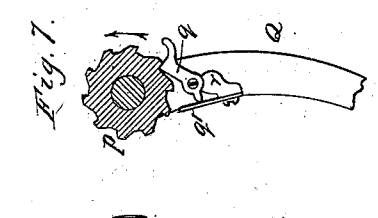
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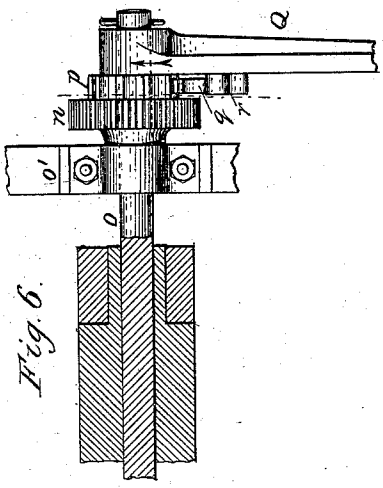
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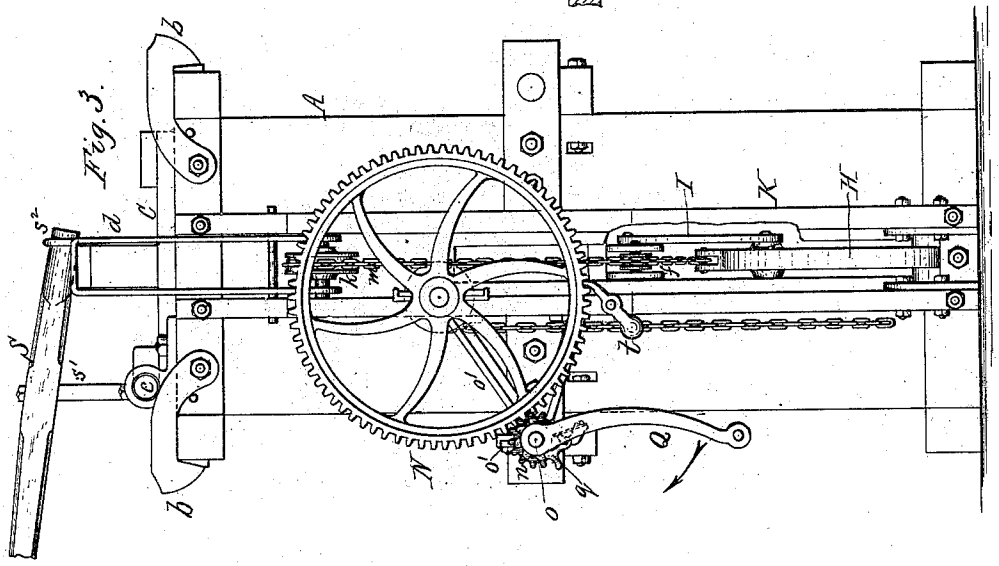
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UNITED STATES PATENT OFFICE.

MOSES LOESER, OF BUFFALO, NEW YORK.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 235,542, dated December 14, 1880.

Application filed September 11, 1880. (No model.)

To all whom it may concern:

Be it known that I, MOSES LOESER, of the city of Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Baling-Presses, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to that class of baling-presses which are used for compressing rags, cotton, hay, and similar material, and more particularly to the mechanism by which the follower is operated.

The object of this invention is the construction of a simple and durable compressing mechanism, which shall increase in power as the material is compressed, and which is easily operated by hand or power.

My invention consists of the peculiar construction of the mechanism whereby the follower is elevated; also, of the peculiar construction of the follower, and of the combination of the several parts which enter into the construction of my improved machine; and, finally, of a ratchet mechanism of peculiar construction, whereby the driving-shaft is actuated, as will be hereinafter fully set forth.

In the accompanying drawings, consisting of two sheets, Figure 1 is a longitudinal section of my improved baling-press. Fig. 2 is a cross-section of the same. Fig. 3 is an end elevation of the same. Fig. 4 is a bottom-plan view of one end of the follower. Fig. 5 is a cross-section of the same. Fig. 6 is a partly-sectional elevation of the ratchet mechanism whereby the driving-shaft is rotated. Fig. 7 is an end elevation thereof.

Like letters of reference refer to like parts in the several figures.

A represents the body or case of the press, and B B are the side doors, hinged to the case A at their lower ends in the usual manner, and held at their upper ends by pivoted hooks *b*.

C is the top cover, hinged to the end pieces of the case A at *c*, and held in place when closed by U-shaped straps *d*.

E represents the follower, arranged to move up and down in the case A in the usual manner.

F F are two longitudinal stiffening-pieces, made of wood, and secured to the under side of the follower on opposite sides of its central line, so as to form a narrow longitudinal channel on the under side of the follower.

f f are two metallic plates, preferably made of wrought-iron and secured to the inner sides of the stiffening-pieces F, and *f'* is a wooden strip or block secured between the plates *f* for keeping the latter apart.

The wooden stiffening-pieces F reach nearly to the side walls of the case A, and the metallic plates *f f*, being longer than the wooden pieces F, project through vertical slots *g* in the side walls of the case A. The pieces F, plates *f*, and block *f'* are secured together by bolts f^2.

H H are two lifting-levers, pivoted with their outer ends to bearings *h* secured centrally to the sills of the frame-work of the machine below each end of the follower E, and extending with their free ends inwardly under the follower, so that when the follower is in its lowest position the levers H will lie in the channel formed on the under side of the follower between the plates *f*.

I I are two links, attached to each lever H near its inner end, and connected with their opposite ends to the under side of the follower, so as to form with the lever H a toggle-joint, whereby the follower is raised and lowered. The links I are arranged on the outer sides of the plates *f*, and the wooden pieces F are provided with recesses or grooves *i*, in which the links I lie when the follower is in its lowest position.

j j' are two sheaves or chain-pulleys, arranged between the plates *f f* at each end of the follower, and *k* is a counter-pulley, arranged above each pair of pulleys *j j'*, between the vertical end pieces, K K, of the press-frame.

l represents the chain-drums, which are mounted on shafts *l'*, arranged parallel with the follower and rotating in bearings l^2 secured to the upright pieces K.

m represents a chain running over each drum *l* and downward and around the inner pulley, *j'*, in the end of the follower, thence upward and over the counter-pulley *k*, thence downward around the outer pulley, *j*, of the follower, and thence to the inner end of the lever H, which is slightly turned up to carry the chain clear of the lever.

N is a gear-wheel mounted on the end of each

drum-shaft l', and n is a pinion secured to the driving-shaft o near each end thereof, so as to mesh with the wheels N.

The driving-shaft o is supported in bearings o' and extends from end to end of the machine to communicate the motion to both drum-shafts.

p is a ratchet-wheel cast or otherwise secured to the outer side of the pinion n, and Q is a crank mounted loosely on the end of the driving-shaft o.

q is a detent-pawl pivoted to the crank Q, and q' is a spring which holds the pawl q in engagement with the ratchet-wheel p.

r is a boss or enlargement formed on the crank Q, and having an arc-shaped recess, which bears against the hub of the pawl q and relieves the pivot of the pawl from the strain to which it would otherwise be subjected. Upon turning the crank in the direction of the arrows, Figs. 3 and 7, the motion of the crank is communicated by means of the ratchet and pawl to the pinion n. Upon reversing the motion of the crank the pawl slides over the ratchets without moving the pinion.

S is a hand-lever, secured to the top cover by means of a U-shaped support, s', and a U-shaped strap, s^2, so that by depressing the outer end of the lever S the top cover will be swung open.

t is a detent-pawl engaging with the gear-wheel N to prevent any retrograde movement of the lifting mechanism.

Upon turning the crank Q in the direction of the arrows, Figs. 3 and 7, the chains m are drawn over the drums l and pulleys $j\,j'\,k$ in the direction of the arrows, Fig. 1, whereby the lifting-levers H are swung upward and the follower is raised. As the lifting-levers are gradually raised from the horizontal position which they assume when the follower is in its lowest position the angle which the chain forms with the lifting-levers increases from a very acute angle to a right angle, thereby increasing the leverage on which the chain works in the same measure as the material is being compressed. The ratchet mechanism by which the crank is connected with the pinion permits the crank to be moved back and forth without going over the dead-centers, thereby permitting the application of short powerful strokes during the latter portion of the movement of the follower.

I claim as my invention—

1. The combination, with the press-case A and the follower E, of two lifting-levers, H, arranged within the press-frame under the follower and pivoted at their outer ends to the press-frame, links I, connecting the inner ends of the lifting-levers H with the outer ends of the follower, and chains m, running from the inner ends of the lifting-levers outward to the hoisting mechanism, the parts being so arranged that the lifting-levers swing inward and the links outward when the follower is lowered, and that both the lifting-levers and links rest under the follower when the latter is in its lowest position, substantially as described and shown.

2. The combination, with the press-case A and follower E, of two lifting-levers, H H, pivoted by their outer ends in the lower part of the press frame or case, links I, connecting the inner ends of the lifting-levers with the outer ends of the follower, and chains m, running from the inner ends of the lifting-levers outward, pulleys $j\,j'$, arranged in the ends of the follower, a stationary counter-pulley, k, and the chain-drum l, substantially as set forth.

3. The follower E, provided on its lower side with two longitudinal pieces, F F, plates $f\,f$, and space-block f', substantially as set forth.

4. The combination, with the press-case A, having vertical slots g, of the follower E, provided on its lower side with two longitudinal pieces, F F, terminating within the press-case, and plates $f\,f$, extending through the vertical slots g of the press-case and carrying the pulleys $j\,j'$ between their projecting ends, substantially as set forth.

5. The combination, with the press-case A, of the follower E, provided on its under side with longitudinal pieces F F, having recesses i, plates $f\,f$, and a space-block, f', of the lifting-levers H H, adapted to lie in the channel between the plates $f\,f$, and links I I, adapted to lie in the recesses i in the pieces F when the follower is in its lowest position, substantially as set forth.

MOSES LOESER.

Witnesses:
EDWARD WILHELM,
JNO. J. BONNER.