

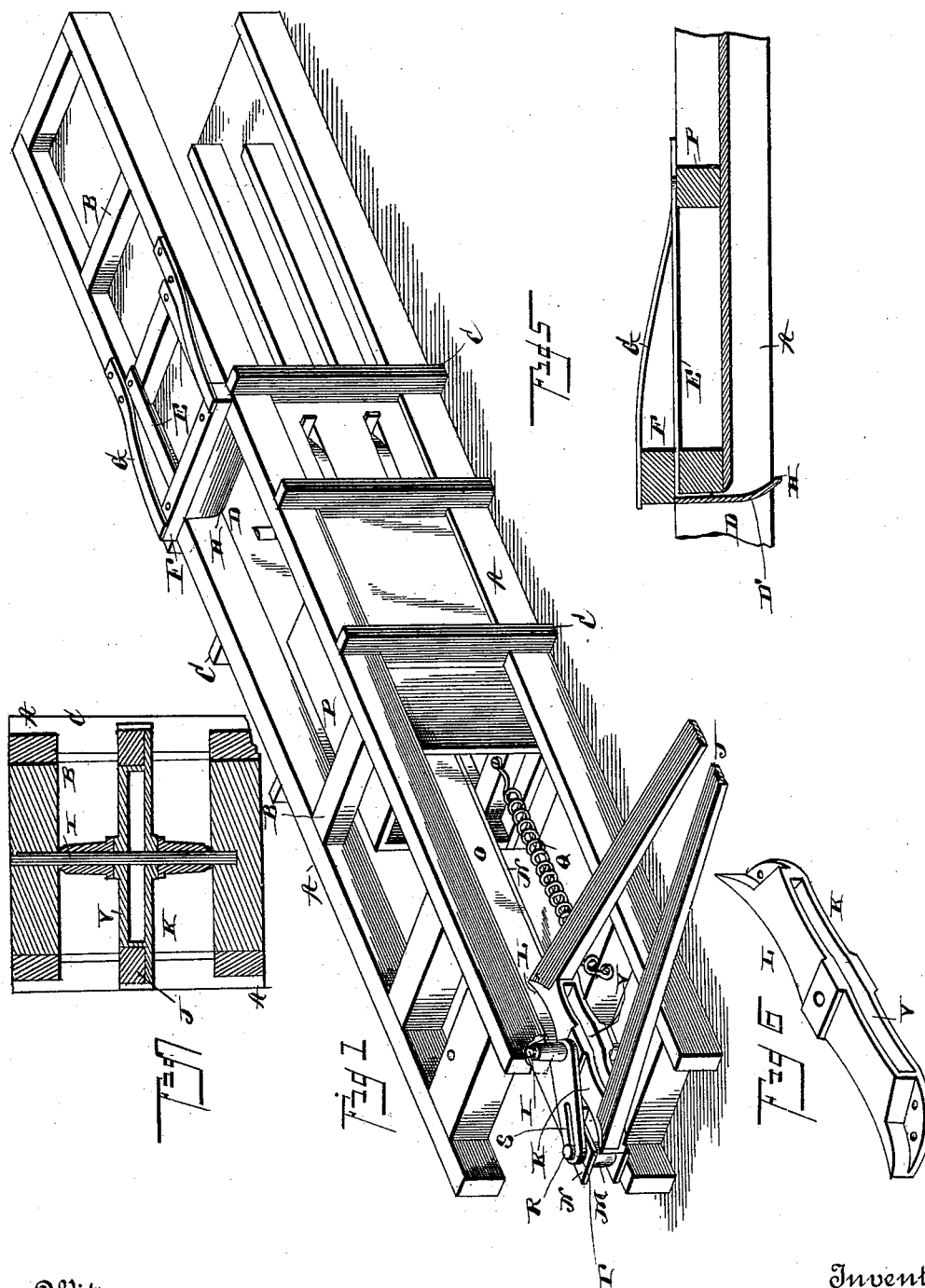
(No Model.)

2 Sheets—Sheet 1.

A. ALLEN.
BALING PRESS.

No. 420,588.

Patented Feb. 4, 1890.



Witnesses
John Mirie
R. W. Bishop.

Inventor
Alvin Allen

By his Attorneys
C. A. Shaw & Co.

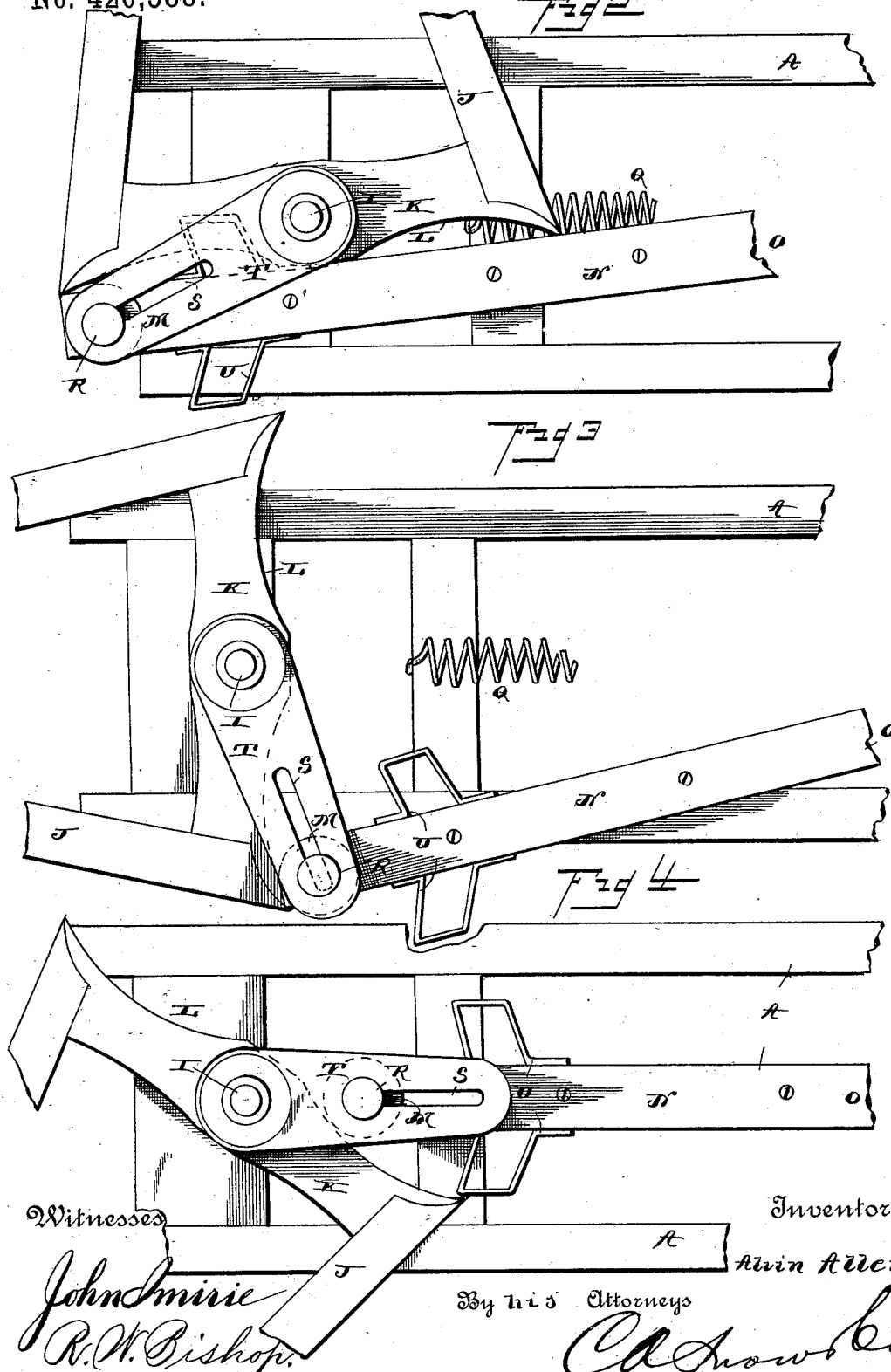
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UNITED STATES PATENT OFFICE.

ALVIN ALLEN, OF GIRARD, KANSAS.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 420,588, dated February 4, 1890.

Application filed April 4, 1889. Serial No. 305,923. (No model.)

To all whom it may concern:

Be it known that I, ALVIN ALLEN, a citizen of the United States, residing at Girard, in the county of Crawford and State of Kansas, have invented new and useful Improvements in Baling-Presses, of which the following is a specification.

My invention relates to improvements in baling-presses; and it consists in certain novel features hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of the entire press. Figs. 2, 3, and 4 are plan views of the operating devices, showing the same in different positions. Fig. 5 is a detail longitudinal section. Fig. 6 is a detail view of the yoke on the inner end of the sweep, and Fig. 7 is a transverse section through the king-bolt.

The frame of my improved baling-press comprises the longitudinal beams A, the cross-bars B, and the standards C. The entrance to the baling-chamber is in the top of the frame-work, and at the rear end of the feed-chamber I provide the stop D, consisting of a transverse plate D', secured to the front ends of the metal bars E, the rear ends of said bars being secured to one of the cross-bars B of the frame, and the front ends of the same being turned down into the feed-opening. A cross-bar F is secured to the front ends of the metal bars E, and the ends of said cross-bar project slightly beyond the said bars E.

Leaf-springs G are secured at their rear ends upon the upper side of the frame of the press, and have their front ends bearing on the projecting ends of the cross-bar F, so as to hold the same normally lowered, and thereby project the transverse stop D' into the press. The lower edge of the stop is curved somewhat rearwardly, as shown at H, so as to allow the compressed material to slip readily past the stop, and yet at the same time effectually prevent the material from passing back into the feed-opening by reason of its expansion.

The king-bolt or fulcrum-pin I is mounted in the front end of the frame, and the sweep or lever J has its inner end secured to a yoke K, loosely mounted on the king-bolt and pro-

vided with a longitudinal horizontal slot V. The yoke K is provided in its inner edge near its ends with the concave surfaces L, which are adapted to act on the roller M, arranged between the front ends of the plates N, which are secured to the upper and lower sides of the pitman O, the inner end of which is pivoted to the plunger P, moving in the baling-chamber. The rebound of the plunger is accelerated by means of the spring Q, which has its front end secured on one of the cross-bars of the frame and its rear end secured to the plunger.

The roller M is secured between the ends of the plates N by a pin or shaft R, which passes through the ends of said plates and through the central opening of the roller, and has its ends playing in longitudinal slots S in the crank-arms T, which are loosely mounted on the king-bolt above and below the yoke, as clearly shown. On the opposite sides of the pitman, at the front end of the same, I secure the laterally-projecting brackets or lugs U, as shown.

In practice the material to be pressed is fed into the baling-chamber and the sweep or lever then moved from side to side, so as to force the plunger inward, and thereby compress the material. As the sweep or lever is moved to one side the yoke bearing against the roller at the outer end of the pitman will force the pitman inward until the sweep has traveled about half the distance required to force the plunger entirely inward. The roller will then begin to move over the concave surface of the yoke toward the king-bolt, and as the sweep continues its movement the end of the yoke will be brought to bear upon the laterally-projecting bracket at the front end of the pitman just before the device reaches the dead-center, so that the pitman will be pushed easily beyond the dead-center, when the spring Q will at once withdraw the plunger and force the pitman into the position to be acted upon by the other end of the yoke. The bracket U will pass into the slot V in the yoke, so as to permit the end of the pitman to be brought into proper position to be acted on by the yoke.

From the foregoing description, taken in connection with the accompanying drawings,

it will be seen that I have provided a very simple and light press of great strength and durability. In my device the team is driven from side to side only, and does not have to describe a complete circle in order to operate the press. It will be observed that the device is composed of very few parts, and that by its use the labor necessary to operate the press will be reduced to a minimum. The crank-arms serve to hold the roller against the yoke, and also give the pitman the necessary lateral movement to secure the proper operation of the device. The length of the stroke will be determined by the length of the slot in the crank-arms, for the reason that when the rebound of the plunger takes place, and the pitman is thereby drawn outward, the pin R will be brought to the outer ends of the said slots, so that by bringing the said ends of the slots nearer to the king-bolt the length of the stroke will be shortened.

The metal bars E, to which the transverse plate D' is secured, are sufficiently strong to withstand the pressure of the plunger, and the curved formation of the lower portion of said plate causes it to rise, so as to allow the pressed material to pass. When the plunger is withdrawn, the springs G force the plate downward, so as to prevent the pressed material coming back. The stop is constructed entirely of metal, and consequently need not be very large in order to have the desired strength. Less force is required, therefore, to drive the pressed material beyond the stop, and the power of the press is correspondingly increased.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the frame, of the

metallic bars E, having their rear ends secured to the frame and their front ends turned downward, the transverse plate D', secured to said downwardly-turned ends, the cross-bar F, secured to the bars E and having its ends projecting beyond said bars, and the leaf-springs G, secured on the frame and having their ends bearing on the ends of the bar F, as set forth.

2. The combination of the king-bolt, the yoke mounted thereon, the crank-arms loosely mounted on the king-bolt above and below the yoke, the plunger, the pitman extending from the plunger and connected with the crank-arms, and the brackets projecting laterally from the pitman and adapted to be acted on by the yoke, as set forth.

3. The combination of the yoke, the sweep secured thereto, the longitudinally-slotted crank-arms loosely mounted on the king-bolt above and below the yoke, the pitman, the roller at the end of the pitman having the ends of its shaft playing in the slots of the crank-arms, and the brackets projecting laterally from the end of the pitman and adapted to be acted on by the yoke, as set forth.

4. The combination of the king-bolt, the yoke mounted thereon and having a horizontal longitudinal slot V, the crank-arms, the pitman connected to the crank-arms, and the brackets U, projecting laterally from the pitman and adapted to be acted on by the yoke and to enter the slot therein, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ALVIN ALLEN.

Witnesses:

W. E. N. WRIGHT,
J. H. SIGGERS.