(No Model.)

P. K. DEDERICK.

BALING PRESS.

No. 415,029. Patented Nov. 12, 1889.

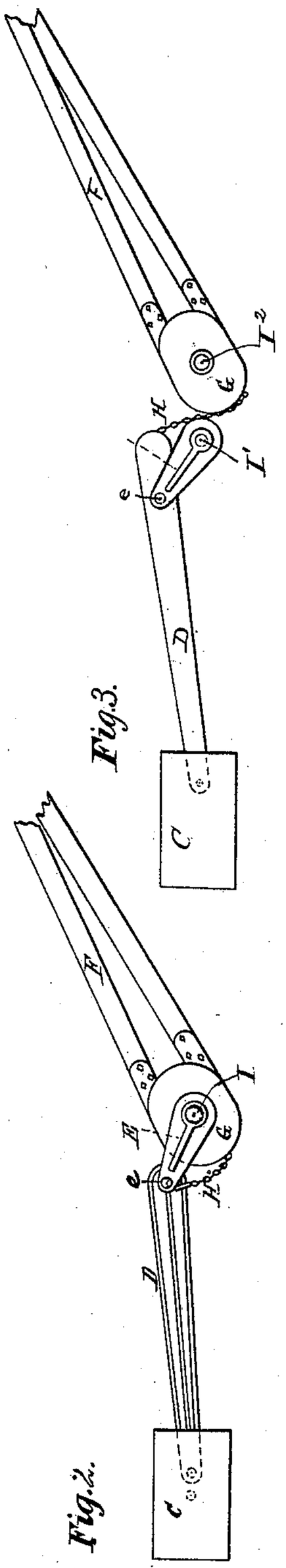

Fig. 3.

Fig. 2.

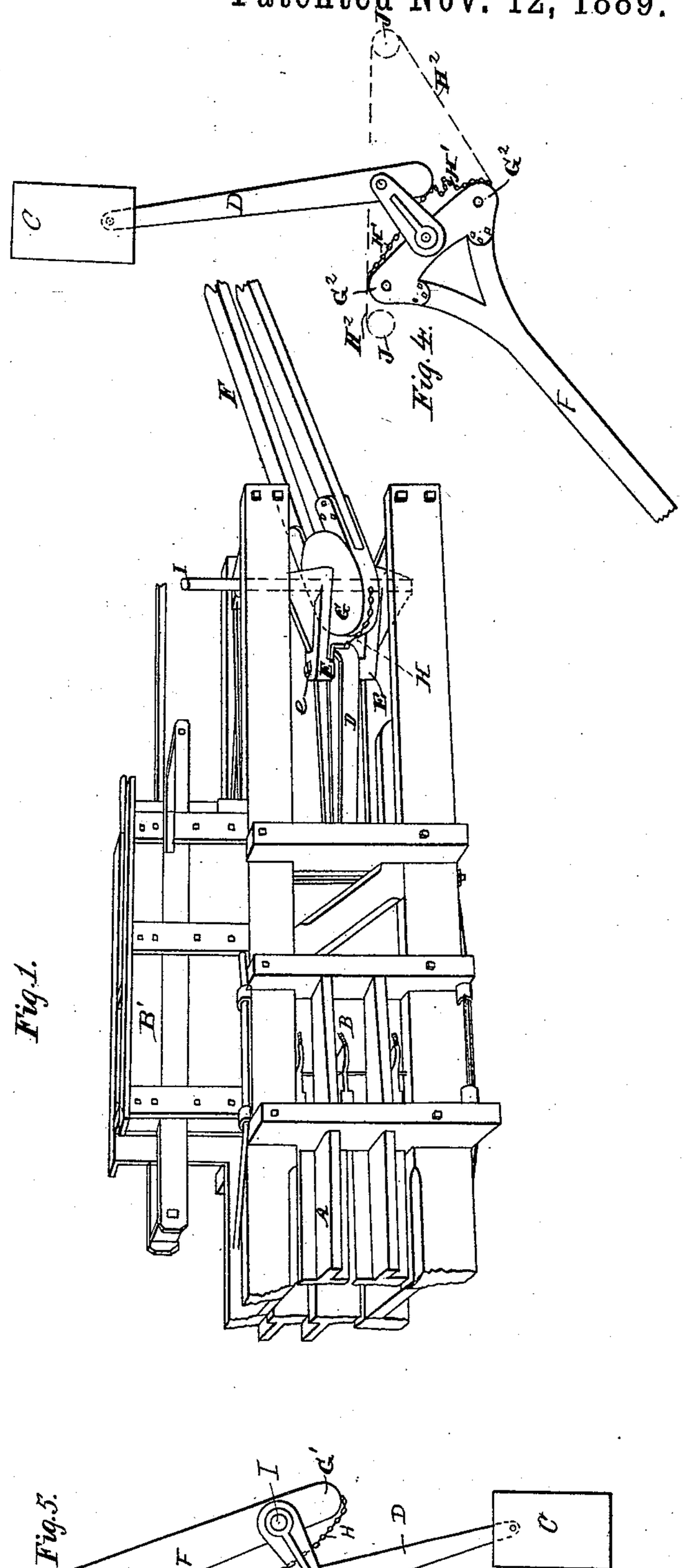

Fig. 1.

Fig. 5.

Witnesses:
W. C. Linthicum
Fred. F. Church.

Inventor:
Peter K. Dederick
by Melville Church
his Attorney.

UNITED STATES PATENT OFFICE.

PETER K. DEDERICK, OF LOUDONVILLE, NEW YORK.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 415,029, dated November 12, 1889.

Application filed October 31, 1882. Serial No. 80,909. (No model.) Patented in Canada October 27, 1886, No. 25,232.

To all whom it may concern:

Be it known that I, PETER K. DEDERICK, a citizen of the United States, and a resident of Loudonville, in the county of Albany and State of New York, have invented certain new and useful Improvements in Baling-Presses, (for which I have obtained a patent in Canada, No. 25,232, October 27, 1886;) and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

This invention relates to improvements in the power-applying devices of baling-presses, and particularly of that class of presses in which a reversible horse lever or sweep is employed to vibrate a toggle connected to a traverser back and forth across a central line; and it consists in certain novel improvements relating to the manner of connecting the horse-lever to the toggle, as will be hereinafter fully described.

In Letters Patent No. 257,153, granted to me May 2, 1882, is shown and described a power contrivance consisting of a lever or pitman connected at one end to a traverser and near the other end to a pair of arms pivoted upon a power-shaft, and constituting, with said arms, a toggle and a horse lever or sweep mounted upon the power-shaft between the arms and operating, when vibrated, to engage with the extended end of the pitman and push the toggle from one side of the central line to the other, the expansion of the pressed material acting to automatically return the traverser and to project the joint of the toggle alternately out at opposite sides of the press as the movements of the horse-lever from side to side are continued.

My present invention differs from my said previously-patented one, in that the toggle, instead of being pushed over the central line by the direct contact of the head of the horse lever or sweep, is pulled over the center by the operation of the horse-lever through the intervention of a loose connection—such as a chain—and the end of the horse-lever to which the chain is attached is preferably made oval or cam-shaped so that at the commencement of the operation, where little power is required, the toggle will be given a quick movement, while at the point where the real pressing is done the movement will be slower, but the pressure exerted more powerful.

Referring to the accompanying drawings, Figure 1 represents a perspective view of a portion of a baling-press, showing the application of my improvements thereto. Fig. 2 is a plan view of the power contrivance shown in Fig. 1 detached from the press. Figs. 3, 4, and 5 are plan views of modified forms of the power contrivance.

Similar letters of reference in the several figures indicate the same parts.

The press illustrated is of the type known as "continuous" presses.

A represents the bale-chamber partially broken away, B the press-box, and B′ the condensing-hopper, in which each charge or forkful of hay is preliminarily condensed before being forced down into the press-box. All these parts are of the usual construction, and need no particular description herein.

C is the traverser; D, the pitman, connected at its forward end to the traverser and at some distance from its rear end by a pin *e* to and between a pair of arms E, pivoted to a shaft I, mounted in the press-frame.

F is the horse lever or sweep, and G is the cam on the inner end thereof, pivoted, as shown in Figs. 1 and 2, upon the shaft I between the arms E, and H is the chain, which in this instance constitutes the loose connection between the cam and pitman.

The operation is very simple. When the horse-lever is moved in one direction, the toggle, consisting of the pitman D and arms E, is drawn by means of the chain H up to and across the center, thus forcing the traverser forward and pressing the hay or other material in front of it. After having passed the center the expansion of the pressed material operates through the traverser to throw the toggle out at the side of the press opposite that from whence it started, thus bringing it into position to be again operated upon in like manner, though reversely, when the horse-lever is moved in the opposite direction, and affording opportunity for another charge of material to be inserted in front of the traverser before such return movement of the horse-lever takes place.

The cam G on the horse-lever may be of

the form of an eccentric; but I prefer to make it oblong, as shown, so that the leverage will be increased as the toggle approaches the point where the greatest pressure is required to be exerted. The said cam, instead of being mounted with the arms E on a common shaft I, as in Figs. 1 and 2, might be mounted upon a separate shaft I^2, and the arms upon short shafts, such as I′, as shown in Fig. 3. So, too, instead of attaching the cam to the horse-lever, the latter might be simply extended beyond its supporting-shaft, as shown in Fig. 5, and its extended end formed into a cam, as shown at G′ in said figure. Furthermore, the horse-lever might be formed with opposite projections, as at G^2 G^2 in Fig. 4, and these projections connected to the end of the pitman by chains H′ H′ or by chains H^2 H^2 passed around pulleys J J, as indicated by the dotted lines in Fig. 4. These modifications in the form and location of the horse-lever and cam may be multiplied indefinitely so long as the central idea is preserved of having the lever or the cam thereon connected to the toggle by a loose connection—such as a rope, chain, or the like—so that the vibration of the horse-lever will draw the toggle back and forth across its center, as stated.

Having thus described my invention, what I claim as new is—

1. In a baling-press, the combination, with the traverser and a double-acting toggle, of a pivoted horse-lever and a loose connection—such as a chain—between the horse-lever and the toggle, whereby upon the vibration of the horse-lever the toggle will be pulled back and forth across the center, substantially as described.

2. In a baling-press, the combination, with a double-acting toggle and a double-acting reversible horse-lever, of a double-acting reversible connecting member secured at one end to said toggle and at the other end to the horse-lever, whereby the said toggle and the said connecting member will be drawn bodily across the center alternately from opposite sides of the press when the horse-lever is vibrated, substantially as and for the purpose set forth.

3. In a baling-press, the combination, with the traverser, of the arms E, the double-acting pitman, the double-acting horse-lever extending beyond its pivot, and the loose connection between the extended end of the horse-lever and the pitman, substantially as described.

4. In a baling-press, the combination, with the traverser, of the arms E, the double-acting pitman extending beyond the point of connection with the arms E, the double-acting horse-lever, also extended beyond its pivot, and the loose connection—such as a chain—for connecting the extended end of said pitman and horse-lever, substantially as described.

5. In a baling-press, the combination of the traverser, a double-acting pitman, arms to which the pitman is connected, a power-shaft, a horse-lever mounted on the power-shaft between the fulcrum-arms, and a loose connection—such as a chain—for connecting the pitman and horse-lever, substantially as described.

6. A power contrivance for a baling-press, consisting of a double-acting toggle, a pivoted reversible horse lever or sweep having a rounded or drum-shaped end, and a flexible connection attached at one end to the toggle and at the other to the rounded or drum-shaped end of the horse lever or sweep, all constructed as described, whereby upon the vibration of the horse-lever the said chain or rope will be caused to draw over said rounded or drum-shaped portion of the horse lever or sweep, substantially in the manner and for the purpose specified.

7. In a baling-press, the combination, with a double-acting toggle moving in a horizontal plane, of a reversible horse lever or sweep operating in a plane substantially parallel with the plane in which the toggle operates and having a rounded or drum-shaped end, and a flexible connection attached at one end to the toggle and at the other end to the rounded or drum-shaped end of the horse lever or sweep, as set forth.

PETER K. DEDERICK.

Witnesses:
C. R. DEDERICK,
W. A. SKINKLE.