(No Model.) 2 Sheets—Sheet 1.

W. HEMINGWAY.

BALING PRESS.

No. 472,049. Patented Apr. 5, 1892.

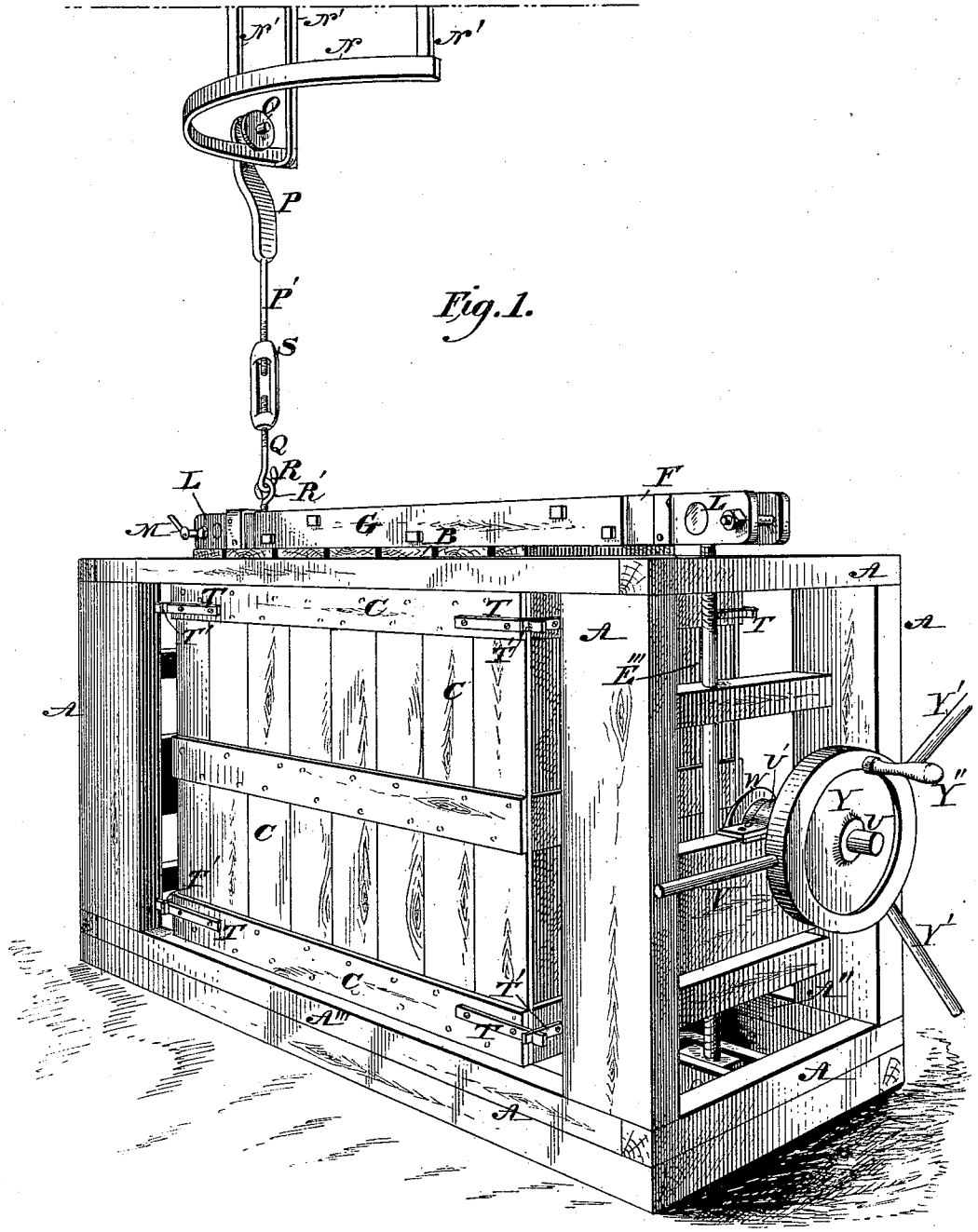

Fig. 1.

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N. V. Buckley

Inventor:
William Hemingway
per George E. Buckley
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

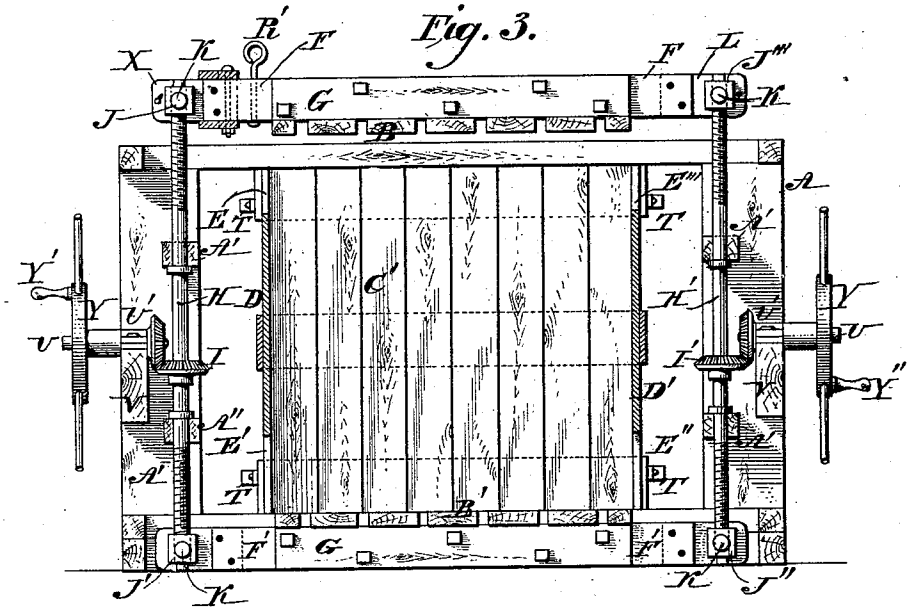

Fig. 2.

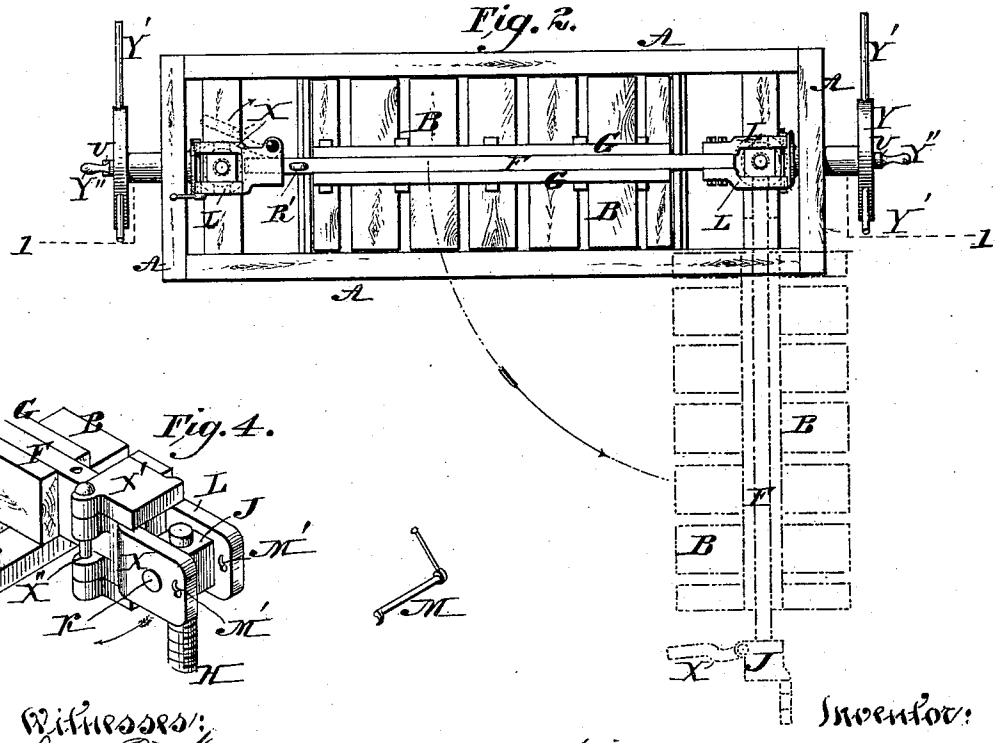

Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM HEMINGWAY, OF PHILADELPHIA, PENNSYLVANIA.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 472,049, dated April 5, 1892.

Application filed June 20, 1891. Serial No. 396,888. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HEMINGWAY, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain new and useful Improvements in Baling-Presses, of which the following is a description, reference being had to the annexed drawings, making part of the same.

My press is designed to compress masses of paper-scrap, hay, rags, and detached fibrous fragments generally into close and compact bales, and the nature of my invention will appear from the following specification and claims.

In the drawings in Sheet 1, Figure 1 is a perspective view of my device. In Sheet 2 Fig. 2 is a plan view of the press. Fig. 3 is a longitudinal vertical sectional view on the line 1 1 of Fig. 2.

A A is the frame of the machine; B B′, the upper and lower compressors; C C′, the two sides, and D D′ the ends, of the box of the press. These ends are provided with slots E E′ E″ E‴.

F F′ are two longitudinal upper and lower iron beams extending over the upper and lower compressors B B′, respectively. Each of these beams is provided on each side with longitudinal wooden bars G G, bolted to them, and the compressors, which are formed of transverse stout slats set a short space apart from each other, are screwed or bolted to the bars G G.

H H′ are vertical screw-rods set, respectively, at each end of the machine and provided with horizontal beveled cog-wheels I I′. These rods are sustained in transverse end beams A′ A′, attached to the frame A A. The screw-rods H H′ are each screw-threaded for part of their upper and lower surfaces, the threads on each being left above and right below, or vice versa, and the threaded portions are provided with female screw-threaded blocks J J′ J″ J‴, each of which is provided upon each side with round lugs or trunnions K K.

Ears L L are bolted to each end of the beams F F′ and are pierced at the sides to engage over and around trunnions K K, and each pair of ears enveloping each block J′ J″ J‴ are bolted together beyond the outer side of the enveloped block, as shown. One of the ears, (that marked X,) however, which passes around block J, is hinged at X″ inside this block, and, when the press is in use, is secured to its neighboring ear by the removable key M through the key-holes M′ M′.

A plate X′, rigidly secured to the end of beam F, projects over part of the hinged ear X and assists it in bearing any pressure coming upon it, so as to avoid straining the hinge. (See Figs. 2 and 4.) It will thus be seen that each of the beams F and F′ is pivoted upon the trunnions K at each end. H, Fig. 1, is a stationary quadrantal rail suspended from the flooring or a frame above the press by hangers N′ N′, its upper or bearing edge being free from contact with the hangers, so as to receive the tread of the grooved wheel O. This wheel is mounted on a shaft from the suspended band P, which terminates below in a left-screw-threaded rod P′. A lower rod Q is provided with a hook R and is provided above with a right screw-thread. The threaded portions of these rods are attached by the right and left female screw-threaded turn-buckle S. Hook R is adapted to engage with a ring R′, secured by a screw to the upper edge of beam F.

T T are short strips or catches secured to the upper and lower parts of the sides C C of the box.

T′ T′ are latches pivoted to the ends of the box of the press and adapted to engage over these catches T T to hold the sides in place during the operation of pressing.

U U are short end shafts mounted in bearings U′ U′ on the transverse frame-beams V V and are each provided on their inner ends with vertical beveled cog-wheels W W, which engage with the beveled cog-wheels I I′, respectively. The outer ends of these shafts are each provided with a wheel Y, with peripheral handles Y′ Y′.

Y″ Y″ are supplemental horizontal handles generally used in releasing the compressors B B′ after the operation of forming the bale is complete and there is no resistance to the reversing of the movement of the compressors.

The operation is as follows: By turning wheels Y Y so as to turn rods H H′ in the proper direction the beam F and its compressor B are raised above the plane of the frame of the machine. The turn-buckle S is

then used to lower rod Q to enable the operative to engage hook R in ring R′. The key M is then removed and the flap end of ear X is thrown back on its hinge and the beam F and compressor B are swung to one side in the direction of the arrow, (see Fig. 2,) rod H′ acting as a fulcrum. The pulley O traverses rail N until the position shown in dotted lines in Fig. 2 is reached—say at about an angle of ninety degrees to that shown in full lines. The top of the box of the press is thus open. A rough piece of bagging is then spread over the bottom of the box, and the material to be baled is dumped or thrown into the box upon this bagging, the outer edges of which lay slightly over the side beams A‴ and cover the upper surface of the bottom compressor B′. When the box is full, a piece of bagging is thrown over its top and the beam and upper compressor B are moved back into place. Ear X is again keyed against block J over the trunnion on the latter, and rod Q, which was lifted after being hooked, is again lowered, unhooked, and raised clear by turning the turn-buckle S. The wheels Y Y are now turned, so as by the mechanism shown to drive the compressors B B′ toward each other. In this movement those parts of beams F F′ above and beneath the edges of the respective ends of the box will pass into the slots E E′ E″ E‴ and permit the mass of material to be compressed to the desired extent. When this is done, the operatives unlatch and remove the sides C and pass wires from side to side over the bagging on top and under the bagging beneath through the passages left between the slats forming the compressors, each wire passing fully around the bale and being pulled taut, and the terminals of each wire are twisted together securely. When this is done—that is, when enough securing-wire has been bound about the bale—wheels Y Y are reversed, the compressors are driven in directions away from each other, and the bale is pushed sidewise from the press ready for shipment. The sides are then replaced, the upper parts moved aside, as above described, and the operation repeated. Of course the manner of applying the power to operate the screw-rods can be accomplished in many ways well known to mechanics. By the use of the double screw-thread on each rod I save much time which is consumed by the use of the ordinary hand-presses now in use and gain greatly in power of compression.

What I claim as new is—

1. In a baling-press, the combination of frame A, box C D D′, the ends of which are provided with upper and lower slots E E′ E″ E‴ and the sides of which are detachably attached in place, rods H H′, each provided with a right and left screw-thread, substantially as shown, and cog-wheel I I′, whereby they are revolved, longitudinal beams F F′, provided with upper and lower compressors B B′, secured to them, respectively, and formed of slightly-separated transverse slats, and blocks J J′ J″ J‴, engaging by female screw-threads over the male screw-threads of rods H H′, and to which blocks the beams F F′ are secured, the beam F being so secured at one end by a detachable connection X that by the freeing of this connection it can be swung clear of the block J at that point, whereby when the operation of baling is over and the bale removed, as described, the sides can be replaced, the compressor B raised above the plane of the frame of the machine, and the beam F detached from its connection with block J, and the beam F and compressor B can be swung to one side to permit the refilling of the box, all operating substantially as above described.

2. In a baling-press, the combination of frame A, box C D D′, the sides of which are detachably attached in place, rods H H′, each provided with a right and left screw-thread, substantially as shown, and cog-wheels I I′, by which they are revolved, longitudinal beams F F′, provided with upper and lower compressors B B′, secured to them, respectively, and formed of slightly-separated transverse slats, and blocks J J′ J″ J‴, to which said beams are secured by ears L L L X, setting around trunnions K, said ear X being hinged at X″ between the trunnion and its point of junction with the beam F, thus making a flap of its forward part, which is secured to the neighboring ear by a key forming a detachable connection, by the freeing of which connection ear X can be swung on its hinge clear of its block J, by which means, after the bale is complete, beam F when it and compressor B are raised above the level of the top of the frame can be swung to one side, all operating substantially as described.

In witness that the above is my invention I have hereunto set my hand.

WILLIAM HEMINGWAY.

Witnesses:

GEORGE E. BUCKLEY,

H. V. BUCKLEY.