(No Model.)

C. E. MITCHELL.

MACHINE FOR BALING SAWDUST.

No. 370,488. Patented Sept. 27, 1887.

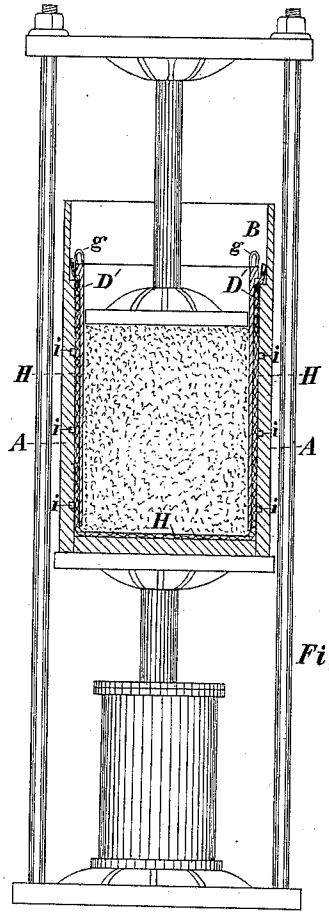


Fig. 1

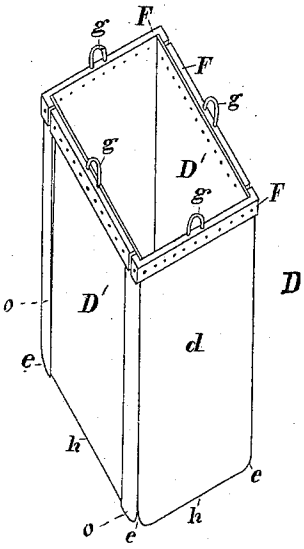


Fig. 2

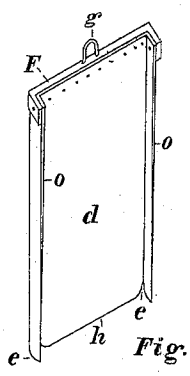


Fig. 3

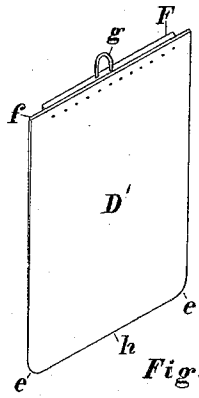


Fig. 4

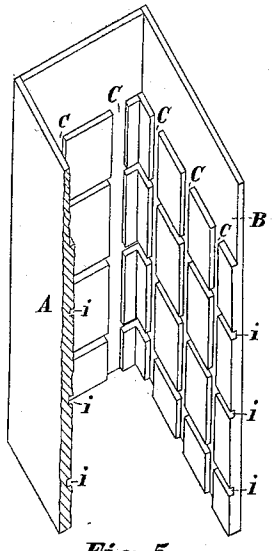


Fig. 5

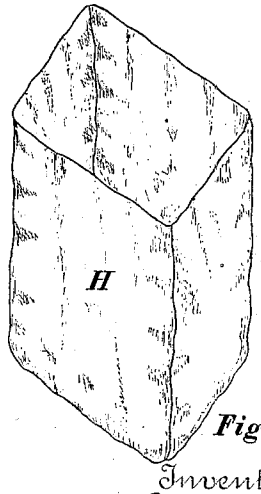


Fig. 6

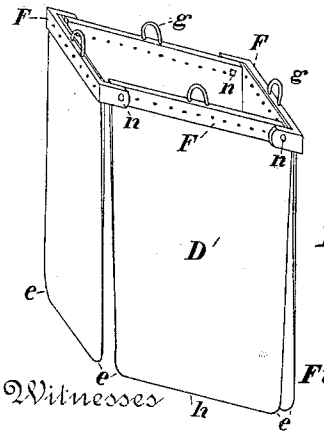


Fig. 7

Witnesses

M. K. Wardwell.

A. J. Chapman

Inventor

Charles E. Mitchell,

By his Attorney

P. H. J. Lander.

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

CHARLES E. MITCHELL, OF BANGOR, MAINE.

MACHINE FOR BALING SAWDUST.

SPECIFICATION forming part of Letters Patent No. 370,488, dated September 27, 1887.

Application filed July 11, 1887. Serial No. 243,925. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. MITCHELL, a citizen of the United States, residing at Bangor, in the county of Penobscot and State of Maine, have invented a new and useful Device for Baling Sawdust and other Fine Substances; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention consists of an attachment applicable to any hay or hydraulic press, by the means of which sawdust or other fine substances may be reduced in bulk, by being subjected to heavy pressure, and put up in bales for transportation.

Heretofore it has been difficult to bale under pressure or to reduce in any way the bulk of sawdust for mercantile use, and it is chiefly to accomplish this purpose that I have invented my device.

In the description reference is made to the accompanying drawings, in which Figure 1 represents a hydraulic press with a sectional view of my device, showing the means of pressing and baling. Fig. 2 is a perspective view of the metallic inside casing. Fig. 3 shows one end of the metallic casing and the means of strengthening and stiffening the upper edge of the same to allow of its being drawn from the press. Fig. 4 is a similar view of one side of the metallic inside case. Fig. 5 represents the crib or baling-box cut to show the inside and recesses for using slats when needed. Fig. 6 is a common bag or sack. Fig. 7 is a view of the metallic inside case having the corners open to allow the sides to expand and contract.

Similar letters refer to corresponding parts throughout the several figures.

The object of my invention is to compress sawdust into bags and tie it up into bales, so that it may be easily handled and occupy less room in transportation. I accomplish this end in the following manner.

In a common hydraulic press (any other press will do just as well) I use a crib, A, made of wood or iron. Inside of this crib I place a bag, H, and inside of the bag a metal box or case, D, without any bottom. This inside case, D, is made in four parts, as shown in Fig. 2, the sides D′, Fig. 4, being simply a metallic plate about twenty-four inches wide at the top and one-fourth of an inch thick at *f*. Both width and thickness gradually reduces until it is about one-sixteenth or one thirty-second of an inch thick and perhaps twenty inches wide at the bottom *h*. The top of this plate is riveted to a thick strip of iron, F, containing a ring, *g*, or other device, by which the side D′ is withdrawn. The ends *d* of this box or case are made of the same material and constructed in substantially the same way as the sides, except that the edges *o* of the plate turn at right angles, forming a corner, by which the sides D′ are held in place. The width of the end pieces (being about eighteen inches) is the same its entire length. The stiffening-bar F turns with the edges *o* and forms a rigid corner. This stiffening-bar F is provided with a ring, *g*, or device by which it is withdrawn, the same as the sides D′. These plates are put together, as shown in Fig. 2, forming a bottomless box or case, which is slipped inside of a burlap bag, H, Fig. 6, then placed inside of the crib A, and is ready for filling with sawdust or whatever material is to be pressed.

The lower corners of the inside case, D, are rounded, as shown, and the side pieces, being narrower at the bottom, allow the end pieces to contract, which facilitates an easy entrance into the bag H, and the corners, being rounded, prevent their catching and tearing.

The crib A is made either of wood or iron and of such a size as to just fit outside the bag and inner case, H and D. It is recessed at its upper end, B, to allow for the extra thickness of the stiffening-bar F on the case D, above which it extends. This crib A is also provided with transverse grooves *i*, through which the wires or whatever material is used for tying up the bale after pressure passes.

Fig. 7 shows a modification of my inside case, which consists of having the stiffening-bars F hinged together by a bolt passing through at *n*, the side pieces being of the same material as hereinbefore described, the only difference being that the four sides are made alike and gradually decrease in width until the bottom *h* is reached. The corners of each plate

are rounded, as before. Thus the contraction for entering the bag H is effected by simply drawing the bottom of the plates toward each other.

The operation of baling with my invention is as follows: The bottom of the metallic inner case, D, is contracted and slipped inside of the bag H. Both are then inserted in the crib A, which is then filled with sawdust (or whatever material is to be baled) and rammed. The crib A being filled is run into a press and power applied. The inside case, D, serves to hold the bag during pressure and presents a smooth surface for the molecules to slide on during compression. After the required amount of pressure is applied the inside case, D, is withdrawn by tackle and fall or other suitable means. The plates being tapering, require less power to extract them than they otherwise would if the same thickness held the entire length. The binding-wires are then passed through the holes *i i*, the front of the crib removed, and the wires confined. The bale is then released from pressure, lowered, and taken from the crib, the top of the bag H is folded over the bale and sewed. It is then ready for transportation.

It is not absolutely essential to draw the inner case, D, from the bag and crib while it is under pressure, for the crib A may be lowered, run out of the press, and the inner case, D, then withdrawn, the bale tied, sewed, and taken from the crib while another crib-full is being pressed, thus saving valuable time.

By using my device, as hereinbefore described, with a pressure of one hundred pounds to the square inch, one cord of sawdust can easily be compressed into a bag, making a bale of eighteen by twenty-four by thirty-six inches. This could easily be reduced to a smaller size by using a more powerful press.

In the crib A, I have made longitudinal grooves C (shown in Fig. 5) for the reception of slats, if at any time an article were pressed that would require slatting.

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

1. A metallic inside case having expansible sides, stiffening-bars at the tops of each side, and means whereby said case may be withdrawn, substantially as described.

2. A metallic inside case having expansible and tapering or wedge-shaped sides connected at their tops and rounded at their lower corners, the stiffening-bars, and means whereby the case may be withdrawn, substantially as shown and specified.

3. A metallic inside case having expansible and tapering or wedge-shaped sides, two of which are provided with flanges, as set forth, the stiffening-bars, and means whereby the case may be withdrawn, in combination with a crib having a recess and transverse grooves, for the purpose shown, and substantially as described.

CHARLES E. MITCHELL.

Witnesses:
W. C. PITMAN,
WM. H. WHITE.