

E. R. MURDOCK.
 Machine for Pressing Straw, Corn Stalks, &c.,
 for Fuel.

No. 201,820.

Patented March 26, 1878.

Fig. 1.

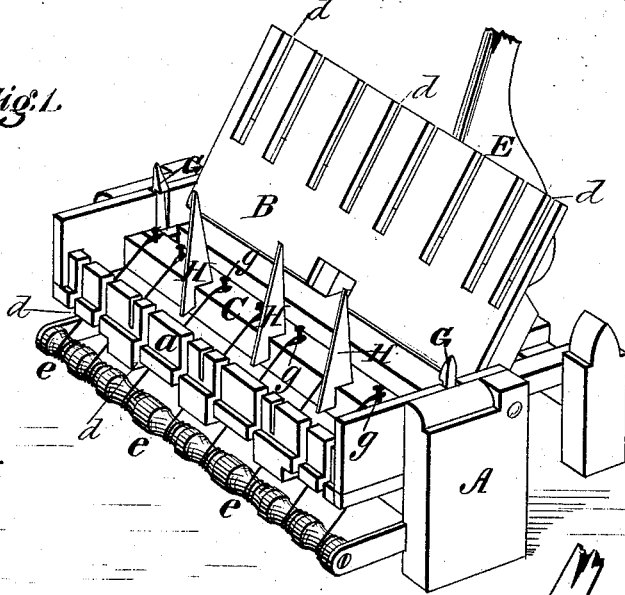


Fig. 2.

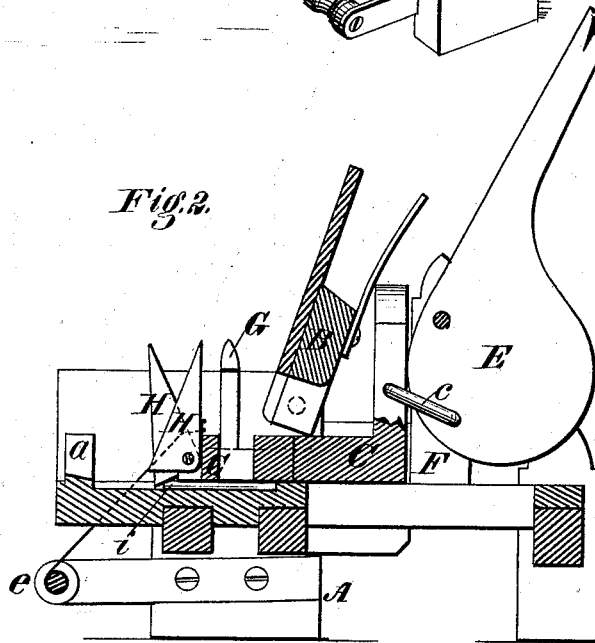
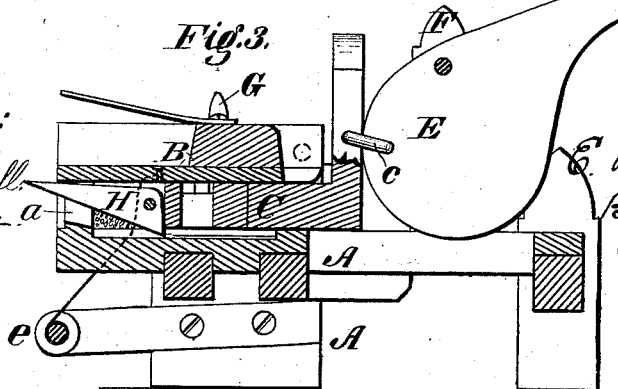


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

EDWIN R. MURDOCK, OF YORK, NEBRASKA, ASSIGNOR OF TWO-THIRDS HIS RIGHT TO GEORGE W. WILLIAMS, SR., OF EAU CLAIRE, WISCONSIN, AND RACHEL GODDING, OF BEAVER CROSSING, NEBRASKA.

IMPROVEMENT IN MACHINES FOR PRESSING STRAW, CORN-STALKS, &c., FOR FUEL.

Specification forming part of Letters Patent No. 201,820, dated March 26, 1878; application filed February 15, 1878.

To all whom it may concern:

Be it known that I, EDWIN R. MURDOCK, of York, in the county of York and State of Nebraska, have invented certain Improvements in Preparing Straw, Corn-Stalks, &c., for Fuel, of which the following is a specification:

This invention is designed for the purpose of pressing and forming straw, hay, corn-stalks, brush, or similar material into small blocks for use as fuel, the machine being intended for use in those well-known sections of the country in which wood and coal exist in very limited quantities, the special object of the invention being to provide a machine by which straw, stalks, and other long material may be pressed, and at the same time cut into blocks or pieces of short length suitable for use in ordinary stoves; and to this end the invention consists in the combination, in one machine, of a presser head or heads and one or more knives arranged to sever the material while being subjected to or held under pressure, and also in various details of construction, to be hereinafter more fully described.

Figure 1 represents a perspective view of my machine with the lid or top opened and two of the knives elevated, the parts being arranged in position to admit the introduction of the material to be operated upon. Fig. 2 represents a vertical cross-section of the machine, the parts in the same position as in Fig. 1; Fig. 3, a vertical cross-section of the machine, showing the material under pressure and the knives in their operative positions.

A represents the solid base-frame of the machine, provided at the front with an upwardly-extending side or edge, *a*, and also provided with a top or cover, B, hinged to its rear end in such manner that it may be turned upward to permit the introduction of the materials to the machine.

C represents a horizontal sliding presser-head, arranged to enter the rear side of the body between the bed-plate and the cover, bearing at its rear end against an eccentric-lever, E, mounted in a rigid standard, F, on the main frame. The material to be pressed

being introduced between the front edge of the bed and the presser-head, and the top or cover being turned down, the material is confined closely in place, and then, upon the lever being depressed, the advance of the presser-head compresses the material solidly and compactly between said head and the front of the bed.

For the purpose of holding the top or cover down in position during the pressing operation, two spring-catches, G, are mounted in the sides of the frame, and arranged to engage over the end of the lid or cover when it is turned down, as shown in Figs. 1 and 3.

For the purpose of retracting the presser-head after the completion of the pressing operation, a link or other connection, *c*, is used between the head and the lever, as shown in Figs. 2 and 3, so that as the lever is elevated the head is drawn back.

For the purpose of cutting or separating the material into blocks or sections of suitable length, one or more knives, H, of a tapering or wedge-like form, are pivoted at their large ends in vertical slots in the front of the presser-head, as shown in Figs. 1, 2, and 3; the arrangement of the knives being such that when the machine is to be filled they may be turned to an upright position, as shown in Figs. 1 and 2; but after the introduction of the material their points or ends may be turned down upon the material, in which position they are retained by the lid or top when it is closed down upon them, as shown in Fig. 3.

It will be observed that prior to the introduction of the material into the machine the presser-head and knives are drawn back, and that the points of the latter are subsequently turned down so as to rest upon the material, which lies underneath the forward portion of the knives, as shown in Fig. 3, so that as the presser-head is advanced and forces the knives forward the lower edges of the latter are caused to cut with a shearing action down through the mass of material, severing the same into short blocks or lengths.

In order that the blocks or lengths may be readily bound while under pressure, vertical

slots *d* are cut through the bed-plate and cover from the front of the same backward, as shown in the drawings.

A line of spools, *e*, is mounted below the bed, at its front, as shown in the drawing, to carry the wires, cords, or other binding material, a spool of which is arranged below each slot.

On the presser-head there are a series of pins or studs, *g*, extending upward, one in each of the slots in the cover.

Before introducing the material into the machine, the wire or cord is passed over each spool upward through the corresponding slot, and attached to the corresponding pin on the presser-head, as shown in Fig. 2.

After the compression and separation of the material into blocks is completed, each wire is loosened at its end from the stud or pin, drawn forward through the slot over its respective block, and united to itself again at the front, and then severed from the main body of wire. After all the wires have been fastened the presser-head is drawn back, the lid raised, the knives elevated, and the completed bound bundles removed from the machine.

In order that the knives may be elevated automatically when the presser-head is retracted, I provide the bed with studs *i*, against which the knives engage when drawn back, and which serve to force the knives upward, as shown in Fig. 2.

While it is preferred to construct the machine as above described, the form and arrangement of the parts may be modified in many respects, if desired, the essential feature of the invention consisting in the combination of a presser-head and knives in such manner that the material may be automatically compressed and cut into lengths, and this whether

the two operations are performed at the same time or successively.

By arranging the knives with their points at the bottom of the space in which the material is placed, instead of at the top of the same, as shown, the necessity of pivoting them will be overcome, and they may then be attached rigidly to the presser-head, in which case the material will be laid upon them when placed in the machine, the knives in this instance cutting upward instead of downward.

Having thus described my invention, what I claim is—

1. In a press for preparing straw, &c., for use as fuel, the combination of a sliding presser-head and one or more automatic knives for dividing the material into short lengths or blocks.

2. In a fuel-press, the combination of an enclosing body or frame, a sliding presser-head therein, and one or more knives connected with the head and arranged to operate in connection therewith, substantially as shown, whereby the two operations of cutting and pressing the material are performed automatically.

3. In a fuel-press, a series of knives or blades arranged to divide the entire body of material contained in the press into small blocks or lengths at a single operation, substantially as shown and described.

4. The combination of the bed A, lid or top B, presser-head C, and knives H.

5. In combination with the knives pivoted to the movable head, the studs or pins to elevate the knives when they are drawn back.

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Witnesses:

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