No. 733,691. PATENTED JULY 14, 1903.

J. H. BAKER.

FEED BOX FOR WOOD CHIPPING MACHINES.

APPLICATION FILED APR. 13, 1903.

NO MODEL.

Fig. 1.

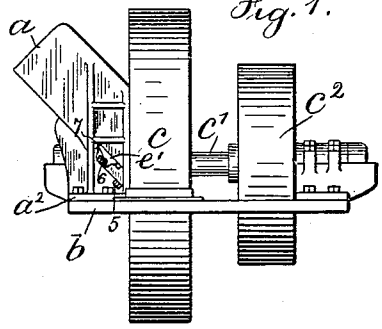


Fig. 4.

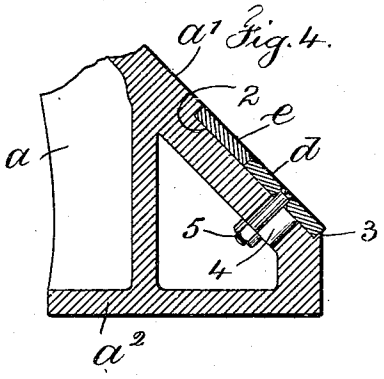


Fig. 3.

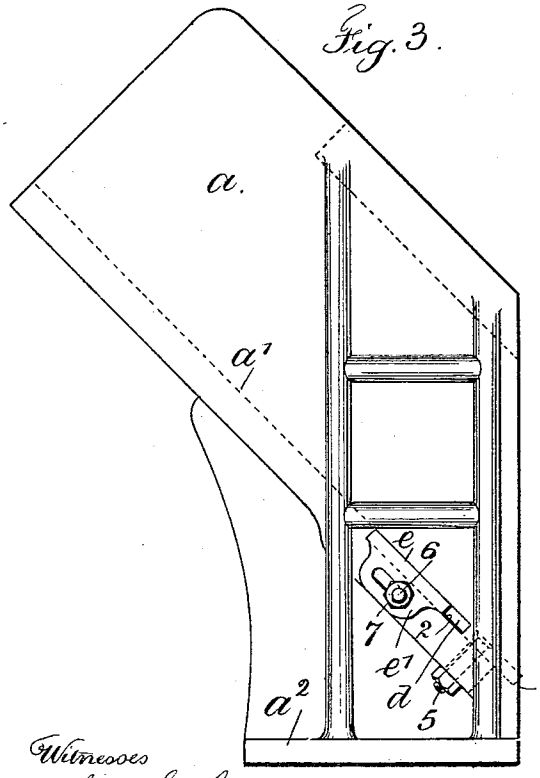
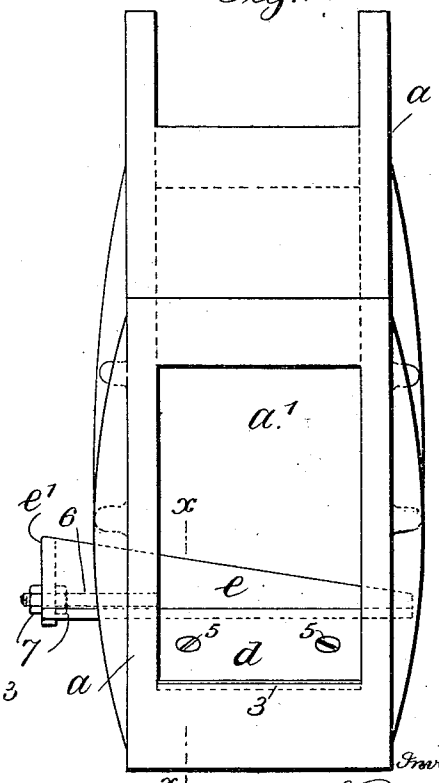


Fig. 2.



Witnesses
Chas. A. Smith
J. Staib.

Inventor
James H. Baker.
per Harold Sirrell
Atty

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 733,691. Patented July 14, 1903.

UNITED STATES PATENT OFFICE.

JAMES H. BAKER, OF SARATOGA SPRINGS, NEW YORK, ASSIGNOR TO BAKER & SHEVLIN COMPANY, OF SARATOGA SPRINGS, NEW YORK, A CORPORATION OF NEW YORK.

FEED-BOX FOR WOOD-CHIPPING MACHINES.

SPECIFICATION forming part of Letters Patent No. 733,691, dated July 14, 1903.

Application filed April 13, 1903. Serial No. 152,328. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. BAKER, a citizen of the United States, residing at Saratoga Springs, in the county of Saratoga and State of New York, have invented an Improvement in Feed-Boxes for Wood-Chipping Machines, of which the following is a specification.

Heretofore in this class of machines the bed-knife, against which the chipper-disk acted in cutting up the blocks of wood preparatory to their introduction into the digester in the process of making paper-pulp, has been a fixed piece in the lower part of the feed box or hopper, only one edge of which was used. When the edge of this bed-knife became dull, it was reground, and when replaced in the feed-box it was necessary to put in shims behind the bed-knife to hold it in position.

The object of my invention is to overcome this difficulty and produce a knife of increased useful life and one readily adjustable to position.

My improvement comprises a knife adapted to be overturned and reversed, a feed-box having a knife-recess and a lip against which the edge of the knife bears, and a wedge device both for holding the knife in position and which is adjustable to be set up against the knife as the same is reduced by grinding, all of which are hereinafter more particularly described.

In the drawings, Figure 1 is an elevation generally representing a wood-chipping machine. Fig. 2 is an end elevation, and Fig. 3 a side elevation, representing my improved feed-box for wood-chipping machines; and Fig. 4 is a section on the line $x\,x$ of Fig. 2 of part of the feed-box.

The feed box or hopper a is provided with an inclined bed portion a' between the side walls and with a base a^2 below the inclined bed, connected thereto by a supporting-web, the said feed box or hopper being connected at the base a^2 to the bed b of a wood-chipping machine, such as shown generally in Fig. 1. In this latter figure c represents the case of the chipper-disk, c' the shaft, and c^2 the driving-pulley. In the inclined bed a' near the lower edge there is a recess 2, the lower end of which at the junction thereof with the vertical inner face of the box has a lip 3. This recess 2 receives the knife d and the wedge device e. The knife d fits between the side walls. Its upper surface is to be flush or in the same inclined plane with the surface of the bed a'. In this recess the uppermost edge of the front of the knife forms the cutting edge and is appreciably above the edge of the lip 3. There are mortises 4 through the bed a', arranged lengthwise thereof, and bolts 5 pass through apertures in the knife, the opposite ends of which are countersunk for the heads of the bolts, the bolts passing through the mortises, so as to hold the knife securely down in position in the recess against the bed, the nuts of the bolts coming against the under surface of the bed. (See especially Fig. 4.) The knife is of rectangular configuration, with two parallel edges and four cutting edges or corners, all of which are to be ground so as to be quite sharp. This knife is adapted to be overturned and reversed. Considering Fig. 4, if the cutting edge presented becomes dull the strain on the wedge is let up to loosen the wedge, the nuts of the bolts 5 are unscrewed, and the bolts removed. The plate is then overturned, so as to bring the edge which previously had been in the recess against the lip 3 into position, after which the wedge is again tightened. When this edge becomes dull, the plate is reversed, so as to bring first one and then the other of the opposite edges into position for use. Thus four cutting edges are provided in the one knife structure, all of which can be employed in the process of cutting up the blocks of wood and producing the necessary chips in the process of paper-pulp making before it is necessary to regrind the knife, and when the knife is once reground at the four edges they can all be again used in the cutting process before a second regrinding is necessary, the knife being overturned and reversed, as hereinbefore described.

Besides the bolts 5 in the mortises 4 I employ a wedge device e, fitting between the uppermost edge of the knife and an inclined edge of the bed a'. This wedge device is provided at its widest portion with an angular end e', bent over at right angles to the main

wedge-blade. In this end e' there is a mortise and in the feed-box a a stem or stud-bolt 6, permanently fastened and which stem passes through the mortise of the end e' and is threaded at its free end for nuts 7, which are screwed thereon and which in their employment come at opposite sides of the end e'. It is preferable in the employment of the wedge device to drive the same into position, so as to hold the knife firmly against the lip 3. The application of the nuts 7 then locks this wedge device in position, and the bolts 5 hold the knife firmly to the bed. The wedge device is capable in use of taking up any reasonable amount of wear from regrinding the opposite cutting edges of the knife. The knife is readily removed and placed in the desired position, which position is positively fixed in the feed-box by the lip 3 of the recess, and by the bolts 5 and the wedge device e said knife is positively held to the feed-box, and it is not necessary to employ any additional devices in the placing or holding of the knife in position.

I claim as my invention—

1. In a feed-box for wood-chipping machines, the combination with an inclined bed having a recess, of a knife received in the recess, devices for holding the knife firmly to the bed, and a wedge device back of the knife and adjustable for placing the knife in the desired position, and means for holding the wedge device as set.

2. In a feed-box for wood-chipping machines, the combination with an inclined bed having a recess therein and a lip to the recess at the lowermost portion thereof, of a knife adapted to fit the recess between the side walls of the feed-box and having parallel edges to be ground so as to produce four cutting edges and adapted to be overturned and reversed, means for removably connecting the said knife to the bed of the feed-box, and adjustable devices extending across the bed of the feed-box for holding the knife in position and firmly against the aforesaid lip.

3. In a feed-box for wood-chipping machines, the combination with an inclined bed having a recess therein and a lip to the recess at the lowermost portion thereof, of a knife adapted to fit the recess between the side walls of the feed-box and having parallel edges to be ground so as to produce four connecting edges and adapted to be overturned and reversed, and bolts 5 passing through the knife and through mortises in the bed of the feed-box, and a wedge device passing across the feed-box also in said recess with one edge of the wedge device against an edge of the knife and the opposite edge against the inclined edge of the recess for setting up the knife.

4. In a feed-box for wood-chipping machines, the combination with an inclined bed having a recess therein and a lip to the recess at the lowermost portion thereof, of a knife adapted to fit the recess between the side walls of the feed-box and having parallel edges to be ground so as to produce four cutting edges, and adapted to be overturned and reversed, bolts 5 passing through the knife and through mortises in the bed of the feed-box, a wedge device passing across the feed-box also in said recess with one edge of the wedge device against an edge of the knife, and the opposite edge against the inclined edge of the recess for setting up the knife, said wedge device having an angular end with a mortise, a stem or stud-bolt secured in the feed-box with a threaded free end passing through said mortise in the wedge device, and nuts on the ends of the stem for locking the wedge device in position.

Signed by me this 6th day of April, 1903.

JAMES H. BAKER.

Witnesses:

WILLIAM J. DELANEY,

CHAS. F. FLAMMER.