

(No Model.)

H. F. CASE & E. L. GRANGER.

BED PLATES FOR PAPER ENGINES.

No. 248,707.

Patented Oct. 25, 1881.

Fig. 1.

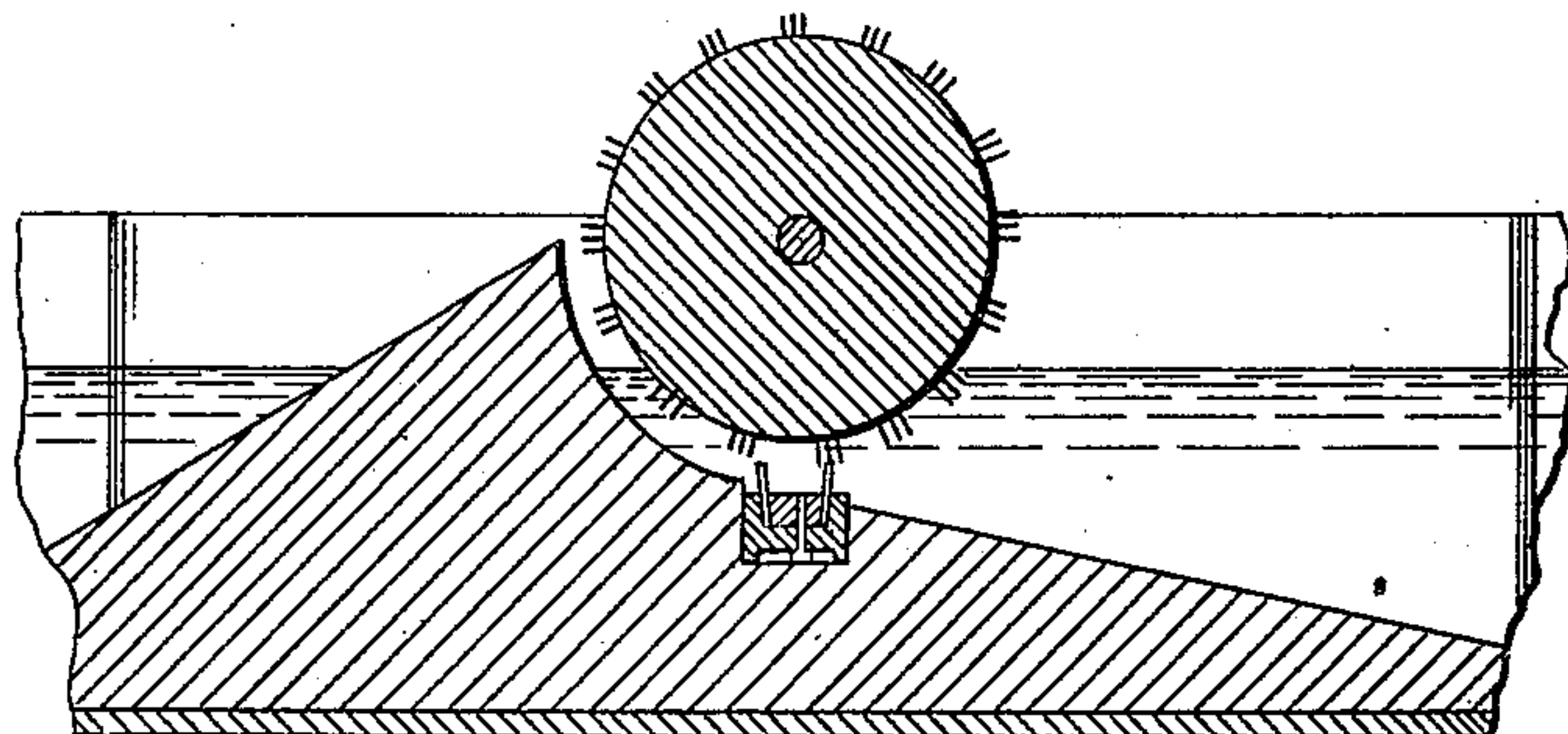


Fig. 2.

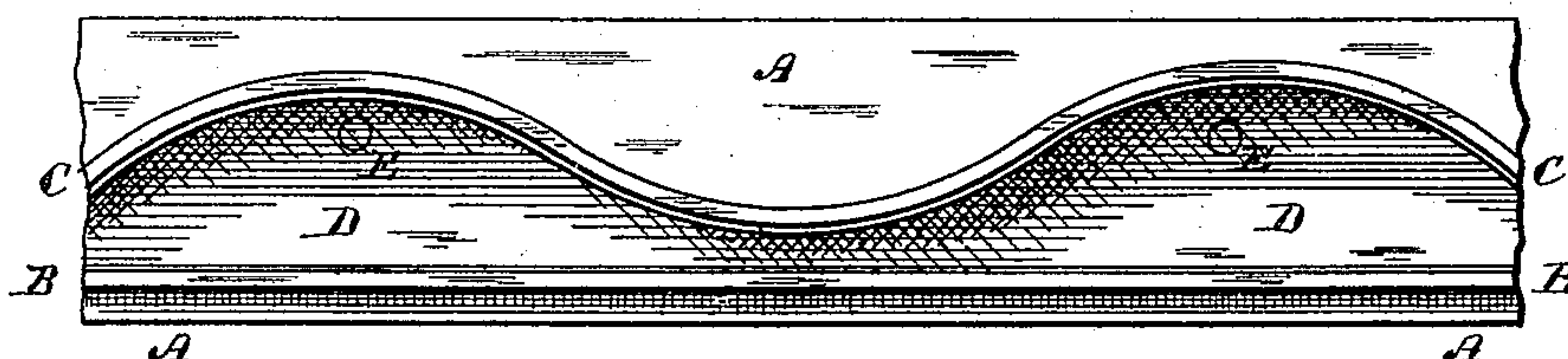
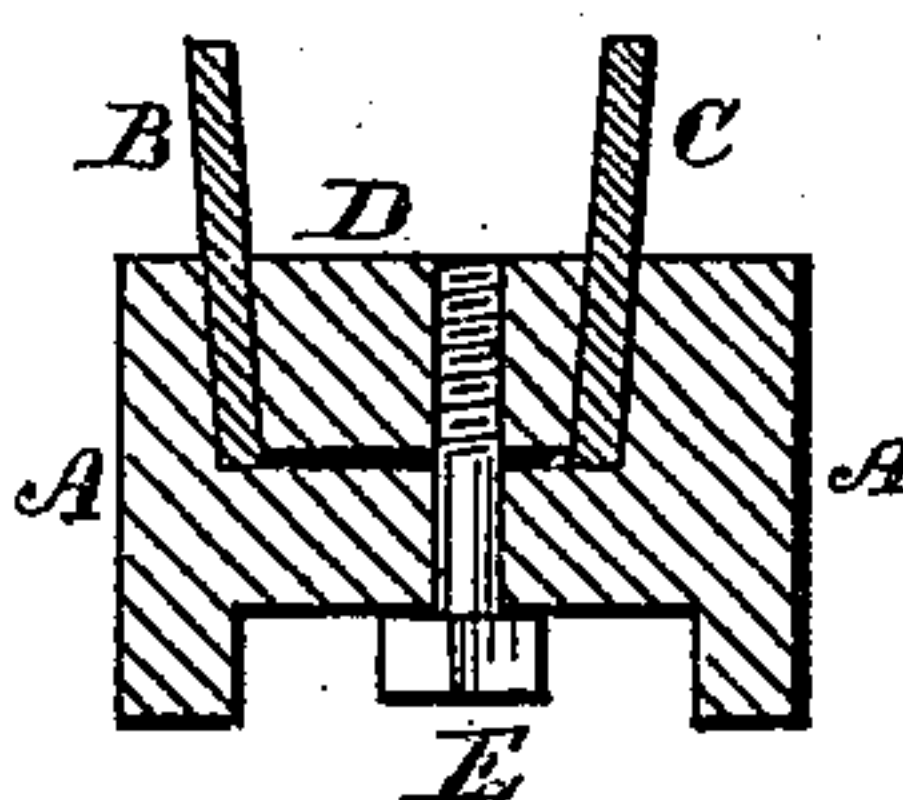


Fig. 3.



Witnesses.

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BED-PLATE FOR PAPER-ENGINES.

SPECIFICATION forming part of Letters Patent No. 248,707, dated October 25, 1881.

Application filed September 8, 1881. (No model.)

To all whom it may concern:

Be it known that we, HENRY F. CASE and EDWARD L. GRANGER, of South Manchester, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Bed-Plates for Paper-Engines; and we do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

Our invention relates to what are generally known as "paper-engines," being sometimes called "washing-engines" and "beating-engines," according to the work they are intended to perform. In them the paper-stock is reduced to pulp by being carried round and round in a vat, each time passing between cutters, the upper ones of which are attached to a revolving cylinder and the lower ones are attached to and form part of what is called the "bed-plate."

It is especially to the construction of the bed-plate and cutters that our invention applies.

The object of our improvement is to provide a better method of securing the cutters to the bed-plate, and in consequence of this new method of construction and attachment to be enabled to make use of a more efficient form of cutter than has heretofore been in use.

The cutters heretofore employed have either been set in zigzag form inclined to the cutters on the cylinder, or have reached from end to end on a slight angle, in order to shear the material which passes between the edges. They have been made in blocks bolted laterally together, or have been separated by wooden blocks. When bolted directly together the upper edges have been beveled or chamfered on the backs, so as to form a series of cutting-edges of the separate plates. With the common construction the spaces between the plates have had a tendency to become filled up, and thereby act as a brake upon the cylin-

der, causing great friction and keeping the cutting-edges from operating properly. The plates have also not been strongly and securely fastened in their places, having a tendency to become loose unless a large number were used together.

In the accompanying drawings, illustrating our invention, Figure 1 is a section through the cylinder and bed-plate of a paper-engine, showing the general relation of the parts. Fig. 2 is a top view of a part of one of our improved bed-plates. Fig. 3 is a cross-section of the same through one of the attaching-bolts.

A is the body of the bed-plate, which is intended to be set in the frame of the machine and securely held in any customary manner.

B and C are cutters. The cutter B is shown as straight from end to end of the bed-plate. The cutter C is shown of an improved form, running across the machine in a winding or serpentine direction. This form is preferable to a zigzag made up of separate pieces in the usual manner, as there is no break in the continuity of the edge, and can be readily made from a straight bar. Our improved construction for holding permits of this form being used, whereas, by the methods heretofore used, it could not be held in place. The cutters B and C are set in a recess in the top of the bed-plate A, the outside edges of which are wider apart than the bottom, so that the cutters incline outward, as shown in Fig. 3.

D is a block of the same form as the recess, but narrower by about the thickness of the cutting-blades. It is made so as to wedge in between the cutters, and when forced down clamp them firmly against the sides of the recess in the bed-plate.

E E are screw-bolts passing up through the bottom of the bed-plate and working in hollow threads in the block D. These screws are made sufficiently strong to bind the block D firmly down and clasp the cutting-blades so as to force them into their proper shape. The space between the cutters is left deep and smooth, so that none of the material operated upon will be likely to lodge there, and the wide space between the blades offers a free chan-

nel to pass along the inclined portions of the curved blad and over the most salient parts.

What we claim as our invention is—

1. In a bed-plate for a paper-engine, the
5 combination of the body A, the block D, and the bolts E, whereby the cutters are firmly held and clamped in position, substantially as described.

2. The combination of the curved cutter C, the straight cutter B, and the devices A D E 10 for holding them, substantially as described.

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