

J. T. COLLINS.
 APPARATUS FOR MAKING SHINGLES FROM PAPER PULP.
 APPLICATION FILED MAY 13, 1908.

928,501.

Patented July 20, 1909.

Fig. 1.

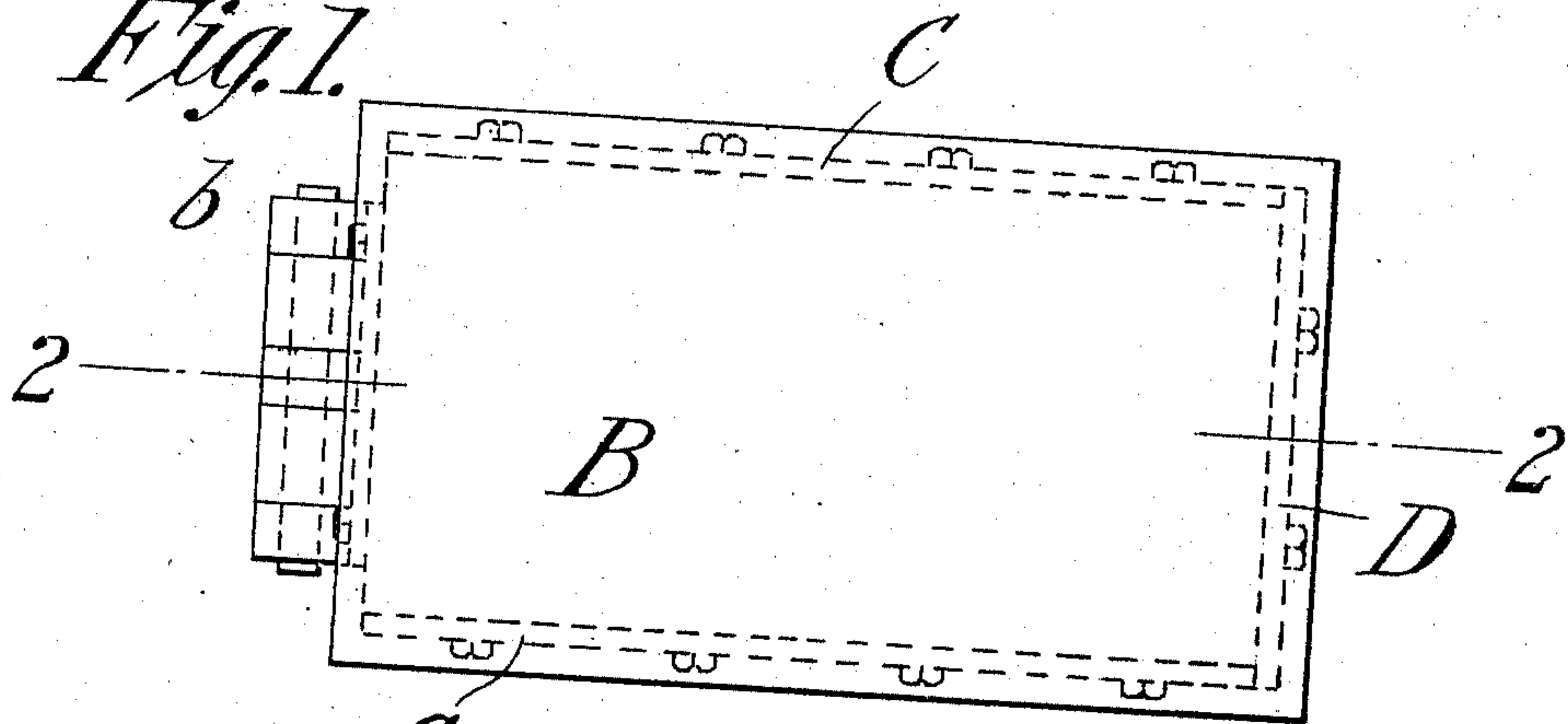


Fig. 2.

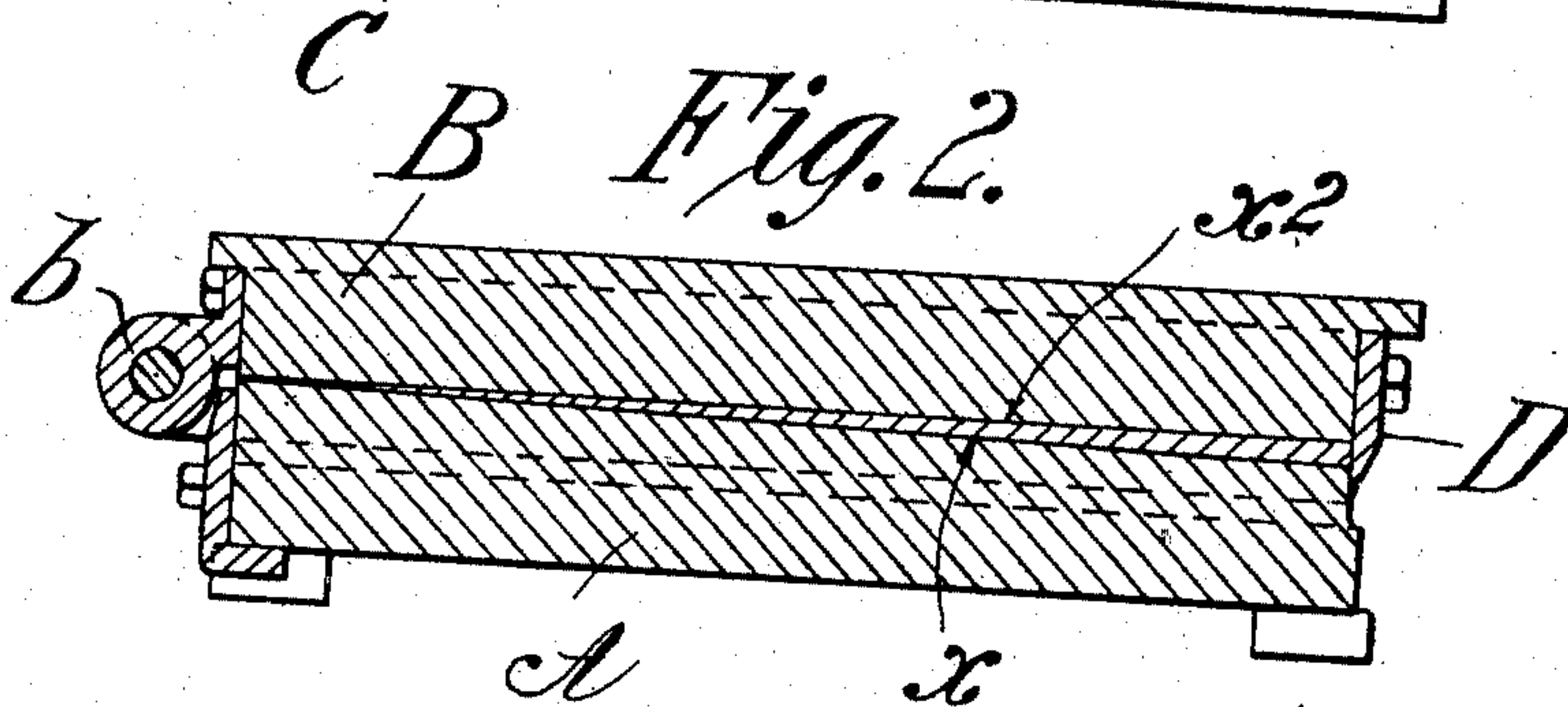


Fig. 3.

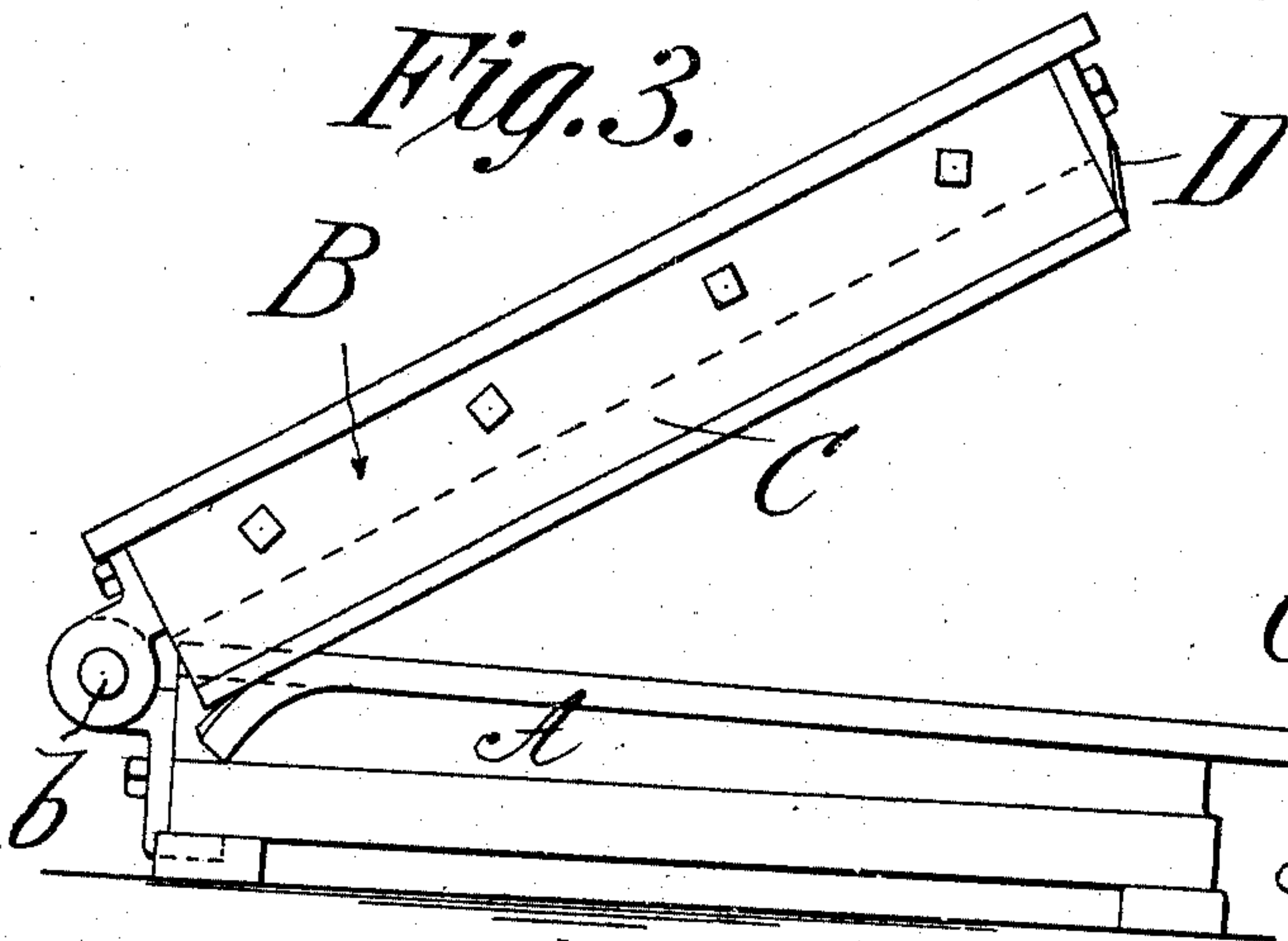


Fig. 4.

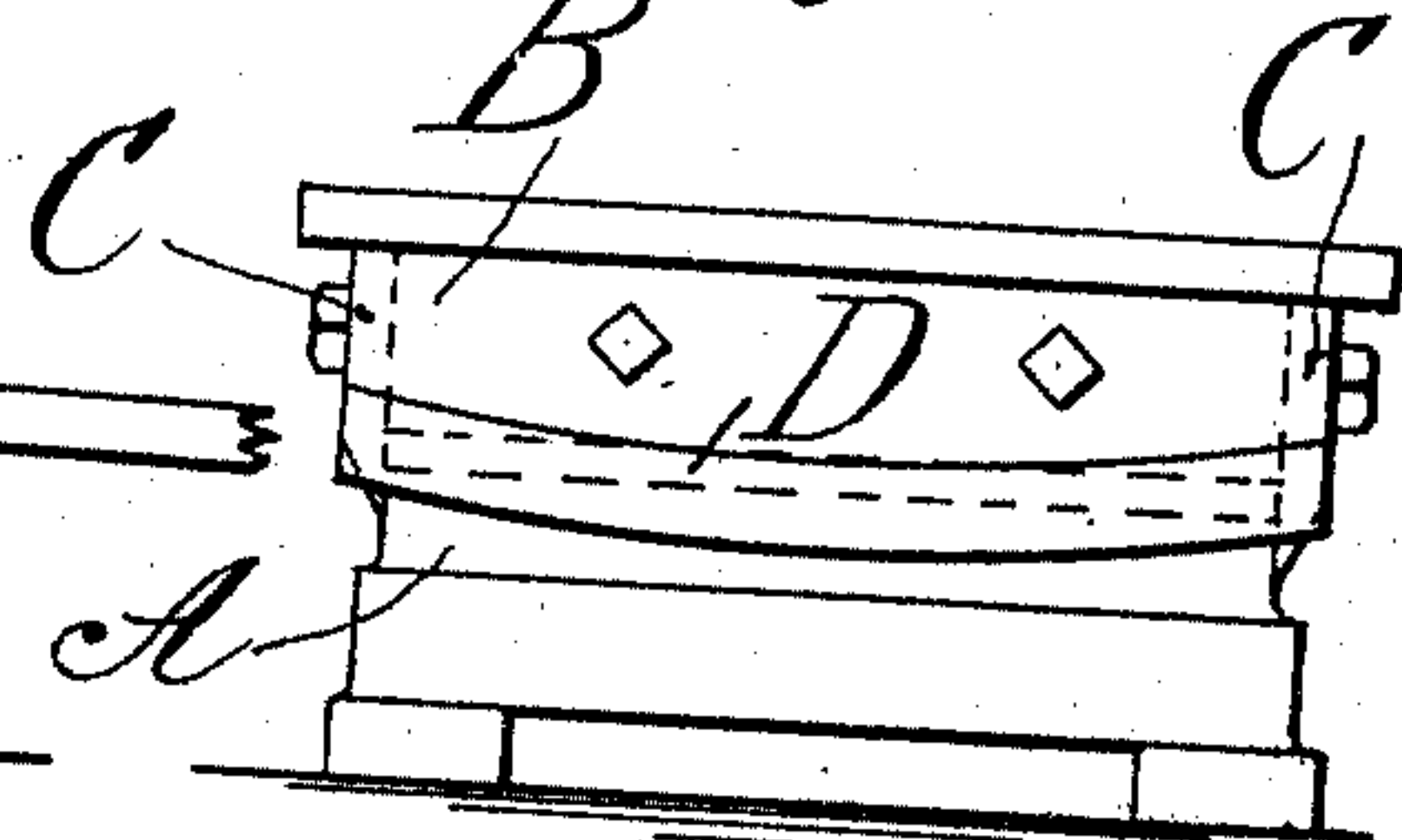
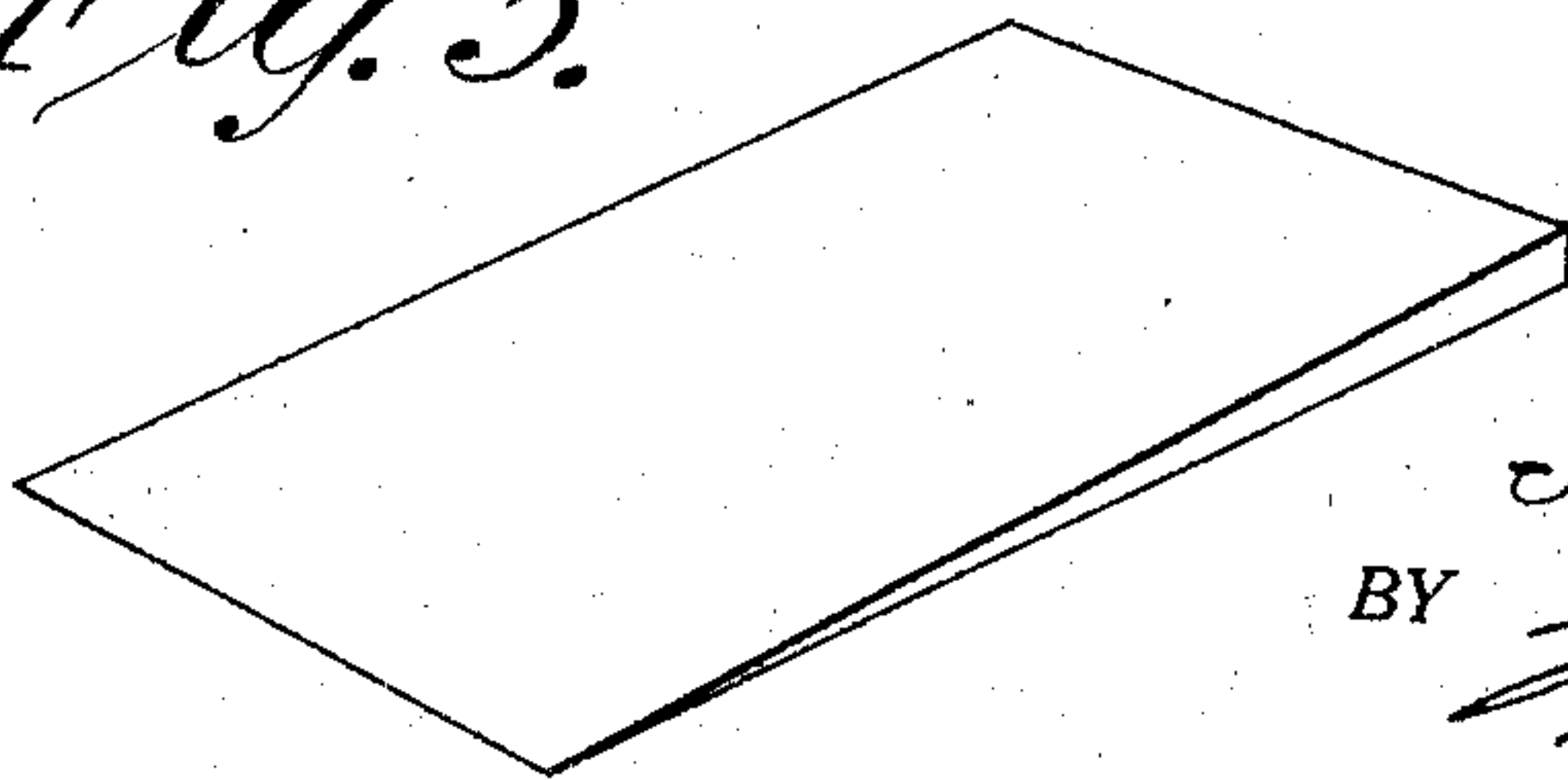


Fig. 5.



WITNESSES:

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APPARATUS FOR MAKING SHINGLES FROM PAPER-PULP.

No. 928,501.

Specification of Letters Patent.

Patented July 20, 1909.

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To all whom it may concern:

Be it known that I, JOHN T. COLLINS, a citizen of the United States of America, and resident of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Apparatus for Making Shingles from Paper-Pulp, of which the following is a full, clear, and exact description.

10 The object of this invention is to devise means for the production of shingles from sheeted paper pulp, and the invention consists in a pair of relatively movable dies of rectangular form having plane faces, which, 15 in the closed relations of the dies, are inclined one to the other corresponding to the taper of the shingle, and blades at one end and at opposite sides, each carried by one of the dies for cutting out a portion from 20 a pulp sheet for constituting a shingle which, by the compression of the dies thereon makes a shingle of the usual shape.

The apparatus is illustrated in the accompanying drawings, in which,—

25 — Figure 1 is a plan view of the dies closed; Fig. 2 is a central longitudinal section as taken on line 2—2, Fig. 1; Fig. 3 is a side elevation, the movable die being represented as partially open; Fig. 4 is an end view of 30 the dies in closed relations; and Fig. 5 is a perspective view of the shingle.

Similar characters of reference indicate corresponding parts in all of the views.

In the drawings A represents a rectangular base or bed die and B an upper die of 35 corresponding form and dimensions, such dies being connected at their ends by a heavy and strong hinge *b*. The working faces α and α^2 of the base die and upper movable 40 die are, when the dies are closed as shown in Fig. 2, slightly inclined, one in relation to the other and toward their hinged end corresponding to the taper of the shingle to be produced. The movable die has opposite 45 side blades C C secured to the edges, and extending the whole length of the body of the upper die and such upper die also has a transversely arranged blade D, made with a convex cutting edge, at its end which is the 50 farther from the hinge, said blades having shearing actions, as the one die is closed toward the other in conjunction with the

edges of, and at the opposite sides and outer end of the base die.

In making shingles by the utilization of 55 the above described apparatus, I employ paper pulp which has been produced in sheet form having a thickness as great, or slightly greater than the thickness of the shingle at its butt end, which sheeted pulp preparatory 60 to being subjected to the action of the dies is softened by steaming, or otherwise moistening, and the sheet of pulp is introduced and properly positioned on the bed die while the upper die is moved to its fully opened 65 position, that is one in which the movable die is about perpendicular to the lower die; then by imparting a closing action to the upper die the moistened sheeted paper pulp is compressed, comparatively slightly at the 70 end of the dies farthest from the hinge, and increasingly toward the hinge, and the opposite longitudinal edges of the shingle, and its butt end are squarely trimmed by the shearing actions of the blades C C and D. 75 The straight edged blades C C naturally exert the shearing action for cutting out or trimming the shingle as apparent in Fig. 3, while an efficient shearing action by the end blade D is acquired by making it with its 80 edge contact as particularly shown in Fig. 4. The shingle produced by these dies is one in which the pulp in the sheet may be of uniform thickness, and the manufactured shingle has the substance from which it is 85 composed compressed to greater density at its attenuated portion than at its thick end.

I claim:—

1. In an apparatus for the purpose described, the combination of a rectangular 90 base die, and a movable rectangular upper die which at its one end is hinge connected to the end of the base die, the approaching faces of said dies being inclined one in relation to the other, toward their hinged ends, 95 corresponding to the taper of the shingle, the movable die having opposite side blades and a transversely arranged blade at its end opposite its hinged end, said blades coacting with the edges of the base die at the opposite 100 sides and outer end of such die.

2. In an apparatus for the purpose described, the combination of a rectangular base die and a movable rectangular upper

die, hinge connected to the end of the base die, the faces of said dies being inclined one in relation to the other, toward their hinged ends, the movable die having opposite side blades, and a transversely arranged blade, having a convex cutting edge, at its end farther from its hinged end, said blades having shearing actions in conjunction with

the edges at the opposite sides and outer end of the base die.

Signed by me at Springfield, Mass., in presence of two subscribing witnesses.

JOHN T. COLLINS.

Witnesses:

WM. S. BELLOWS,
G. R. DRISCOLL.