No. 666,178. Patented Jan. 15, 1901.

E. S. BRADFORD.

MACHINE FOR REDUCING PITHY PLANTS.

(Application filed Dec. 21, 1899.)

(No Model.)

Fig. 1.

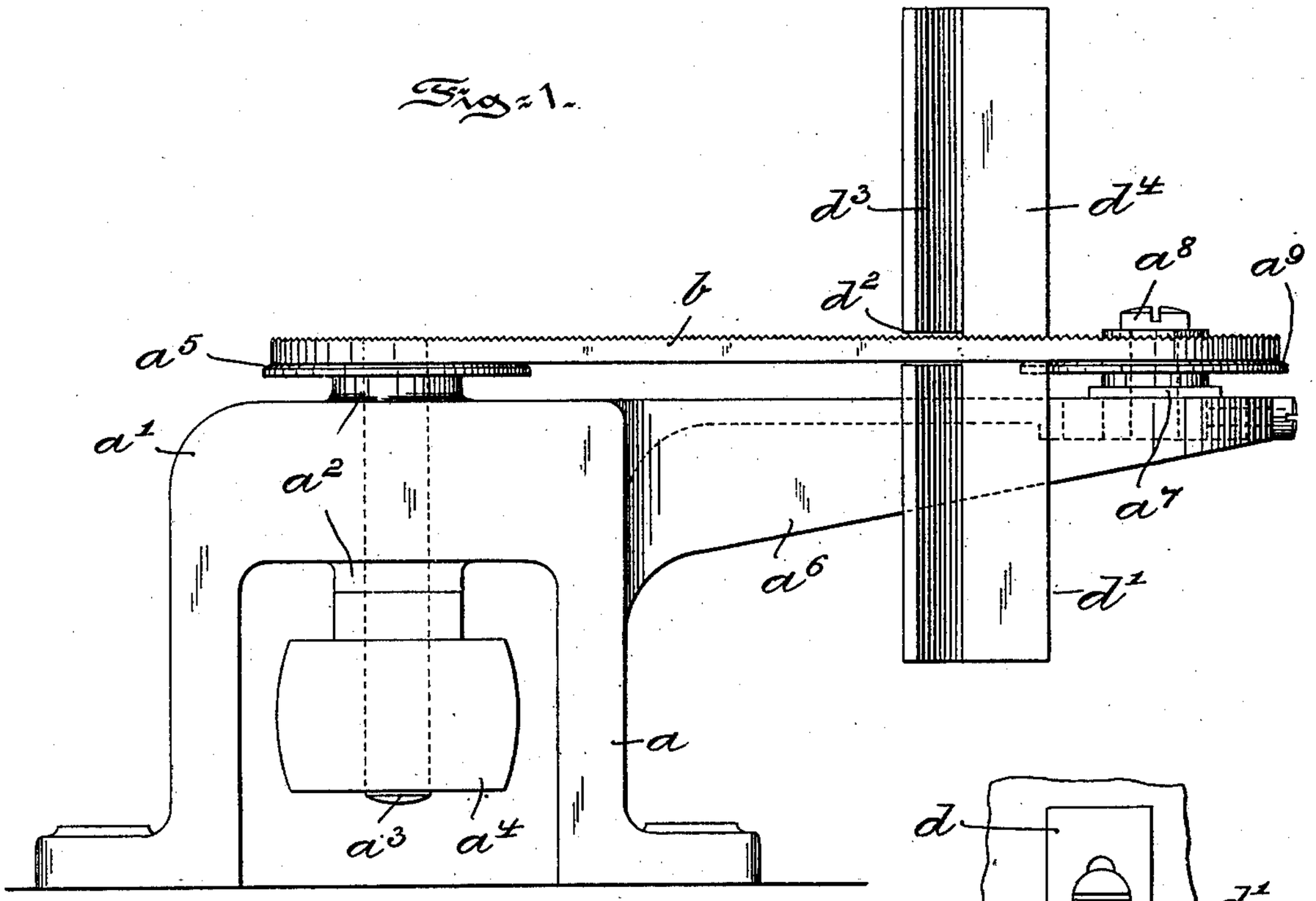


Fig. 3.

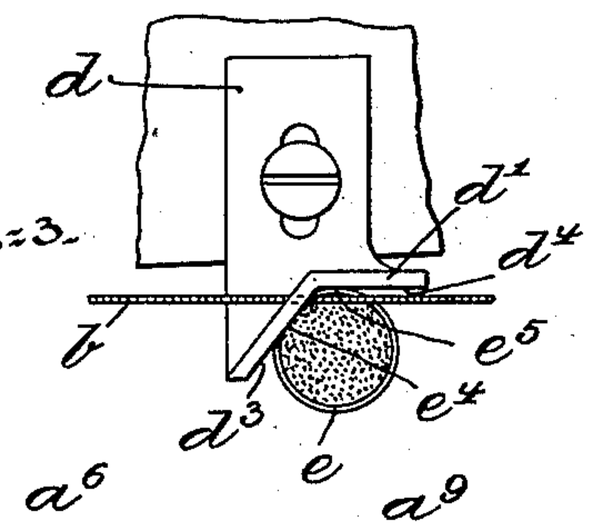
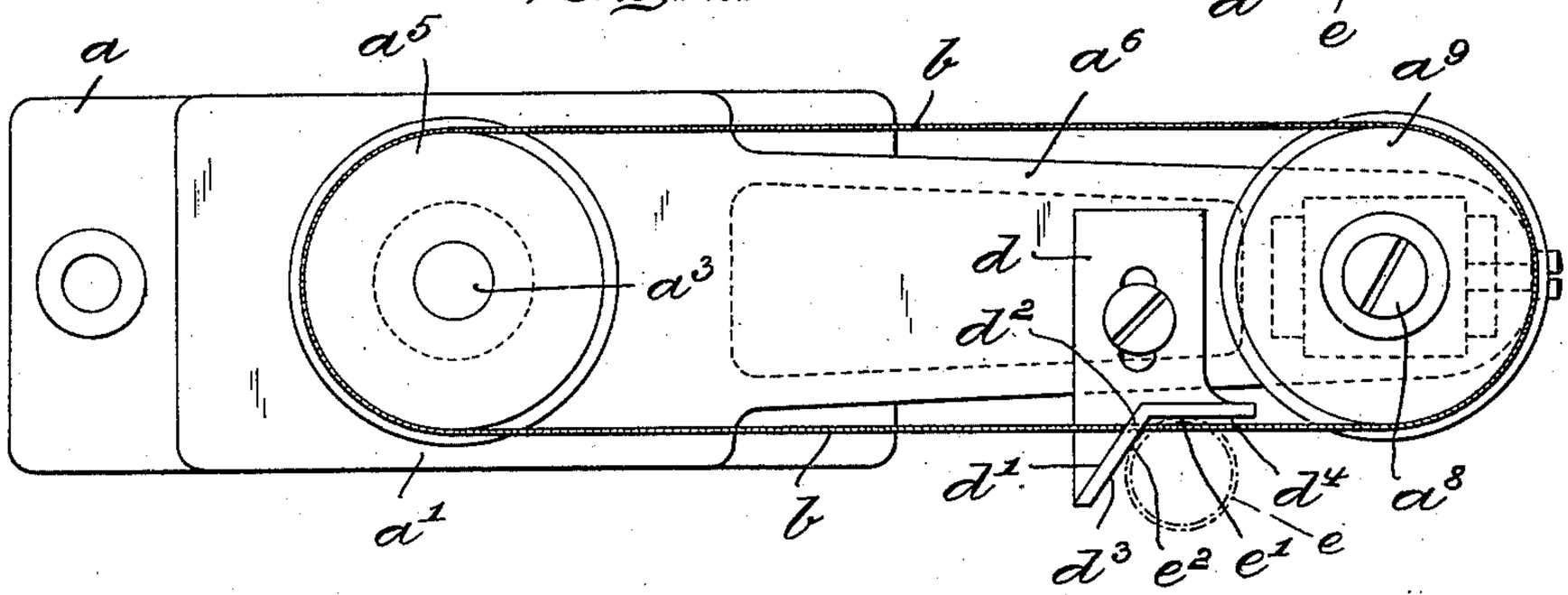


Fig. 2.



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UNITED STATES PATENT OFFICE.

EUGENE SEMPLE BRADFORD, OF PHILADELPHIA, PENNSYLVANIA.

MACHINE FOR REDUCING PITHY PLANTS.

SPECIFICATION forming part of Letters Patent No. 666,178, dated January 15, 1901.

Application filed December 21, 1899. Serial No. 741,102. (No model.)

To all whom it may concern:

Be it known that I, EUGENE SEMPLE BRADFORD, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Reducing Pithy Plants, of which the following is a specification.

My invention has relation to a machine for severing the fibrous outer shell or shive from the inner pithy portion of corn and other pithy stalks, so as to facilitate the separation of the fibrous horny portion from the pithy portion of such plants, and in such connection it relates more particularly to the arrangement and construction of such a machine.

The principal object of my invention is to provide a cheap, simple, and efficient machine for reducing pithy plants, so that the pithy portion may be separated from the fibrous outer portion or shive; and to this end the invention consists in providing in a machine of this character an endless band-saw and a stationary guide arranged at right angles to the plane in which the saw moves and provided with two faces arranged at an angle to each other and adapted to support the stalk at two points on its periphery while said stalk is being fed against the saw, one face of said guide being arranged at one side of the saw and the other face projecting thence across the path of the saw.

The nature and scope of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, in which—

Figure 1 is a side elevational view of a machine embodying main features of my invention. Fig. 2 is a top or plan view of Fig. 1, and Fig. 3 is a detail view of the guide and of a partially-cut stalk held therein.

Referring to the drawings, a represents the main frame of the machine, of preferably inverted-U shape and having an upper horizontal portion a', formed with a bearing a^2, in which is adapted to rotate a vertically-disposed shaft a^3. This shaft a^3 has at one end a pulley a^4, by means of which power may be applied to rotate said shaft. The other end of the shaft has a sheave or flanged pulley a^5, around which an endless band-saw b is adapted to be passed. The frame a is provided with a horizontal projecting arm a^6, in the extreme free end of which is provided a bearing a^7 for a stud or short shaft a^8. To the stud a^8 a second sheave or flanged pulley a^9 is secured and around the same the band-saw b is passed. The block or bearing a^7, together with the stud a^8 and sheave a^9, is adjustable longitudinally in the arm a^6 toward or away from the shaft a^3 and sheave a^5, so as to compensate for and take up the stretch or give of the band-saw b.

To the arm a^6 is adjustably secured a bracket d, which carries an angular guide-piece d', arranged vertically in the machine or at right angles to the plane in which the band-saw b travels. The guide-piece d' is transversely slotted, as at d^2, to permit of the travel of the saw b, as well as to permit of the adjustment of the guide d' toward or away from the saw by the adjustment of the bracket d on the arm a^6. The guide-piece d' has two faces d^3 and d^4, between which the stalk e is supported, the faces being arranged at such an angle as to permit of the stalk being held at two points on its periphery, as indicated at e' and e^2 in Fig. 2. One of the faces d^4 of the guide-piece d' is arranged at one side of the saw b and the other face d^3 projects from the face d^4 at an angle, so as to cross the path of the saw b. The stalk e when fed downward against the saw b is thus guided and supported by the stationary guide-piece, and the saw will take off a thin sliver or slice of the outer fibrous shell of the plant-stalk. When this slice has been removed, the stalk is again fed downward in the guide-piece against the saw b, and in this instance one face, d^3, of the guide d' will act as a guide and support for the cut-away portion of the periphery of the stalk, said cut-away portion resting, as shown at e^4 in Fig. 3, flat upon said face d^3, while the stalk at another point e^5 on its periphery is also supported and guided by the other face of the guide d'. This operation of removing the fibrous hard material from the interior pithy portion is continued slice by slice, as above described, until the entire periphery has been cut off.

Having thus described the nature and object of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine of the character described, a saw adapted to remove the peripheral fibrous portion of the stalk, in combination with a stationary guide-piece having two faces, one face being arranged at one side of the saw and the other face projecting thence across the path of the saw, as and for the purposes set forth.

2. A machine for reducing pithy plants, comprising an endless band-saw and a stationary guide-piece arranged at right angles to the plane of the travel of the saw, said guide-piece having two faces adapted to support the plant at two points on its periphery, one face being arranged at one side of the band-saw and the other face projecting thence across the path of said saw, substantially as and for the purposes described.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

EUGENE SEMPLE BRADFORD.

Witnesses:

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RICHARD C. MAXWELL.