

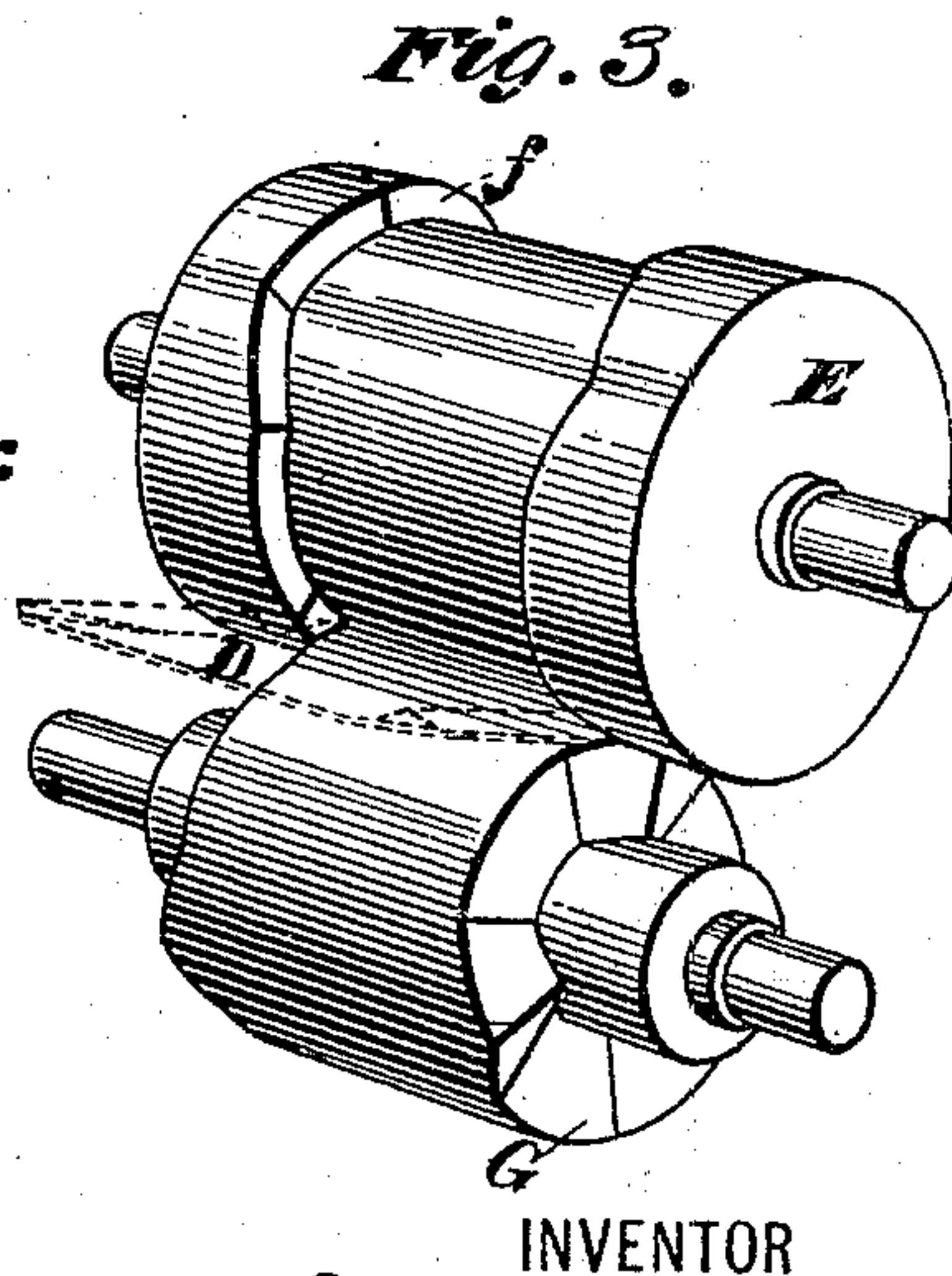
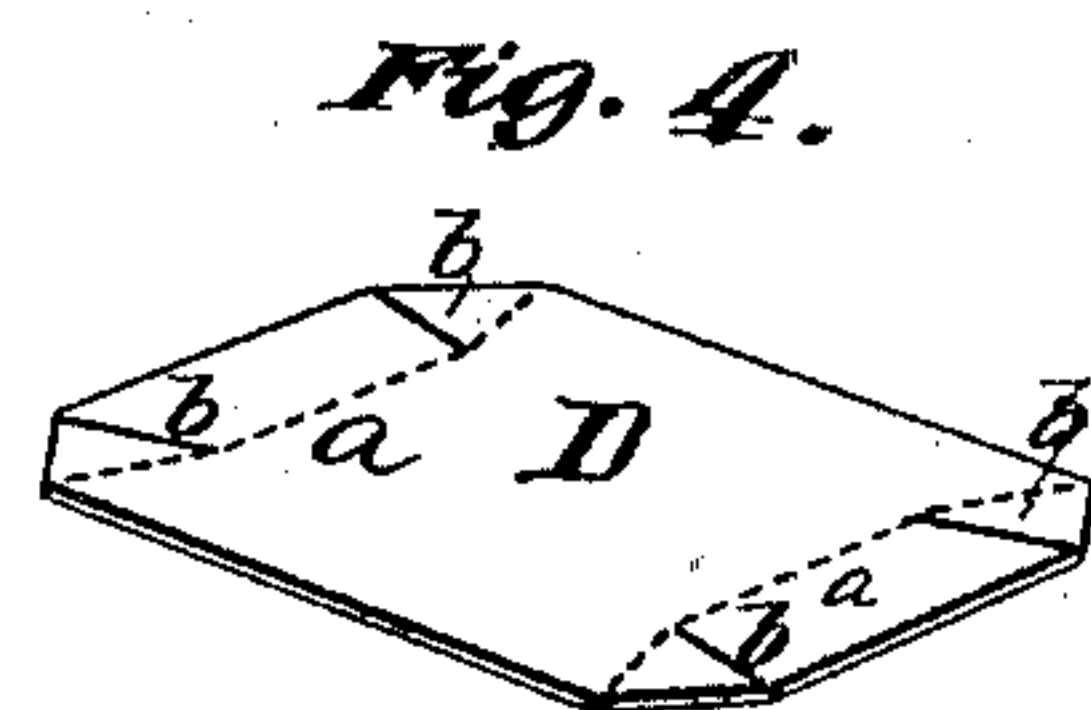
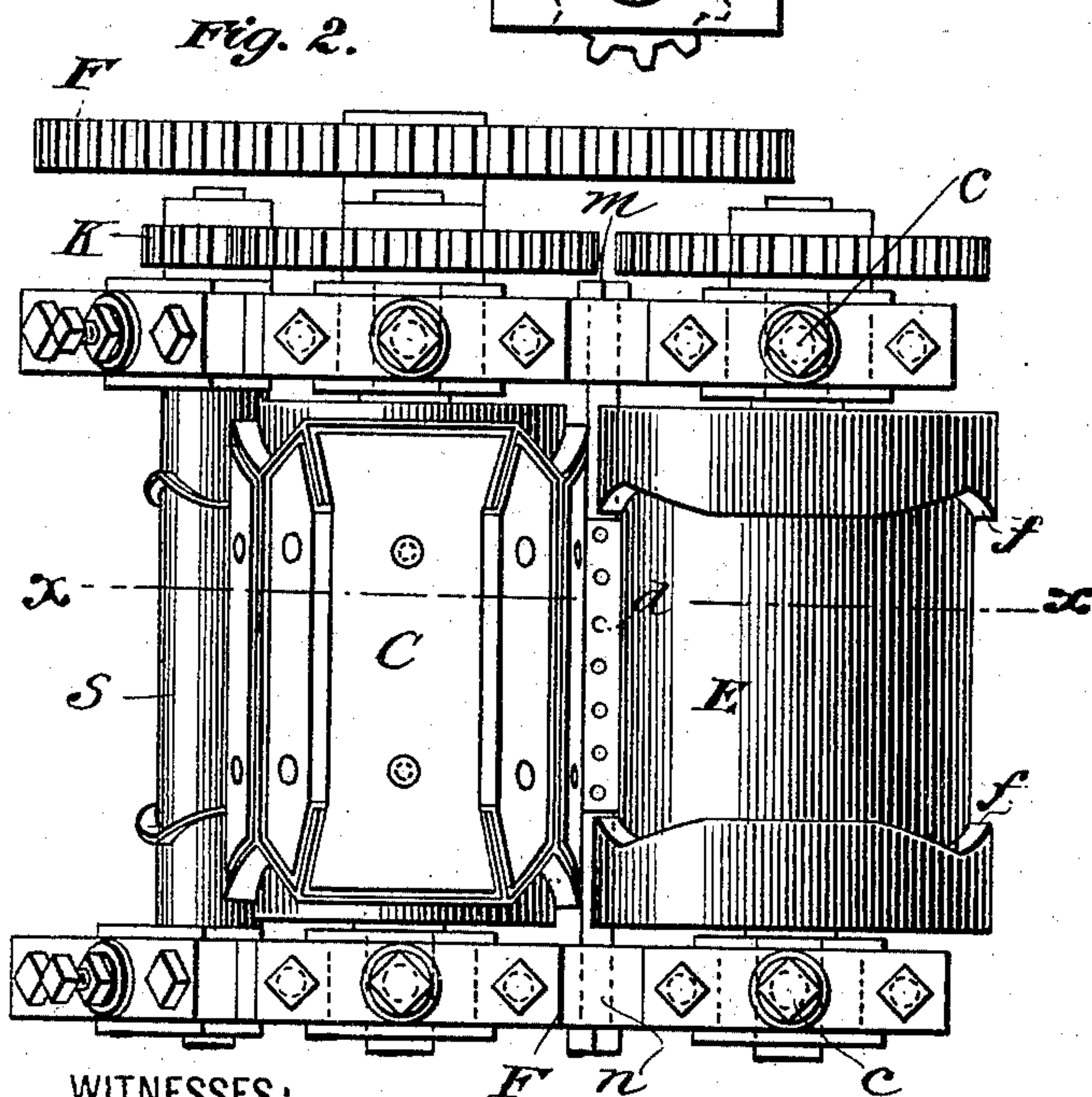
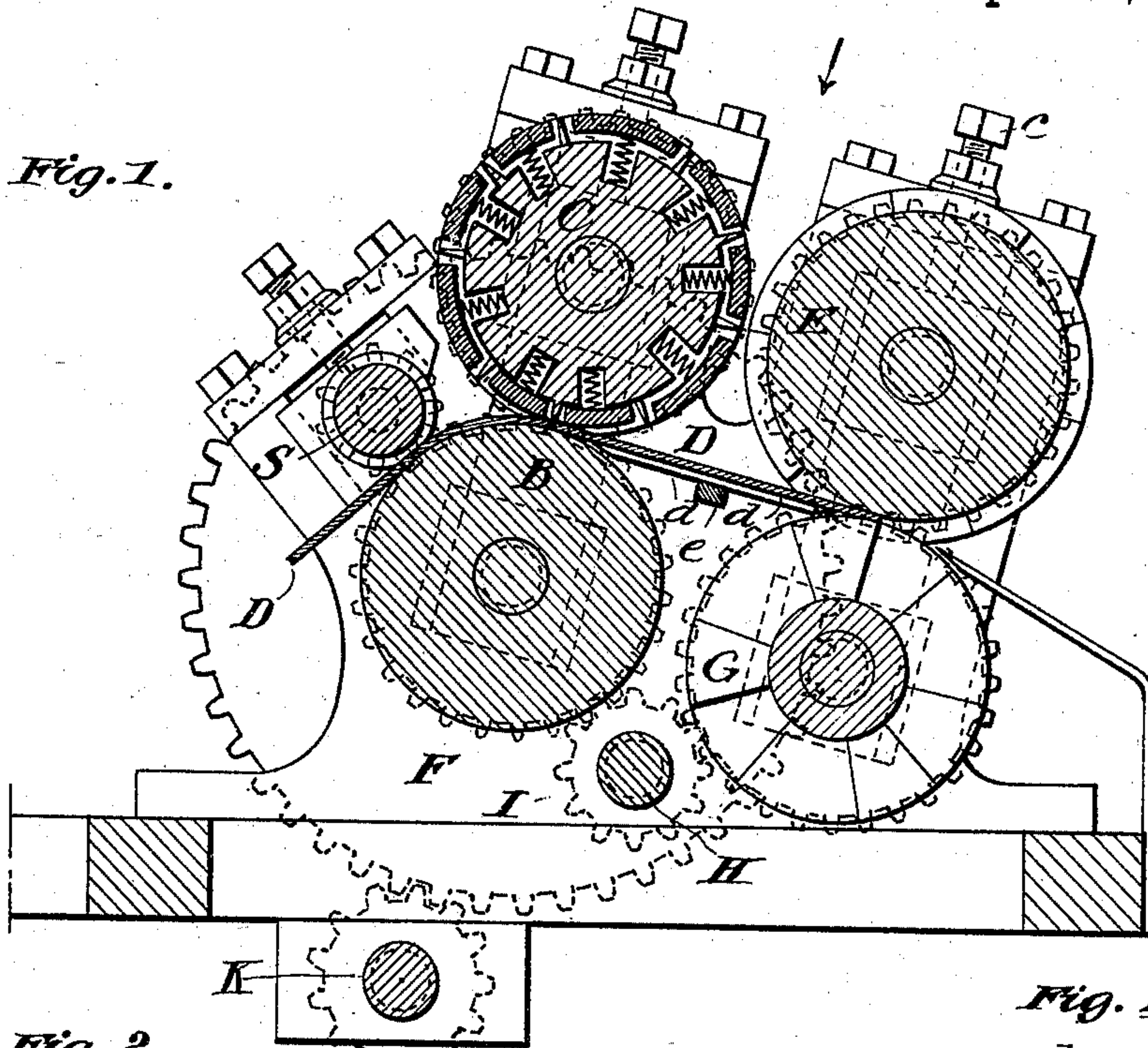
(No Model.)

2 Sheets—Sheet 1.

G. B. WALTON.  
MACHINE FOR PRODUCING VENEER PATTERNS.

No. 558,883.

Patented Apr. 21, 1896.



WITNESSES:

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INVENTOR

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ATTORNEY

(No Model.)

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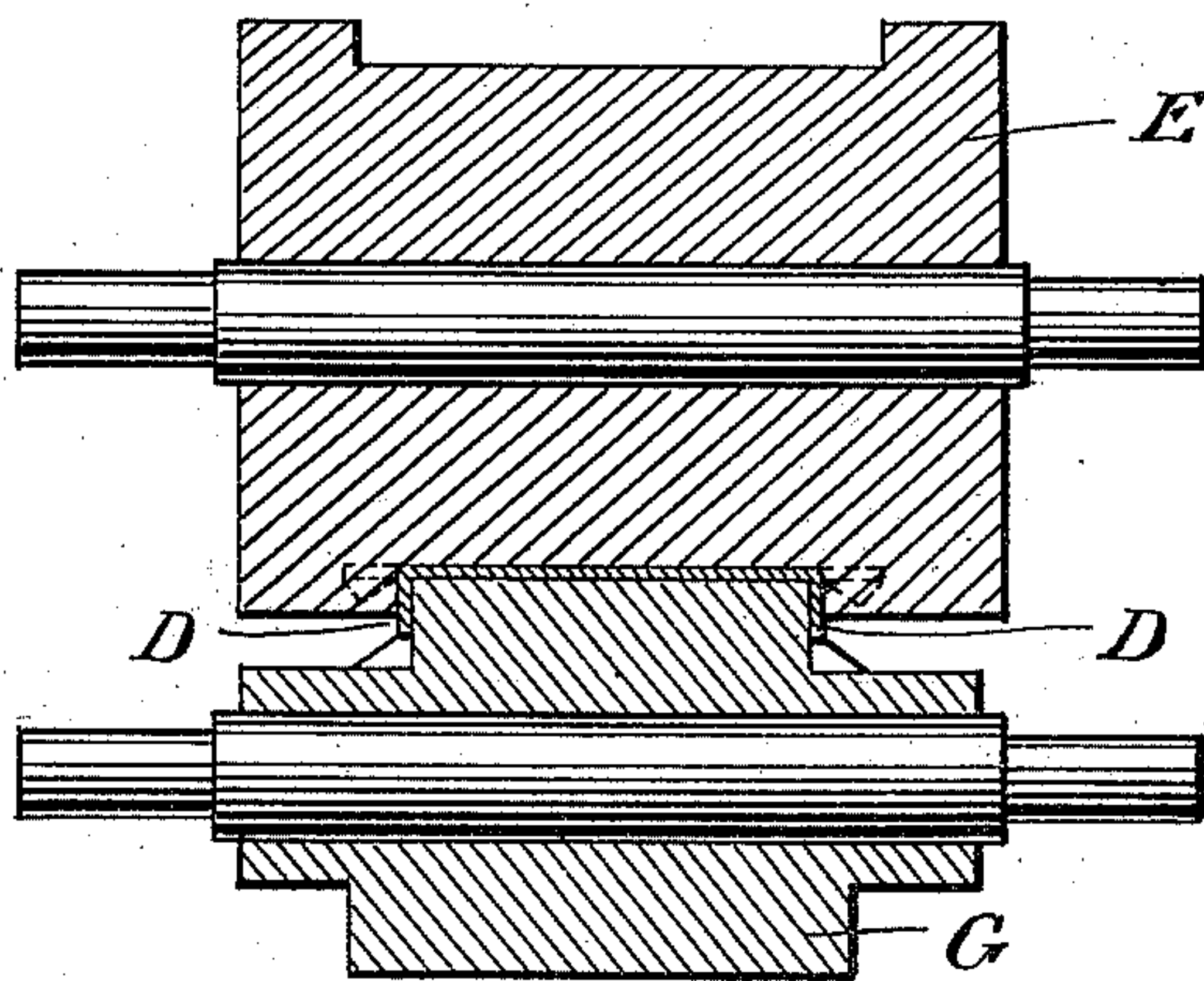
G. B. WALTON.

MACHINE FOR PRODUCING VENEER PATTERNS.

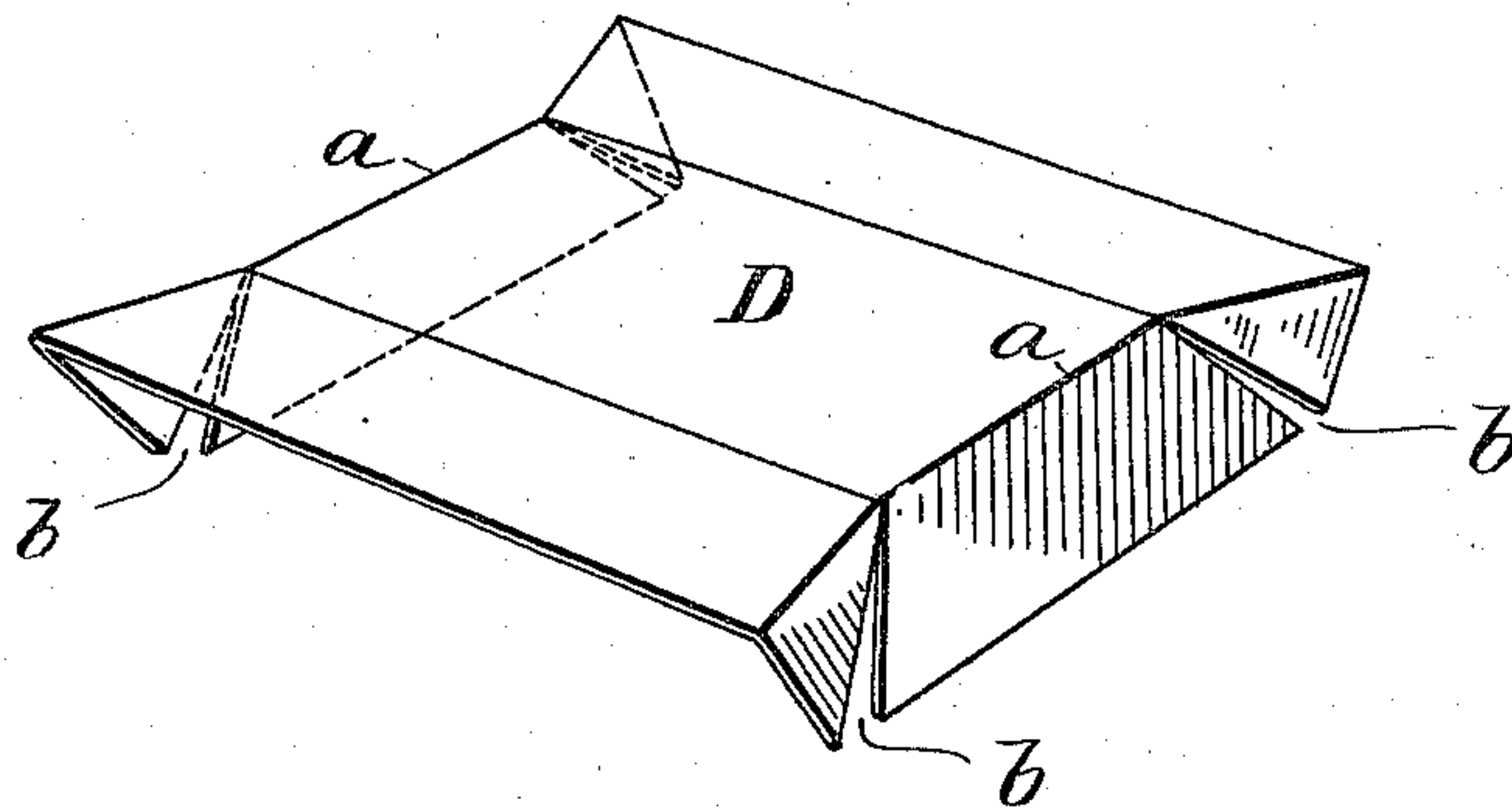
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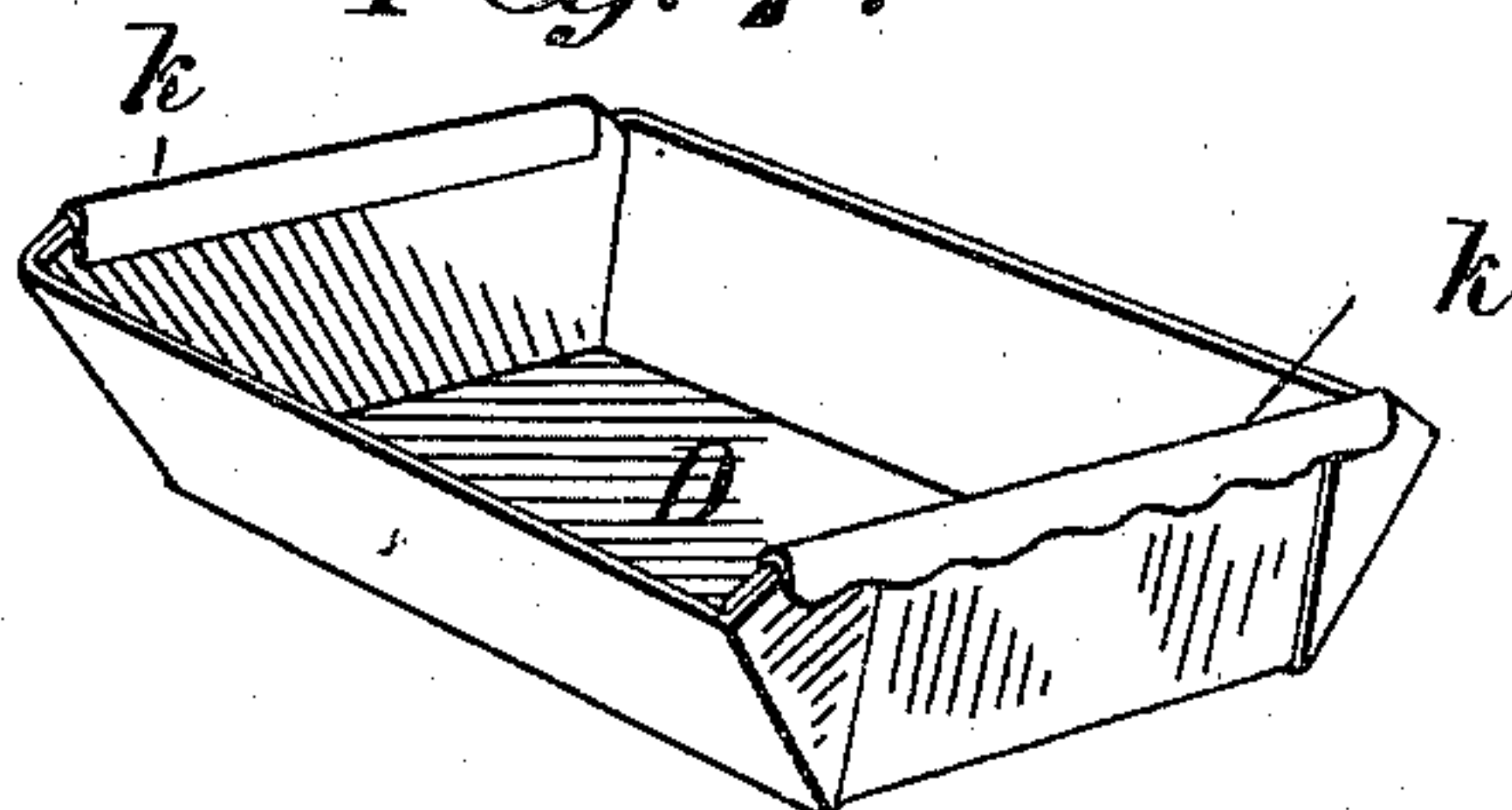
*Fig. 5.*



*Fig. 6.*



*Fig. 7.*



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# UNITED STATES PATENT OFFICE.

GEORGE B. WALTON, OF SUFFOLK, VIRGINIA.

## MACHINE FOR PRODUCING VENEER-PATTERNS.

SPECIFICATION forming part of Letters Patent No. 558,883, dated April 21, 1896.

Application filed April 14, 1894. Serial No. 507,526. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE B. WALTON, a citizen of the United States, residing at Suffolk, county of Nansemond, State of Virginia, have invented certain new and useful Improvements in Machinery for Producing Veneer-Patterns for Use in Making Boxes, Berry-Baskets, Butter-Dishes, and the Like, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a view, partly in section, of my improved machine, taken on the line  $x x$  of Fig. 2, which latter is a top view of said machine. Fig. 3 is a detailed view showing my improved bending-rolls. Fig. 4 is a view of one form of blank or pattern adapted to be operated upon by my improvements. Fig. 5 is a vertical central section of Fig. 3; Fig. 6, a perspective view of a blank as it appears after being operated upon by my machinery; Fig. 7, a finished box.

The object of my invention is to produce mechanism which will automatically, economically, and successfully bend up into the form required for use such blanks or patterns as have been previously creased and cut from the veneer; and I attain this object by use of the peculiar rolls and their connections hereinafter described.

My improvement is usefully combined and related to that type of machines which are used for the purpose of automatically scoring and cutting the aforesaid patterns or blanks out of continuous strips of veneer. Such a machine as I have reference to, for instance, is described in Letters Patent of the United States No. 272,354, granted to J. M. Titus February 13, 1883, for a machine for cutting box-patterns, and which machine consists, essentially, of three rolls geared together, so as to rotate synchronously, and thus secure requisite accuracy of register in operation upon the veneer, one of these rolls being a bearing-roll B, upon which the veneer is carried, another of these rolls being a scoring-roll S, provided with projecting knives adapted to score the veneer along those lines upon which it is subsequently to be bent up into dish or box shape, and the third of said rolls is a cutting-roll C, provided with knives projecting from the periphery thereof, and so placed and adapted as

to cut from the strip of veneer the required pattern or blank of veneer which has been previously scored while passing between the roll S and the roll B. These rolls are geared together and operated from a common source of power. By passing through the rolls, as described, the resulting pattern or blank is scored and cut, as shown, for instance, in the blank D, Fig. 4, in which the dotted lines  $a a$  represent the scored marks and the lines  $b b$  represent cuts into the body of the blank. As will be well understood by those skilled in the art, the blank in this condition requires subsequent bending upon the said crease-lines in order to bring it up into the form requisite for permanent fastening into the final box or dish shape, and this bending has hitherto been accomplished by manual labor assisted by various instrumentalities and necessarily involving a very considerable amount of skill and expense, both of which may be largely dispensed with by the use of my invention. In any suitable frame or bearing, such as the main frame F of the machine heretofore described, I further journal a supplementary pair of rolls E G. These rolls are geared together, as shown in Fig. 1, and are operatively and positively connected with the previously-described scoring, cutting, and bearing rolls by gearing, so as to secure requisite register and synchronism of rotation. For instance, I prefer to make the connections specified by means of the idle-pinion H, provided with gearing I.

One of my pair of rolls, preferably the upper element E, is mounted in adjustable bearings adapted to be raised or closed upon the other roll by adjusting-screws  $c c$ , and the center of the bending-rolls should be distant from the center of the cutting-roll C and its corresponding bearing-roll B the length or width of one of the patterns or blanks which it is desired to produce upon the machine, so that the blank may be seized by the bending-rolls at the moment it leaves the grasp of the next preceding pair of rolls.

To support the blank while it is passing from the cutting-roll to my bending-rolls, I provide a floor or plate  $d$ , extending between the jaws of both pairs of rolls and of sufficient width to support the blank or pattern in its passage from one to the other. This



floor or carrier is preferably supported by a rod *e*, secured to the under side of the same and pivoted or loosely journaled in the frame of the machine, as at *m n*, Fig. 2, and, as will  
 5 be well understood, so as to admit when required of a slight tilting or oscillating motion of the carrier *d*, whereby its adjustability is increased relatively to the bearing-roll B, with  
 10 which the edge of such carrier is preferably kept in contact.

The surface of one of my bending-rolls I recess or countersink, so as to constitute a continuous female roller-die, the edges of the side of which, *f*, are so irregularly shaped as  
 15 to correspond with the direction and form of the crease-marks already made in the blank, and may either rise vertically from the bottom of the die, as shown in the drawings, or be so beveled or shaped as to give any requisite  
 20 angle to the sides of the finished dish. My other roll, G, is shaped to correspond with, enter into, and loosely fit the walls of the irregular-shaped circumferential recess upon the roll E. The roll G thus acts as a continu-  
 25 ous male roller-die relative to the female roller-die E, and when the two are suitably approximated to each other and rotated synchronously the roll G will in rotating project within the recess on E.

30 The operation of my machine is as follows: Power being supplied through main shaft K, the rolls are all rotated with such relative speed and synchronism as to assure the required operation upon the blanks passing  
 35 through them. The blank on leaving the cutting-roll simultaneously enters the clutch of the bending-rolls, being carried between the two upon the floor or carrier *d*. The bending-rolls are self-feeding, and, having seized  
 40 the blank at the proper point in their revolution, cause it to pass between themselves and at the same time bend it upon the creased lines as required. On emerging from the bending-rolls the blank is ready to be fast-  
 45 ened into permanent box or dish shape by wires, tin fastenings *k k*, as shown in Fig. 7, or in any other well-known way. As will be understood by those skilled in the art, an additional advantage is gained by thus bending  
 50 the blank after the operation of the scoring and cutting and while it is still entirely moist and flexible, and the progressive bending tends to avoid splitting and breakage.

The invention is applicable to other materials and things than veneer-blanks, and the pattern or shape of the bend may be varied indefinitely.

It will also be apparent that for certain purposes either the scoring or cutting rolls may  
 60 be dispensed with, since in certain cases scoring may not be required or may be preliminarily effected in some other machine, or vice versa, cutting similarly accomplished prior to insertion of the material into the machine.

65 It will be observed that my rolls effect the bending of the veneer not only in lines parallel with the direction of the line of feed, but

also upon lines which are angularly inclined to such direction.

I am aware that pairs of continuously-operating rolls have been heretofore employed  
 70 for the purpose of bending blanks of paper and similar grainless material upon continuous straight lines which are parallel with the direction of the line of feed, in which case  
 75 accuracy of register of the bending-surfaces with previously-creased lines intermittently occurring and extending transversely to or at an angle with the line of feed was not required. I do not, therefore, claim such former rolls as  
 80 any part of my invention.

I am aware that pairs of rolls have been used to continuously bend or otherwise treat materials in continuous straight lines, and do not broadly claim such separately.

What I claim as new, and desire to secure by Letters Patent, is the following, viz:

1. In a machine for producing scored, cut and bent blanks or patterns, the combination of a pair of rolls to score, a pair of rolls to cut  
 90 and a pair of rolls consisting of a pair of continuously-operating male and female die-rollers, the one provided with a continuous recess having walls or sides of the required bevel and conformation and the other with a corre-  
 95 sponding interlocking projection having reversely shaped and beveled walls, substantially as and for the purposes described.

2. In a machine for producing scored and bent blanks or patterns the combination of a  
 100 pair of rolls to score and a pair of rolls to bend, the latter consisting of a pair of continuously-operating male and female die-rollers, E and G, adapted to bend the veneer on crease-lines  
 105 extending transversely to or at an angle with the line of feed, substantially as and for the purposes described.

3. In a machine for producing scored, cut and bent veneer blanks or patterns, the combination of a pair of rolls to score, a pair of  
 110 rolls to cut and a pair of rolls to bend consisting of a pair of continuously-operating male and female die-rollers, E and G, adapted to bend the veneer on crease-lines extending transversely to or at an angle with the line of  
 115 feed, substantially as and for the purposes described.

4. In a machine for producing scored, cut and bent veneer blanks or patterns, the combination with a scoring-roll and a cutting-  
 120 roll having a common bearing-roll, of a pair of bending-rolls consisting of a pair of continuously-operating male and female die-rollers, the one provided with a continuous recess having walls or sides of the required  
 125 bevel or conformation, and the other with a corresponding interlocking projection having reversely shaped or beveled walls, substantially as and for the purposes described.

GEORGE B. WALTON.

Witnesses:

J. W. TITUS,  
 R. S. COHOON.