

(No Model.)

5 Sheets—Sheet 1.

C. VOTAW.
BASKET MAKING MACHINE.

No. 548,680.

Patented Oct. 29, 1895.

Fig. 1.

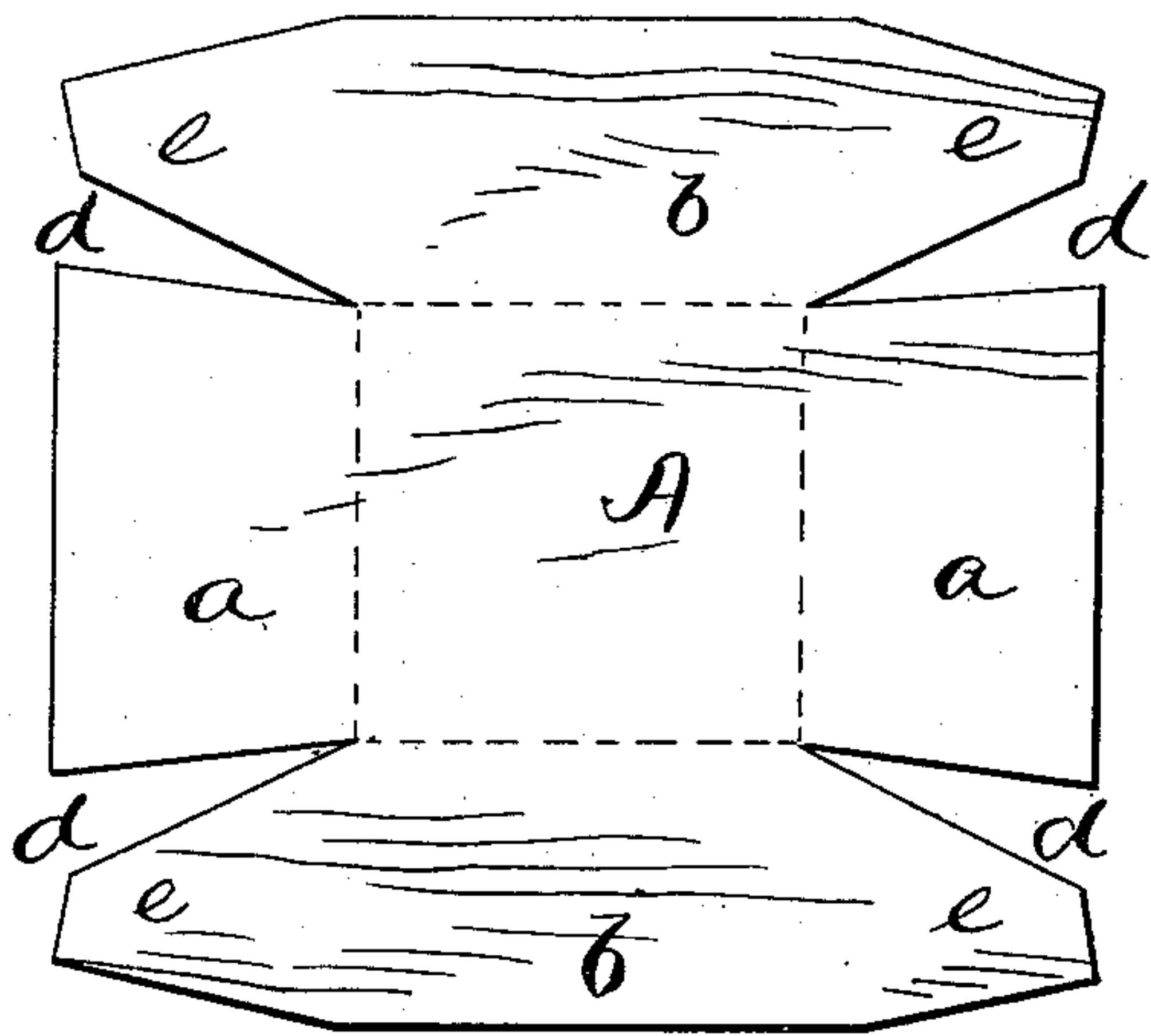


Fig. 3.

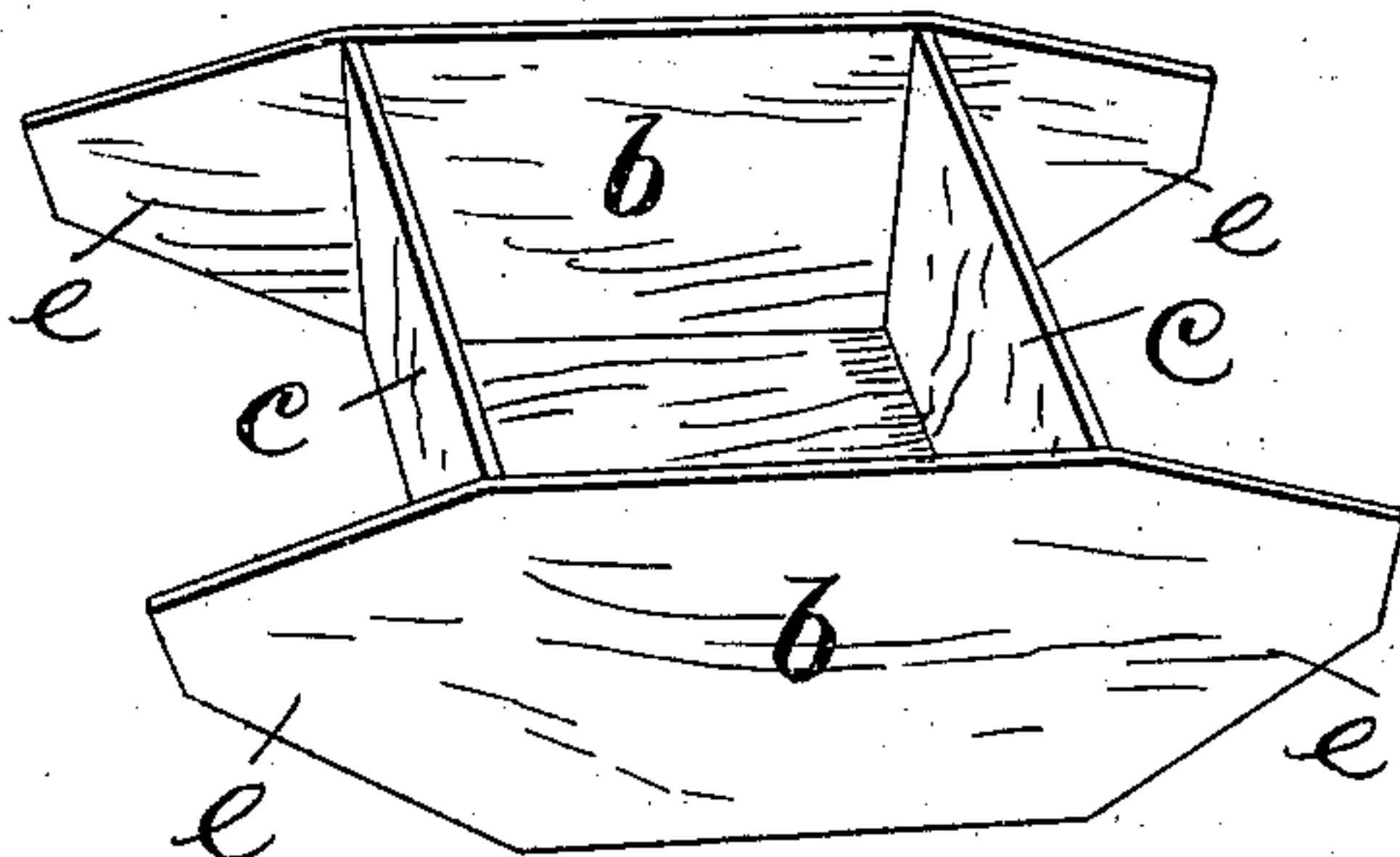


Fig. 2.

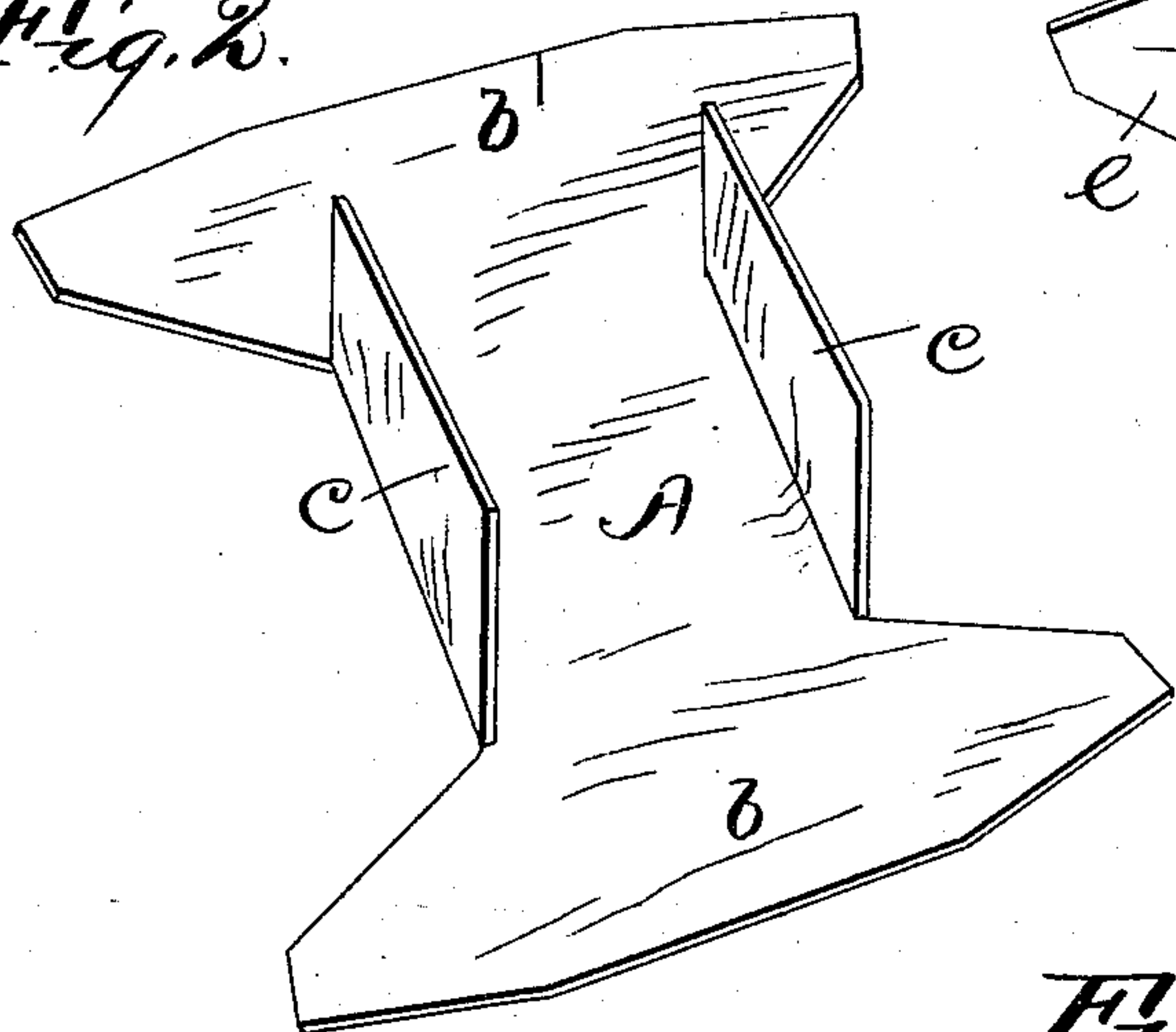
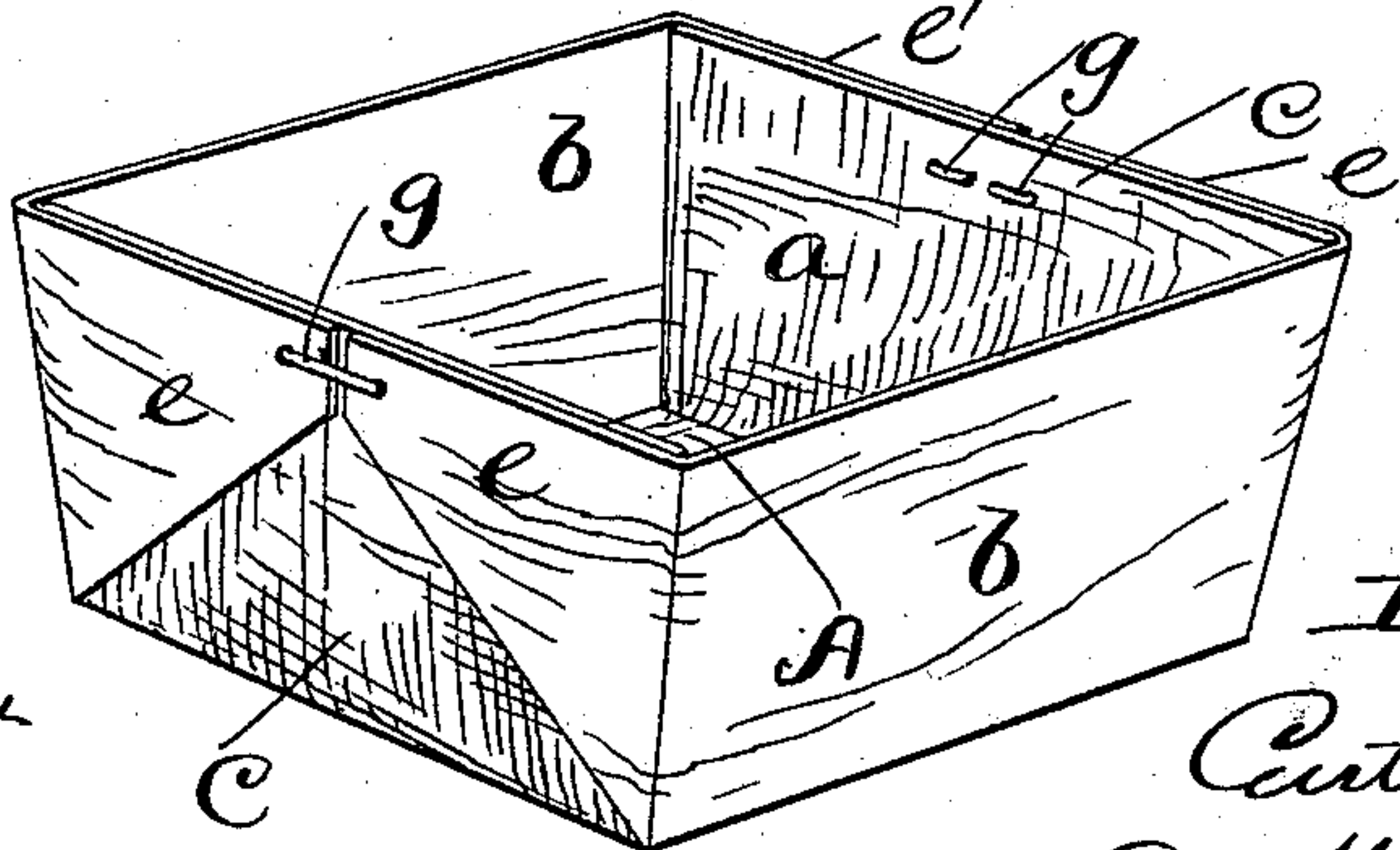


Fig. 4.



Witnesses,
E. B. Gilchrist
[Signature]

Inventor,
Curtis Votaw
By M. D. Leggett
his Attorney

(No Model.)

5 Sheets—Sheet 2.

C. VOTAW.
BASKET MAKING MACHINE.

No. 548,680.

Patented Oct. 29, 1895.

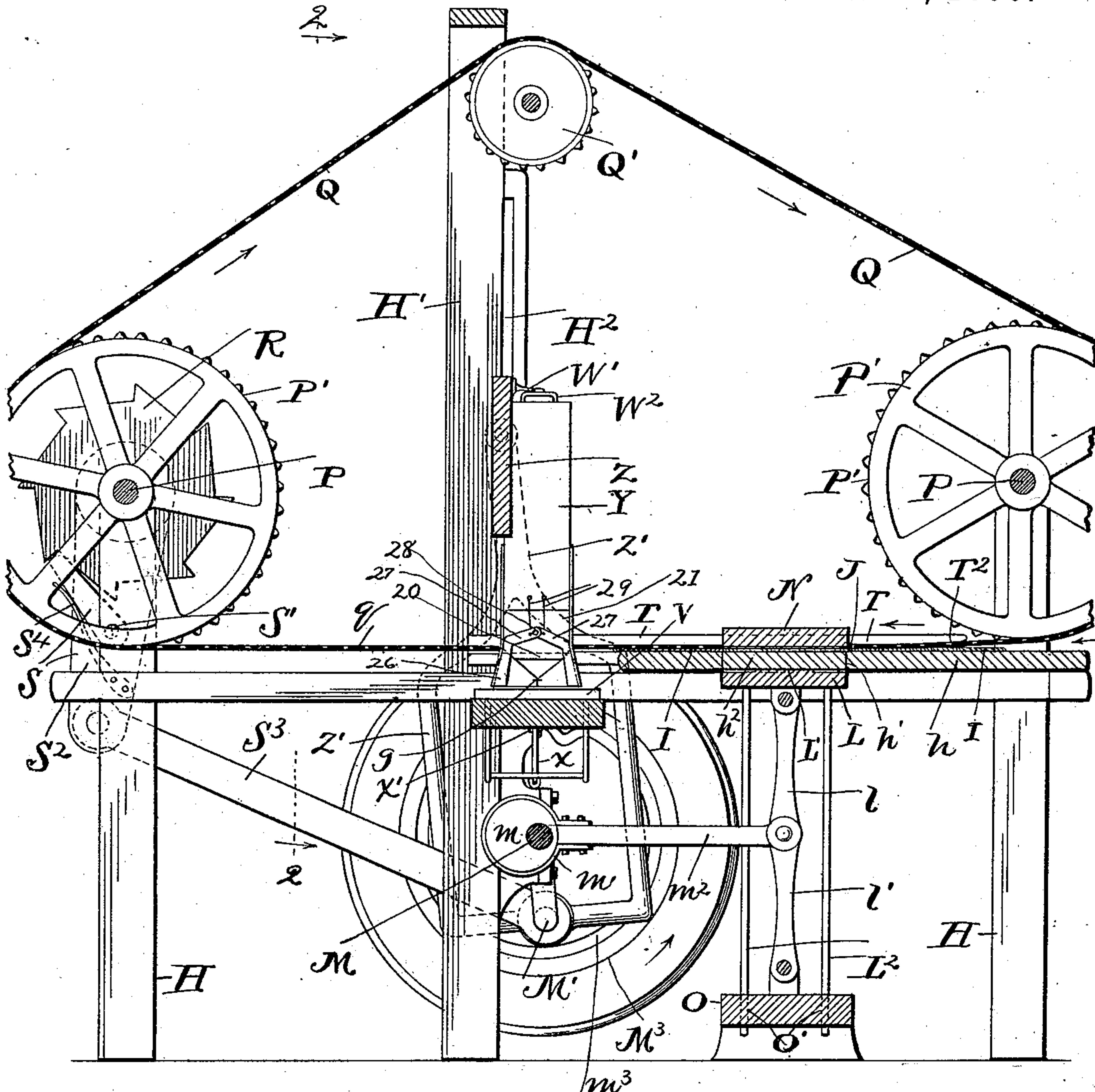


Fig. 5.

Witnesses.
E. B. Gilchrist
Crover

Inventor.
Curtis Votaw.
By M. D. Seggett
his Attorney.

(No Model.)

5 Sheets—Sheet 3.

C. VOTAW.
BASKET MAKING MACHINE.

No. 548,680.

Patented Oct. 29, 1895.

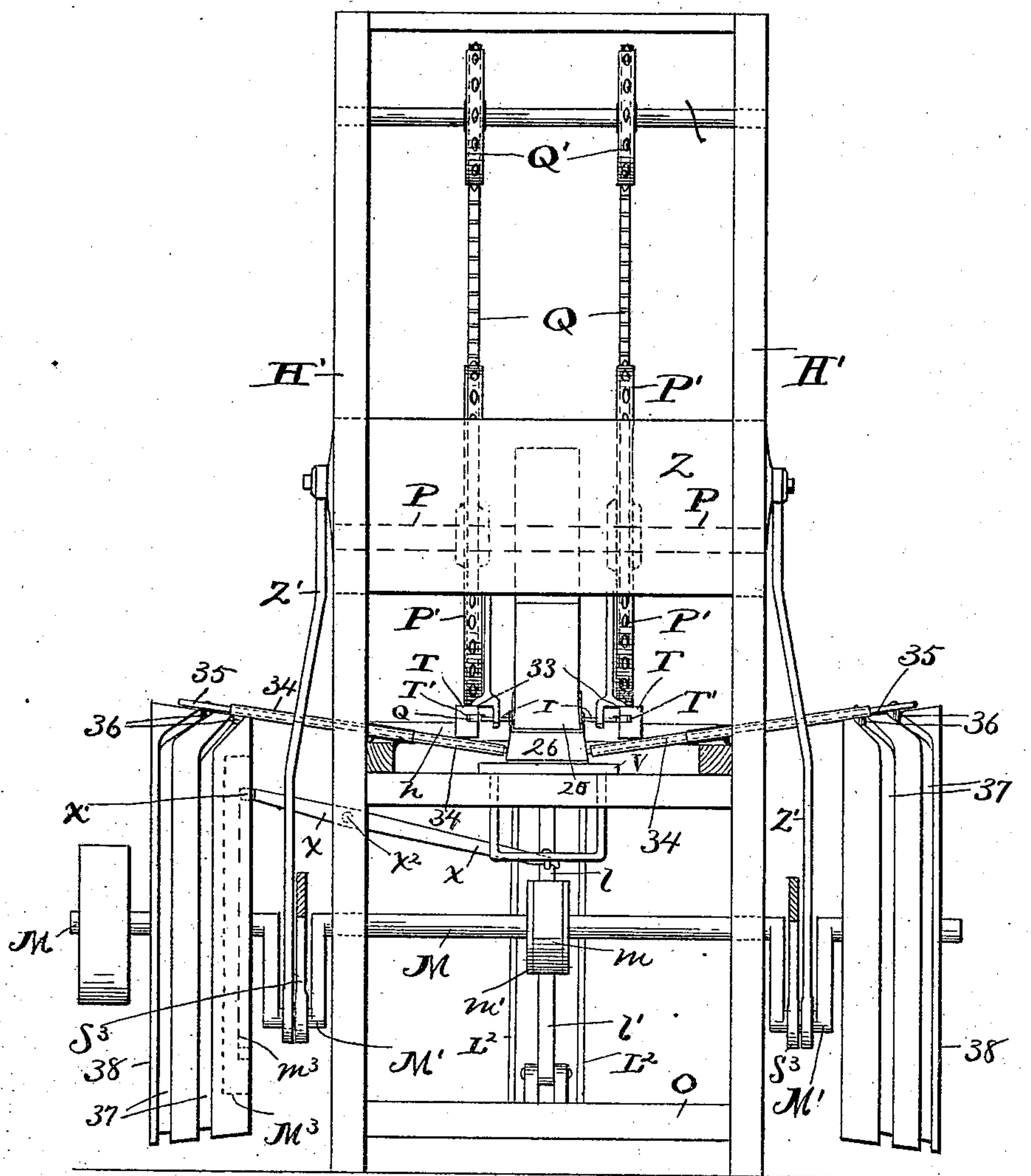


Fig. 6.

Witnesses.
E. B. Gilchrist
[Signature]

Inventor.
Curtis Votaw
By M. D. Seggett
his Attorney

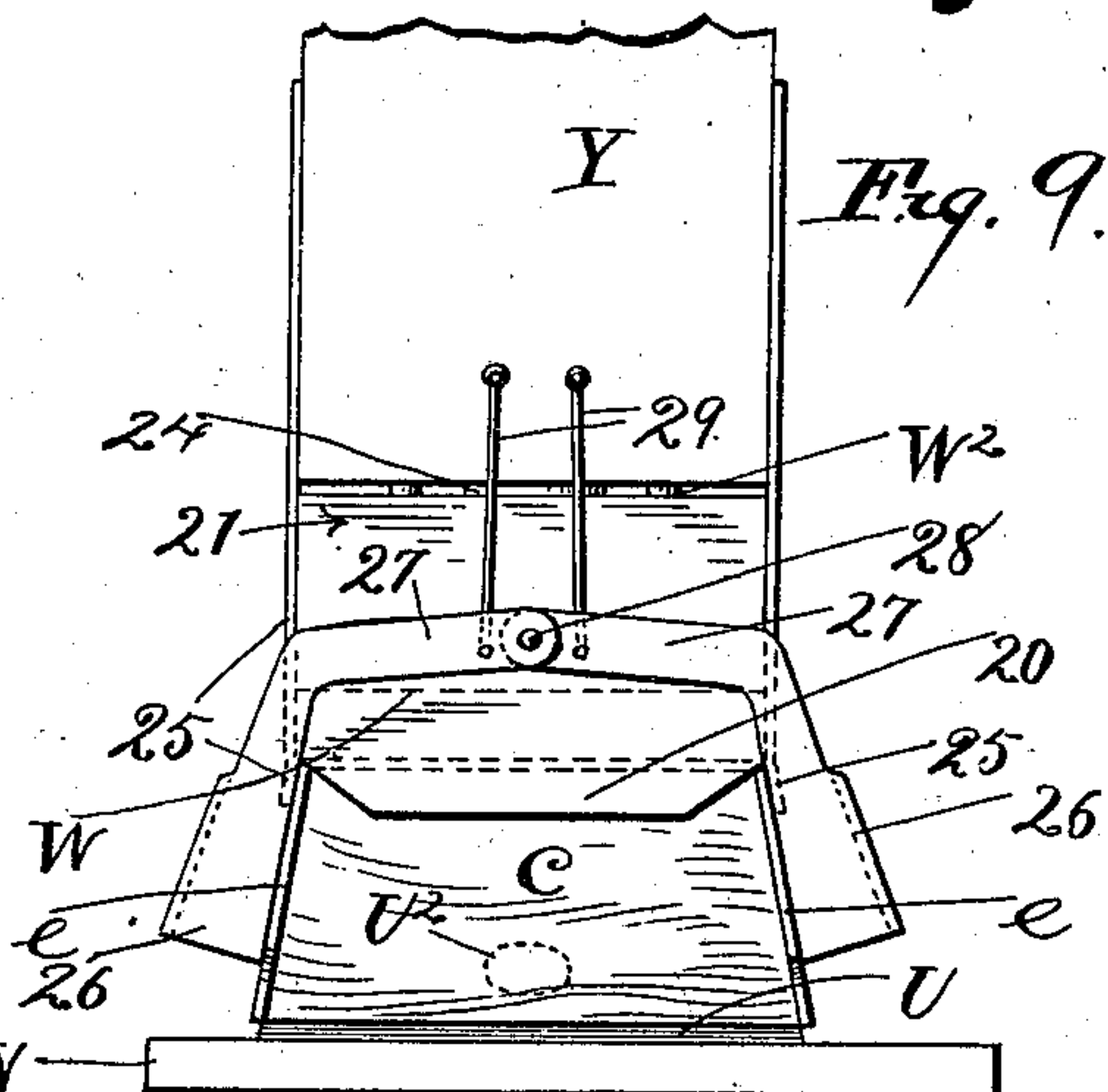
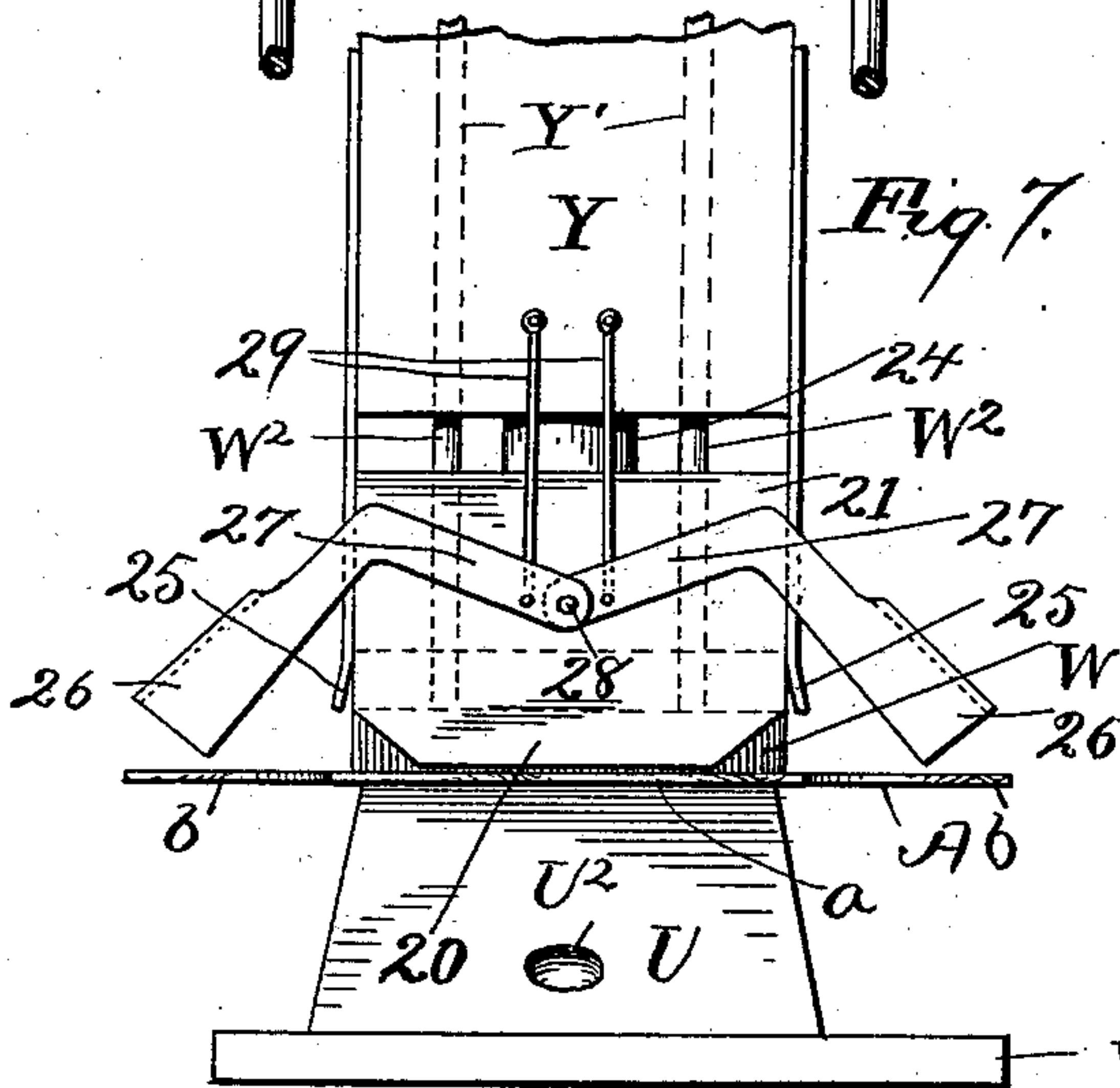
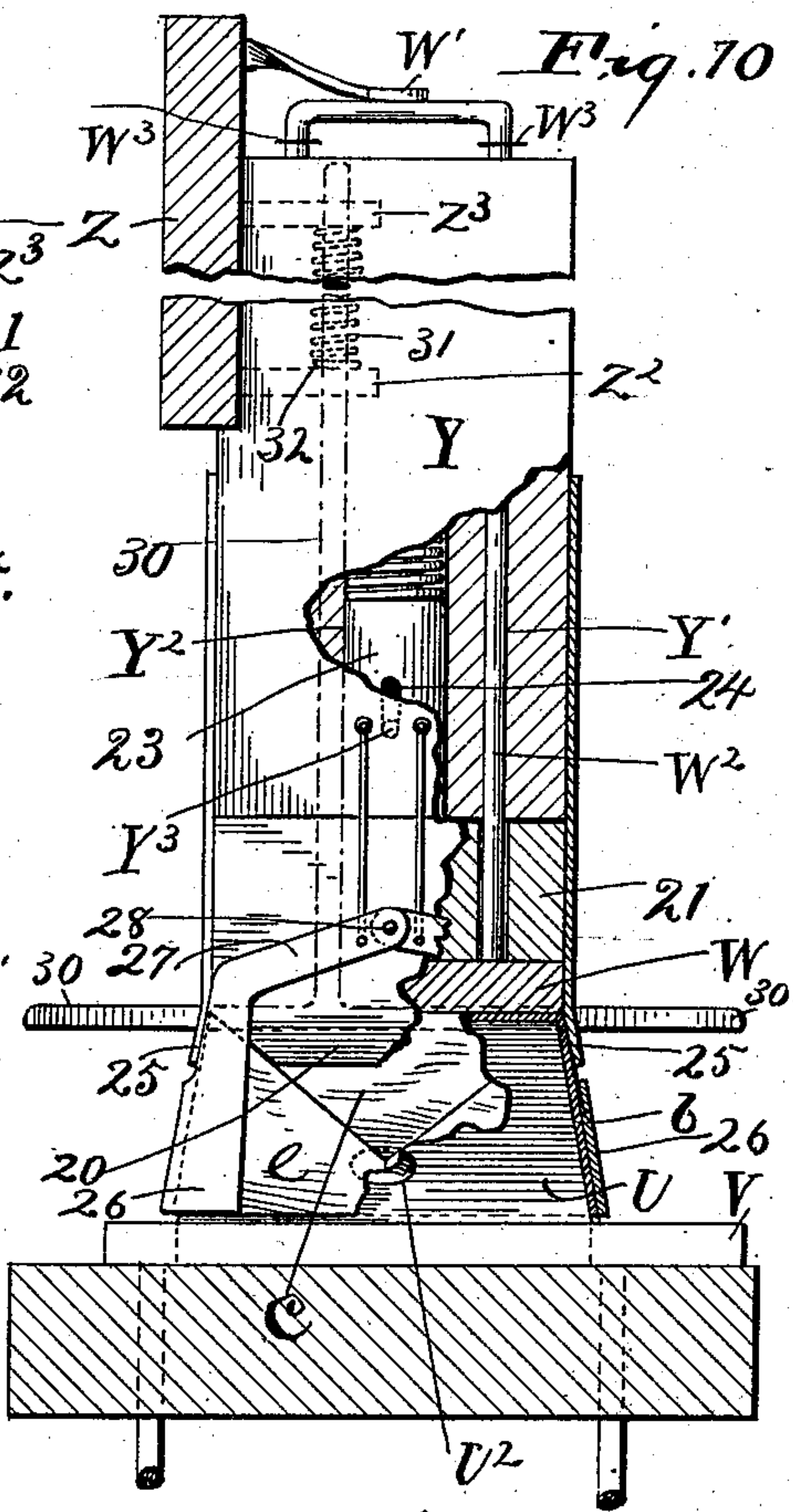
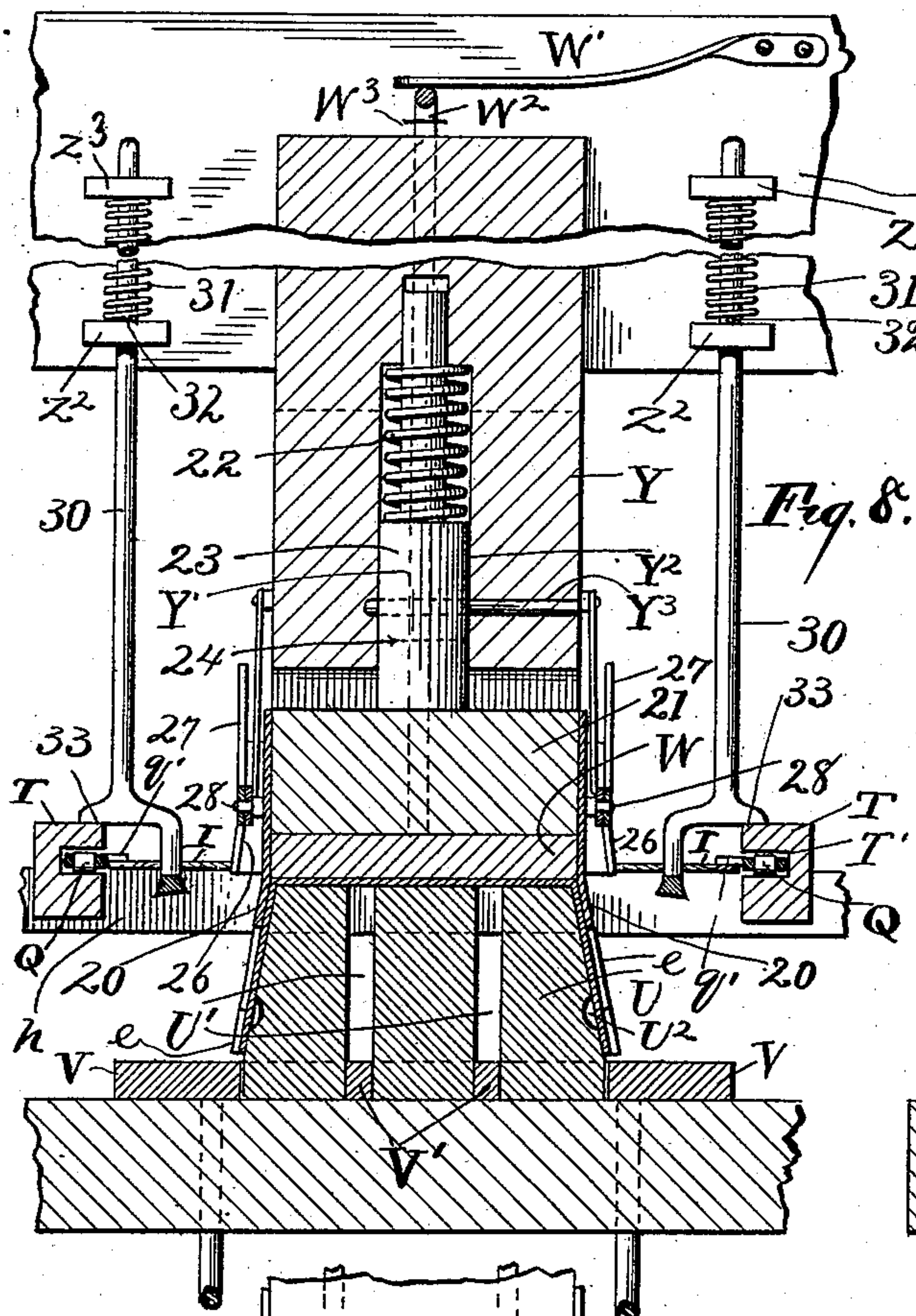
(No Model.)

5 Sheets—Sheet 4.

C. VOTAW.
BASKET MAKING MACHINE.

No. 548,680.

Patented Oct. 29, 1895.



Witnesses.

E. B. Gilchrist
[Signature]

Inventor.
Curtis Votaw
By M. D. Leggett
his Attorney

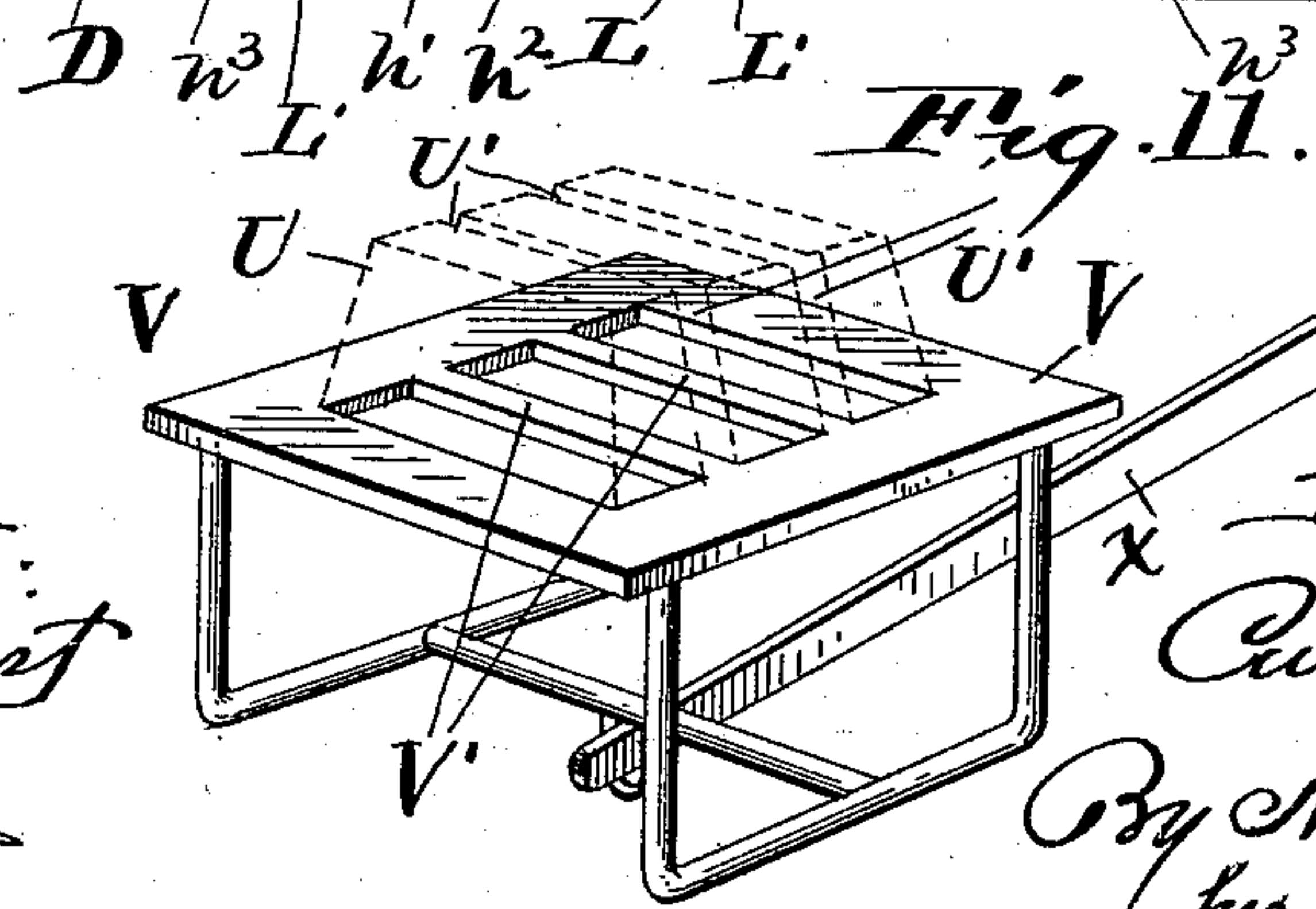
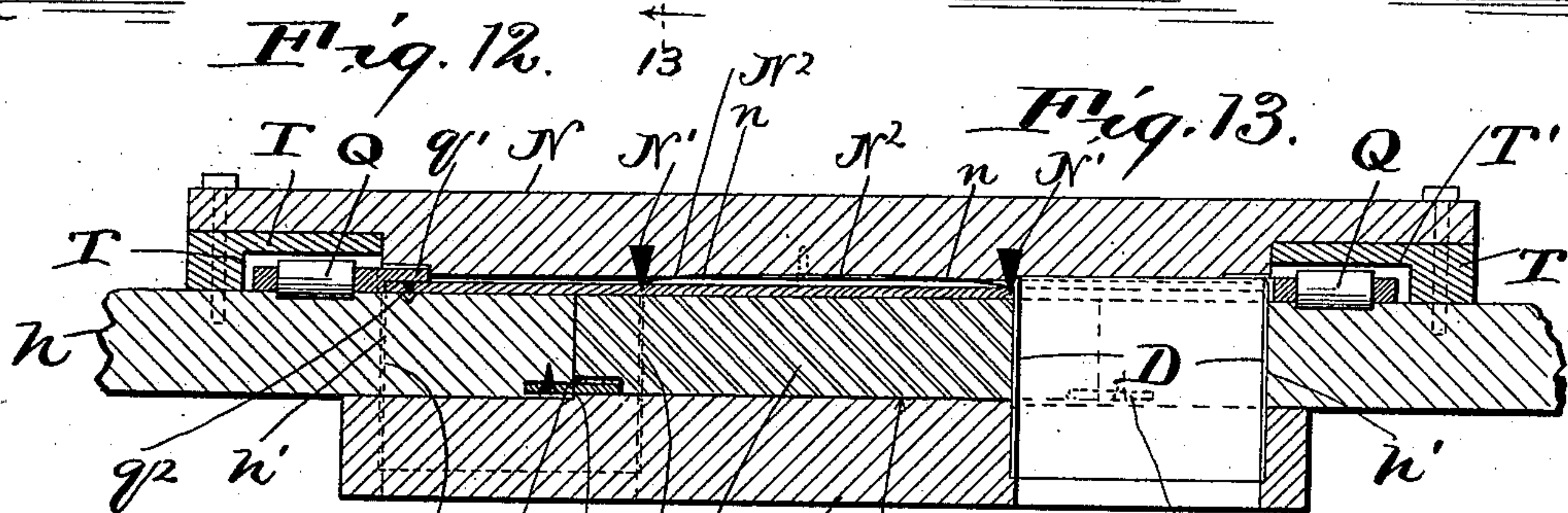
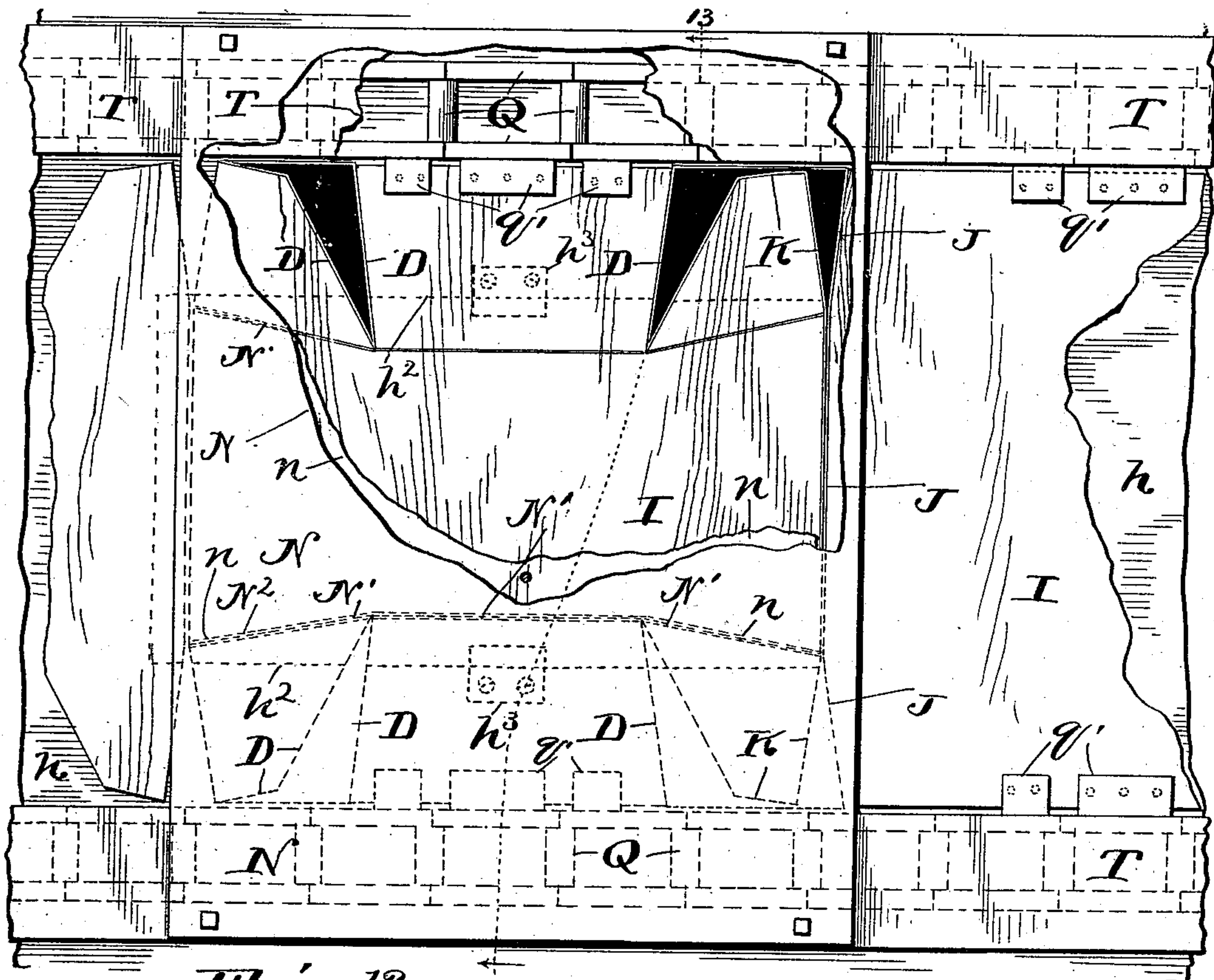
(No Model.)

5 Sheets—Sheet 5.

C. VOTAW.
BASKET MAKING MACHINE.

No. 548,680.

Patented Oct. 29, 1895.



Witnesses.
E. B. Gilchrist
C. Votaw

Inventor.
Curtis Votaw
By M. D. Seppelt
his Attorney.

UNITED STATES PATENT OFFICE.

CURTIS VOTAW, OF WINONA, OHIO.

BASKET-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 548,680, dated October 29, 1895.

Application filed September 7, 1894. Serial No. 522,323. (No model.)

To all whom it may concern:

Be it known that I, CURTIS VOTAW, of Winona, in the county of Columbiana and State of Ohio, have invented certain new and useful
5 Improvements in Basket-Making Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the
10 same.

My invention relates to improvements in machines for making baskets, more especially what are known as "fruit" or "berry" baskets, from a single piece of material, the object being to produce a machine of the character indicated wherein the material or stock from which the basket is made is automatically fed to suitable cutting-knives; in which machine the
15 blank for forming the basket is cut from the sheet of material or stock into the shape required for the subsequent folding operation; in which machine the cut blank is thence fed into position to be operated upon by a suitable form, and folding devices whereby the cut
20 blank is folded or bent into the shape required for forming the basket; in which machine the blank, when folded or bent as just described, is automatically secured in its folded or bent condition to thereby complete the basket, and
30 in which machine the completed basket is automatically removed from the form and folding devices by the next succeeding or incoming blank.

In the accompanying drawings, Figure 1
35 shows a plan of a blank used in the formation of a basket made by my improved machine. Fig. 2 is a view in perspective showing the blank with two opposite sides of the basket built up. Fig. 3 is a view in perspective
40 of the blank with the four sides of the basket built up, excepting that the sides are not secured in their built-up position. Fig. 4 is a perspective of a finished basket. Fig. 5 is a side elevation, partly in section, of my improved machine. Fig. 6 is an end elevation
45 of the same, partly in section. Fig. 7 is an elevation in detail, showing the blank in position upon the form ready for the folding operation. Fig. 8 is an elevation in detail,
50 partly in section, showing the position of parts in bending the blank into the shape shown in Fig. 2. Fig. 9 is an elevation in detail, show-

ing the blank folded or bent into the shape shown in Fig. 3. Fig. 10 is an elevation in detail, partly in section, hereinafter referred
55 to. Fig. 11 is a view in perspective exhibiting the form and the table employed for elevating the completed basket flush with the next succeeding blank, so that the finished basket can be removed from between the form
60 and folding devices by the next succeeding blank. Fig. 12 is a top plan in detail showing the incoming material or stock from which the blank is cut, and showing the knives for cutting the blank from the stock and into the
65 shape required, preparatory to the folding operation. Fig. 13 is a side elevation in detail, showing more clearly the stationary head or block that carries the scoring-knives (which would be employed, for instance, in making
70 baskets of a sheet of wood) for scoring the blank along the lines of folding, the object of thus scoring the blank being to obtain absolute regularity in the lines of folding.

Referring to Figs. 1, 2, 3, and 4, of the drawings, A designates the blank used in the
75 formation of my improved basket, said blank being composed of any suitable material, preferably a sheet of wood. The blank comprises a central section *a* and two outer sec-
80 tions *b b*, arranged on opposite sides, respectively, of the central section. Two opposing sides *c c* of the basket are formed by bending the central section *a* longitudinally and
85 upwardly at two points located a suitable distance apart, as shown in Fig. 2, the portions of the central section that are thus bent upwardly and longitudinally to form said sides
90 of the basket being separated from the adjacent portions of the outer sections of the blank by incisions *d*, members *c c* being bent upwardly at the inner ends of said incisions.
95 The two opposing sides *c c* of the basket having been formed as just described, the outer sections *b b* of the blank are bent upwardly against the adjacent edges of sides *c c* of the basket, as shown in Fig. 3, and when the
100 outer sections of the blank are thus bent it will be observed that the end portions *e* thereof project outwardly beyond sides *c c* of the basket, as shown in said figure, and these projecting portions of the outer sections of the blank are then bent laterally and inwardly against the outer side of the adjacent

side *c* of the basket, as shown in Fig. 4, and when said projecting portions of the outer sections of the blank have thus been bent they are suitably secured to the adjacent or
5 contiguous side *c* of the basket, preferably by means of a single staple *g*, as shown in Fig. 4.

Referring to Fig. 5 and the remaining figures of the drawings illustrative of my improved machine for making the basket exhibited in Fig. 4, *H* designates the supporting-frame that is of any suitable construction, said frame at one end (in the present instance the right-hand end) supporting a horizontally-arranged table *h* that extends to near
15 the central portion of the machine into suitable proximity to the folding devices herein-after described. The material or stock *I* is fed upon said table to the blank cutting or forming knives, and thence to the folding de-
20 vices.

A knife *J* (see Figs. 5 and 12) is provided for cutting the blank from which the basket is to be formed from the stock. Also knives *D* for cutting incisions *d* to be formed in the
25 blank, and knives *K* for properly trimming the blank at the edges are provided. Knives *J*, *D*, and *K* are all suitably secured to a horizontally-arranged head or block *L*, (see also Fig. 13,) that is located below table *h* and is
30 operatively connected with toggle-arms *l* and *l'*, whereby the knife-head and knives are adapted to be elevated or advanced to effect the cutting or formation of the blank into the shape required, preparatory to folding the
35 blank, and to effect the severing of the blank from the stock, (see Figs. 5, 6, 12, and 13,) the arrangement of parts being preferably such that when the toggle-arms are actuated to straighten, as shown in Fig. 5, the aforesaid
40 knife-head and knives are elevated or advanced to cut, and when the toggle-arms are tripped the knife-head and knives are lowered or receded from the blank. The table *h* is of course slotted, as at *h'*, to ac-
45 commodate the operation of knives *J*, *D*, and *K*. Toggle-arms *l* *l'* are operatively connected with the driving-shaft *M* in any suitable manner. The driving-shaft is preferably arranged transversely and near the central
50 portion of the machine and a suitable distance below the blank-folding devices. An eccentric *m* on shaft *M*, an eccentric-strap *m'*, embracing the eccentric, and a rod *m²*, operatively connecting said strap with the joint of
55 the toggle-arms, constitute the means preferably employed for establishing operative connection between said shaft and toggle-arms. A head or block *N*, rigid with and arranged transversely of the top of table *h*, is shown
60 for holding and preventing the blank from being displaced upwardly during the cutting operation of knives *J*, *D*, and *K*, and if the stock used is a thin strip or layer of wood, block or head *N* (see Figs. 12 and 13) upon
65 its under side is provided with scoring-knives *N'*, suitably arranged to score the blank upon the lines upon which the blank is to be sub-

sequently folded. If the scoring-knives are employed, as in the case illustrated, the portion of table *h* that is located immediately
70 below the scoring-knives is separated from the remaining portion of the table and is capable of being elevated by the knife-head below to bring the blank upon it into proper en-
75 gagement with the scoring-knives, said separate portion of the table being supported, for instance, from the remaining portion of the table by means of lugs or flanges *h³* on the
80 body portion of the table, the knife-head below being somewhat raised centrally, as at *L'*, to engage and thereby elevate portion *h²* of table *h* upon the advance of the cutting-knives
85 *J*, *D*, and *K*. Portion *h²* of the table therefore constitutes a pressure-block for pressing the blank into proper engagement with the scoring-knives. Upon the recession or with-
90 drawal of the knife-head bearing knives *J*, *D*, and *K* it is obvious that pressure-block *h²* will lower by gravity. A leaf-spring *n*, that is suitably secured to the under side of block
95 or head *N* and that is capable of being compressed flush with the under side of said head or block upon the elevation of pressure-block *h²*, acts to disengage the blank from the scor-
100 ing-knives as soon as the pressure-block lowers after the scoring operation, block or head *N* being cut away at *N²* to accommodate the reception of said spring upon the de-
105 pression of the latter. Hence it will be observed that spring *n* prevents any binding or adherence of the blank to the scoring-knives after the scoring operation.

Knife-head *L* is preferably provided with depending rods *L²*, that extend downwardly easily through holes *O'*, formed in a cross-piece
105 or beam *O*, to which the lower end of the lower toggle-arm is pivoted, and that is rigid with the supporting-frame of the machine, the arrangement of parts being such that the down-
110 wardly-depending rods or members of knife-head *L* shall not in the uppermost position of said knife-head be entirely disengaged from beam or member *O*. By the construction just
115 described it will be observed that knife-head *L* is guided as required during the vertical reciprocation of the same.

Having described the mechanism employed for severing the blank from the stock or strip of material and for cutting the blank into the
120 shape required preparatory to the folding or bending operation hereinafter described, and having described the mechanism employed for scoring the blank, as hereinbefore indicated, when such scoring is desirable, I will
125 next refer to the means employed for automatically feeding the stock or strip of material from which the blanks are cut to and through the machine. A horizontally and
130 transversely arranged shaft *P* (see Figs. 5 and 6) is provided at or near each end of the machine. Shafts *P* are located in a plane a suitable distance above the table of the machine and two sprocket-wheels *P' P'* are operatively mounted upon each of said shafts a suitable

interval apart. Endless chains Q are shown leading from and over the sprocket-wheels on one of shafts P to and over sprocket-wheels Q', supported a suitable distance above the central portion of the machine, thence to and over sprocket-wheels P' P' on the other shaft P, and thence back to the sprocket-wheels first aforesaid, the arrangement of parts being such that the lower section *q* of said chains shall be arranged in a horizontal or approximately horizontal plane. These horizontally or approximately horizontally-arranged sections of the chains constitute the feed for the stock or strip of material from which the blanks are cut. Said feeding-sections of chains Q are located a suitable distance apart and are provided at suitable intervals with inwardly-projecting lugs or flanges *q* that upon their under side are provided with points *q*², adapted to bite the stock or material and feed the latter in the direction of the operating knives and folding devices.

The direction in which the chains are driven is indicated by arrows in Fig. 5.

The endless chains are operatively connected with driving-shaft M, and the mechanism preferably employed for establishing this operative connection is as follows: A ratchet-wheel R is operatively mounted upon one of shafts P, and said ratchet-wheel is adapted to be engaged and actuated by means of a pawl S, that is pivotally secured, as at S', to an arm or lever S², loosely mounted upon the ratchet-wheel-supporting shaft, and is operatively connected by means of a link S³ with a crank M' on the driving-shaft. A spring S⁴, supported in any approved manner, engages pawl S and acts to retain said pawl in engagement with the ratchet-wheel. The arrangement of parts is such that endless chains Q shall be driven intermittently in the operation of the machine.

Suitable means are provided for holding the feeding-chains into proper engagement with the blank during the cutting operation and during the interval between the cutting operation and the delivery of the blank to the form, hereinafter described, employed in the bending or folding of the blank into the shape required, and for causing the biting or engaging points of the chain to engage the stock or material and feed it as required to the place at which the cutting operation is performed. The means employed for the purpose consists, preferably, of two bars T arranged lengthwise of the machine, one for each of the feeding-chains. Said bars extend, preferably, from a point a suitable distance in advance of the place at which the cutting operation takes place to the place at which the bending or folding of the blank is done. Each bar T is undercut, as at T', (see Figs. 6 and 11,) to permit the chain to pass thereunder and thereby guide the chain and hold it in proper engagement with the stock or material being cut, and in proper engagement with the blanks that are on the way to the place at which they

are bent or folded into the shape required to form the basket, and I would here remark that the undercut grooves of bars T, from a point a suitable distance in advance of the place at which the cutting of the blank is done, are gradually enlarged outwardly and in a vertical plane, as at T², to the outer ends of the bars, (see Fig. 5,) thereby enabling the attendant of the machine to feed the stock or material in under the feeding-chains and to accommodate a gradual engagement of the stock or material by the biting or feeding points on the chain.

A suitable distance rearward of the place of the cutting of the blank is located the stationary form U, (see Figs. 7, 8, 9, 10 and 11,) upon which the blank is bent or folded into the shape required to form the basket, the cut blank being received from table *h* upon a vertically-reciprocating table V (see Fig. 11) that is elevated, by mechanism hereinafter described, into the same horizontal plane in which table *h* and top surface of form U are located, at the proper time to receive the incoming blank preparatory to the engagement of the blank, when the latter is in position upon the form, by the vertically-movable block W above the form, said block being adapted to hold the blank upon the form during the forming operation.

The mechanism whereby table V is reciprocated vertically, as hereinbefore indicated, consists, preferably, of a cam-wheel M³ (see Figs. 5 and 6) operatively mounted upon driving-shaft M, said wheel being provided with a cam-groove *m*³ that is engaged by a roller X' secured to the one end of a tilting-lever X that is fulcrumed to the supporting-frame, as at X², and is operatively connected at its opposite end to table V in any approved manner. The arrangement of parts is such that the means operatively connecting table V with the driving-shaft is actuated at the proper time to elevate said table in position flush with the top surface of the form for the reception of the incoming blank preparatory to the engagement of the blank by the vertically-movable block W above the blank, and the descent of table V takes place as soon as the blank is properly engaged by said block W.

The form is slotted vertically at one or more points, as at U', said slots extending from side to side of the form and accommodating the location and operation of a corresponding number of cross-bars or cross-pieces V', with which table V is provided, the object of said cross-pieces being not only to guide the table during its reciprocation, but also to positively lift or elevate the completed basket preparatory to the removal of the latter from between the form and folding devices by the next succeeding blank, as hereinafter described. A spring W', (see Figs. 5, 8, and 10,) acting in the direction to lower block W, is preferably provided, said spring being supported in any approved manner, preferably a suitable dis-

tance above the block, and engaging the central member of an elongated bail-shaped or inverted U-shaped rod W^2 that is suitably secured at its ends to block W.

- 5 Two upright standards or housings H' , that carry sprocket-wheels Q' , are arranged a suitable interval apart and rigid with the central portion of the supporting-frame of the machine. Said standards or housings are provided with vertical slideways H^2 , (see Fig. 5,) up and down which a bar or beam Z that carries the folding devices is reciprocated, said bar or beam being operatively connected with the driving-shaft, preferably at opposite ends, by means of connecting rods or links Z' , (see Figs. 5 and 6,) that are suitably connected at one end with beam or bar Z and at their opposite ends are operatively connected with crank M' of the driving-shaft.
- 20 Bar or beam Z at one side has rigidly secured thereto a depending block Y, Figs. 7, 8, 9, and 10, that carries the folders, hereinafter described, and that carries block W, hereinbefore described, said block Y being vertically perforated, as at Y' , to accommodate the location of the bail-shaped rod W^2 in the operation of block W. Rod W^2 , above block Y, is preferably provided with one or more shoulders W^3 that constitute stops to limit the depression of block W, the arrangement of parts being preferably such that said shoulders or stops shall come into engagement with the upper end of block Y as soon as block W has engaged the blank.
- 35 20 (see Figs. 7, 8, 9, and 10) designates the folders for bending or folding the end portions of the central section of the blank, and which portions of the blank forms sides $c c$ of the basket. Said folders are shown to consist, respectively, of a single sheet of metal that is secured, preferably, at or near the top to a vertically movable block 21, interposed and adapted to operate between block W and the lower end of block Y. Said folders are located on opposite sides of the supporting-block, respectively, and extend a suitable distance below the block. (See Figs. 8 and 10.) A spring 22 acts in the direction to depress said folder-carrying block, said spring being confined upon the reduced portion of an upwardly-extending stem 23, with which said block is provided, and which stem extends upwardly into a corresponding bore Y^2 formed in block Y. Stem 23 is provided with a lateral vertical slot 24, the upper end whereof is adapted to be engaged by a pin or cross-bar Y^3 supported by the surrounding wall of the bore in which said stem operates. The arrangement of parts is such that block 21 before it, in its downward movement, comes into engagement with block W, is arrested and supported by pin or member Y^3 in the bore in which the stem of said block 21 operates.
- 65 25 represents the folders for bending or folding the outer sections b of the blank to thereby build up the sides of the basket ad-

jacent to the sides formed by the outer portions of the central section of the blank. Folders 25 are shown to consist, respectively, of a single sheet of metal and are suitably secured to and at or near the lower end of block Y. Folders 25 are located, respectively, on opposite sides of the supporting-block and extend a suitable distance below said block, but do not, normally, extend downwardly as far as folders 20, already described, the arrangement of parts being such that folders 25 shall not perform their function until after the operation of folders 20.

26 (see Figs. 7, 9, and 10) designates the folders for bending or folding laterally the projecting portions e of the outer sections b of the blank.

85 Folders 26 are also preferably formed, respectively, of a single metallic sheet, and are rigid and preferably integral with levers 27 that are fulcrumed at 28 to block 21. Levers 27 are operatively connected by means of links 29 with block Y, the arrangement of parts being such that in their normal position block 21 shall be separated a suitable distance from block W, as shown in Fig. 7, and that the folders for bending or folding the central section of the blank and the folders for folding or bending the outer sections of the blank against the sides of the basket, formed by the bent portions of the central section of the blank, shall have performed their function before block Y closes downwardly upon block 21, as shown in Fig. 8, and that when the space had, in the normal position of the parts between blocks Y and 21, is occupied upon the downward movement of block Y against block 21, levers 27, by means of links 29, shall have been actuated to operate folders 26, as shown in Fig. 9, which folders 26 are suitably shaped to engage the sides of the basket that are formed by folders 25 and to engage the projecting portions of said sides and bend or fold the same laterally and inwardly against the outer surfaces of the sides of the basket formed by said folders 20, as shown in Figs. 9 and 10.

I would here remark that suitable means should also be provided for positively effecting the disengagement of the blank from the points on the feeding-chains before the first folding operation upon the blank and thereby avoid any injury or mutilation of the blank upon the engagement of the blank by the folders employed in the first folding operation. The means referred to for thus disengaging the blank from the feeding-chains, preparatory to bending or folding the blank, consists, preferably, of uprights, rods, or bars 30, arranged at the sides of the folding apparatus, at which folders 20 are located, and adapted to engage the upper surface of the portion of the blank adapted to be folded or bent by said folders. Rods or bars 30 extend upwardly through perforated lugs or ears Z^2 Z^3 rigid with bar or beam Z. A coil-spring 31 confined upon each member 30,

between the upper lug or ear Z^3 and a pin or projecting-member 32 on the respective rod or bar, acts in the direction to depress said bar or rod, the depression of the latter, however, being limited by the engagement of a shoulder 33 formed upon the respective rod or bar 30 with the adjacent chain-guiding bar T, as shown in Fig. 8, the function of springs 31 upon rods or bars 30 being to accommodate a further downward movement of bar or beam Z after the downward movement of said rods or bars 30 has been arrested, as hereinbefore described, and the arrangement of parts is such that rods or bars 30, as already indicated, shall perform their function of disengaging the blank from the feeding-chains preparatory to the operation upon the blank by folders 20.

Having thus described the devices or mechanisms employed for making the blank and bending or folding the same into the shape required to form the basket, I will proceed to describe the mechanism preferably employed for securing the overlapping portions of the outer sections of the blank to the sides of the basket formed by the central section of the blank. The mechanism employed for the purpose (see Fig. 6) is shown to consist of barrels or tubes 34 at the inner or discharging ends whereof the staples, to be driven through said parts of the basket to be fastened together, are introduced in any suitable manner. 35 designates the rods or bars that are adapted to reciprocate endwise of and within barrels or tubes 34 and engage the staples to be driven, the adjacent sides of the form upon which the blank is bent or folded into the shape required to form the basket being provided with recesses U^2 that act as companion-dies to co-operate with the staple-driving rods or bars in clinching the staples upon the inner side of the basket. Both the staple-driving rods or bars and the barrels or tubes in which they operate are, at their outer ends, provided with rollers 36, engaging cam-grooves 37, in the periphery of cam-wheels 38, operatively mounted upon the driving-shaft, the trend of said grooves and the arrangement of parts being such that the staple-receiving barrels or tubes shall be moved endwise into the position required relative to the point at which the staples are applied, and so that the staple-driving rods or hammers shall thereupon be actuated to engage the staples fed or introduced into said tubes or barrels and force or drive the same into place as desired.

It will be observed, upon reference to Fig. 6 of the drawings, that the staples at opposite sides of the basket are driven simultaneously, that the mechanism in each instance is substantially the same, and that the cam-wheels of said mechanisms are operatively connected with the same driving-shaft.

What I claim is—

1. In a basket-making-machine, the combination of the suitably supported horizontally

arranged table h , means for feeding the stock to said table, knife-head L located below the table and provided with knives for cutting the blank from the stock and cutting it to the shape required, mechanism for actuating the knife-head to cause the knives to perform their function, a block or head N located above the table and knife-head and provided with scoring-knives N' , and pressure-block h^2 suitably supported from the table between the aforesaid knife-heads and adapted to be elevated by the lower knife-head, the arrangements of parts being substantially as shown, for the purpose specified.

2. In a basket-making-machine, the combination of the suitably supported horizontally arranged table h , means for feeding the stock to said table, knife-heads or blocks L and N located below and above the table, respectively, pressure-block h^2 located between the knife-heads, spring n secured to the under side of the upper knife-head, substantially as indicated, mechanism for elevating and lowering the lower knife-head, and the upper knife-head being cut away, as at N^2 , to accommodate the reception of the aforesaid spring, all arranged and operating substantially as shown, for the purpose specified.

3. In a basket-making-machine, the combination of the table h , means for feeding the stock to said table, knife-head L provided with the knives employed to cut the blank from the stock and cut it to the shape required, toggle-arms ll' arranged substantially as indicated, the upper arm being operatively connected with the knife-head, means for actuating said arms, cross-piece or stationary member O located below the table and provided with holes O' , and rods or members L^2 depending from the knife-head and extending through said holes, the lower toggle-arm, at its lower end, being pivotally connected to said stationary member O, all arranged and operating substantially as shown, for the purpose specified.

4. In a basket-making-machine, the combination with the knives for cutting the blank and blank-folding-devices, of the horizontally arranged table h , endless-chains Q the feeding sections whereof are arranged in a horizontal or approximately horizontal plane and are provided at suitable intervals with inwardly-projecting lugs or flanges Q' that upon their under side are provided with points Q^2 adapted to bite the stock or material and feed the latter upon the aforesaid table and in the direction of the operating knives and folding-devices, substantially as shown, for the purpose specified.

5. In a basket-making-machine, the combination with the knives for cutting the blank from the stock and into the shape required, and devices for folding the blank into the shape required to form the basket, of the two shafts P, sprocket or chain-wheels P' , endless chains Q located a suitable distance apart and provided at suitable intervals with in-

wardly-projecting lugs or flanges Q' that upon their under side have points Q² adapted to bite the stock or material and feed the latter in the direction of the operating-knives and folding-devices, ratchet-wheel R operatively connected with said chains, pawl S for actuating said ratchet-wheel, and suitable mechanism for operating the pawl, substantially as shown, for the purpose specified.

6. In a basket-making-machine, the combination with the table *h*, knives for cutting the blank from the stock and the shape required, devices for folding the blank into the shape required to form the basket, suitably actuated chains provided with means adapted to engage and feed the stock and blank to the aforesaid knives and folding-devices, respectively, of means for holding the feeding-devices into proper engagement with stock and blanks and comprising a bar T for each chain, said bar being undercut as at T' and T², all arranged and operating substantially as shown, for the purpose specified.

7. In a basket-making-machine, the combination of a stationary horizontally arranged table *h*; means for feeding the stock or material to said table; knives for cutting the blank from the stock and to the shape required; stationary form U located a suitable distance rearward of the place of cutting, vertically-reciprocating table V and mechanism for actuating said movable table into the same or approximately the same horizontal plane in which the aforesaid stationary table and top surface of form U are located; devices for folding the blank, when the latter is in position upon the aforesaid form, into the shape required to form the basket, and suitable means for holding the blank upon the form during the folding or forming operation, the parts being arranged and timed substantially as shown, for the purpose specified.

8. In a basket-making-machine, the combination of table *h*; means for feeding the stock and blanks; knives for cutting the blank from the stock and into the shape required; stationary form U located a suitable distance rearwardly of the place of cutting; vertically-reciprocating table V; devices for folding the blank, when the latter is in position upon the aforesaid form, into the shape required to form the basket; means for holding the blank upon the form during the folding or forming operation, and mechanism for actuating the aforesaid reciprocating-table and comprising a driving-shaft M, cam-wheel operatively mounted on said shaft, and tilting-lever operatively connected with the table and actuated by the aforesaid cam-wheel, all arranged and operating substantially as shown, for the purpose specified.

9. In a basket-making-machine, the combination of stationary table *h*; means for feeding the stock and blanks; knives for cutting the blank from the stock and to the shape required; stationary form U located a suitable distance rearward of the place of cutting;

vertically-reciprocating table V and mechanism for actuating said movable table into the same or approximately the same horizontal plane in which the aforesaid stationary table and top surface of form U are located; devices for folding the blank, when the latter is in position upon the aforesaid form, into the shape required to form the basket; vertically movable block W adapted to engage and hold the blank upon the form during the folding or forming operation; a spring acting in the direction to lower said block, and suitable means for elevating the block, all arranged and operating substantially as shown, for the purpose set forth.

10. In a basket-making-machine, the combination with a form U adapted to receive the blank, of two upright standards or housings H' provided with vertical slide-ways H², bar or beam Z operating in said slide-ways, driving-shaft M provided with crank M', mechanism establishing operative connection between said crank and the aforesaid reciprocating bar or beam, and devices for folding the blank, when the latter is in position upon the aforesaid form, into the shape required to form the basket, said folding-devices being carried by the aforesaid reciprocating-bar or beam, substantially as set forth.

11. In a basket-making-machine, the combination with the form U adapted to receive the blank, of the suitably actuated vertically-reciprocating bar or beam Z; block Y rigid with said bar or beam and perforated vertically, as at Y'; block W borne by the aforesaid block Y; bail-shaped rod or frame W² rigid with block W and extending through the perforations in and above block Y and being provided with stop or stops W³; a vertically-movable block 21 interposed between blocks W and Y; folding-devices 20 at opposite sides of and suitably secured to and extending a suitable distance below block 21; suitable means acting to depress block 21; suitable means for limiting the downward movement of said block 21, and folding-devices 25 at opposite sides of and secured to block Y, folding-devices 25 extending below their supporting block but not extending as far downwardly as the aforesaid folders 20, all arranged and operating substantially as shown, for the purpose specified.

12. In a basket-making-machine, the combination with the form U adapted to receive the blank, of the suitably actuated vertically-reciprocating bar or beam Z; block Y rigid with said bar or beam and perforated vertically as at Y'; block W borne by the aforesaid block Y; bail-shaped rod or frame W² rigid with block W and extending through the perforations in and above block Y and being provided with stop or stops W³; a vertically-movable block 21 interposed between blocks W and Y; folding-devices 20 at opposite sides of and suitably secured to and extending a suitable distance below block 21; suitable means acting to depress block 21;

5 suitable means for limiting the downward
movement of said block 21; folding-devices 25
at opposite sides of and secured to block Y,
folding-devices 25 extending below their sup-
10 porting-block but not extending as far down-
wardly as the aforesaid folders 20; levers 27
fulcrumed to block 21; folders 26 rigid with
said levers, and links 29 operatively connect-
ing the levers with block Y, all arranged and
15 operating substantially as shown, for the pur-
pose specified.

13. In a basket-making-machine, the com-
bination with the horizontally arranged table
h; suitably actuated knives for cutting the
15 blank from the stock and into the shape re-
quired; suitably actuated devices for folding
the blank into the shape required to form the
basket; suitably actuated chains provided on
their under side with means for operatively
20 engaging the stock and blanks and moving
the stock and blanks in the direction of the

aforesaid knives and folding-devices, respect-
ively; bars T for guiding said chains in their
movement to the knives and folding-devices;
of a suitably actuated vertically-reciprocating 25
bar or beam Z provided with perforated
lugs or ears Z³; upright bars or rods 30 ex-
tending through said perforated lugs or ears;
coil-springs 31 confined upon said bars or rods
below the aforesaid lugs or ears Z³ and acting 30
in the direction to depress said rods or bars,
and stops for limiting the depression or down-
ward movement of said rods or bars, all ar-
ranged and operating substantially as shown,
for the purpose specified. 35

In testimony whereof I sign this specifica-
tion, in the presence of two witnesses, this 9th
day of February, 1894.

CURTIS VOTAW.

Witnesses:

H. S. BASHAW,
JOHN SUMMER.