

No. 865,468.

PATENTED SEPT. 10, 1907.

S. E. WRENN & D. MARTIN.
VENEER BOX SHAPING MACHINE.

APPLICATION FILED OCT. 16, 1905.

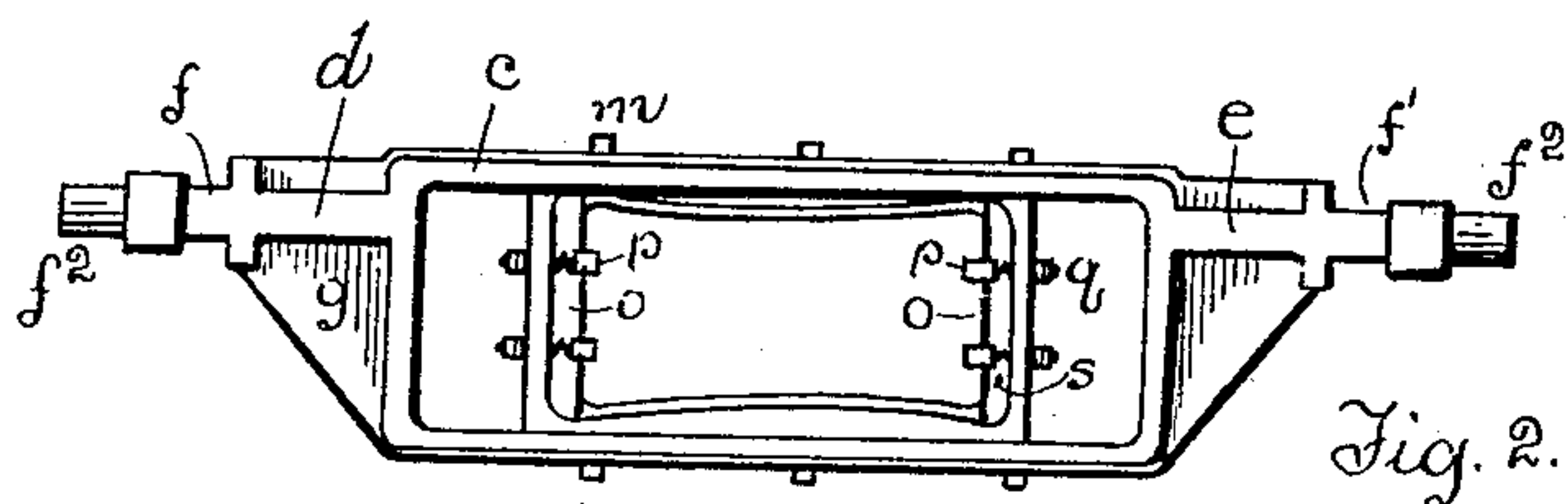


Fig. 2.

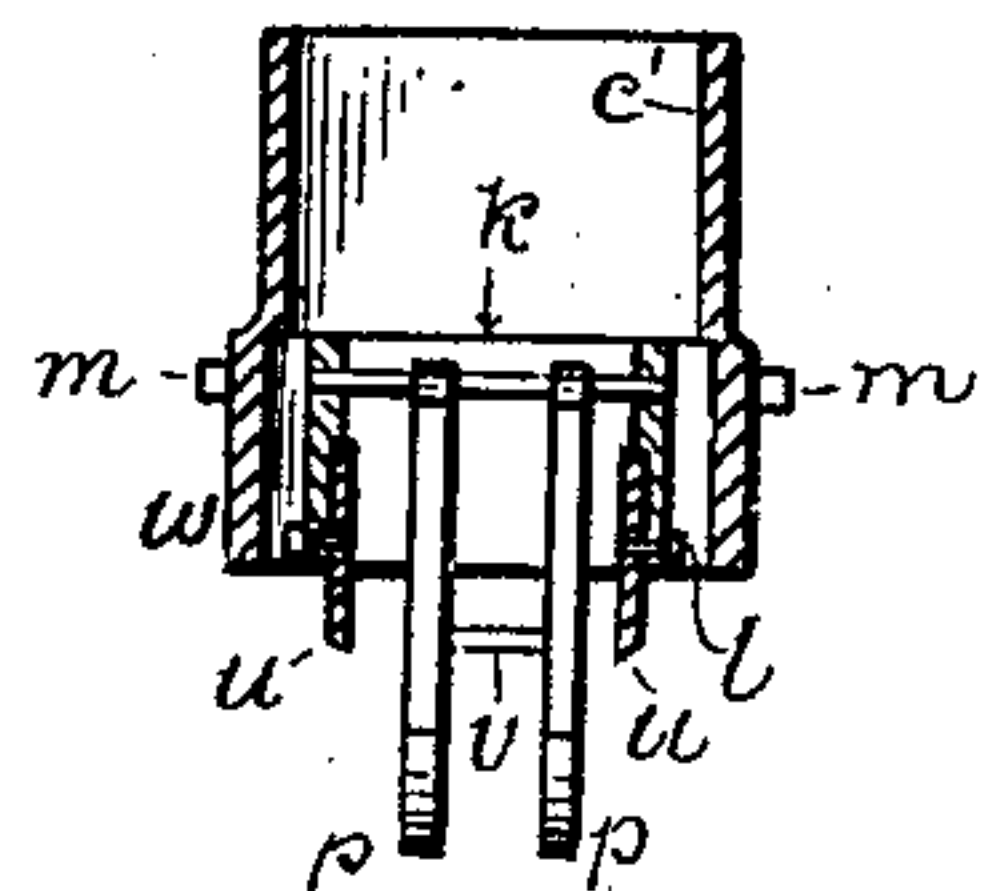


Fig. 4.

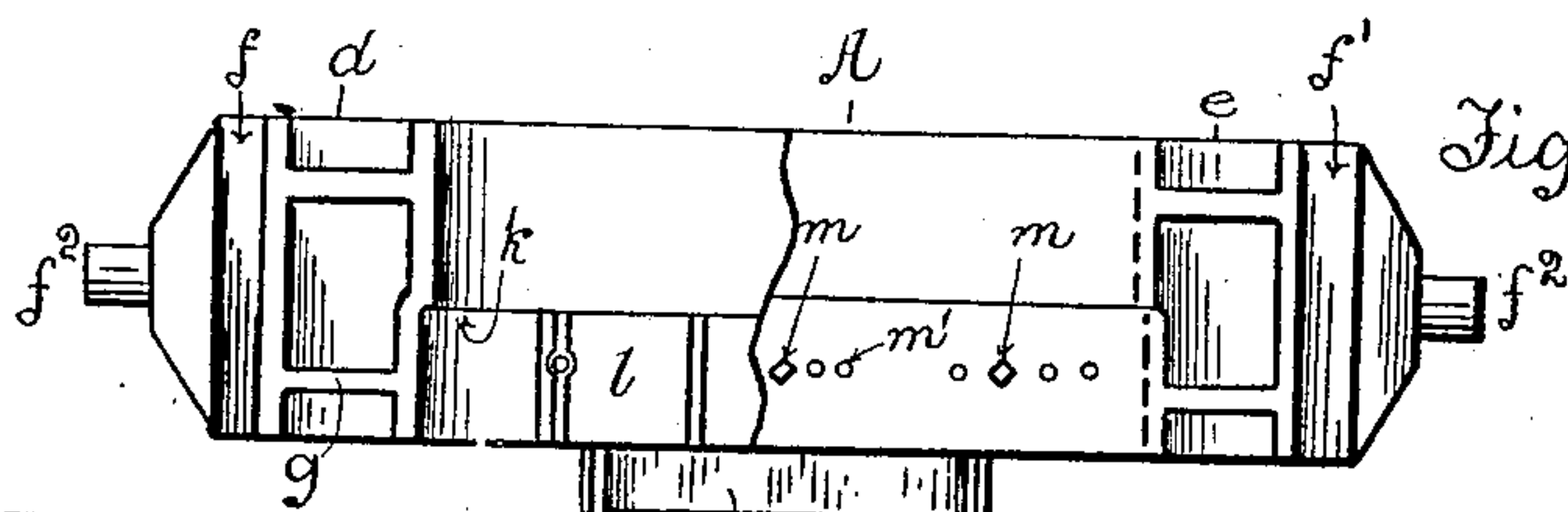


Fig. 3.

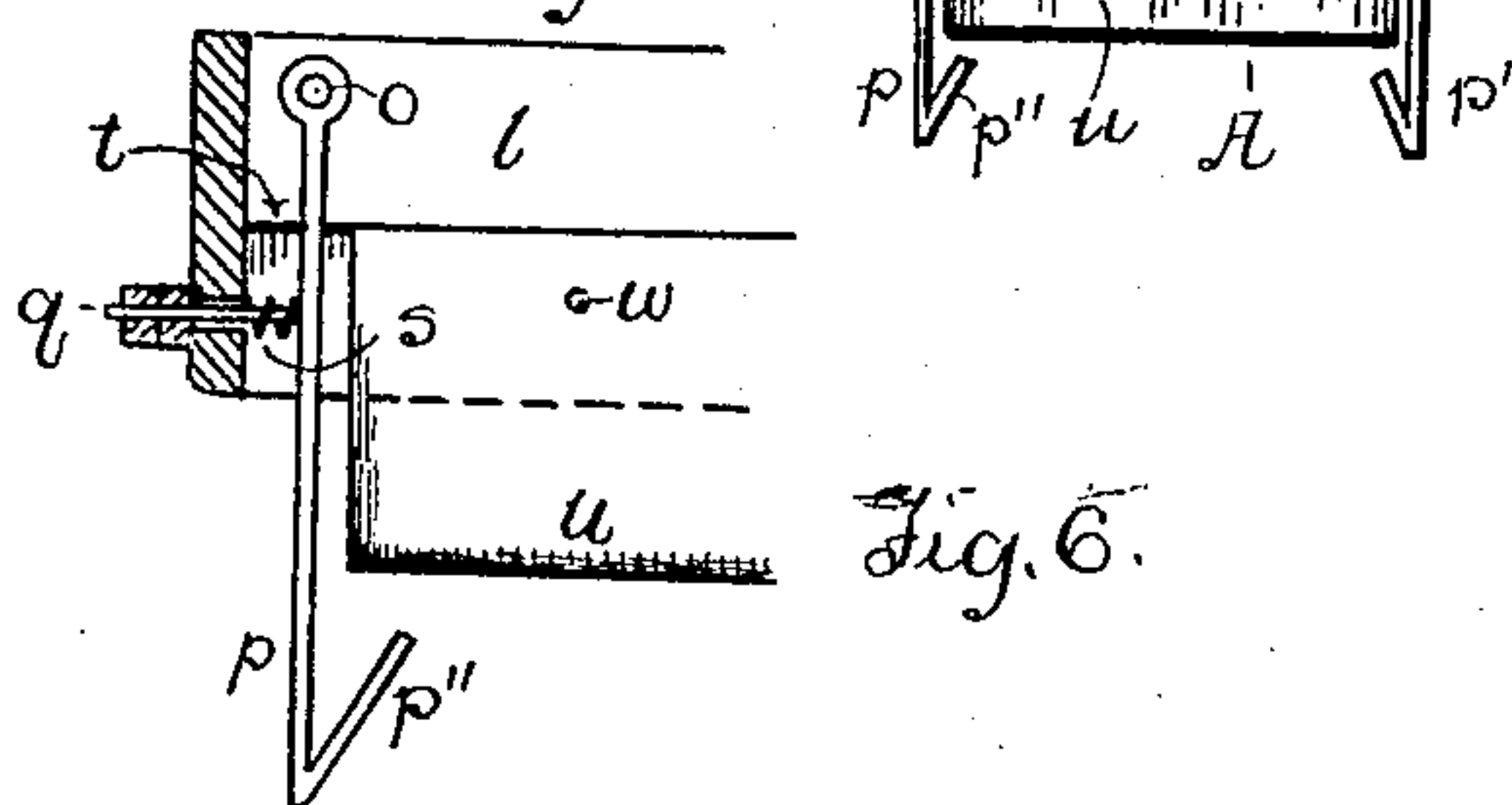


Fig. 6.

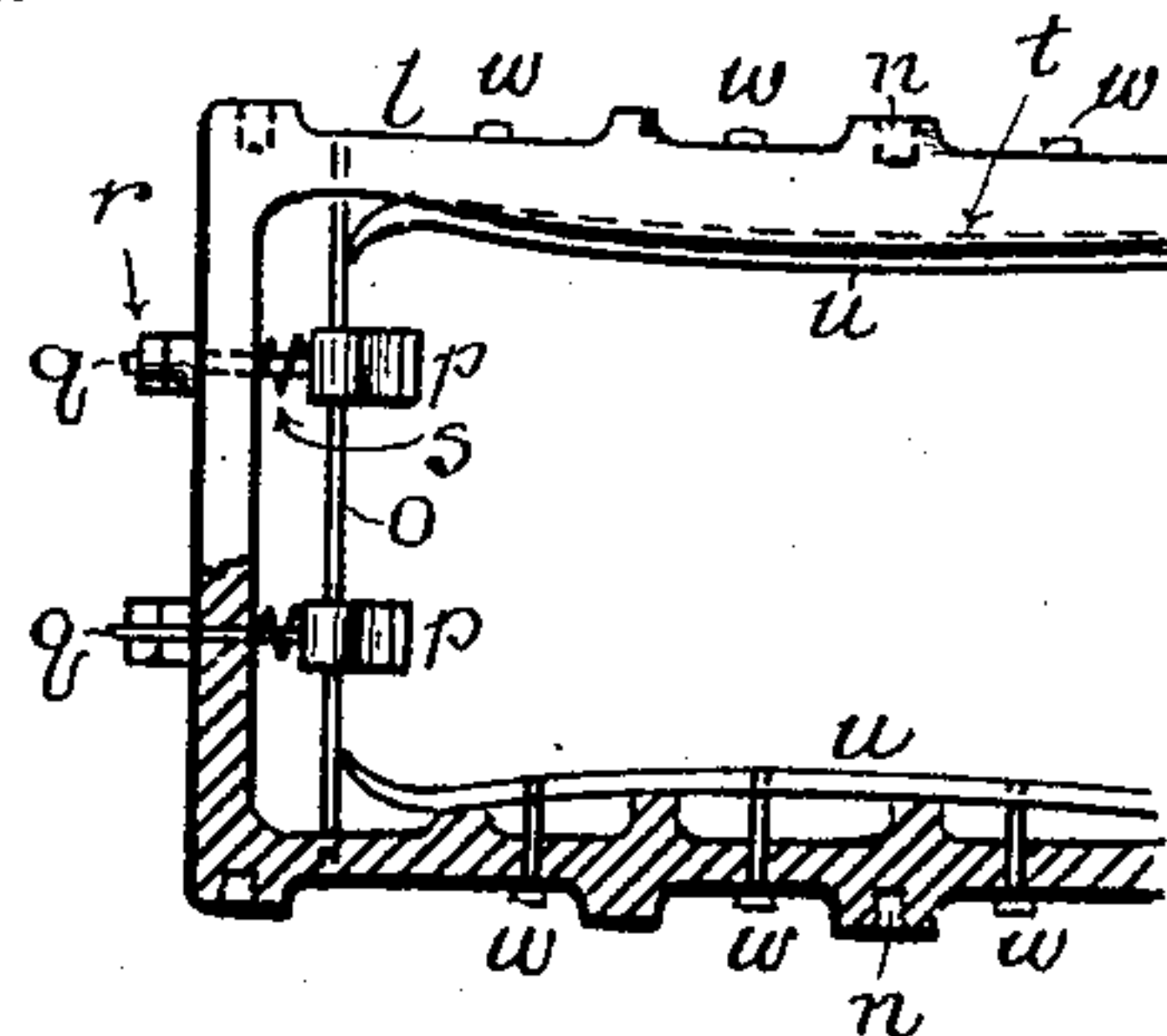


Fig. 5.

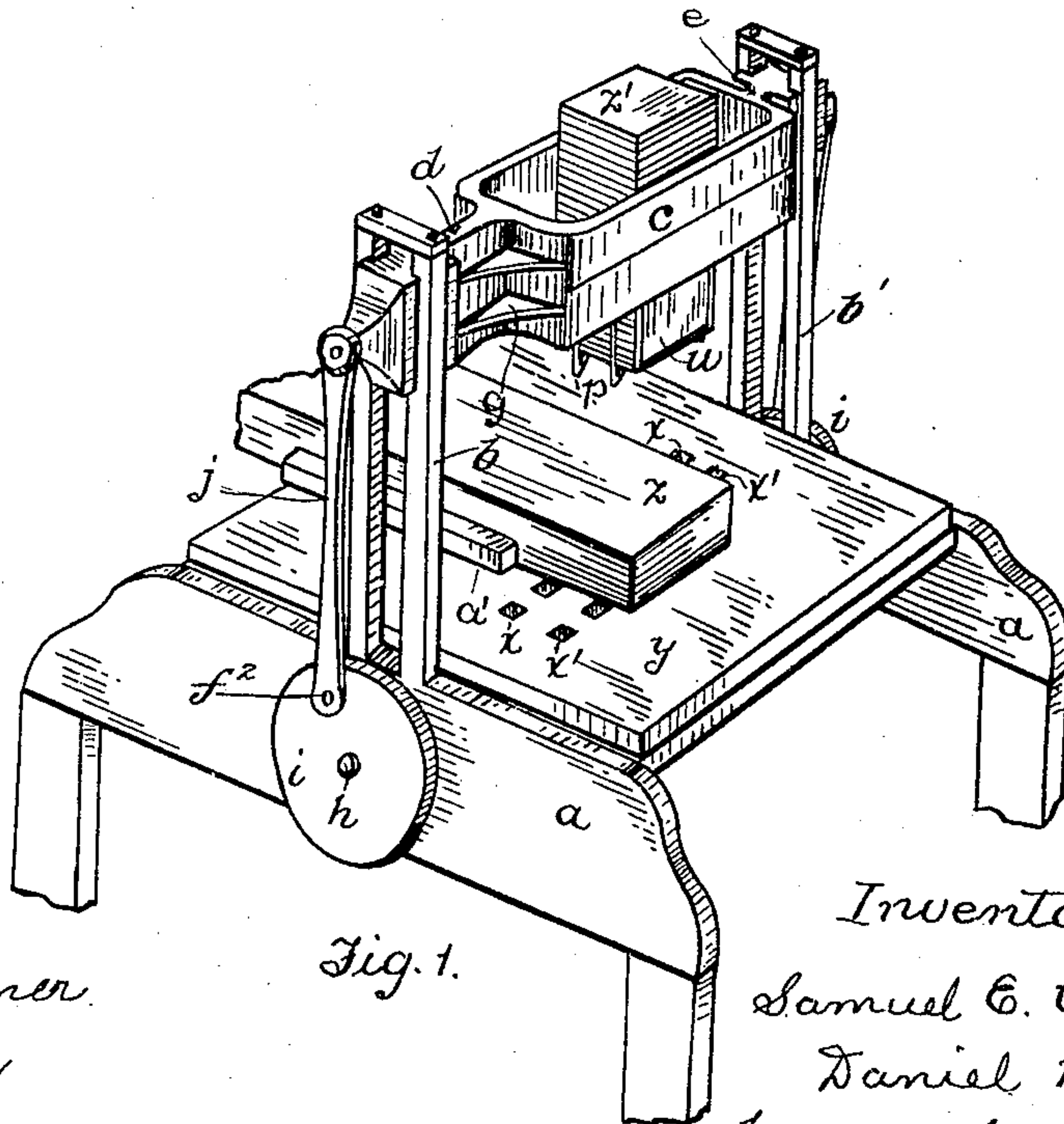


Fig. 1.

Witnesses:
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UNITED STATES PATENT OFFICE.

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veneer-box-shaping machine.

No. 865,468.

Specification of Letters Patent.

Patented Sept. 10, 1907.

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To all whom it may concern:

Be it known that we, SAMUEL E. WRENN and DANIEL MARTIN, citizens of the United States, and residents of Portland, in the county of Multnomah and State of Oregon, have invented a new and useful Improvement in Veneer-Box-Shaping Machines, of which the following is a specification, reference being had to the accompanying drawings as constituting a part thereof.

Our invention relates to machines designed to cut a stack of veneer wood into sizes and shapes suitable for making fruit boxes, and it has for its object to obtain a machine which is provided with a removable knife-carrier, so that the machine may be conveniently changed to cut varying sizes of veneer strips, and which possesses besides the special features hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of our machine, showing the same in operation; Fig. 2 is a plan of the reciprocating frame of our machine, with the knife-carrier, thereby carried, in position as in practice; Fig. 3 is a side elevation of such reciprocating frame together with the knife carrier supported thereby, the left portions being shown in section; Fig. 4 is a transverse section on a line A—A of Fig. 3; Fig. 5 is a partial plan of the knife carrier, on a larger scale, parts being shown in section; and Fig. 6 is a partial longitudinal section of said knife carrier, on a scale agreeing with Fig. 5.

The letters designate the parts referred to:

Our machine comprises a supporting base (*a*), provided with standards (*b b'*) at its lateral ends, the standards having respectively a central vertical slot, and serving as guides, for a reciprocating quadrangular open-top frame C.

The construction of the reciprocating frame may be observed by having reference to Figs. 2, 3, and 4 and it will be noted that the same comprises a body part *c'*, from which extend laterally projecting members *d* and *e*, and recessed portions *f*, which slide within the vertical slots of the guides *b b'*. The lateral members *d* and *e* are also connected with the body *c'* by means of webs *g*, to strengthen the frame. In the supporting base is journaled a shaft *h*, and on the two projecting ends thereof are affixed crank-disks *i*. The crank-disks are connected by means of pitmen *j* with the wrist pins *f²* on the reciprocating frame *c*.

On the inner faces of the body-part of the reciprocating frame is provided a shoulder *k* to serve as an abutment for the top of the knife carrier *l*. The knife carrier is secured in place by set-screws *m*, inserted in threaded perforations therefor provided in the longitudinal walls of the body of the reciprocating frame, and in corresponding threaded-holes *n*, made in the longitudinal walls of the body of the knife carrier.

Since our reciprocating frame C is designed to receive knife-carriers of different shapes and sizes, to provide

for the cutting out of the shapes of different styles of boxes, we provide, in the longitudinal walls of the reciprocating frame C, a series of threaded perforations *m'*, so that the set-screws may be moved from one to the other thereof, or a series of set screws provided to secure the different types of knife-carriers in place.

The knife-carrier is provided at its two upper ends, with transversely arranged rods *o*, on each of which are hingedly suspended pairs of arms *p p'* made of spring steel, the lower extremities of which are made with inturned hooks *p''*. Each of the arms *p p'* is provided with a bolt *q*, inserted through the end-walls of the body of the knife-carrier, and secured in place by nuts, and jam or lock nuts *r*.

On the bolts *q*, intermediate of the walls of the knife-carrier and the arms *p p'*, are placed coil springs *s*, which serve to hold the arms *p p'* in the position to which they are adjusted by means of the nuts *r*. The inner faces of the longitudinal walls of the body of the knife-carrier are made with shoulders *t* serving as an abutment for the tops of the knives *u*, and to receive the thrust of the knives upon the descent of the reciprocating frame C to cut through a stack of material.

The knives are secured in place by means of bolts *w*. On the supporting base *a* is affixed a wooden top *y*, made with a series of apertures *x x'* arranged to permit the passage of the ends of the spring arms *p p'*, upon descent of the reciprocating frame C.

The operation of our machine is as follows: On the table top *y* is deposited a stack of veneer strips *z*, properly positioned with respect to the knives. Upon the rotation of the shaft *h* the reciprocating frame C will descend and cause the knives *u* to cut a stack of shapes out of the stack of veneer-stock *z*. The springs *p p'* descending with the knives, enter the apertures *x x'* in the table-top *y*, the said arms being deflected by the contact of their hook-portions *p''* with the side faces of the material being cut, until the extremities of the arms have passed the bottom of the stack of material, upon which said arms spring back into place, and as the reciprocating frame C ascends, the hook extremities *p''* of said arms will engage with and carry up the stack of cut-out shapes as shown by *z'* in Fig. 1.

With each succeeding operation of our machine, the stack of cut-out shapes *z'* will increase in height, until it reaches beyond the top of the reciprocating frame C, whereupon the projecting upper part of the stack can be carried away.

The usual straight edge *a'* is provided on the table-top to guide and hold the stack of veneer in proper relation to the knives.

A further advantage of our machine is the simplicity of the arrangement and operation thereof. A knife-carrier is to be provided for each style or shape of box to be cut, and there is no adjustment or setting of the knives required. It is only necessary to keep them

sharp. The work of changing from one knife-carrier to another is readily done.

In the machines heretofore in use the knives had to be re-set as often as it was necessary to change from one style of box to another, and such re-setting of the knives involved considerable labor. And a further advantage to be obtained from our machine is the stack cut-out material is held in stacked up position, convenient for carrying away, instead of being discharged in a dis-arranged manner.

We claim:—

1. In a machine of the character described, the combination with supporting guides, and reciprocating mechanism, of a reciprocable frame made with interior shoulders or abutments, and with a series of threaded perforations below such abutments, set screws in such perforations, a knife-carrier removably secured by said set screws in said frame, and bearing against the abutments thereof, interior abutments on the knife-carrier, and knives secured in the latter and bearing against the abutments thereof.

2. In a machine of the character described, the combination with the knife-carrier, of rods affixed transversely in the ends of the former, arms having inturned hooks at their lower extremities and pivotally suspended from the rods, threaded bolts and nuts thereon, said bolts being

inserted through said ends and adjustably holding the arms below their pivotal points, and coil-springs on said bolts arranged to allow the extremities of said arms to be deflected during the down or cutting stroke of the knife-carrier.

3. A machine of the character described comprising a table, and guides thereon, a frame reciprocable in said guides and made with interior shoulders or abutments, and having a series of perforations below such abutments; set screws in such perforations; mechanism for reciprocating the frame; a knife-carrier removably secured by said set screws in said frame and bearing against the abutments thereof; interior abutments on the knife-carrier, knives secured in the latter and bearing against the abutments thereof; rods affixed transversely in the ends of the knife-carrier, arms having inturned hooks at their lower extremities and pivotally suspended from the rods, threaded bolts and nuts thereon said bolts being inserted through said ends and adjustably holding the arms below their pivotal points, and coil-springs on said bolts arranged to allow the extremities of said arms to be deflected during the down or cutting stroke of the knife-carrier.

In testimony whereof, we have hereunto affixed our signature in the presence of two witnesses.

SAMUEL E. WRENN.
DANIEL MARTIN.

Witnesses:

T. J. GEISLER,
ALPHA A. TURNER.