(No Model.) 2 Sheets—Sheet 1.

W. WATT & E. C. PETERSON.

EXPANSIBLE FORM FOR BOX MAKING.

No. 497,901. Patented May 23, 1893.

Fig. 1.

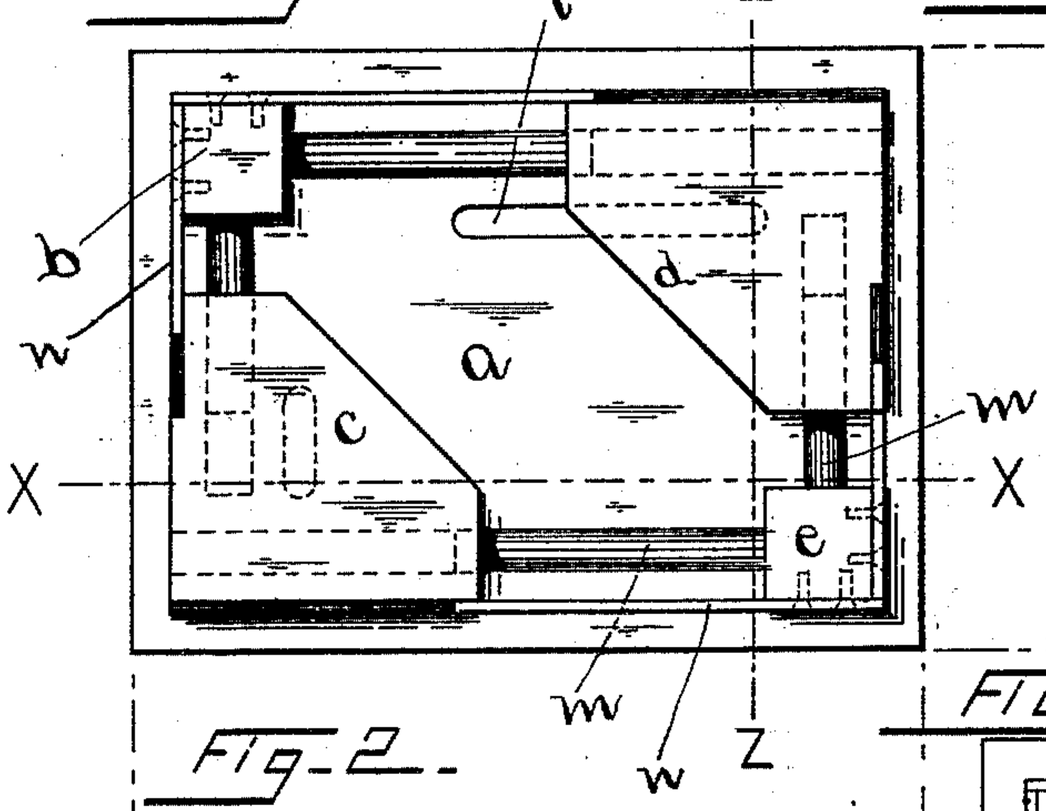


Fig. 3.

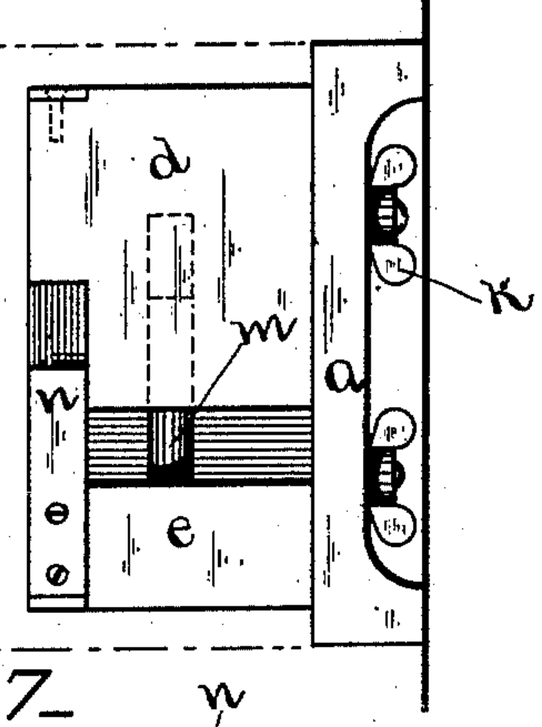


Fig. 2.

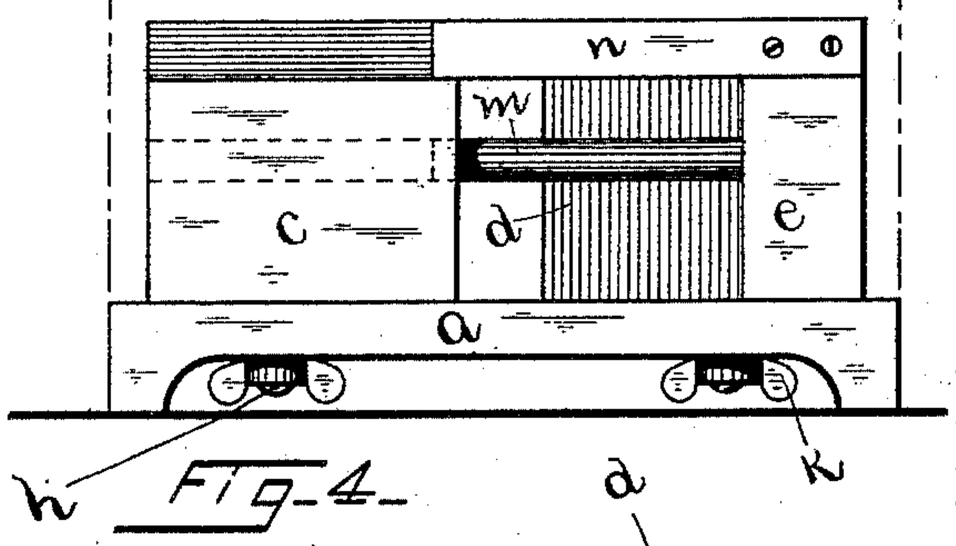


Fig. 7.

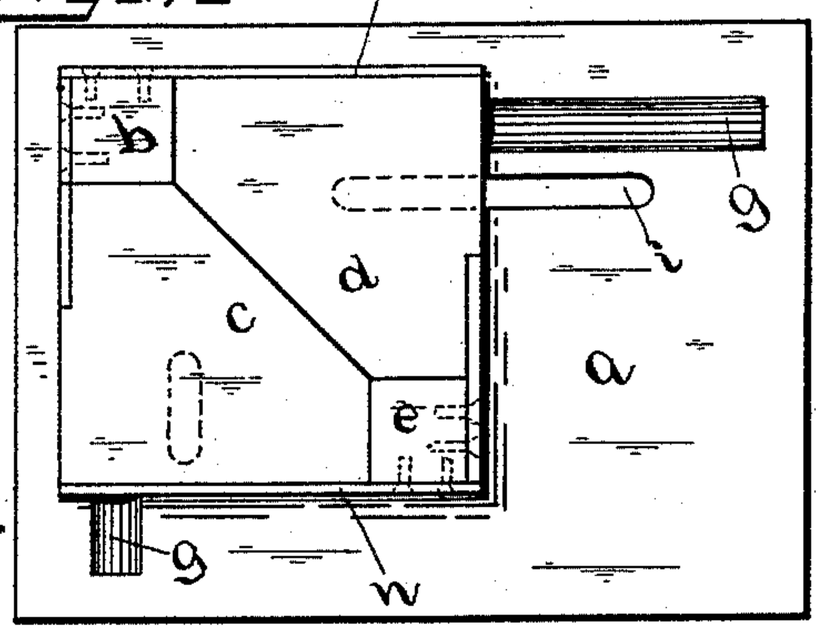


Fig. 4.

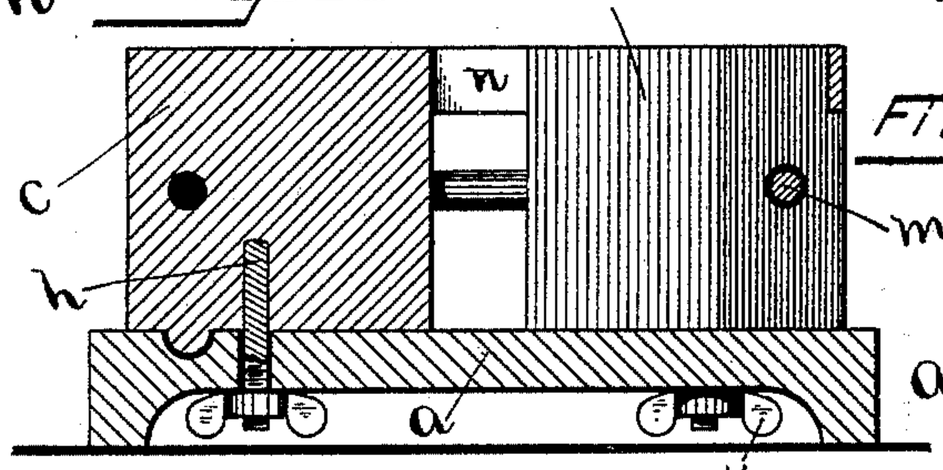


Fig. 5.

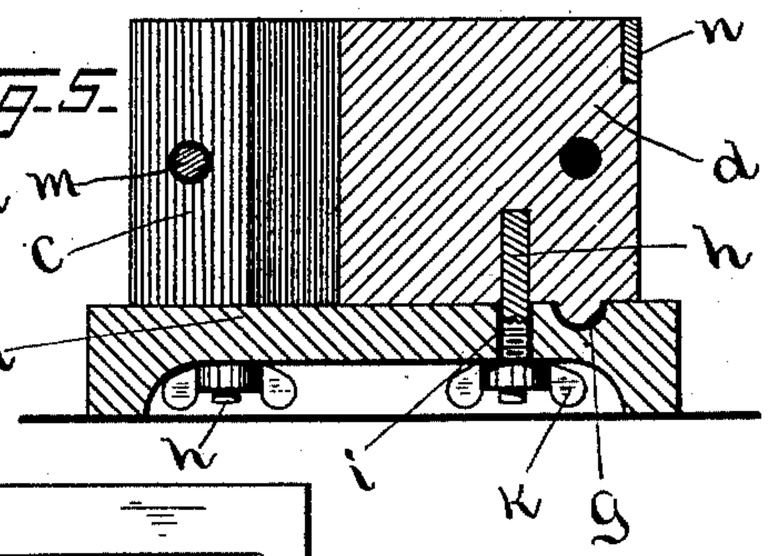
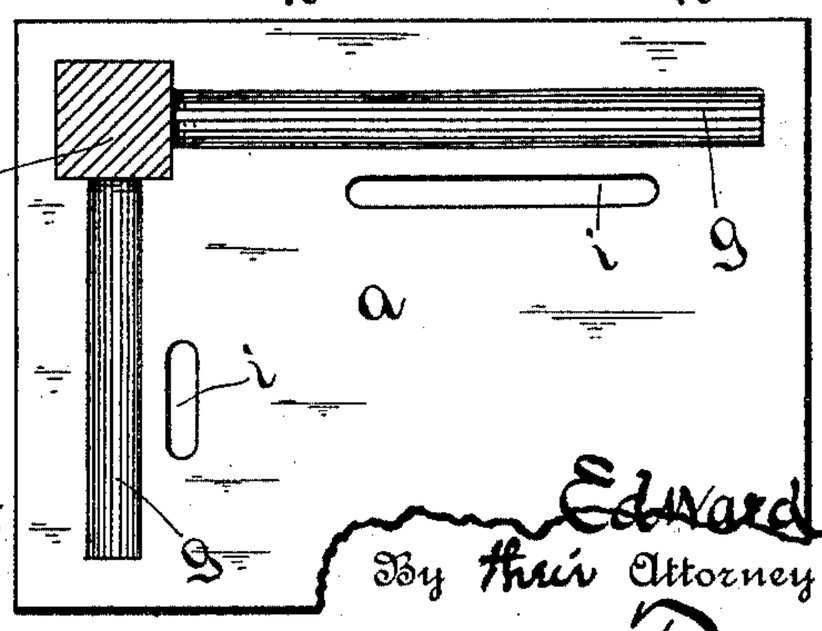


Fig. 6.



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(No Model.) 2 Sheets—Sheet 2.

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EXPANSIBLE FORM FOR BOX MAKING.

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Fig. 8.

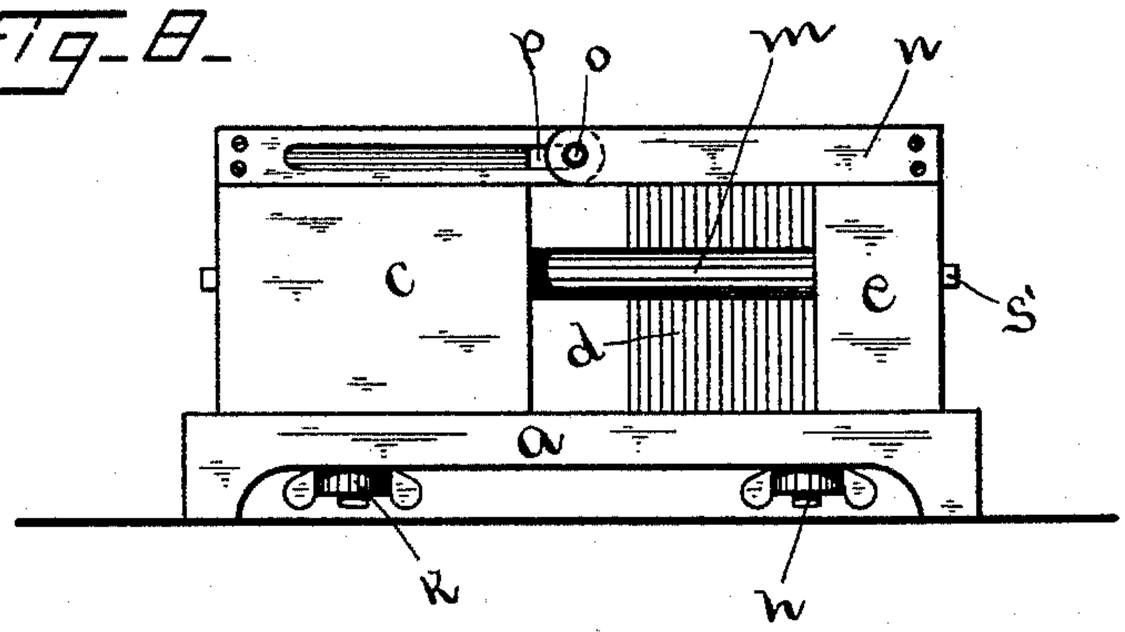


Fig. 9.

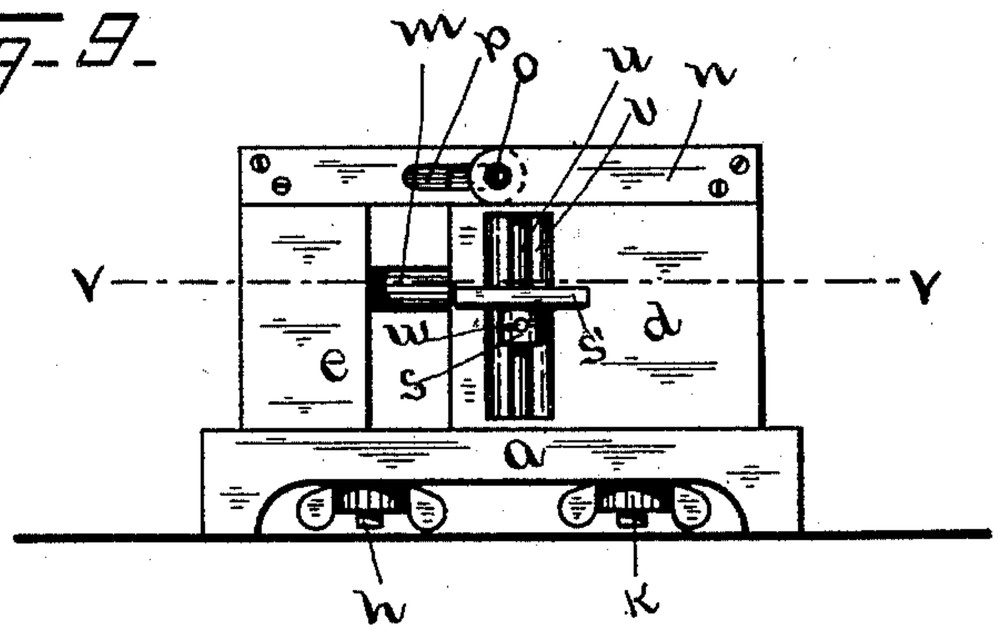
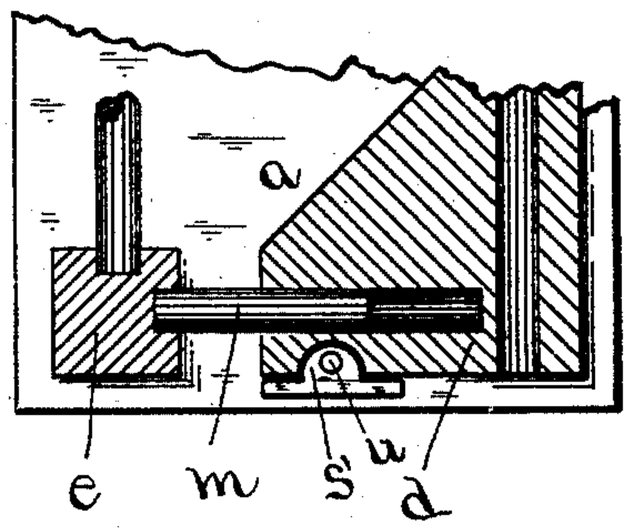


Fig. 10.



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UNITED STATES PATENT OFFICE.

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EXPANSIBLE FORM FOR BOX-MAKING.

SPECIFICATION forming part of Letters Patent No. 497,901, dated May 23, 1893.

Application filed July 25, 1892. Serial No. 441,139. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM WATT, of Boston, county of Suffolk, and EDWARD C. PETERSON, of East Lexington, in the county of Middlesex, both in the State of Massachusetts, have made certain new and useful Improvements in Expansible Forms for Box-Making, which improvements are fully set forth and described in the following specification, reference being had to the accompanying two sheets of drawings.

Our invention has for its object the production of a form or block for supporting paper boxes during the operation of setting up or covering; which form may be readily expanded or adjusted to support boxes of various sizes, within certain prescribed limits. This desirable result we are able to accomplish in a simple and inexpensive manner and by so doing we avoid the necessity and expense of providing a special block for each new size of box which it may be desired to make.

The drawings illustrate our expansible form, Figures 1, 2 and 3 being respectively, plan, side and end views of the same in its simplest form. Figs. 4 and 5 are sectional views on lines *x*—*x* and *z*—*z* of Fig. 1. Fig. 6 is a plan view of the bed section and Fig. 7 is a plan view of the complete device with the several box sections drawn in to their smallest capacity. Figs. 8 and 9 are side and end elevations showing certain modifications hereinafter explained in detail and Fig. 10 illustrates (principally in section, on line *v*—*v* of Fig. 9) a gage for supporting box blanks of different depths.

Referring to the drawings, the letter *a* indicates a base-plate, having secured to its face, near one corner, an upright block *b* that is square in cross section.

c, *d* and *e* indicate block sections with right angular outer faces, mounted upon the base plate in such manner that they may be readily adjusted relative to each other and to the fixed section *b*. Sections *c* and *d* each have a rib on their lower end which enters a corresponding channel *g* in the base plate; the rib and channel serving to guide said sections always at a right angle to each other, as will be understood by reference to Figs. 1, 4 and 5 of the drawings. Each of the sections *c*—*d* is provided with a threaded rod or bolt *h* that enters slots *i* in the base plate and projects sufficiently below said base plate to receive a thumb nut *k* by means of which the described adjustable sections may be firmly clamped in any desired position after adjustment. The section *e* is loosely mounted upon the base-plate and is intended to form the corner opposite the fixed section *a*. Section *e* is connected with blocks *c*—*d* by means of long dowels *m* that are firmly secured in section *e* but are free to slide in the companion sections *c*—*d*, provision being thus made for adjustment relative to the last named sections.

It will now be understood that the three movable sections of our device may be adjusted relative to the one fixed corner section, and any desired size of block (either of square or rectangular outline) provided, within certain prescribed limits; that is to say, within the range of the device.

The base-plate *a* is preferably recessed at its lower face, so that when used as a bench block, the clamping nuts *k*, being within said recess, are raised from contact with the bench or other support upon which the complete block rests.

When using our block for certain purposes, as for example, when covering boxes with strips of thin paper, it is desirable that the block may present as nearly as possible, an unbroken outline at its upper edge, so that the box-blank mounted thereon shall be supported at all points, and to accomplish this result we provide near the top of certain of the block sections strips of sheet metal *n* which, in Figs. 1 to 5 are shown as attached firmly to sections *a* and *e*. These strips are let into said sections and when the complete device is closed, as in Fig. 7, the projecting ends of said strips rest in rabbets in the sections *c*—*d* but whenever an adjustment is made, the strips follow the movement of the sections to which they are attached and are drawn forward nearly out of the said rabbets, thus bridging over the otherwise open space between the adjustable sections and providing a practically continuous edge around the upper end of the complete block.

In Figs. 8 and 9 we have shown a slightly

different means for obtaining the same result, the strips *n* being provided at their free ends with rivets *o* that also enter slots *p* in other similar strips of sheet metal secured to the block sections *c*—*d*. This construction permits of the use of very thin sheet metal.

In Figs. 8, 9 and 10 we have shown certain gages or stops that serve to support the box at each end when slipped down upon our described block. These gages consist of cast metal brackets formed with collars *s* and projecting ledges *s'*, the collars being mounted to slide on vertical rods *u* located in recesses *v* in the outer ends of sections *c* and *d*. A thumb screw *w* is tapped into collars *s*, by means of which the described gage may be clamped to rod *u*. When in use the projecting ledges *s'* prevent the body of a box from slipping down too far.

While our complete device is intended for bench use it could be readily secured to a suitable shaft and used as a revolving chuck.

Having described our invention, we claim—

In combination with a base-plate having grooves as set forth, a corner section fixed on said plate, block sections *c*—*d* having rectangular outer faces and having ribs adapted to coact with said grooves, an adjustable corner section doweled to sections *c*—*d* as described, and means substantially as specified for clamping the said adjustable sections in desired position.

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