

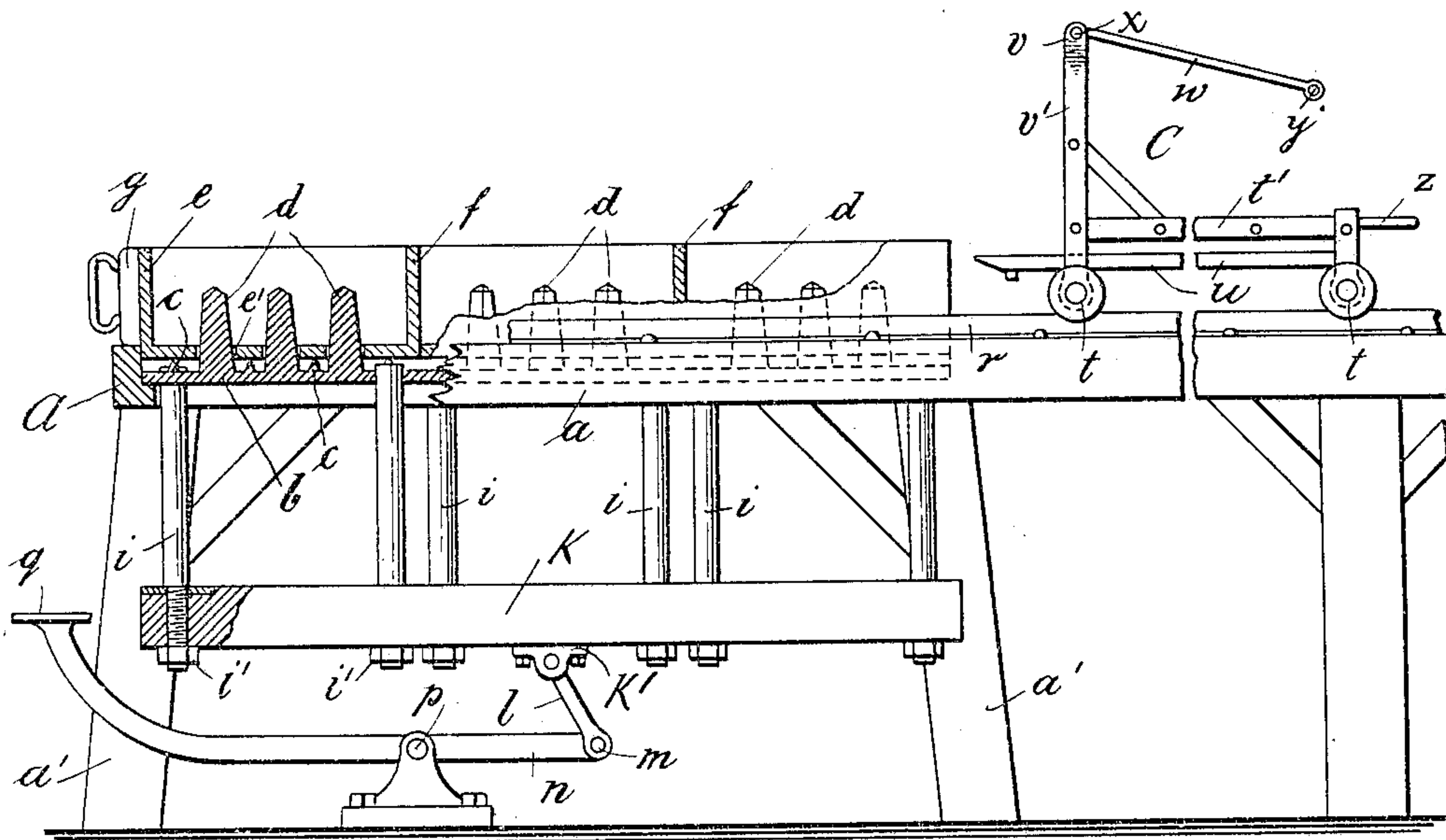
No. 793,296.

PATENTED JUNE 27, 1905.

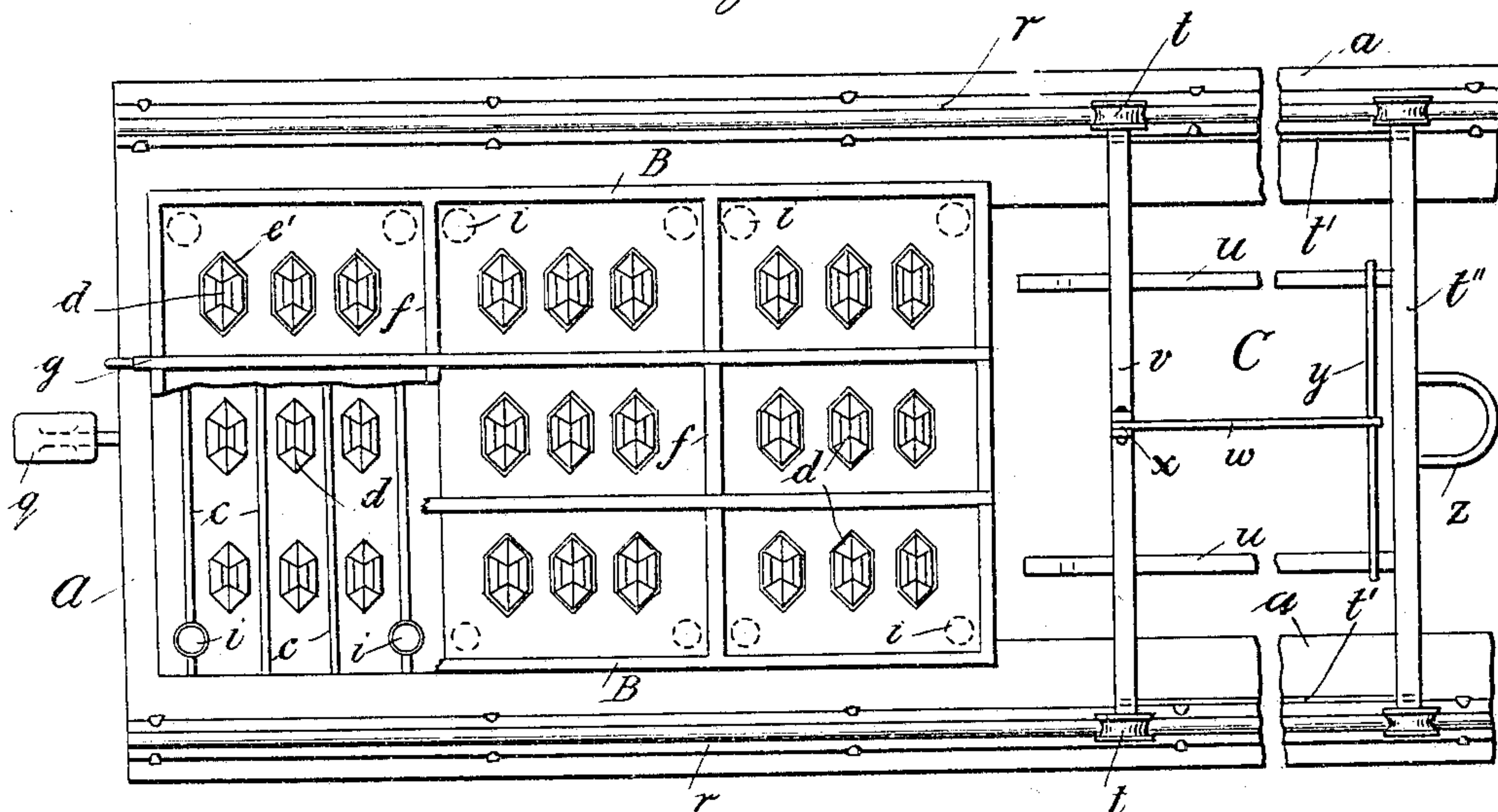
W. VON HELMS.  
MOLDING MACHINE.  
APPLICATION FILED DEC. 19, 1904.

2 SHEETS—SHEET 1.

*Fig. 1.*



*Fig. 2.*



Witnesses  
Max B. Doring  
Paul Hunter

Inventor  
Wilhelm von Helms  
By his Attorney Max G. Ordmann

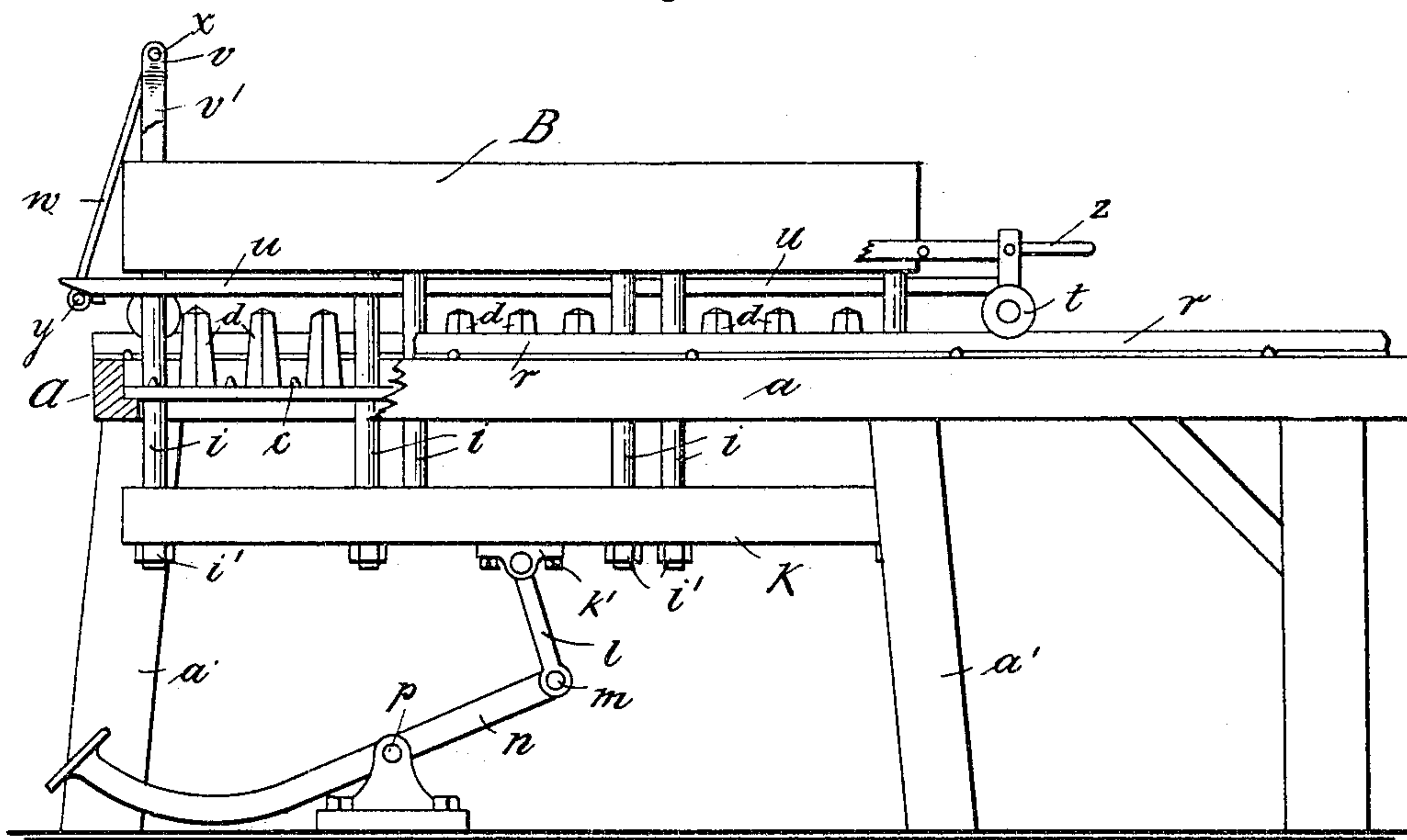
No. 793,296.

PATENTED JUNE 27, 1905.

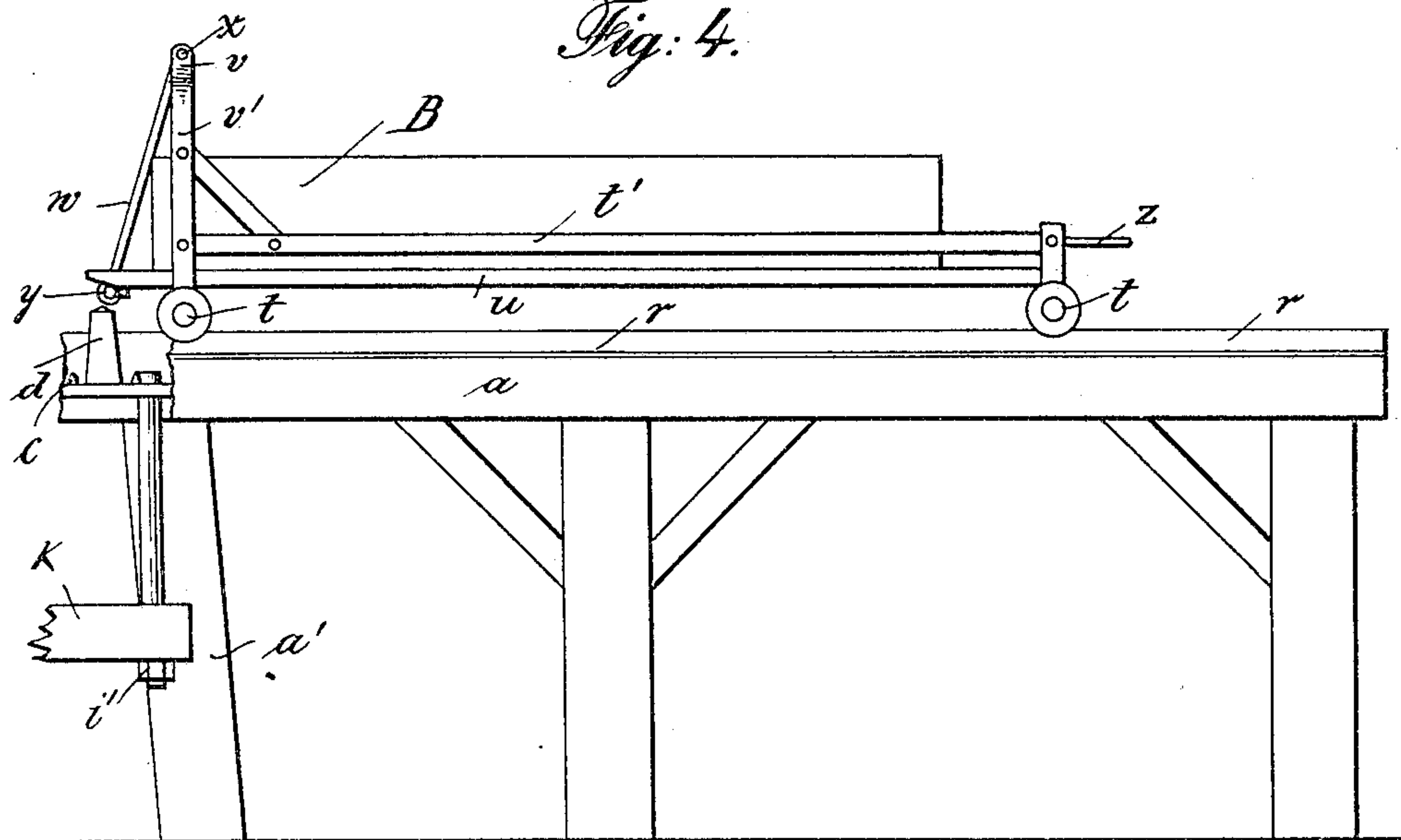
W. VON HELMS.  
MOLDING MACHINE.  
APPLICATION FILED DEC. 19, 1904.

2 SHEETS—SHEET 2.

*Fig. 3.*



*Fig. 4.*



Witnesses  
Max B. A. Doring  
Paul Hunter

Inventor  
Wilhelm von Helms  
By his Attorney Max B. Ordman



# UNITED STATES PATENT OFFICE.

WILHELM VON HELMS, OF NEW YORK, N. Y.

## MOLDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 793,296, dated June 27, 1905.

Application filed December 19, 1904. Serial No. 237,378.

*To all whom it may concern:*

Be it known that I, WILHELM VON HELMS, a subject of the German Emperor, and a resident of the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Molding-Machines, of which the following is a specification.

The present invention relates to improvements in molding-machines, and especially to machines for making artificial stones from cement, sand, or the like.

The invention also relates to the arrangement of a carriage connected with the molding-machine and adapted for the carrying off of the finished stones.

The object of this invention is to provide for a molding-machine of the character stated that is simple in its construction and is cheap to manufacture.

The accompanying drawings illustrate the machine embodying the present invention, and corresponding reference-letters therein denote corresponding parts.

Figure 1 is a side view of the molding-machine, a part thereof being shown in vertical section. Fig. 2 is a plan view of the same, a part of the molding-box being broken off to show the base-plate supporting said box. Fig. 3 is a side view similar to that of Fig. 1, showing the carriage in operative position; and Fig. 4 is a side view of the end part of the molding-table, showing the carriage in its end position.

With reference to the drawings, A denotes the table of the mold, consisting of a frame *a*, supported upon legs *a'*. This frame may be made of sufficient length to receive a considerably long molding-box for the making of several stones at a time. Within said frame a plate *b*, preferably of metal, is stationarily mounted. This plate is provided at its upper surface with transversal ribs *c*, extending parallel to each other and also with upwardly-extending projections *d*, which are adapted to serve as cores for the stones to be molded. I prefer to form the cores in the manner shown in Figs. 1 and 2—*i. e.*, of a hexangular cross-section with sharp corners—and to give them a gradually-decreasing thick-

ness toward their free ends—in other words, to taper them. These cores are distributed upon the entire base-plate *b* and are preferably arranged parallel to each other.

The molding-box *e* is divided into several compartments (in the drawings three compartments are shown) by transversally-extending stationary partition-walls *f* and by removable longitudinal partition-walls *g*. Each of these compartments is adapted to receive the cement or sand or whatever material is used for the making of the stones. In its bottom the molding-box *e* is provided with holes *e'*, the shape of which corresponds with that of the cores and the size of which is about equal to or slightly larger than the size the cores have at their roots, so that these holes will permit the cores to pass when the box is placed into its working position over the base-plate *b* to rest upon the ribs *c* of the latter. When the box is in its working position and is filled with the stone-making material, the latter will embed in itself the cores projecting into the box, and the stones thus formed will have excavations that will extend not throughout the entire height of the former, but only through a portion thereof, preferably a little less than the half. The object of forming the stones with such excavations is to decrease the weight of the stones, while at the same time the strength or solidity thereof is not too much weakened. The box *e*, in which the stones are formed, is capable of being lifted, together with its contents, from above the table each time when stones have been formed. The means for lifting said box consists of the following mechanism:

Beneath the base-frame A, plate *k*, preferably of wood, is supported upon a lever *l*, fulcrumed at *k'* thereto and hinged to a lever *n*, pivotally supported at *p* in a bearing mounted upon the floor. The lever *n* carries at its free end a pedal *q*. To the plate *k* bolts *i* are screwed, which may be secured in their position by nuts *i'*. The said bolts extend upwardly through the frame A and through corresponding holes made in the base-plate *b* and terminate with their upper ends a little below the upper edges of the ribs *c*. When the pedal *q* is depressed, the plate *k* will be raised and



the bolts *i* in coming in contact with the bottom of the molding-box *e* will lift the latter to such an extent that the cores *d* will be extracted from the stones formed in the different compartments of the box. Upon releasing the pedal *q* the plate *k*, with its bolts *i*, will sink into its initial position by its own gravity.

After the stones have been finished and dried the longitudinal partitions *g* may be pulled out, whereby the material sticking to the side walls of the different compartments of the box will be partly or wholly removed and the stones slackened in the box.

To carry off the box *e*, with the stones contained therein, the following arrangement is made: At each side of the molding-box *e* rails *r* are attached upon the frame A, upon which a carriage C, having wheels *t*, is adapted to run to and fro in longitudinal direction. The carriage is of a length that responds to that of the molding-box *e* and comprises a frame carrying the wheels *t* and composed of two side pieces *t'*, one at each side, and a rear connecting-piece *t''*. From the rear piece *t''* two longitudinal rods *u* are rigidly attached at such a height that after the molding-box is lifted and the carriage is moved forward into a position beneath the said box these rods will extend below the bottom of the latter. Thus when the pedal *n q* is thereupon released and the bars *i* have sunk into their lower position the molding-box *e*, with its contents, will sit onto the said longitudinal rods *u*. In order to increase the bearing capacity of said rods *u*, two upwardly-extending bars or standards *v'* are rigidly mounted upon the frame of the carriage, one at each side thereof. Said standards *v'* are connected by a traverse *v*, to which a rod *w* is hinged at *x*. At its free end said rod *w* carries a cross-bar *y*, which is adapted to serve as a support for the front extremities of the longitudinal bars *u* when the rod *w* is tilted from its position shown in Figs. 1 and 2 into that shown in Figs. 3 and 4. When the carriage has been loaded with the molding-box and the stones contained therein, the rod *w* is tilted over into the heretofore-stated position, and the carriage is thereupon moved backward by means of a suitable

handle or bow *z*, that may be applied to the rear cross-piece *t''*. After the removal of the stones from the molding-box *e* the latter can be placed again into its position over the stationary plate *b* for the making of a new series of stones.

It will be understood that various modifications may be made in the different parts of the arrangements shown without departing from the spirit of my invention.

What I claim, and desire to secure by Letters Patent, is—

1. In a molding-machine the combination with a molding-frame, a stationary plate mounted within said frame, cross-ribs and cores projecting upward from said plate, a mold-box loosely set upon the cross-ribs of the stationary plate and having holes in its bottom for the passage of the cores, removable longitudinal partitions, a vertically-movable plate beneath the frame, upwardly-projecting rods attached to said plate, holes in the stationary plate for the passage of said rods, a pedal mechanism for the operation of the said movable plate to lift the mold-box and means for carrying off the finished stones, substantially and for the purpose as specified.

2. In combination with a molding-machine, of a carriage adapted to run upon the molding-frame, said carriage comprising two side pieces, a rear connecting-piece and wheels, longitudinally-extending bars rigidly attached to the rear connecting-piece, front standards, a traverse connecting the upper ends of said standards, a tilting rod hinged to said traverse and a cross-bar attached to the free end of the tilting rod, the latter being adapted in its tilted position to support the front extremities of the longitudinal bars and to increase the bearing capacity of the latter after the carriage has been loaded, substantially and for the purpose as specified.

Signed at New York city, in the county of New York and State of New York, this 17th day of December, A. D. 1904.

WILHELM VON HELMS.

Witnesses:

JOHN C. PAHL,  
HERBERT M. JOHNSTON.