

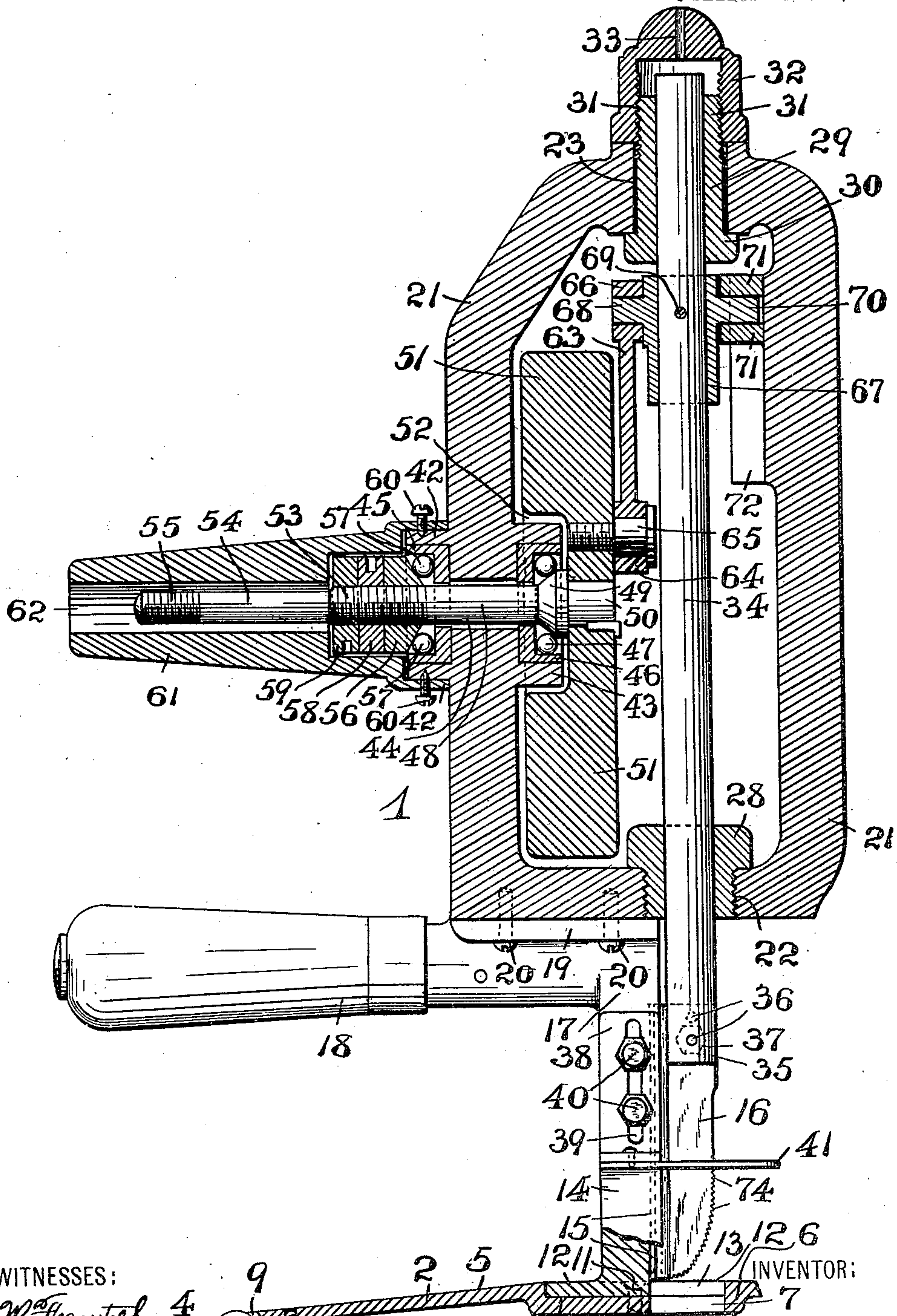
No. 841,325.

PATENTED JAN. 15, 1907.

W. H. KING.  
CLOTH CUTTING MACHINE.

APPLICATION FILED OCT. 18, 1906.

3 SHEETS—SHEET 1.



WITNESSES:

*F. H. W. Fraentzel*  
*Frederick Jamison*

Fig. 1

INVENTOR:

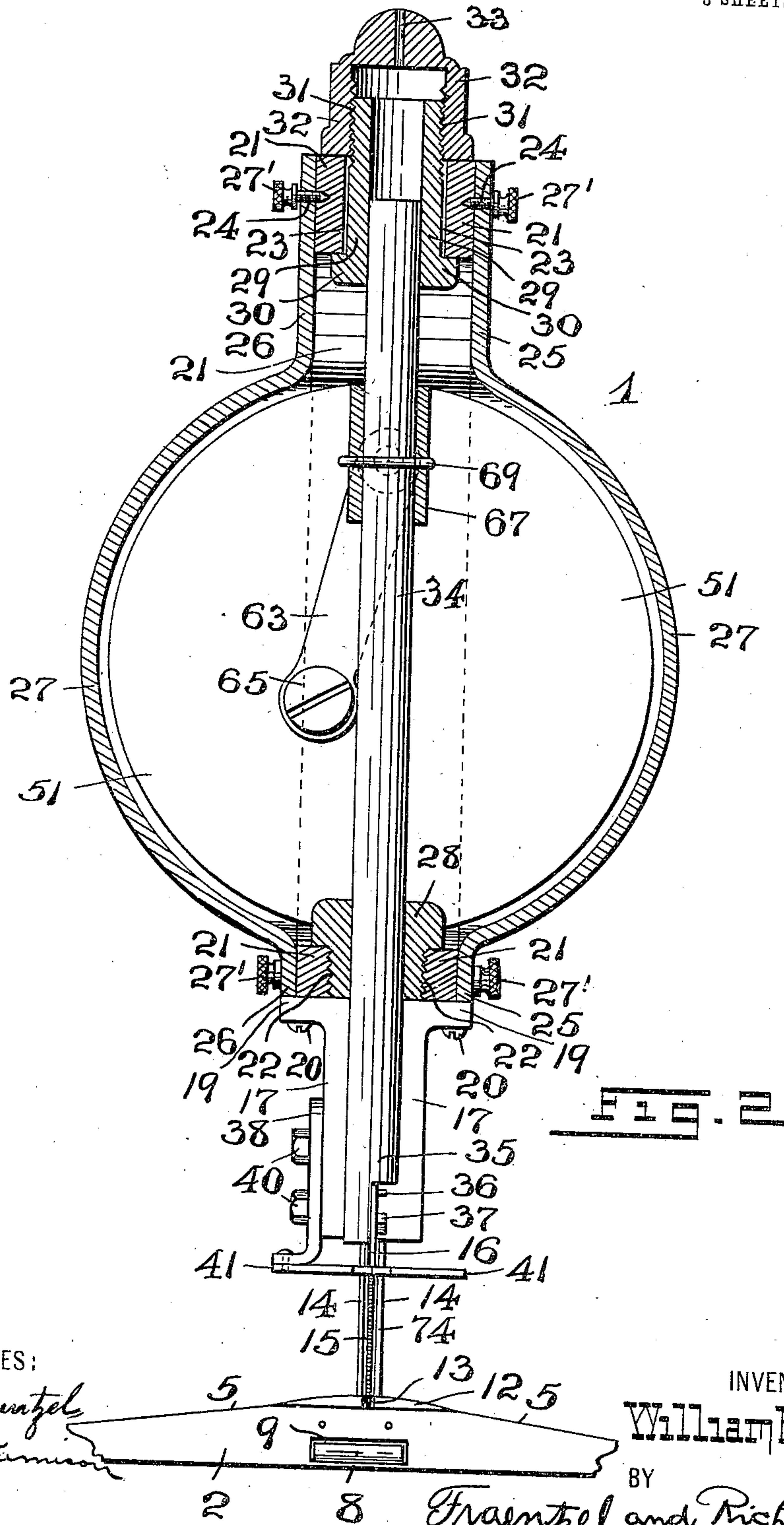
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

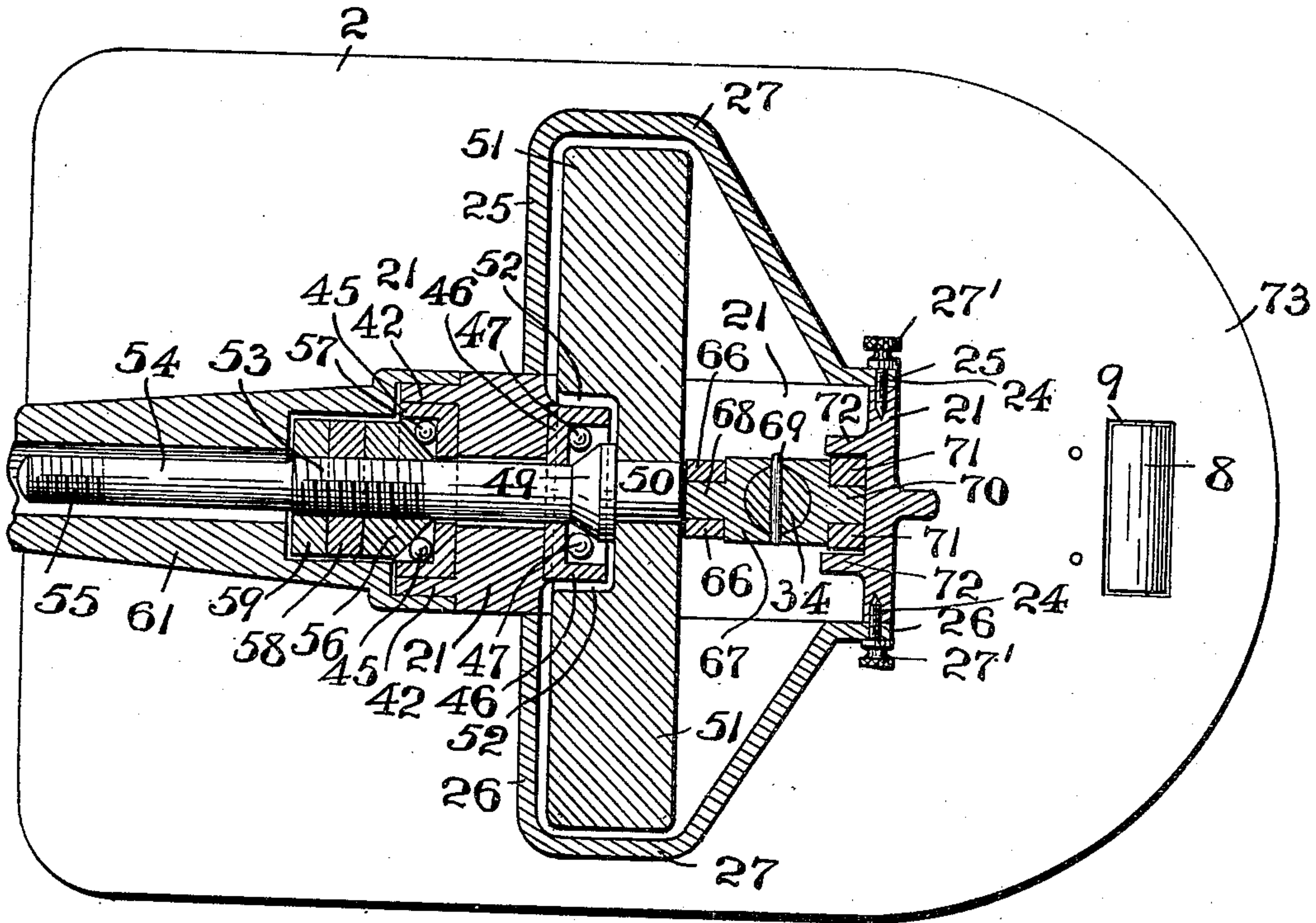


FIG. 3

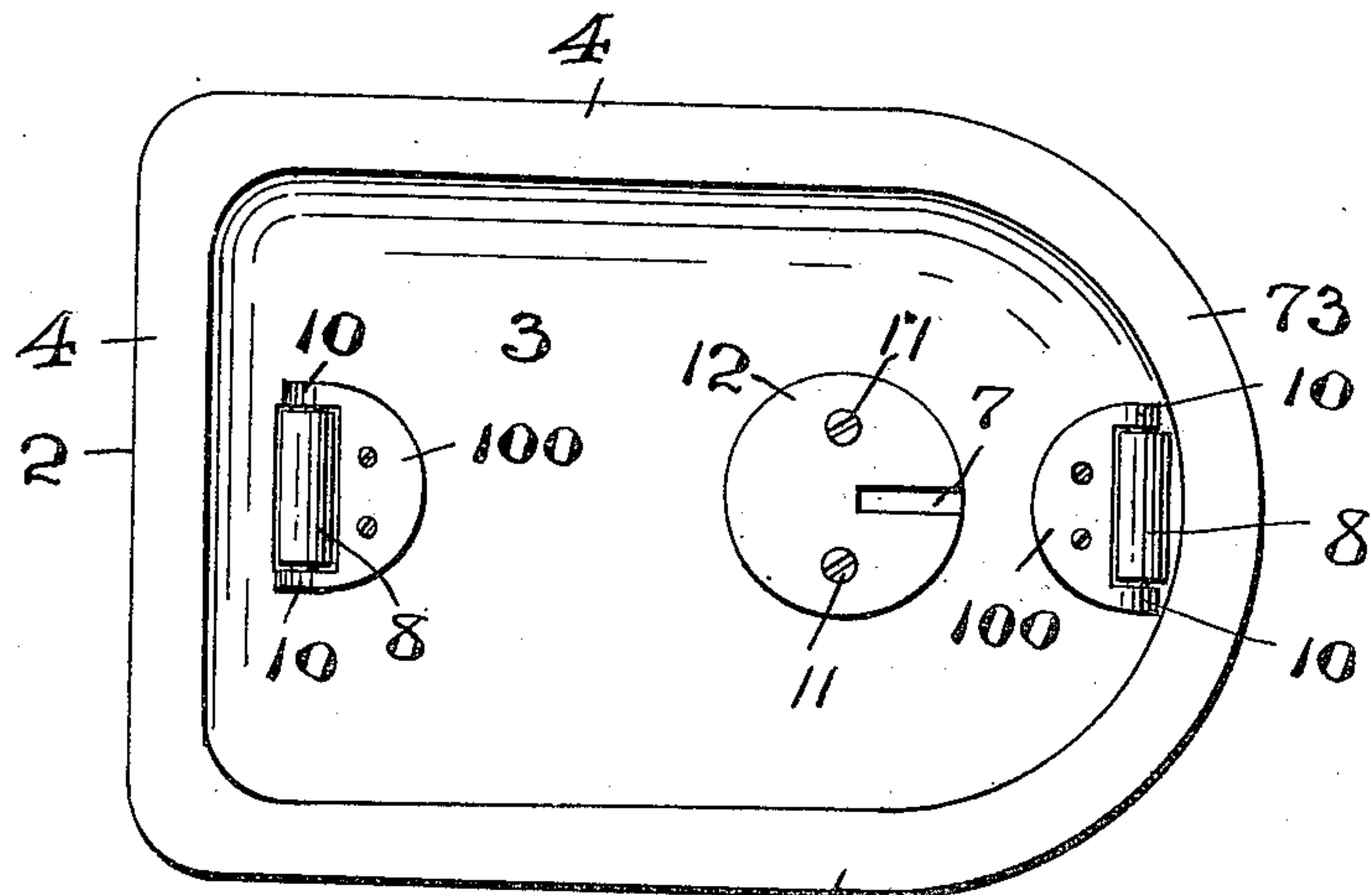


FIG. 4

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# UNITED STATES PATENT OFFICE.

WILLIAM H. KING, OF NEWARK, NEW JERSEY, ASSIGNOR TO SIMPLEX CUTTING MACHINE CO., A CORPORATION OF NEW JERSEY.

## CLOTH-CUTTING MACHINE.

No. 841,325.

Specification of Letters Patent.

Patented Jan. 15, 1907.

Application filed October 18, 1906. Serial No. 339,482.

*To all whom it may concern:*

Be it known that I, WILLIAM H. KING, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Cloth-Cutting 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 appertains to make and use the same, reference being had to the accompanying drawings, and to characters of reference marked thereon, which form a part of this specification.

This invention has reference generally to improvements in cloth-cutting machines; and the invention relates more particularly to that class of machines which are provided with a power-driven reciprocatory cutter, the machine or device being pushed along and manipulated upon a cutting-table against a package or a number of layers of the material from which a number of pieces of cloth all of the same pattern are to be simultaneously cut to be made into what is known by the trade as "ready-made" clothing.

The invention has for its principal object to provide a simple and efficiently-operating mechanism embodied in the form of a cloth-cutting machine in which the parts of the cutter or knife actuating mechanism have been reduced to a minimum and are directly driven from a flexible shafting adapted to be quickly attached to or detached from a driving-spindle, preferably running in ball-bearings.

A further object of this invention is to provide a suitably-constructed casing for the movable parts of the device to protect the operator against any injury by coming in contact with said moving parts, and, furthermore, to provide such casing with a detachable cover or covers for the purposes of cleansing the movable parts of the machine or for making repairs thereto when necessary.

A further object of this invention is to provide a novel and simple arrangement of the moving parts of the machine with the inclosing casing which can be supplied with a lubricant, so that the parts, if desired, can run in oil without any danger of the oil running out of any part of the casing and soiling the material or fabric which is to be cut.

Other objects of this invention not at this

time more particularly mentioned will be clearly understood from the following detailed description of the same.

With the various objects of my present invention in view the same consists, primarily, in the novel cloth-cutting machine or apparatus hereinafter set forth; and, furthermore, this invention consists in the general arrangements and combinations of the various devices and parts, as well as in the details of the construction of the same, all of which will be hereinafter more fully described and then finally embodied in the clauses of the claim which is appended to and which forms an essential part of this specification.

The invention is clearly illustrated in the accompanying drawings, in which—

Figure 1 is a transverse vertical section of the cloth-cutting machine embodying the principles of the present invention, certain portions of the machine being shown in side elevation; and Fig. 2 is a longitudinal vertical section of the machine, some of the parts of the machine being represented in front elevation. Fig. 3 is a horizontal section of the machine, said section being taken on line 3 3 in Fig. 1 of the drawings and showing in connection therewith and in plan the base of the machine; and Fig. 4 is a bottom view of said base.

Similar characters of reference are employed in all of the above-described views to indicate corresponding parts.

Referring now to the several figures of the drawings, the reference character 1 indicates the complete cloth-cutting machine, the same comprising a suitable base 2, preferably of the general configuration shown in the several figures of the drawings. Said base 2 is made hollow, as at 3, (see Fig. 1,) being surrounded by the marginal edge portion 4 and its upper face 5 tapering upwardly from said marginal edge portion to the central portion of the base, where it is formed with a circular depression 6, having a narrow slit 7, substantially as illustrated. Suitable rollers 8 are arranged in slotted portions 9 of said base, each roller being journaled in the hook-shaped bearing portions 10 of a plate 100, suitably secured upon the lower face of the base, as clearly illustrated. Secured within said depression 6 by means of screws 11 or in any other suitable manner is a disk or plate 12, provided with a narrow



slit 13, arranged directly above the slit 7. Extending upwardly from said disk or plate 12 is a post 14, which is provided in its front face with a vertical slot or groove 15, which  
 5 forms a guide, into which the back edge of the knife or cutter blade 16 extends and moves therein, substantially as and for the purposes presently more fully described. Upon its  
 10 upper portion said post is made with a rearwardly - extending member 17, carrying a handle 18 and a supporting means or shelf 19. Supported upon said shelf and fastened in position by means of screws 20 or other suitable fastening devices is a yoke-shaped frame  
 15 21, said frame being provided with a screw-threaded opening 22 and an opening 23, respectively, in its lower and upper end portions, substantially as shown. Secured upon opposite sides of said frame 21 by means of  
 20 screws 24 are the side plates or covers 25 and 26, said screws 24 being preferably provided with finger-pieces 27', so that they can be readily unscrewed for the removal of said covers 25 and 26 from the frame 21 when it  
 25 is desired to inspect the interior working mechanism. The said side plates or covers 25 and 26 are formed with the outwardly-extending enlargements or extensions 27, substantially of the general configuration  
 30 and shape indicated in Figs. 2 and 3 of the drawings, and the purposes of which will be clearly evident.

Referring now to Figs. 1 and 2 of the drawings, it will be seen that there is screwed  
 35 into the screw-threaded hole 22 of the yoke 21 a tubular member 28, a similar member 29 being arranged in the hole 23 in the upper portion of the yoke. Said member 29 has a head or annular flange 30, adapted to be arranged against the under face of the said upper  
 40 portion of the yoke and is provided with a screw-threaded portion 31, which projects above the upper face of the yoke and has screwed thereon a screw-socketed nut or cap  
 45 32, which is preferably provided with an oil-duct 33. The two members 28 and 29, which are arranged in vertical alinement, form bearings, in which is arranged so as to reciprocate therein a vertically-disposed rod 34,  
 50 to the lower end 35 of which is attached, by means of the pins 36 and the nut 37, the knife-blade or cutter 16, previously mentioned.

Adjustably secured upon the side of the upper portion of the supporting-post or foot-  
 55 piece 14 is a suitably-constructed plate 38, having a slot 39, arranged upon adjusting-screws 40 and provided upon its lower portion with a laterally-extending member 41, the purposes of which will be hereinafter  
 60 more fully specified.

Extending rearwardly from the yoke-shaped frame 21 is a tubular hub 42, and extending from the inner face of said frame and in alinement with the hub 42 is another  
 65 tubular hub 43, a hole 44 establishing com-

munication between the two hubs, as shown. Within the hub 42 is a ball-bearing 45, and within the hub 43 is a ball-bearing 46.

The bearing 46 is provided with the balls 47, which roll upon a cone-shaped member 70  
 49 of a laterally-extending shaft or spindle 48, carrying upon its inner end 50 a crank disk or wheel 51, the same being provided with a depression 52, so as to be rotatively  
 75 arranged over the inner hub 43, as shown. The shaft or spindle 48 extends through the hole 44 and from the rear of the frame 21, said rearwardly-extending portion having a  
 screw-thread 53 and a reduced part 54, which is also provided with a screw-thread 80  
 55. Screwed upon said screw-thread 53 is a cone disk or plate 56, upon which roll the balls 57 of the ball-bearing 45, and a pair of tightening or lock nuts 58 and 59, all of which is clearly illustrated. 85

Suitably arranged upon the hub 42 and affixed thereon against displacement by means of screws 60 is a tubular element 61, preferably of the shape shown, the same being made with an opening 62, into which is  
 90 passed the end of a flexible shaft, (not shown herein,) the same being attached upon the screw portion 55 of the shaft or spindle 48. From an inspection of Figs. 1 and 3 of the drawings it will be seen that the element 61, 95  
 while it serves as a protector against contact with the moving parts of the machine, serves also as a handle for pushing the device against the layers of the fabric which is to be cut. 100

The rod 34 receives its reciprocatory motion from the crank disk or wheel 51 by means of a crank 63, having its lower eye 64 arranged upon a pin 65 of the disk or wheel 51 and its upper eye 66 being operatively  
 105 connected with a stud or projection 68 of a cross-head 67, suitably secured upon said rod 34, preferably by means of a key or pin 69. Said cross-head 67 has another stud or projection 70, extending into a tubular part 110  
 of a bearing or block 71, which is adapted to reciprocate between a pair of guides or ways 72 extending inwardly from the front portion of the yoke-shaped flange 21.

Having thus described the general arrangements and constructions of the various parts of my novel cloth-cutting device, I will now briefly describe the manner of using the same. 115

The member 38 is adjusted to bring the  
 120 plate 41 in such a position that the distance between the upper surface of the base 2 and the lower face of the plate 41 is substantially equal to the thickness of the layers of cloth or fabric which is to be cut. 125

The mechanism being set in operation by means of the flexible shaft and the spindle 48, the rod 34 and the cutter 16 receive a rapid reciprocatory motion. The machine  
 130 is moved back and forth over the cutting-



table by means of the handle 18 or by both said handle and the element 61, shoving the end 73 of the base 2 beneath the fabric and sliding the several layers of the fabric beneath the member 41, which acts as a presser-plate to prevent the separation of the layers of fabric during the upward strokes of the knife-blade or cutter 16, the cutting edge of which may be provided with fine saw-teeth or serrations 74, as illustrated.

From the foregoing description of my invention it will be clearly seen that I have devised a simply-constructed and efficiently-operating cloth-cutting machine which can be easily manipulated and in which the parts of the machine are arranged to run without friction, so as to reduce the power of operation, all the movable parts of the apparatus being thoroughly protected, so that there will be no danger of injury to the operator by coming in contact with any movable parts, as with the cutting-machines now ordinarily used.

I claim—

1. A cloth-cutting machine comprising a base, reciprocatory rod and knife-blade, a frame carried upon said base, a cross-head movably arranged in said frame, said cross-head being connected with said rod, a tubular element extending rearwardly from said frame, said element serving as a handle, ball-bearings connected with said frame, a spindle revolving within said element and said ball-bearings, said spindle having a portion extending from one of said ball-bearings, a crank-disk upon said end of the spindle, and a crank-arm between said disk and said cross-head, a rearwardly-projecting handle extending from said frame, and rollers connected with said base, substantially as and for the purposes set forth.

2. A cloth-cutting machine, comprising a base, a reciprocatory rod and knife-blade, a post on said base, a yoke-shaped frame upon said post, a side plate detachably secured upon each side of said yoke-shaped frame, said frame and side plates forming a chamber, mechanism concealed within said chamber for actuating said rod, a tubular element extending rearwardly from said frame, said element serving as a handle, a spindle concealed and revolving within said tubular element for driving said rod-actuating mechanism, substantially as and for the purposes set forth.

3. A cloth-cutting machine, comprising a base, a reciprocatory rod and knife-blade, a post on said base, a yoke-shaped frame upon said post, a side plate detachably secured upon each side of said yoke-shaped frame, said frame and side plates forming a chamber, mechanism concealed within said chamber for actuating said rod, a tubular element extending rearwardly from said frame, said

element serving as a handle, a spindle concealed and revolving within said tubular element for driving said rod-actuating mechanism, and a rearwardly-projecting handle extending from said frame, substantially as and for the purposes set forth.

4. A cloth-cutting machine, comprising a base, a reciprocatory rod and knife-blade, a post on said base, a yoke-shaped frame upon said post, a side plate detachably secured upon each side of said yoke-shaped frame, said frame and side plates forming a chamber, mechanism concealed within said chamber for actuating said rod, a tubular element extending rearwardly from said frame, said element serving as a handle, a spindle concealed and revolving within said tubular element for driving said rod-actuating mechanism, a rearwardly-projecting handle extending from said frame, and rollers connected with said base, substantially as and for the purposes set forth.

5. A cloth-cutting machine, comprising a base, a reciprocatory rod and knife-blade, a post on said base, a yoke-shaped frame upon said post, a side plate detachably secured upon each side of said yoke-shaped frame, said frame and side plates forming a chamber, tubular members in the lower and upper portions of said frame in which said rod reciprocates, a cross-head movably arranged within said chamber, said cross-head being connected with said rod, a tubular element extending rearwardly from said frame, said element serving as a handle, ball-bearings connected with said frame, a spindle revolving within said element and said ball-bearings, said spindle having a portion extending from one of said ball-bearings into said chamber, a crank-disk upon said end of the spindle, and a crank-arm between said disk and said cross-head, all arranged that the movable parts of the machine are concealed within said chamber and within said tubular element, substantially as and for the purposes set forth.

6. A cloth-cutting machine, comprising a base, a reciprocatory rod and knife-blade, a post on said base, a yoke-shaped frame upon said post, a side plate detachably secured upon each side of said yoke-shaped frame, said frame and side plates forming a chamber, tubular members in the lower and upper portions of said frame in which said rod reciprocates, a cross-head movably arranged within said chamber, said cross-head being connected with said rod, a tubular element extending rearwardly from said frame, said element serving as a handle, ball-bearings connected with said frame, a spindle revolving within said element and said ball-bearings, said spindle having a portion extending from one of said ball-bearings into said chamber, a crank-disk upon said end of the spindle, and a crank-arm between said disk and



said cross-head, all arranged that the movable parts of the machine are concealed within said chamber and within said tubular element, and a rearwardly-projecting handle extending from said frame, substantially as and for the purposes set forth.

7. A cloth-cutting machine, comprising a base, a reciprocatory rod and knife-blade, a post on said base, a yoke-shaped frame upon said post, a side plate detachably secured upon each side of said yoke-shaped frame, said frame and side plates forming a chamber, tubular members in the lower and upper portions of said frame in which said rod reciprocates, a cross-head movably arranged within said chamber, said cross-head being connected with said rod, a tubular element extending rearwardly from said frame, said element serving as a handle, ball-bearings connected with said frame, a spindle revolving within said element and said ball-bearings, said spindle having a portion extending from one of said ball-bearings into said chamber, a crank-disk upon said end of the spindle, and a crank-arm between said disk and said cross-head, all arranged that the movable parts of the machine are concealed within said chamber and within said tubular element, a rearwardly-projecting handle extending from said frame, and rollers connected with said base, substantially as and for the purposes set forth.

8. The herein-described cloth-cutting machine comprising a base formed with a central depression, a plate secured in said depression, and a post extending upwardly from said plate, a yoke-shaped frame on said post, a side plate detachably secured upon each side of said frame, said frame and side plates forming a chamber, the upper and lower portions of said frame being provided with holes, a tubular member in the hole of the lower portion of said frame, and a tubular member in the hole of the upper portion of said frame, said last-mentioned tubular member being provided with a screw-threaded portion extending above the frame, a screw-socketed nut upon the screw-threaded portion of said last-mentioned tubular member, a reciprocatory rod arranged in said tubular members, said rod extending beneath said frame, a cutter-blade upon the lower end of said rod, a guiding portion within said chamber and connected with said frame, a cross-head movably arranged in said guiding portion, said cross-head being connected with said rod, tubular hubs on opposite sides of said frame, a ball-bearing in each hub, a tubular element extending rearwardly from one of said hubs, a spindle revolving within said element and said ball-bearings, said spindle having a portion extending into said chamber, a crank-disk upon said end of the spindle, and a crank-arm between said disk and said cross-head, all arranged that the movable parts of the machine are concealed within said chamber and within said tubular element, and a rearwardly-projecting handle extending from said frame, substantially as and for the purposes set forth.

chine are concealed within said chamber and within said tubular element, substantially as and for the purposes set forth.

9. The herein-described cloth-cutting machine comprising a base formed with a central depression, a plate secured in said depression, and a post extending upwardly from said plate, a yoke-shaped frame on said post, a side plate detachably secured upon each side of said frame, said frame and side plates forming a chamber, the upper and lower portions of said frame being provided with holes, a tubular member in the hole of the lower portion of said frame, and a tubular member in the hole of the upper portion of said frame, said last-mentioned tubular member being provided with a screw-threaded portion extending above the frame, a screw-socketed nut upon the screw-threaded portion of said last-mentioned tubular member, a reciprocatory rod arranged in said tubular members, said rod extending beneath said frame, a cutter-blade upon the lower end of said rod, a guiding portion within said chamber and connected with said frame, a cross-head movably arranged in said guiding portion, said cross-head being connected with said rod, tubular hubs on opposite sides of said frame, a ball-bearing in each hub, a tubular element extending rearwardly from one of said hubs, a spindle revolving within said element and said ball-bearings, said spindle having a portion extending into said chamber, a crank-disk upon said end of the spindle, and a crank-arm between said disk and said cross-head, all arranged that the movable parts of the machine are concealed within said chamber and within said tubular element, and a rearwardly-projecting handle extending from said frame, substantially as and for the purposes set forth.

10. The herein-described cloth-cutting machine comprising a base formed with a central depression, a plate secured in said depression, and a post extending upwardly from said plate, a yoke-shaped frame on said post, a side plate detachably secured upon each side of said frame, said frame and side plates forming a chamber, the upper and lower portions of said frame being provided with holes, a tubular member in the hole of the lower portion of said frame, and a tubular member in the hole of the upper portion of said frame, said last-mentioned tubular member being provided with a screw-threaded portion extending above the frame, a screw-socketed nut upon the screw-threaded portion of said last-mentioned tubular member, a reciprocatory rod arranged in said tubular members, said rod extending beneath said frame, a cutter-blade upon the lower end of said rod, a guiding portion within said chamber and connected with said frame, a cross-head movably arranged in said guiding portion, said cross-head being connected with said rod,



tubular hubs on opposite sides of said frame,  
a ball-bearing in each hub, a tubular element  
extending rearwardly from one of said hubs,  
a spindle revolving within said element and  
5 said ball-bearings, said spindle having a por-  
tion extending into said chamber, a crank-  
disk upon said end of the spindle, and a  
crank-arm between said disk and said cross-  
head, all arranged that the movable parts of  
10 the machine are concealed within said cham-  
ber and within said tubular element, a rear-

wardly-projecting handle extending from  
said frame, and rollers connected with said  
base, substantially as and for the purposes  
set forth.

In testimony that I claim the invention set  
forth above I have hereunto set my hand this  
16th day of October, 1906.

15

WILLIAM H. KING.

Witnesses:

EUGENE L. DOWNES,  
FREDK. C. FRAENTZEL.