

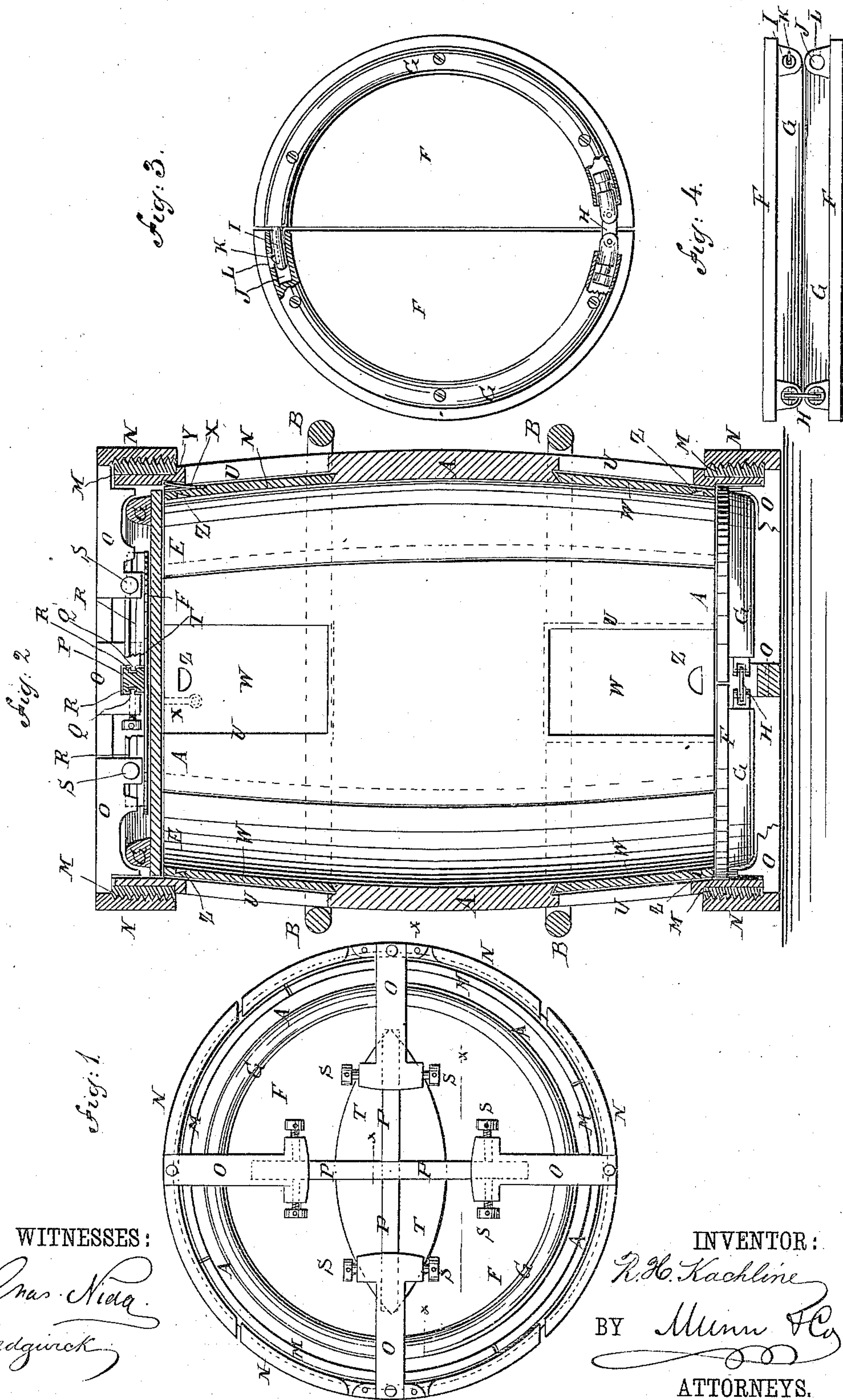
(No Model.)

2 Sheets—Sheet 1

R. H. KACHLINE.
TRANSPORTATION BARREL.

No. 314,681.

Patented Mar. 31, 1885.



WITNESSES:

Chas. Nida
W. Sedgwick

INVENTOR:

R. H. Kachline
BY *Munn & Co*
ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 5.

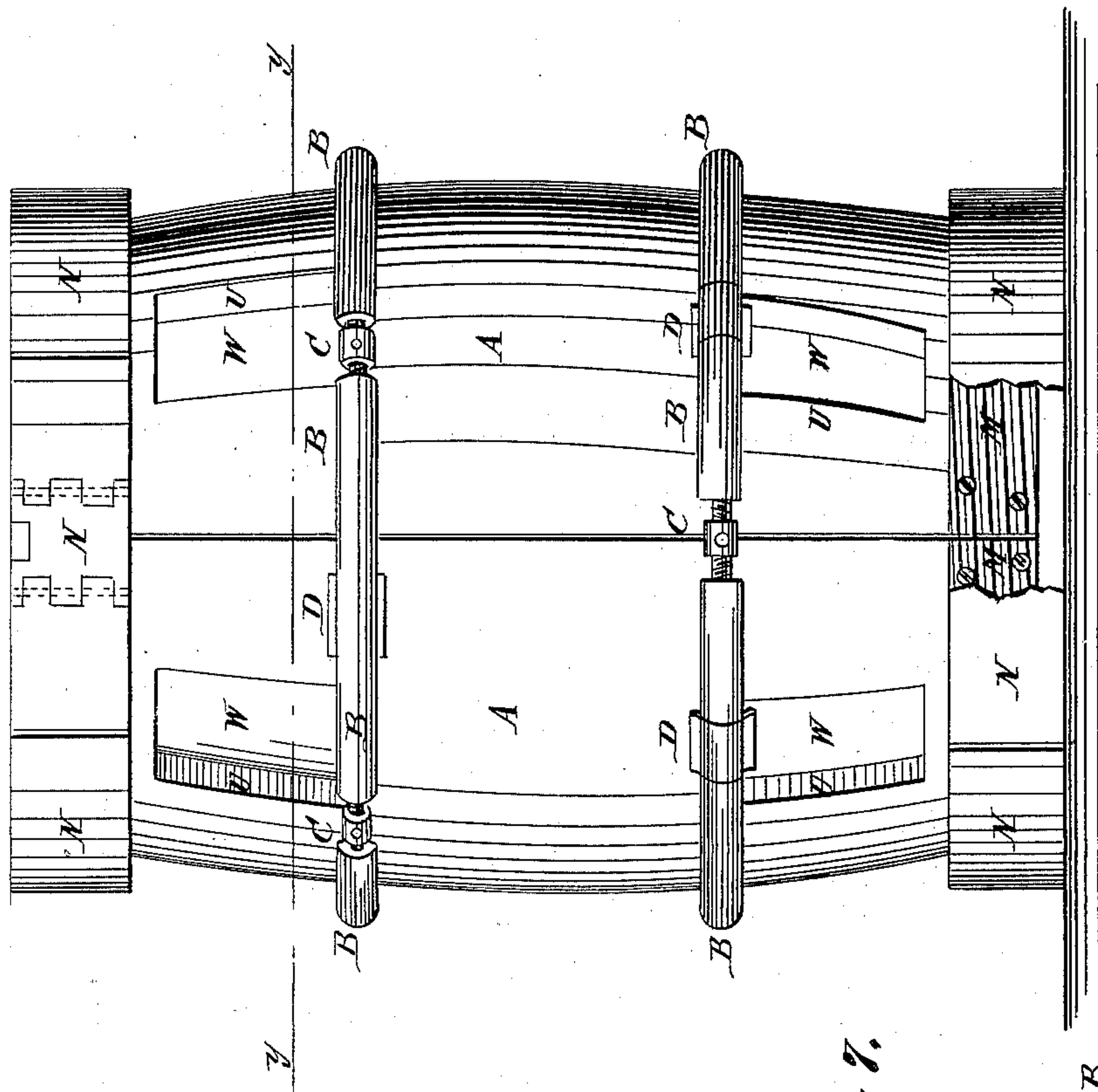


Fig. 7.

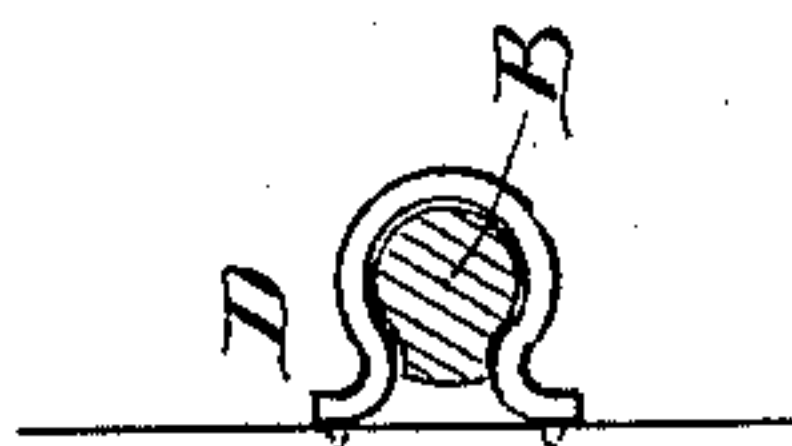
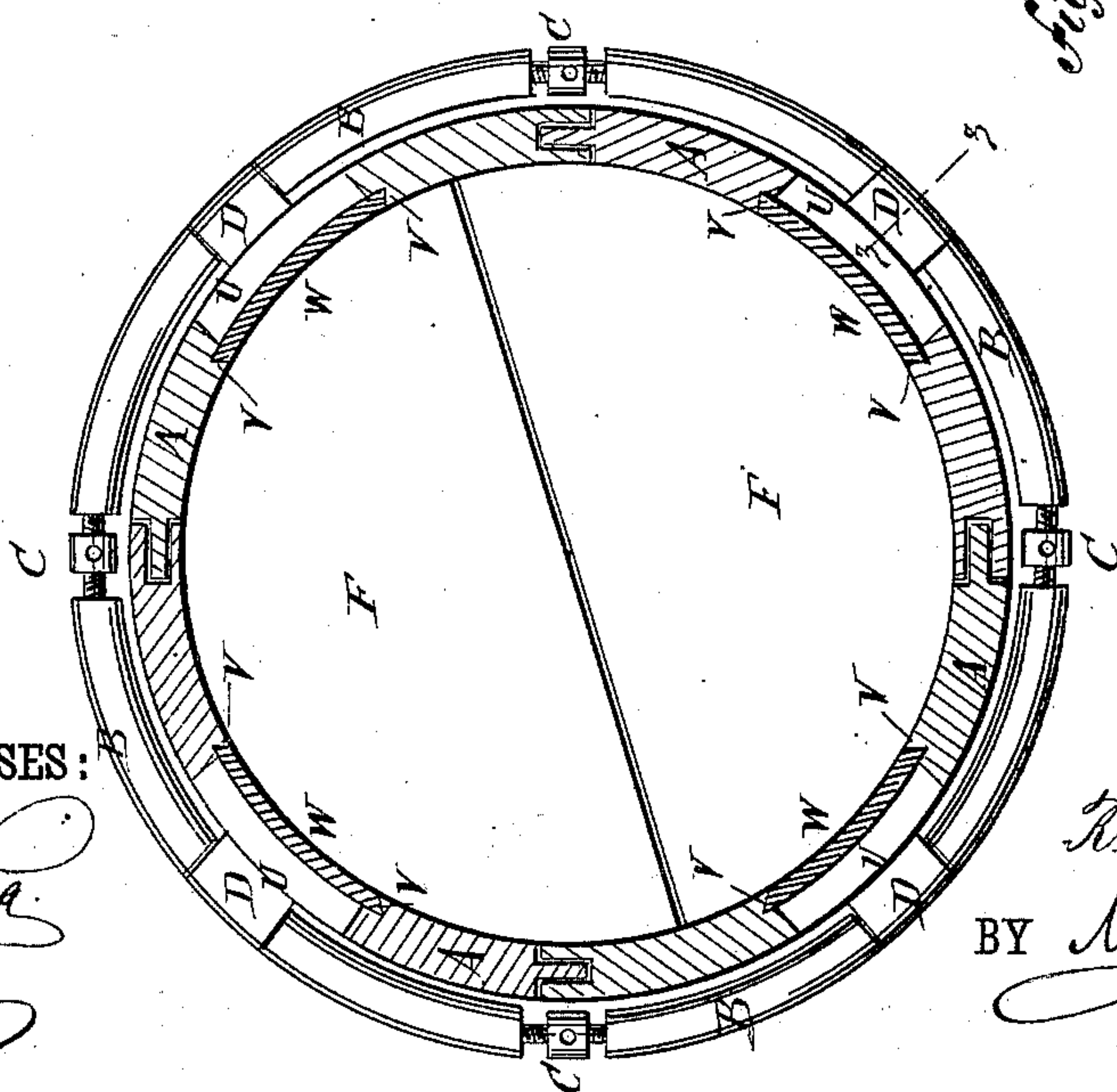


Fig. 6.



WITNESSES:

Chas. Nida
C. Sedgwick

INVENTOR:

R. H. Kachline
BY *Munn & Co*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

REUBEN H. KACHLINE, OF MARTIN'S CREEK, PENNSYLVANIA.

TRANSPORTATION-BARREL.

SPECIFICATION forming part of Letters Patent No. 314,681, dated March 31, 1885.

Application filed August 13, 1884. (No model.)

To all whom it may concern:

Be it known that I, REUBEN HENRY KACHLINE, of Martin's Creek, in the county of Northampton and State of Pennsylvania, have
5 invented a new and useful Improvement in Transportation-Barrels, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification,
10 in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1, Sheet 1, is an end elevation of one of my improved barrels. Fig. 2, Sheet 1, is a sectional side elevation of the same, taken
15 through the line *x x x x*, Fig. 1. Fig. 3, Sheet 1, is a plan view of a barrel-head, parts being broken away. Fig. 4, Sheet 1, is an edge view of the same folded. Fig. 5, Sheet 2, is a side
20 elevation of one of the barrels, part being broken away. Fig. 6, Sheet 2, is a sectional end elevation of the same, taken through the line *y y*, Fig. 5. Fig. 7, Sheet 2, is a cross-section of one of the hoops, taken through the line *z z*, Fig. 6.

25 The object of this invention is to promote convenience and economy in the use of transporting-barrels, and facilitate the return of such barrels to their owners.

The invention consists in a barrel constructed
30 with staves connected at their side edges by tongues and grooves, held together by hoops adjustable in length, and provided at their ends with sectional male screws, and with heads held in place by sections of female screws
35 connected adjustably by arms and bars. The hoops are made in sections connected by right and left screws, whereby the body of the barrel can be expanded and contracted as required. The staves at their ends are provided
40 with interior shoulders to receive the heads, and exterior sectional male screws to receive sectional female screws provided with radial arms having set-screws, and engaging with crossed bars having side grooves to receive the
45 said set-screws, whereby the ends of the staves can be drawn together and the heads can be forced into and held in their seats. The heads are each made in two parts, and are provided with semi-annular bars fitting into recesses in
50 the radial arms of the female screw-sections, and connected at one end by a double-jointed

hinge, and at the other end by a pin provided with a spring-catch, whereby the said head can be forced to its seat and can be folded for transportation.

To the cross-bars connected with the radial arms of the female screws are attached plates to close the ends of the barrel when contracted for transportation.

To the expandible hoops are attached clips
60 with projecting ends, to engage with the staves and hold the said hoops from slipping out of place when loosened. In apertures in the end parts of the staves are inserted sliding plates, which are held in place by the heads, so that
65 the barrel can be readily ventilated. The sliding plates are provided with spring-catches, to engage with the staves and hold the said plates in place when the heads are taken out, as will be hereinafter fully described. The
70 shell of the barrel is formed of four (more or less) staves, A, which may be made with or without a bulge, as may be desired. The staves may be ordinary wooden barrel-staves put together to form staves or sections of the de-
75 sired width, or they can be made of paper-pulp, metal, or other suitable material. The staves A are tongued and grooved to each other, as shown in Fig. 6, to keep them in place when the hoops B are tightened and loosened. The
80 hoops B are made in four (more or less) sections, connected at their adjacent ends by right and left screws C, which may be screwed into or upon screws formed in or upon the said ends, or in lugs attached to the said ends.
85 The hoops B can be made of iron or other suitable material, and may be round, flat, or of other desired shape. The hoop-sections B pass through clips or open bands D, which have their ends bent outward to rest upon the
90 outer surfaces of the staves A, to prevent the said hoops from slipping out of place when loosened. The outward-bent parts of the clips D are provided with teeth, as shown in Fig. 7, to prevent them from slipping on the staves;
95 or they can be secured thereto in any suitable manner, one clip being employed for each stave. In the inner sides of the end parts of the staves A are formed shoulders E, for the heads F to rest upon. The heads F are each
100 formed in two semicircular parts, to the outer sides of which, near their curved edges, are

attached semi-annular bars G. The bars G are flat on their inner sides, and are rounded upon their outer sides. The bars of each head are connected at one end by a double-jointed hinge, H, the outer parts of which are swiveled to the said ends of the bars G, so that the two parts of the heads can be placed edge to edge, as shown in Fig. 3, or can be folded together one above the other, as shown in Fig. 4, for convenience in storage and transportation. To the other end of one of the bars G is attached a pin, I, which fits into a socket, J, in the adjacent ends of the other bar. The pin I is grooved in its outer side to receive the spring-catch K, which, when the said pin I is pushed into the socket J, engages with the shoulder of a hole, L, in the outer side of the socket end of the bar G, so that the said spring-catch can be disengaged by means of a pointed instrument inserted in the said hole L. To the outer sides of the ends of the staves A are attached sections M of a male screw, into the threads of which fit the threads of sections N of a female screw, attached to the outer ends of inwardly-projecting radial arms O. The inner sides of the arms O are grooved transversely at the inner sides of the screw-sections N, to receive the outer edges of the screw-sections M, and in their middle parts are concaved transversely to receive and fit upon the curved bars G, so that the said arms O will press and hold the heads F to their seats. The inner sides of the arms O are grooved longitudinally to receive the outer ends of the crossed bars P, and have lugs Q formed upon or attached to them to enter grooves R in the sides of the said crossed bars P. In the sides of the inner ends of the radial arms O are formed screw-holes to receive the set-screws S, the inner ends of which enter the grooves R of the bars P, and thus fasten the arms O and bars P together when properly adjusted to the size of the barrel. The screw-sections N may be made of such a length as to form a complete circle when drawn together, or they may be made short. When the sections N are made long, two of them should be made with their end parts hinged to the center part, as shown in Figs. 1 and 5, the said hinges being so formed that the said end parts can be swung inward, but cannot be swung outward beyond the arc of the circle of which the said sections form a part. The bars P cross each other at right angles at their centers, and are halved to each other, so that they will be in the same plane, and have oval plates T attached to them, as shown in Fig. 1, which plates are designed to close the spaces at the ends of the barrel, to confine the heads and hoop-sections when the barrel is contracted for storage or transportation.

In the end parts of the staves A are formed rectangular openings U, the outer ends of which are at a little distance from the shoulders E. The end parts of the staves A are grooved from the ends of the openings U to the shoulders E, the said grooves being of a

width equal to that of the openings U, and of a depth equal to the height of the said shoulders E. In the sides of these grooves are formed angular grooves V, which are extended to and along the bottoms of the openings U, to receive the edges of the sides and inner ends of the plates W, as shown in Figs. 2 and 6, so that the plates W can be inserted and withdrawn through the ends of the barrel when the heads F have been removed. The heads F, when in place, rest against the outer ends of the plates W, and thus hold them in place. The plates W are held in place when the heads F are removed by spring-catches X, let into the outer sides of their upper ends, and which engage with recesses Y in the rabbeted end parts of the staves A. The ends of the spring-catches X are so near the upper ends of the plates W that the said catches can be disengaged by the operator with his finger-nail or any suitable instrument to allow the said plates to be withdrawn. The spring-catches X fasten themselves as the sliding plates W are pushed into place.

In the inner surfaces of the sliding plates W are formed recesses Z, to receive the end of a finger or a suitably-formed instrument for withdrawing the said plates. With this construction the plates W can be withdrawn and inserted, even when the barrel is filled, to ventilate the contents of the said barrel, and can be again inserted without emptying the said barrel.

With a barrel constructed in accordance with my invention, in the case of fruit or other substance that requires to be pressed into the barrel, the barrel before being filled can be expanded by loosening the right and left screws C and expanding the female screw N of the lower head, the upper head not being applied until the barrel is filled. When the barrel is filled, the upper head is put on, the body of the barrel is contracted by tightening the right and left screws C, and the female screws N are contracted to the required size and screwed down upon the male screws M, forcing the heads F to their seats upon the shoulders E, and putting the contents of the barrel under the desired pressure.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A transportation-barrel constructed substantially as herein shown and described, and consisting of the staves having tongued and grooved side edges held together by hoops adjustable in length, and provided at their ends with sectional male screws, and of the heads, held in place by sections of female screws connected adjustably by arms and bars, as set forth.

2. In a transportation-barrel, the combination, with the staves A, having tongued and grooved side edges, of the hoops B, made in sections connected by right and left screws C, substantially as herein shown and described, whereby the body of the barrel can be expanded and contracted, as set forth.

3. In a transportation-barrel, the combination, with the staves A, having interior shoulders, E, and provided with exterior sectional male screws, M, and the heads F, of the sectional female screws N, having radial arms O, provided with set-screws S, and the crossed bars P, having side grooves, R, substantially as herein shown and described, whereby the ends of the staves can be drawn together and the heads can be forced into and held in their seats, as set forth.

4. In a transportation-barrel, the combination, with the head F, made in two parts, and the recessed radial arms O, of the semi-annular bars G, connected at one end by a double-jointed swiveled hinge, H, and at the other end by a pin, I, provided with a spring-catch, K, substantially as herein shown and described, whereby the said head can be forced to its seat and folded for transportation, as set forth.

5. In a transportation-barrel, the combination, with the crossed bars P, connecting the arms of the male screw-sections, of the plates T, substantially as herein shown and described, whereby the ends of the barrel, when

contracted for transportation, will be closed, as set forth.

6. In a transportation-barrel, the combination, with the staves A and the expandible hoops B, of the clips D, substantially as herein shown and described, whereby the said hoops are kept from slipping out of place when loosened, as set forth.

7. In a transportation-barrel, the combination, with the shouldered staves A, having apertures U below the said shoulders, and provided with grooves extending from the end of the openings to the shoulders, and having angular grooves V in their sides, of the sliding plates W, substantially as herein shown and described, and for the purpose set forth.

8. In a transportation-barrel, the combination, with the staves A and the sliding plates W, of the spring-catches X, substantially as herein shown and described, whereby the said plates will be held in place when the heads are taken out, as set forth.

REUBEN H. KACHLINE.

Witnesses:

REUBEN SCHLABACH,
EDWD. KNECHT.