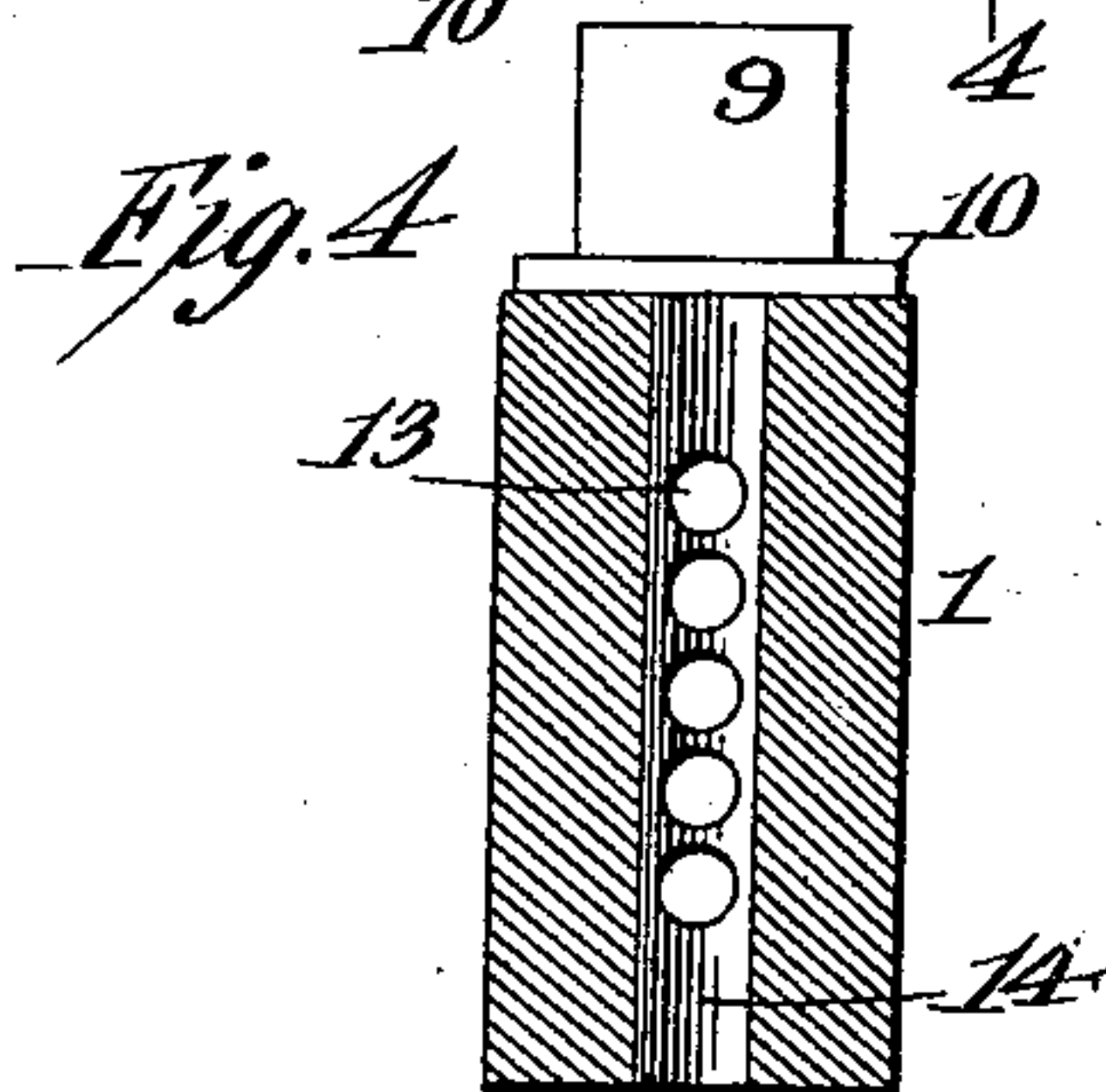
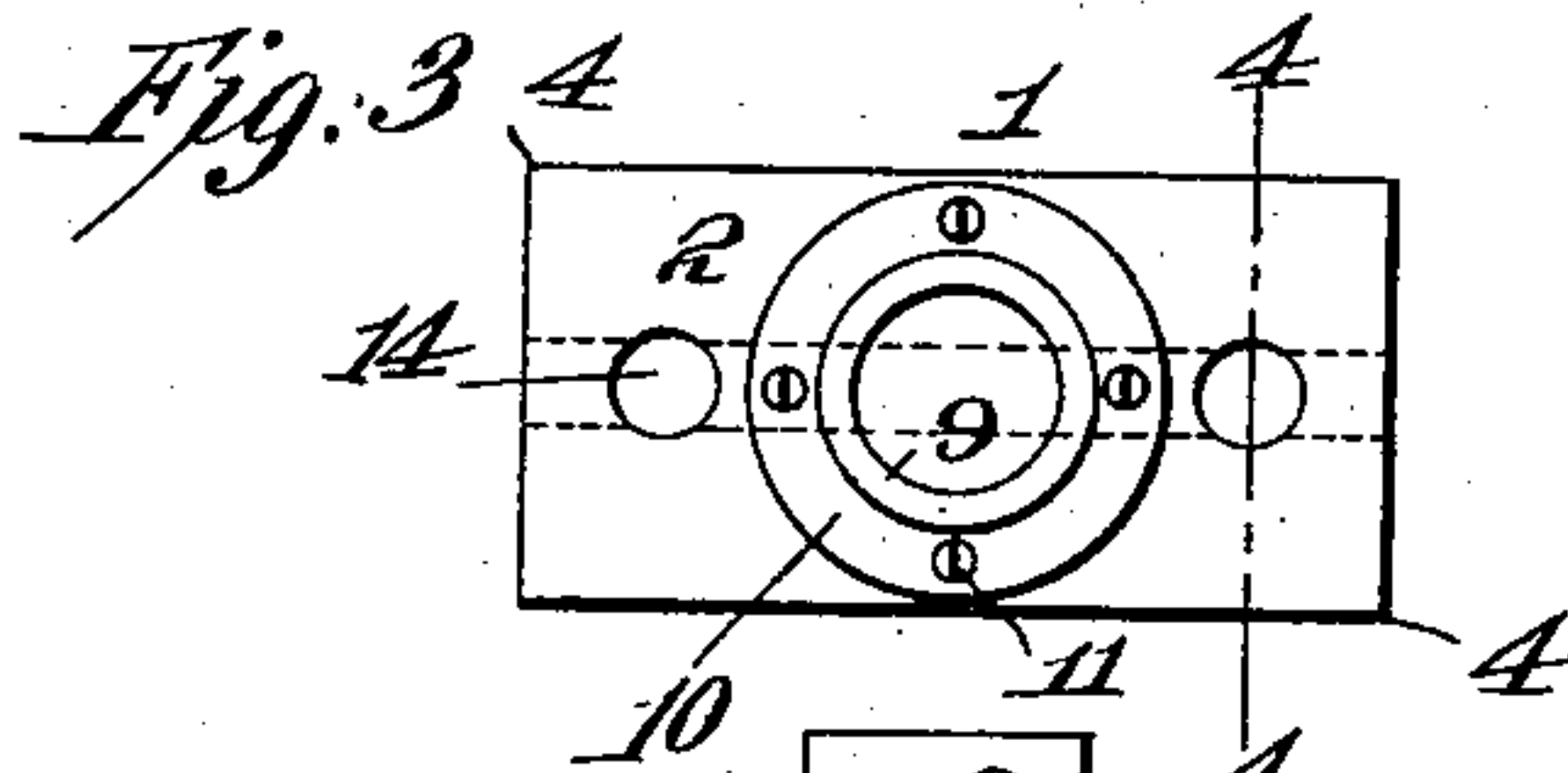
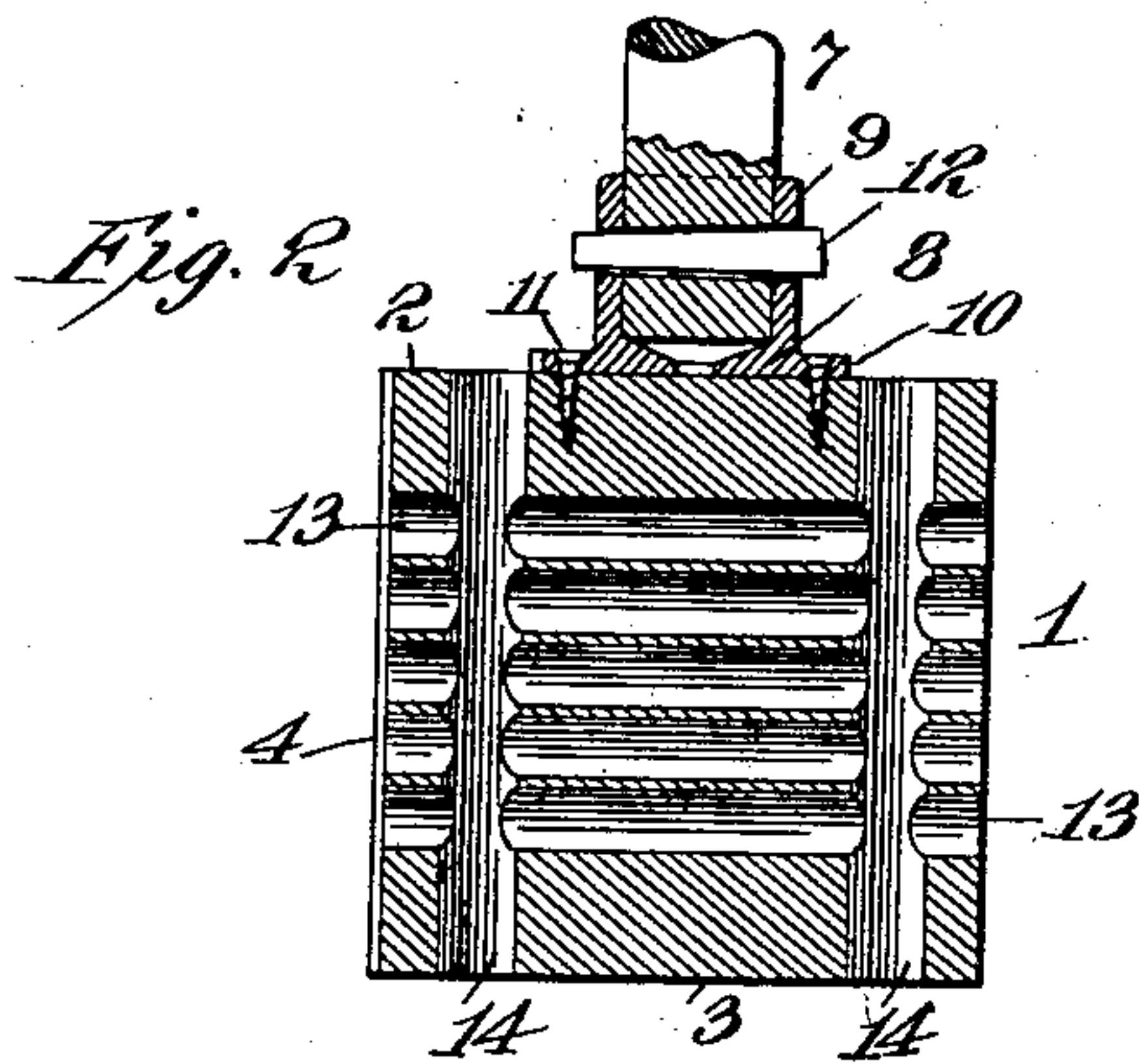
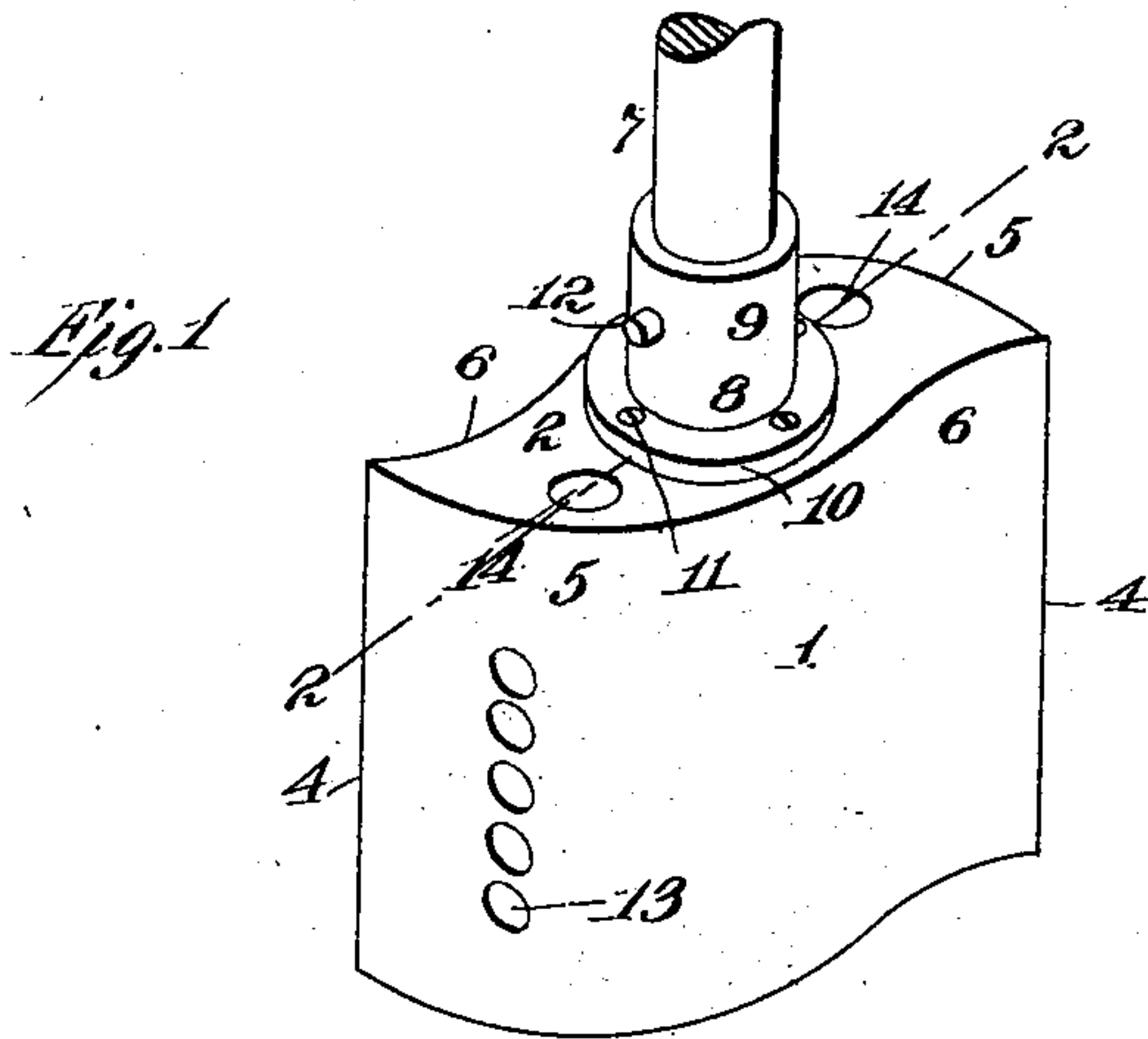


No. 742,712.

PATENTED OCT. 27, 1903.

J. W. MORRIS.
DASHER FOR CHURNS.
APPLICATION FILED AUG. 21, 1903

NO MODEL.



Witnesses:

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UNITED STATES PATENT OFFICE.

JAMES WILLARD MORRIS, OF NEW YORK, N. Y.

DASHER FOR CHURNS.

SPECIFICATION forming part of Letters Patent No. 742,712, dated October 27, 1903.

Application filed August 21, 1903. Serial No. 170,249. (No model.)

To all whom it may concern:

Be it known that I, JAMES WILLARD MORRIS, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented a certain new and useful Improvement in Dashers for Churns, of which the following is a description.

The present invention relates to improvements in dashers for churns of the type which forms the subject-matter of an application filed by me of even date herewith, Serial No. 170,248. In the application referred to a churn in which a dasher formed with five sharp-edged wings and as a modification a dasher with four wings and as another modification one with two wings are shown. The present invention relates to improvements on the latter modification.

In the dasher which forms the subject-matter in the above-referred-to application a hollow neck is formed integral with the dasher and a central cylindrical opening forms the air-chamber, which communicates with the exterior faces of the dasher through horizontal openings. The dasher is supported from the hollow neck.

The object of the present invention is to avoid the necessity of forming the integral hollow neck and to simplify the support for the rotating shaft.

Another object of the invention is to improve the efficiency of the dasher and to simplify its construction and reduce the cost of manufacture thereof.

In order to better understand the nature of the invention, attention is directed to the accompanying drawings, in which—

Figure 1 is a perspective view of the dasher. Fig. 2 is a sectional view thereof on the line 2 2 of Fig. 1. Fig. 3 is a top view of a modified form of dasher, and Fig. 4 a sectional view thereof on the line 4 4 in Fig. 3.

In all the several views like parts are designated by the same numerals of reference.

The improved dasher is formed of a single piece of wood or other material 1, with a flat top 2 and bottom 3 and sharp cutting edges 4 4. The dasher is in the form of two wings and with each side formed of a double convex and concave curve, as is shown in the

drawings. Each wing is formed with a convex surface 5 and a concave surface 6 and is adapted to rotate in the direction of said concave surface.

The dasher is suspended from the shaft 7 by means of the metallic fitting 8, which consists of a socket 9 and a flange 10, which is secured to the top 2 of the dasher by means of screws or other fastenings 11. A tapered pin 12, driven through suitable holes, serves to removably connect the socket 9 with the lower extremity of the shaft 7.

In lieu of the single air-passage in connection with each cutting edge, as described and illustrated in my application Serial No. 170,248, I employ a plurality of openings 13, five being shown for the purpose of illustration, but the number may be augmented or reduced without departing from the spirit of the invention. These passages extend entirely through the block, which construction decreases the cost of manufacture and somewhat increases the efficiency of the dasher. Vertical passages 14 serve to connect the transverse passages with the external air. These passages 14 may extend entirely through the body of the dasher, as is illustrated, although they may extend no farther than the lower transverse passage.

Instead of a dasher formed with curved surfaces, as illustrated in Figs. 1 and 2, one with plane surfaces, as illustrated in Figs. 3 and 4, may be used.

What I claim is—

1. A churn-dasher having a body and a shaft-fitting, said body having oppositely-arranged cutting edges, and air-passages adjacent to such edges, and vertical air-passages connecting with the horizontal passages on each side of the shaft-fitting, substantially as set forth.

2. A churn-dasher having a body and a shaft-fitting, said body having oppositely-arranged cutting edges, and a plurality of air-passages adjacent to such edges, and vertical air-passages connecting with the horizontal passages on each side of the shaft-fitting, substantially as set forth.

3. A churn-dasher having a body and a shaft-fitting, the said body having oppositely-arranged cutting edges, and air-passages ad-

- 5 adjacent to such edges and extending entirely through the body of the dasher, and vertical air-passages connecting with the horizontal passages on each side of the shaft-fitting, substantially as set forth.
- 10 4. A churn-dasher having a body and a shaft-fitting, said body having oppositely-arranged cutting edges, and a plurality of air-passages adjacent to such edges and extending entirely through the body of the dasher, and with vertical air-passages connecting with the horizontal passages on each side of the shaft-fitting, substantially as set forth.
- 15 5. A churn-dasher having a body with oppositely-arranged cutting edges, and sides in the form of reversed curves, so that two wings are formed, each having a convex and a concave side, and air-passages adjacent to such edges, and passing entirely through the body, each passage extending through both wings, substantially as set forth.
- 20 6. A churn-dasher having a body with oppositely-arranged cutting edges, and sides in the form of reversed curves, so that two wings are formed, each having a convex and a concave side, and a plurality of air-passages adjacent to such sides, and passing entirely through the body, each passage extending through both wings, substantially as set forth.
- 25 7. A churn-dasher having a body with oppositely-arranged cutting edges, and sides in the form of reversed curves, so that two wings are formed, each having a convex and a concave side, and an air-passage adjacent to such edges, and passing entirely through the body, each passage extending through both wings and connecting the convex faces, substantially as set forth.
- 30 8. A churn-dasher having a body with oppositely-arranged cutting edges, and sides in the form of reversed curves, so that two wings are formed, each having a convex and a concave side, and a plurality of air-passages adjacent to such edges and passing entirely through the body, each passage extending
- 35 40 45

through both wings and connecting the convex faces, substantially as set forth.

9. A churn-dasher having a body with oppositely-arranged cutting edges, and sides in the form of reversed curves, so that two wings are formed, each having a convex and a concave side, and an air-passage adjacent to such edges, and passing entirely through the body, and vertical air-passages connecting the said through-passage, substantially as set forth.

10. A churn-dasher having a body with oppositely-arranged cutting edges, and sides in the form of reversed curves, so that two wings are formed, each having a convex and a concave side, and a plurality of air-passages adjacent to such edges, and passing entirely through the body, and vertical air-passages connecting the said through-passages, substantially as set forth.

11. A churn-dasher having a body with oppositely-arranged cutting edges, and sides in the form of reversed curves, so that two wings are formed, each having a convex and a concave side, and an air-passage adjacent to such edges, and passing entirely through the body, and connecting the convex faces, and vertical air-passages connecting the said through-passage, substantially as set forth.

12. A churn-dasher having a body with oppositely-arranged cutting edges, and sides in the form of reversed curves, so that two wings are formed, each having a convex and a concave side, and a plurality of air-passages adjacent to such edges, and passing entirely through the body, and connecting the convex faces, and vertical air-passages connecting the said through-passages, substantially as set forth.

This specification signed and witnessed this 19th day of August, 1903.

JAMES WILLARD MORRIS.

Witnesses:

JNO. ROBT. TAYLOR,
PETER J. CORCRAN.