

*A. Tannock,
Piston Packing.*

N^o 50,855.

Patented Nov. 7, 1865.

Fig 1.

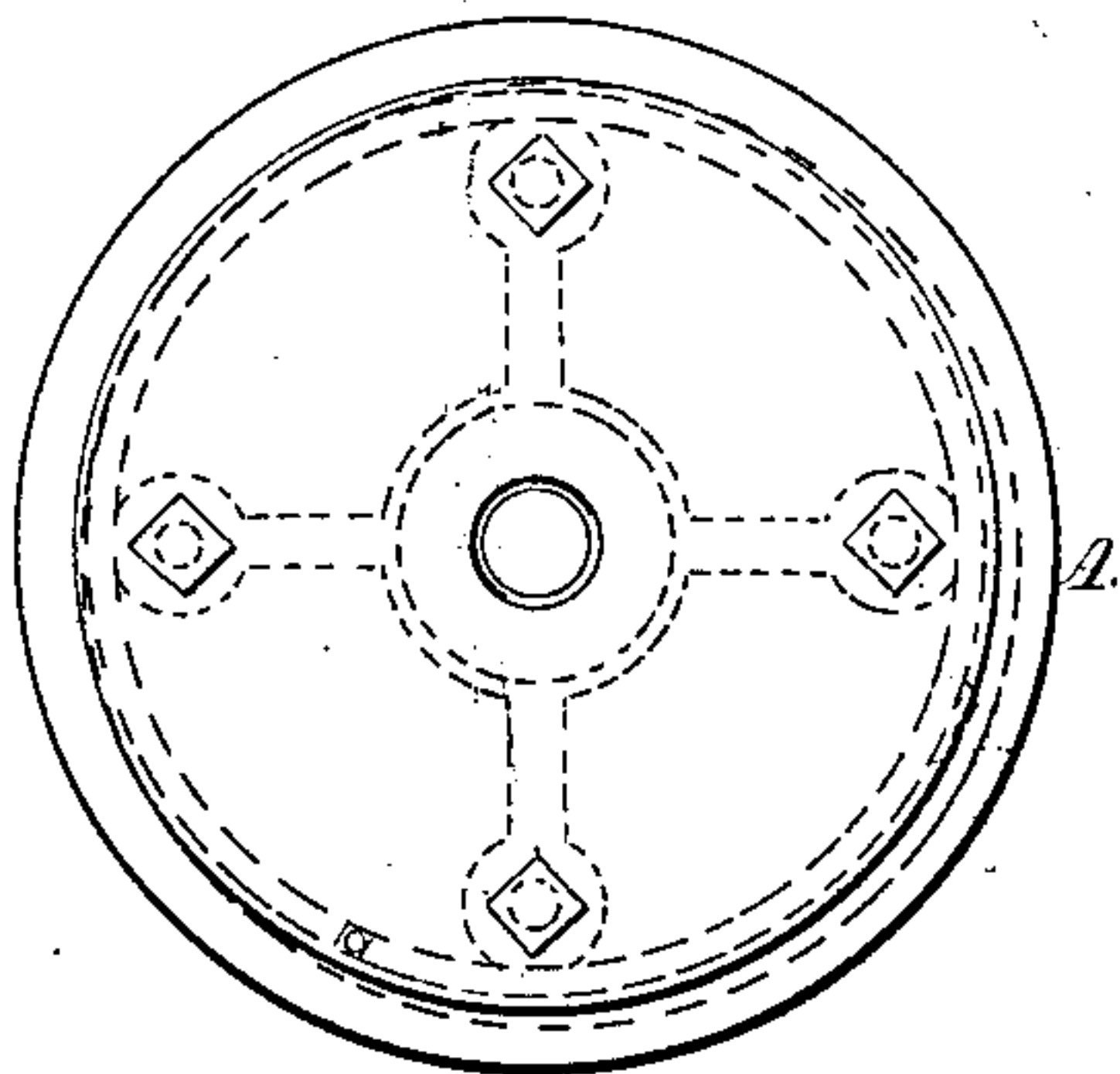


Fig 2.

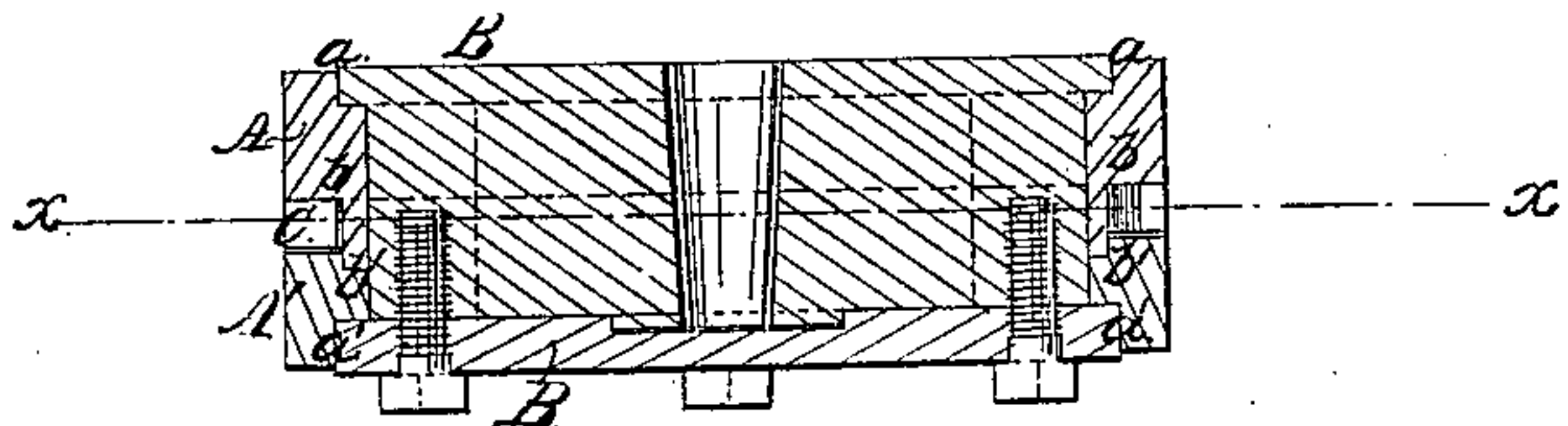
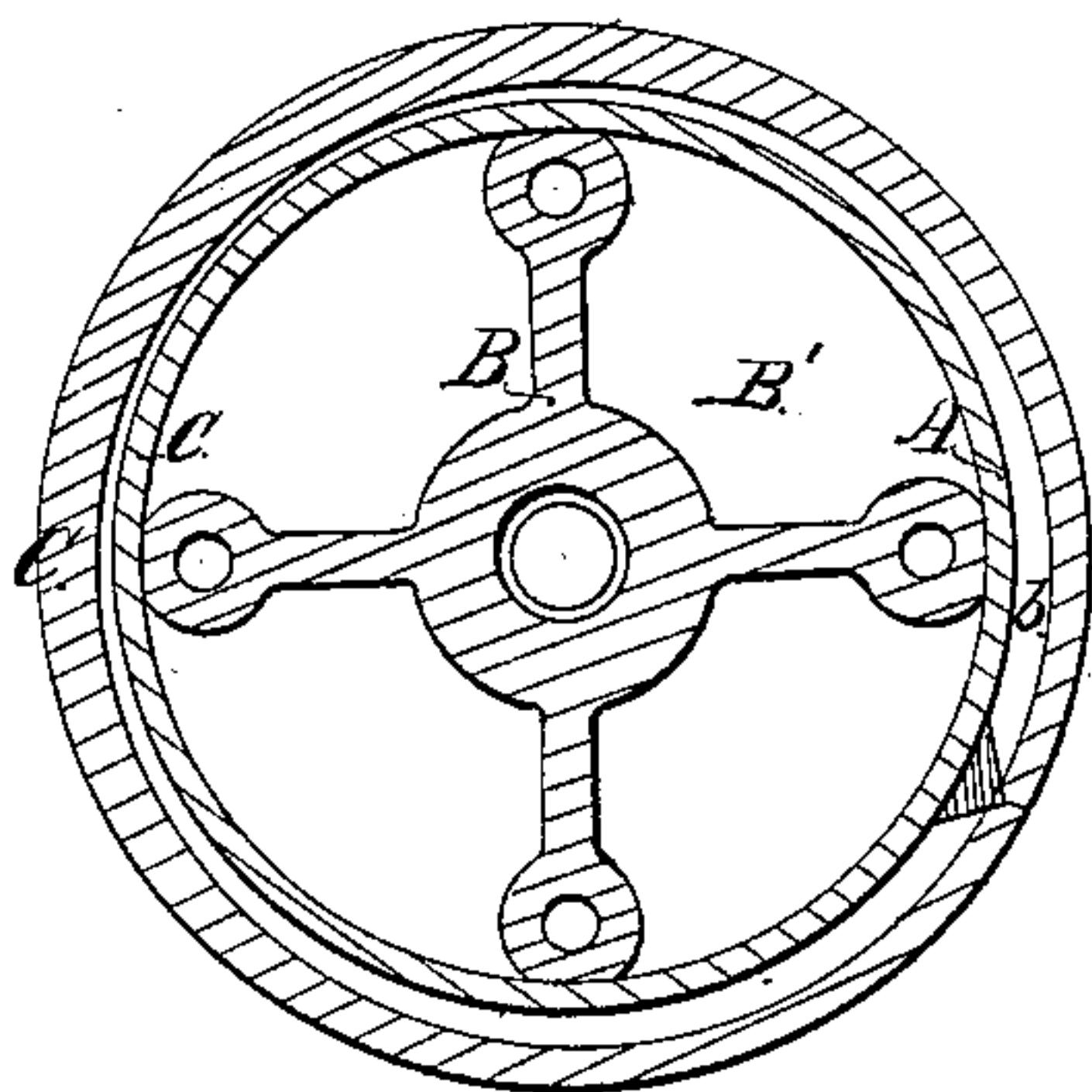


Fig 3.



*Witnesses:
Wm. C. Brown
Flav. Tusch*

*Inventor
A. Tannock
per Munn & Co
Attorneys*

UNITED STATES PATENT OFFICE.

ANDREW TANNOCK, OF LITCHFIELD, ILLINOIS.

IMPROVEMENT IN PISTON-PACKINGS.

Specification forming part of Letters Patent No. 50,855, dated November 7, 1865.

To all whom it may concern:

Be it known that I, ANDREW TANNOCK, of Litchfield, in the county of Montgomery and State of Illinois, have invented a new and Improved Piston-Packing; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a plan or top view of this invention. Fig. 2 is a transverse vertical section of the same. Fig. 3 is a horizontal section of the same, the line *xx*, Fig. 2, indicating the plane of section.

Similar letters of reference indicate like parts.

This invention relates to a piston-packing composed of two concentric and an intervening eccentric ring. The concentric rings are turned out on top and bottom to receive the piston-head and the follower, and the eccentric ring is forced out against the inner surface of the cylinder by the action of a wedge secured to one of the concentric rings. Neither springs, screws, nor steam-pressure are used to set out the packing-rings, and all unnecessary friction is avoided. The eccentric ring, being set out by the piston itself, works steam-tight, and as the piston wears in like proportion said ring is set out. Furthermore, by extending the concentric rings flush with the outer surfaces of the piston-head and follower, the bearing-surface of the piston is increased, and it is less liable to wear out of the center than a piston of the ordinary construction.

A A' represents two concentric rings, each provided with a recess, *a a'*, at one end, one to receive the piston-head B and the other to receive the follower B'. Said rings are turned so as to fit the cylinder exactly, and the recesses *a a'* are of such a depth that the outer edges of the rings are flush with the outer surfaces of the piston-head and follower, as clearly shown in Fig. 2 of the drawings. The ring A is also provided with a recess, *b*, on its inner edge, and extending from the outer periphery thereof to about two-thirds of its thickness,

and the end of the projection thus formed on the inner edge of the ring A fits into a recess, *b'*, turned into the inner circumference of the ring A', the recess *b* and *b'* being so proportioned as to leave an annular cavity between the two rings A A'. This cavity is occupied by the eccentric ring C, which is turned somewhat (about one-eighth of an inch, more or less) larger than the bore of the cylinder, and then cut open and sprung in the annular cavity, a wedge, C, being provided which forces the eccentric ring out, and when the piston is used in a horizontal cylinder causes it to bear steam-tight against the inner surface of the cylinder. This wedge is riveted or otherwise firmly secured to the ring A, and the edges of the eccentric ring C are ground steam-tight between the rings A A'.

The manner in which the wedge causes the eccentric ring to bear steam-tight against the inner surface of a horizontal cylinder is as follows: When new, the eccentric ring is made to fill the cylinder, and the same is the case with the large rings A A'. But the weight of the piston, piston-rod, and follower, all bearing upon the large rings, together with their own weight, causes them to wear on the under side. The eccentric ring, having but little weight, is exposed to a very small amount of friction, and therefore wears but little. The large rings, having to support so much weight, must necessarily wear upon the bottom, and in proportion as they wear the wedge (which is placed at the bottom of the piston) is pressed down with them into the joint of the eccentric ring, thereby wedging apart against the inner surface of the cylinder. By this arrangement the use of springs, screws, or steam-pressure for forcing out the packing is obviated, and all unnecessary friction and wear of piston and cylinder are avoided. Furthermore, by having the rings project over both piston-head and follower, an increase in the working-surface is obtained, rendering the same less liable to wear, and consequently less liable to get out of the center.

The method of keeping the eccentric ring steam-tight by the pressure of the piston and by a wedge is very simple, and at the same

time the wedge cannot possibly get out of place or out of repair, rendering the whole device durable. Finally, by putting the piston-rings together in two pieces, easy access is obtained to the eccentric ring, and the latter can be taken out without springing it out of shape.

I claim as new and desire to secure by Letters Patent—

The wedge *c* and eccentric ring *C*, in combination with the projecting rings *A A'* and piston *B B'*, constructed and operating substantially as and for the purpose specified.

ANDREW TANNOCK.

Witnesses:

ALEX. MACLENNAN,
I. H. FILCER.