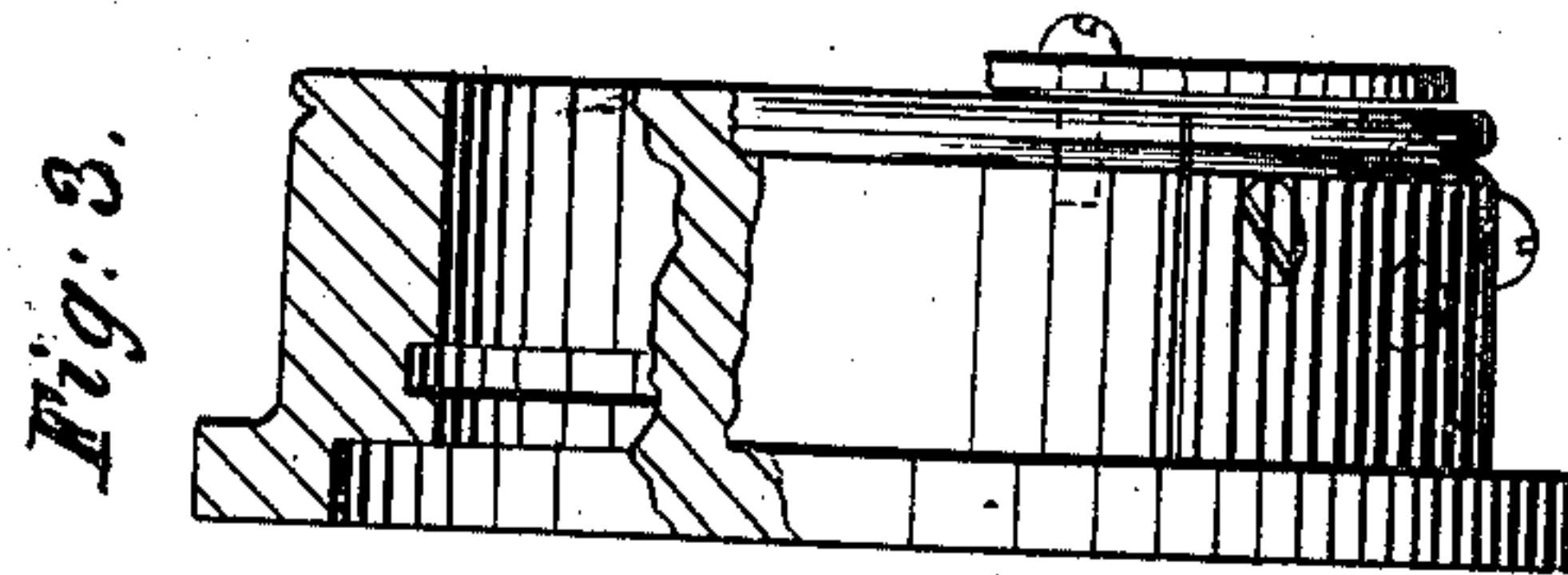


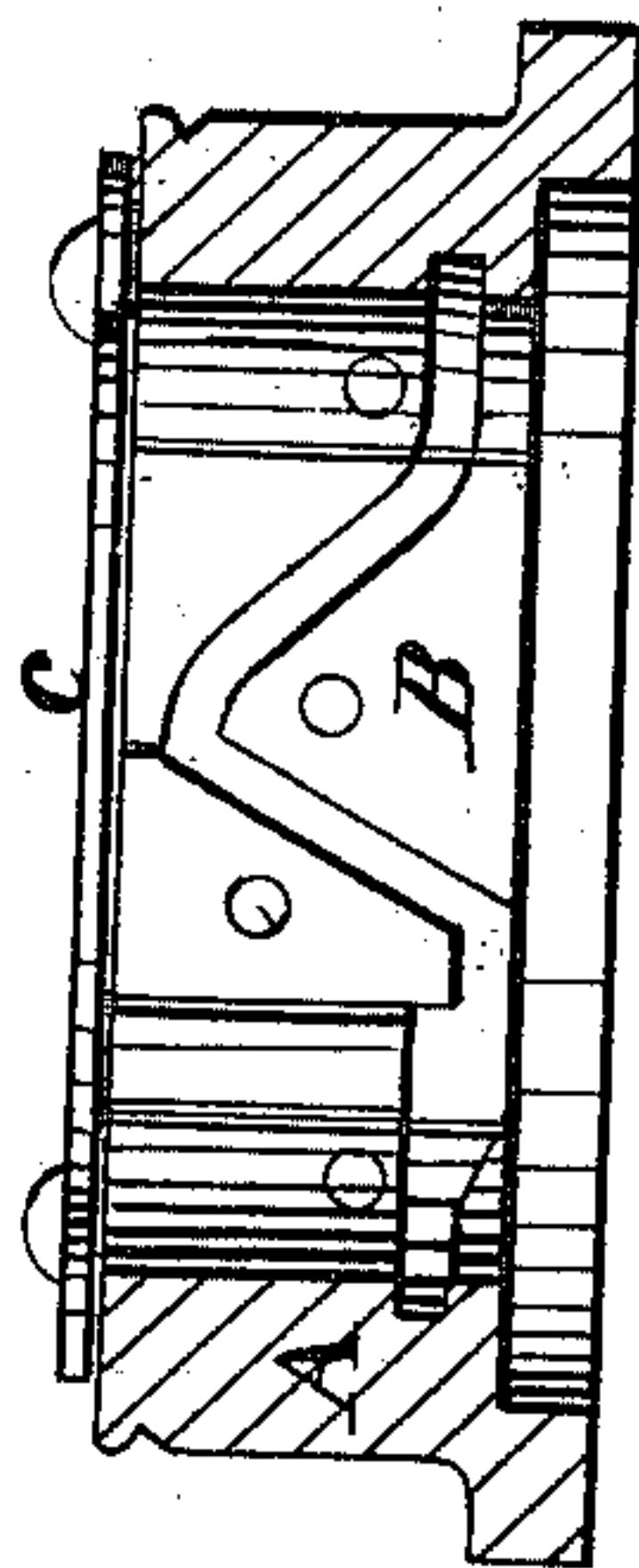
E. K. PRAY.  
KNITTING MACHINE.

No. 81,683.

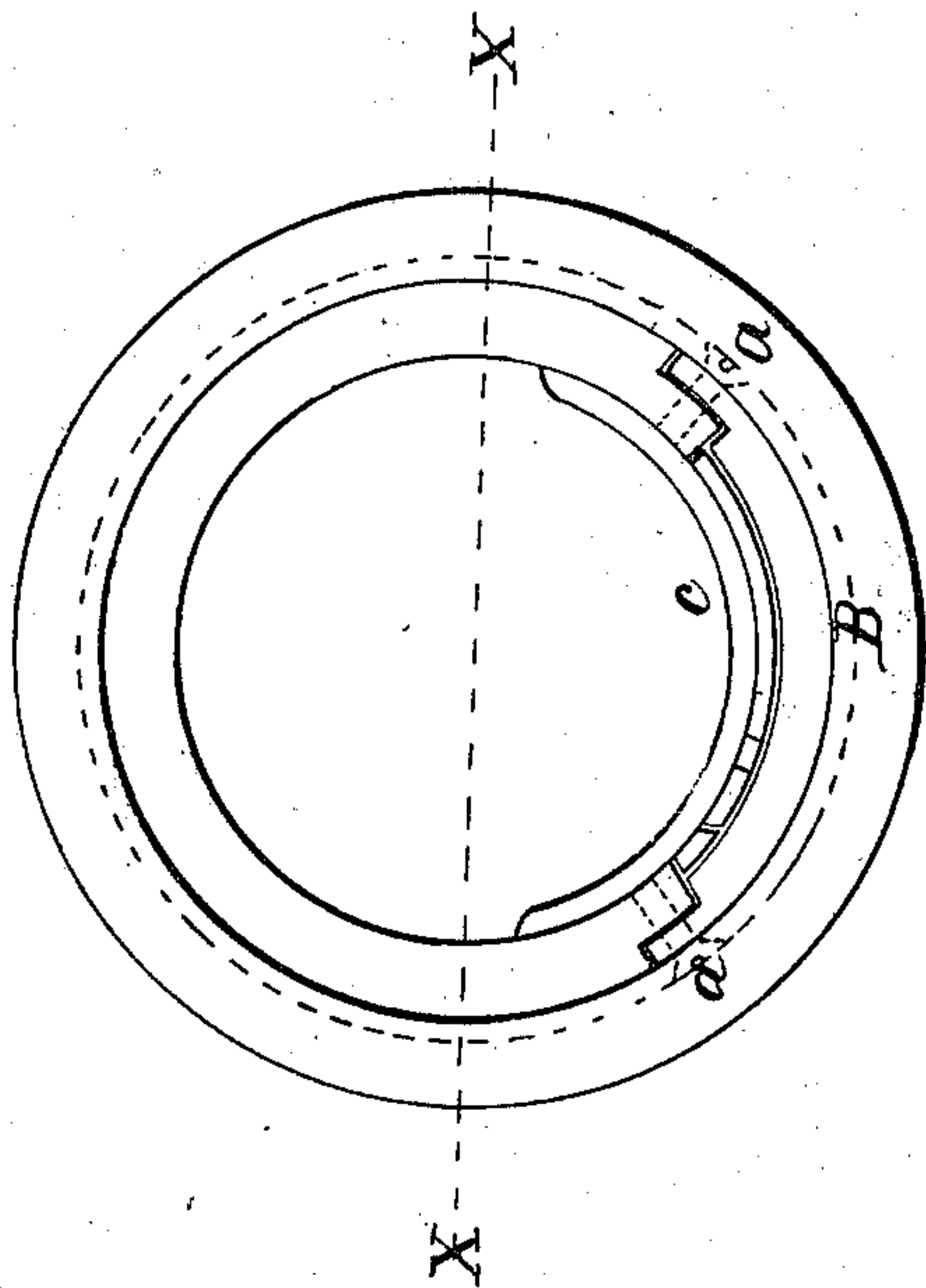
Patented Sept. 1, 1868.



*Fig. 2.*



*Fig. 1.*



Witnesses:  
*Wm. A. Morgan*  
*G. C. Carlton*

Inventor:  
*E. K. Pray*  
per *Mumford*  
Attorney

# United States Patent Office.

E. K. PRAY, OF HOLDERNESS, NEW HAMPSHIRE.

*Letters Patent No. 81,683, dated September 1, 1868.*

## IMPROVEMENT IN KNITTING-MACHINE.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, E. K. PRAY, of Holderness, in the county of Grafton, and State of New Hampshire, have invented a new and useful Improvement in Knitting-Machines; 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 view of a ring, constructed according to my improvement.

Figure 2 represents a section of the same.

Figure 3 represents a side view, with a part broken away.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide means whereby the cams of circular-knitting machines may be readily detached from the rings, when necessary to refit them or clean out the cam-groove, which sometimes becomes obstructed, without the necessity of taking the machine to pieces, or displacing the needles, as must be done with the machines as now constructed.

It consists in making that part of the ring to which the cams are secured, detachable from the other part, and providing a segment of a ring to hold the needles in place while the said detachable part is removed.

It frequently happens that the cams become worn, and require to be taken out to be refinished, and more frequently it happens that the butts or projections on the needles become broken, and lodge in the part of the groove which passes through the cams, for which they must also be taken out, and which necessitates the taking the ring off the barrel, by which the needles become displaced, involving the labor of replacing them when the cams are replaced, one by one, which consumes a great amount of time.

In the drawings—

A represents a ring, which is provided with the detachable portion B, the ends of which are halved to the main part A, and secured thereto by the screws *a a*, and to which the cams are secured in any suitable manner.

C represents a segment of a ring, which is secured to the ring A, extending across the space made by the removal of the part B, which maintains the needles in their positions in the grooves of the barrel, while the said part B is removed.

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

1. The ring A, constructed with that part to which the cams are secured, detachable, substantially as and for the purpose set forth.

2. The combination, with the ring A, having the detachable part B, of the segment C, substantially as and for the purpose described.

E. K. PRAY.

Witnesses:

B. B. WORTHEN,

JOHN JEWETT.