ROBERT LYE.

Improvement in Collapsing Core-Barrels.

No. 127,178. Patented May 28, 1872.

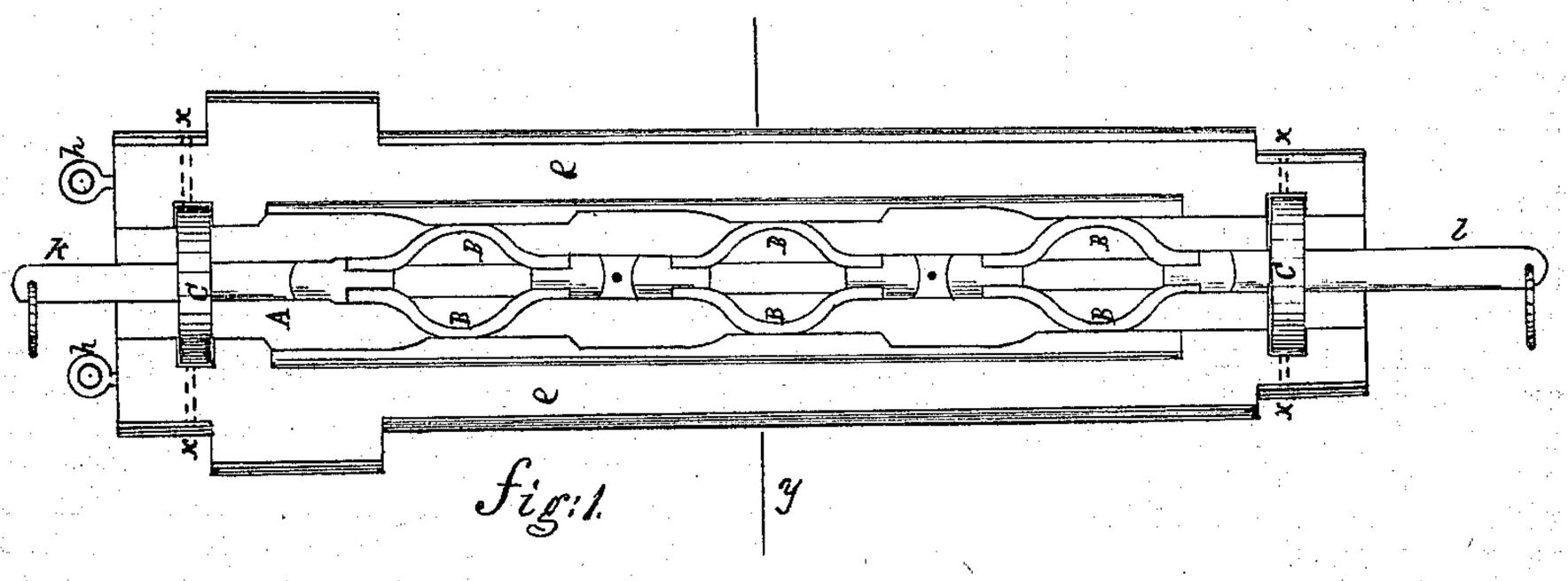
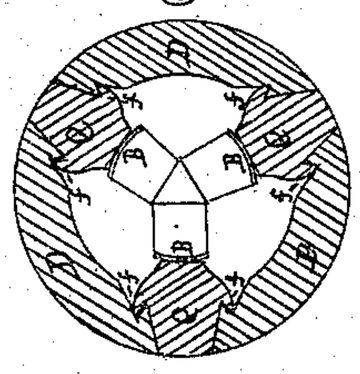


Fig: 1.

Fig: 2.



Witnesses.
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127,178

UNITED STATES PATENT OFFICE.

ROBERT LYE, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN COLLAPSING CORE-BARRELS.

Specification forming part of Letters Patent No. 127,178, dated May 28, 1872.

To all whom it may concern:

Be it known that I, ROBERT LYE, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Collapsing Core-Barrel or Metallic Core; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The nature of my invention consists in a series of longitudinal sections of a hollow cylinder, locked together by tongues and grooves, which are held in the desired position by means of bolts secured in collars or disks, arranged upon a jointed rod provided with a series of springs, the whole being constructed and arranged as hereinafter described.

To enable others skilled in the art to make and use my invention, I will proceed to describe more fully its construction and operation.

In the accompanying drawing, which forms part of my specification, Figure 1 is a side elevation of my improvement in metallic core-barrel or metallic core, representing one section of it removed, showing the interior of the core-barrel longitudinally. Fig. 2 is a transverse section of a core-barrel at line Y of Fig. 1.

A represents the jointed rod, and B its springs. C are collars, arranged to move loosely on the rod at the points indicated in Fig. 1. These collars are fitted to recesses made in the several sections, forming the core-bar. The sections D are held in position with relation to the rod A by means of bolts or pins, as indicated by the dotted lines at X, the pins being secured permanently in the collars and passed through openings made in sections D, which should move loosely on the pins. The sections *e* are, when viewed in cross-section, coniform, and are provided with tongues *f*, which fit into grooves made in the sections D, as clearly shown in Fig. 2.

As the construction and arrangement of the several parts will readily be understood from the foregoing description and by reference to the accompanying drawing, I will, therefore, proceed to describe the operation, which is as follows: The several parts being constructed and arranged together, as represented in Figs. 1 and 2, by drawing on the rod A at the end *l*, the springs B will press against projections on the inside surface of the sections *e*, which will press them out between the sections D, thereby expanding the several parts so as to form a perfect circle when viewed in cross-section, as shown in Fig. 2. Having the core-barrel or core expanded so as to form a smooth surface and true circle, I then coat the outer surface of the core with a composition of finely-pulverized black lead and iron ore, taking two parts of the former and one part of the latter. I mix these ingredients thoroughly together, and form a paint-like mixture by adding sufficient molasses or other sticky liquid. I then coat the surface of the core with this mixture and thoroughly dry it. The core is then ready for its mold. The core is collapsed by draawing on the end *k* of the rod A.

The advantage of constructing the several parts or sections D and *e* consists in the ease and simplicity of their construction.

I wish it clearly understood that my hereinbefore-described invention is an improvement of the "collapsing core-barrel," for which Letters Patent were granted to A. T. Brodie and R. R. Smith, January 24, 1871.

What I claim as of my invention is—

The sections D and *e* provided with tongues and grooves *f*, combined with the rod A provided with collars C and springs B; the whole constructed and combined substantially as herein described, and for the purpose set forth.

ROBERT LYE.

Witnesses:

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