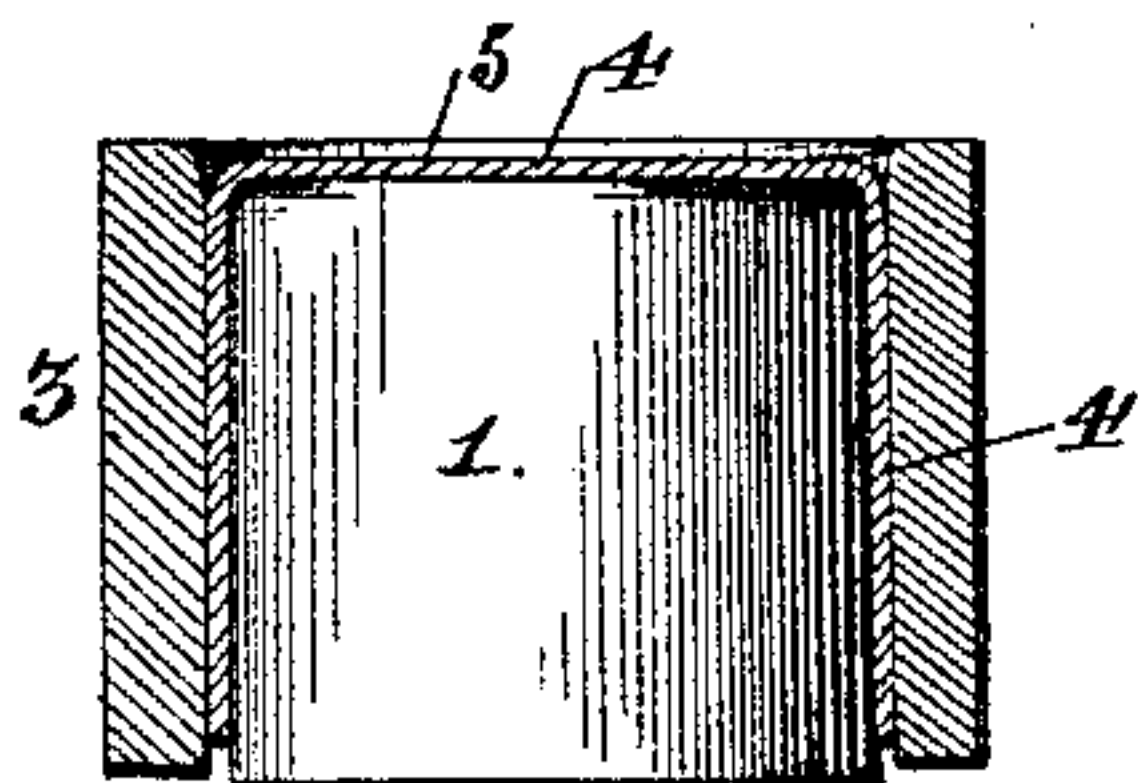
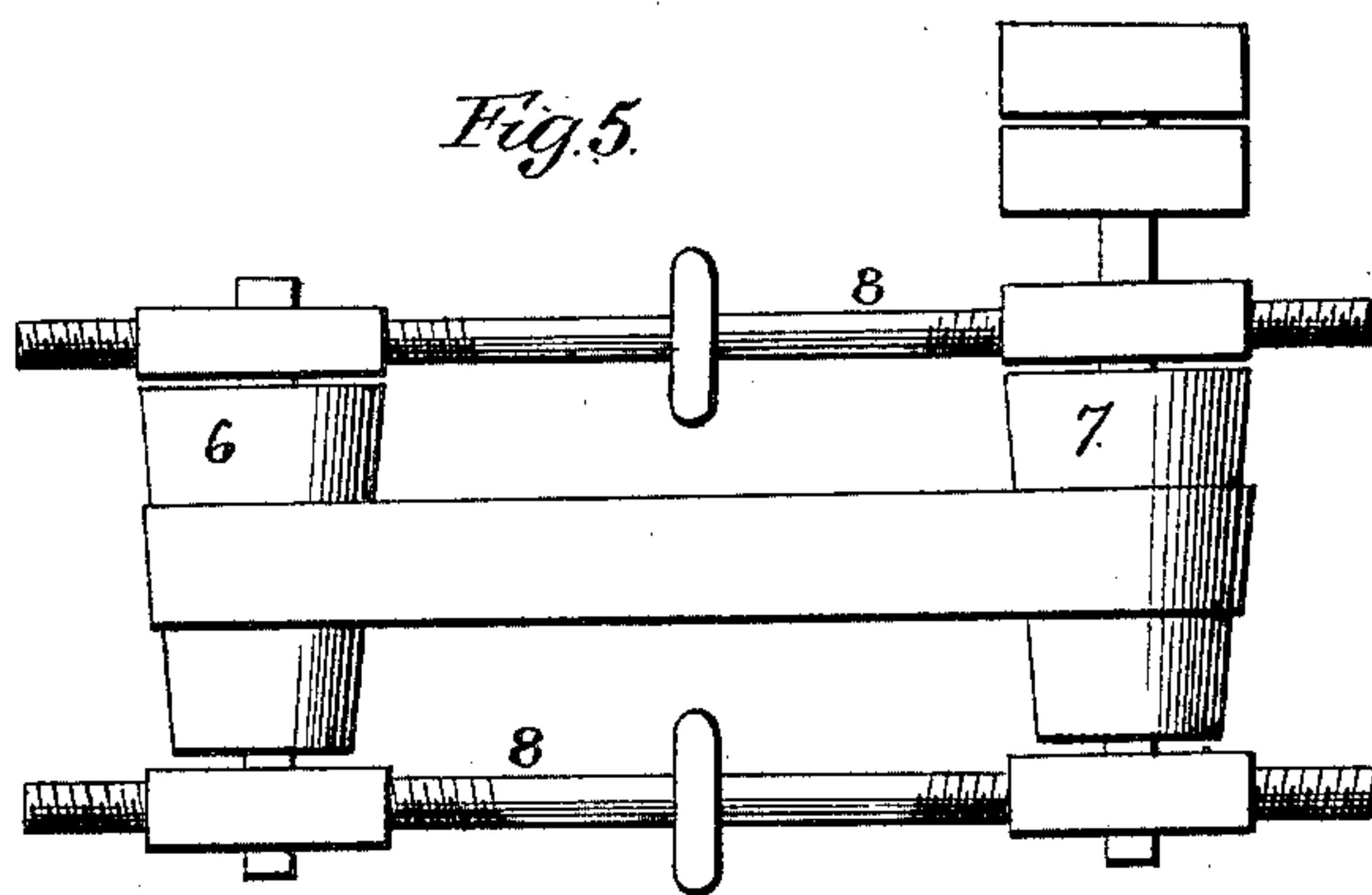
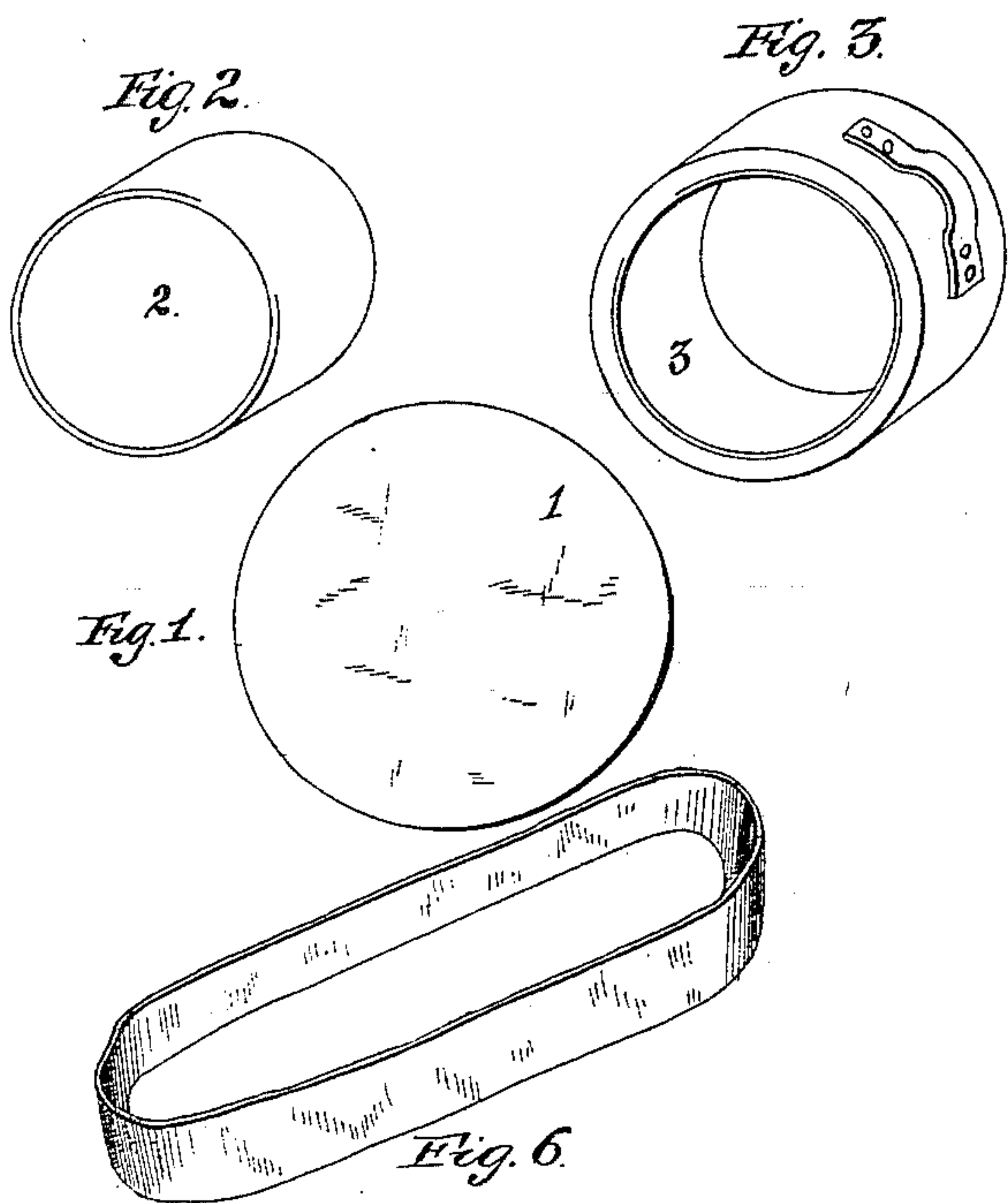


(No Model.)

H. BRAMM.
COMB APRON.

No. 453,575.

Patented June 2, 1891.



Witnesses
W Tefft Johnson
Walter Allen

Inventor
Henry Bramm,
by *C. B. Brock.*
Attorney

UNITED STATES PATENT OFFICE.

HENRY BRAMM, OF JERSEY CITY, NEW JERSEY.

COMB-APRON.

SPECIFICATION forming part of Letters Patent No. 453,575, dated June 2, 1891.

Application filed February 3, 1891. Serial No. 379,970. (No model.)

To all whom it may concern:

Be it known that I, HENRY BRAMM, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Comb-Aprons; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to the manufacture of comb-aprons and belting.

The object of my improvements is to produce a comb-apron for textile and other analogous machinery, which is cut from raw-hide or leather stock without a joint. These endless jointless aprons may also be used for general belting purposes.

The invention consists in the following construction and method of manufacture, which will first be fully set forth and described in detail, and the features of novelty then set forth in the claims.

Figure 1 represents a disk of leather or raw-hide stock cut from any suitable hide. Fig. 2 is a view of the forming-block. Fig. 3 represents the blocking-ring used in connection with the block. Fig. 4 is a vertical sectional view of the block and ring, illustrating a raw-hide disk while being subjected to the action of the apparatus. Fig. 5 is a plan view of a machine provided with conical rollers for finishing the comb-aprons. Fig. 6 is a view of a completed comb-apron.

In the drawings, 1 represents a circular disk of rawhide or leather taken from suitable stock. This piece of hide 1 is placed centrally over the cylindrical block 2 and the ring or former 3 is brought down upon the hide 1, pressing it into the cup-shaped form 4 shown in Fig. 4. The diameter of the cylindrical ring 3 is but slightly greater than that of the block 2 and a heavy pressure is required to force the ring down over the block. The stretching and forming of the disk 1 into the cup-piece 4 is very effective. A heavy screw-pressure is used for this purpose, but hydraulic or steam power may be employed.

The hide 1 from the center outward is subjected to an immense stretching and pushing action. Especially from the upper edge of the block 2 downward it is forced along the sides of the block and formed permanently into a cylindrical shape. The hide is left upon the block 2 sufficiently long to become "set," after which it is removed. The crown or cap piece 5 of the cup-shaped hide 4 is then cut out, leaving a jointless endless comb-apron or belt; but in this condition it will not run perfectly true and needs further manipulation.

6 and 7 represent two conical rollers mounted in any suitable housing and driven by any suitable power.

8 8 are screws for adjusting the distance of the rollers from each other. The jointless endless comb-apron is mounted upon these rollers, as shown. The edge of the belt which was cut from next the crown-piece 5 is placed next the larger ends of the conical rollers for the purpose of giving that side of the apron a greater tension than the opposite side, whereby when the apron is taken off both sides of the apron will have an equal tension and a uniform diameter and circumference throughout the width of the belt-apron. During the rotation of the conical rollers the apron, following a well-known law or principle of belting, has a constant tendency to ride up the cone or toward the greater diameter, and the increased tension or stretching desired is proportionately effected at the points where such increased tension is required. When this latter operation is completed, the apron is taken from the rollers (and trimmed, if necessary) and the apron is finished.

Different widths of comb-aprons and belts may be similarly made; or a wide apron may be formed and then cut into two or more narrower aprons, either before or after they are put upon the conical stretching-rollers.

Fig. 6 shows one of the completed comb-aprons. The final stretching is found necessary to enable the belts to run perfectly true.

Instead of forming the comb-aprons from a solid disk or piece of hide, they may be made from a ring-shaped piece having the center cut out and its edges clamped to or otherwise secured to the block. The aprons when first put upon the rolls are subjected to a heavy

stretching-tension thereon by the screws 8
before any rotary motion is given to the rolls.
The center of the stock forming the comb-
apron may be cut out before or after the apron
5 is forced over the former.

What I claim, and desire to secure by Let-
ters Patent, is—

1. The improvement in the art of making
comb-aprons or belts, which consists in first
10 taking a substantially circular piece of hide
or leather, then forcing it over a former to
give it the shape of a cup with a closed end
or crown-piece, and finally cutting out the

crown-piece, thus forming an endless jointless
band or belt, substantially as set forth. 15

2. The method of making endless jointless
comb-aprons or belts, which consists in forc-
ing the stock over a former, cutting out the
center, and stretching the apron lengthwise,
substantially as set forth. 20

In testimony whereof I affix my signature in
presence of two witnesses.

HENRY BRAMM.

Witnesses:

CHAS. J. SCHLEGEL,
CHAS. W. SEITZ.