

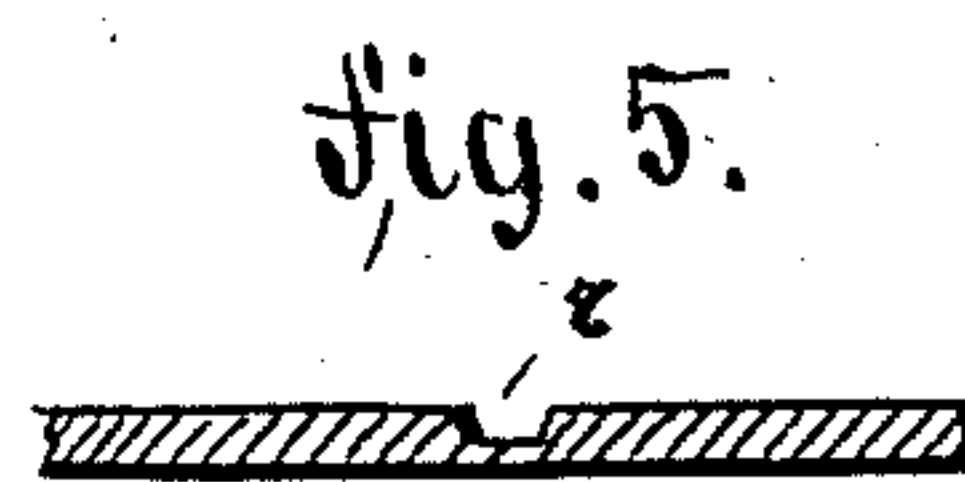
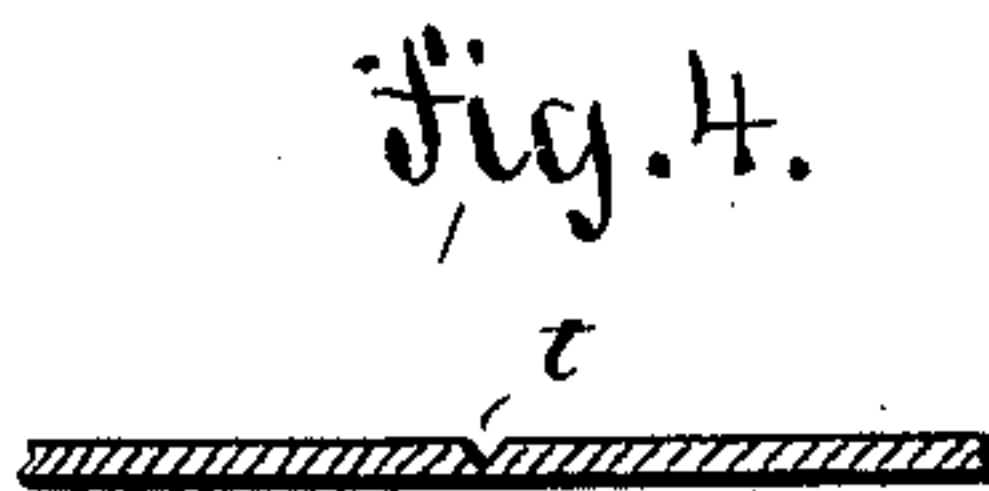
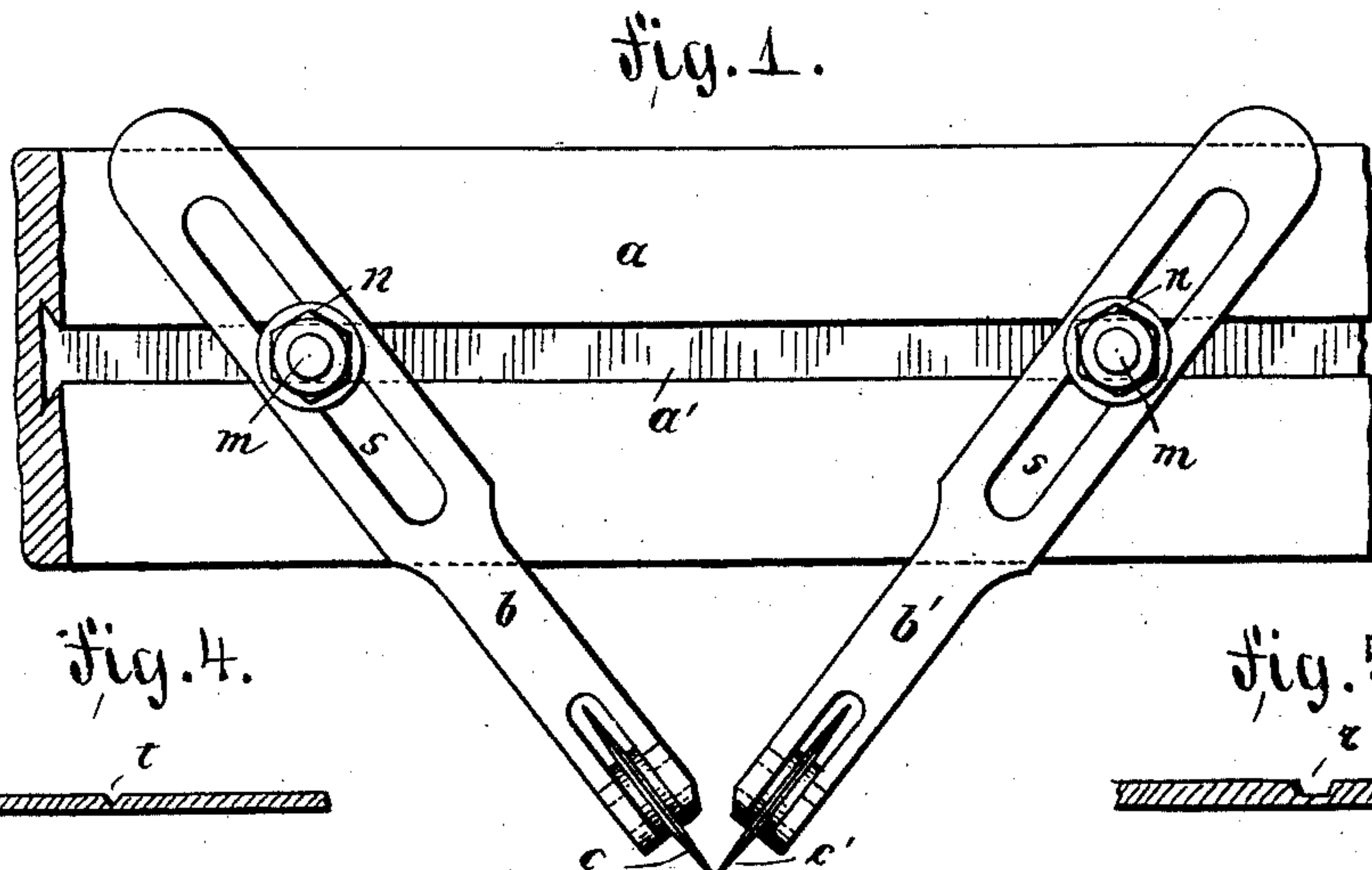
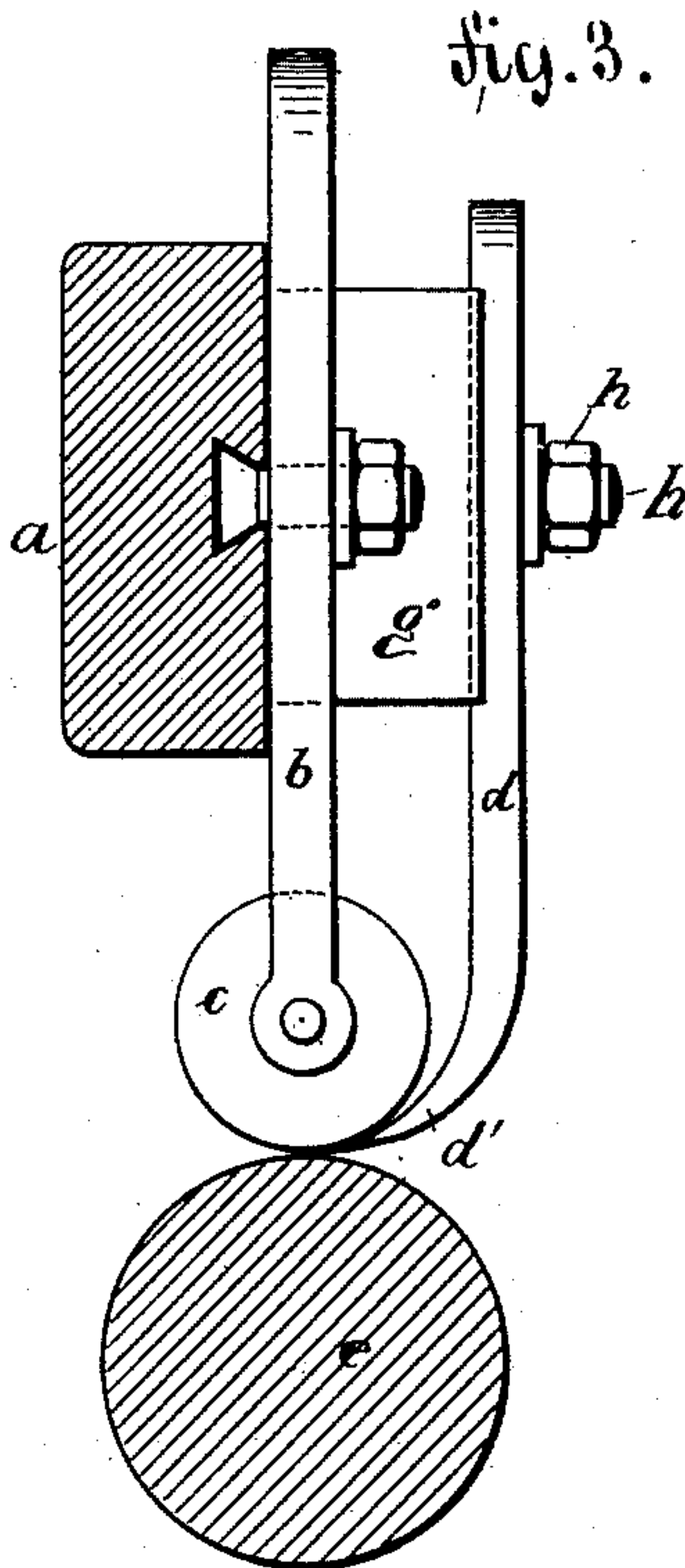
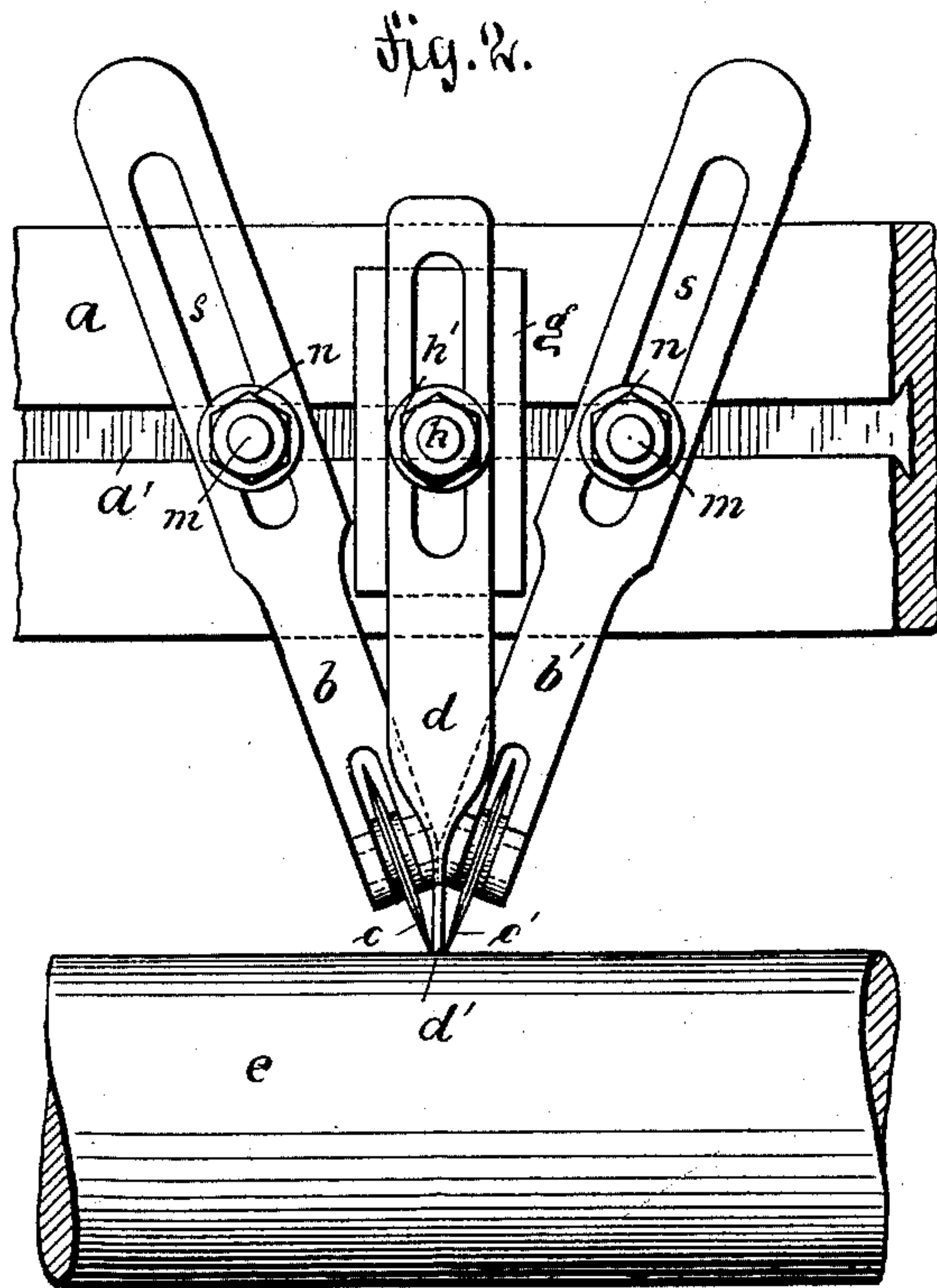
(No Model.)

T. REMUS.

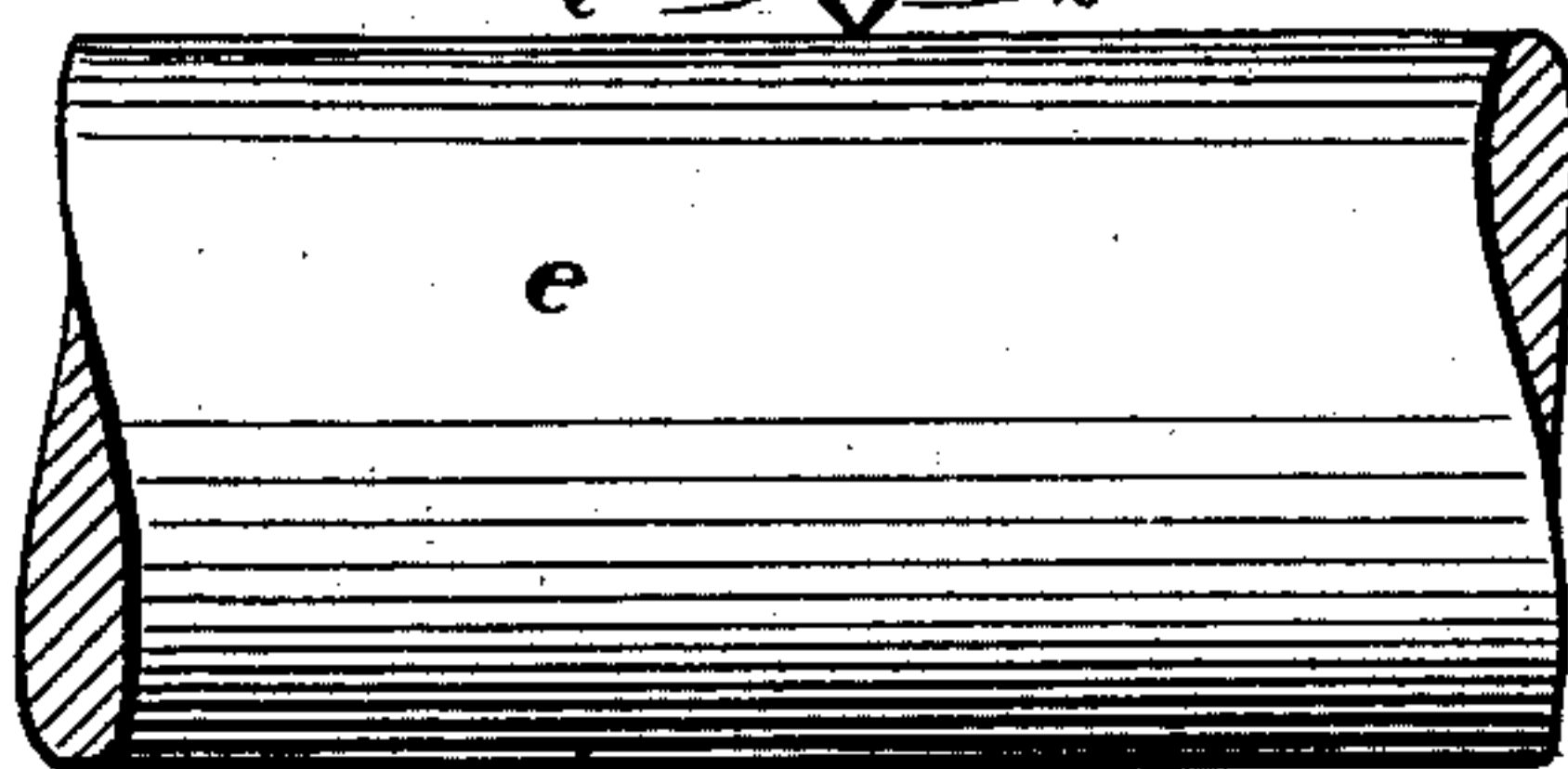
APPARATUS FOR GROOVING CARD BOARD.

No. 362,179.

Patented May 3, 1887.



WITNESSES:  
H. W. Rosenbaum.  
Sidney Mann



INVENTOR  
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# UNITED STATES PATENT OFFICE.

THEODOR REMUS, OF DRESDEN, SAXONY, GERMANY, ASSIGNOR OF ONE-HALF TO JEAN SCHERBEL, OF SAME PLACE.

## APPARATUS FOR GROOVING CARD-BOARD.

SPECIFICATION forming part of Letters Patent No. 362,179, dated May 3, 1887.

Application filed May 21, 1886. Serial No. 202,852. (No model.) Patented in Germany October 16, 1885, No. 35,151; in England April 30, 1886, No. 5,894; in Belgium May 8, 1886, No. 73,037; in France May 10, 1886, No. 176,040; in Sweden May 20, 1886, No. 491; in Spain June 5, 1886, No. 9,215; in Norway June 11, 1886, No. 103; in Italy June 12, 1886, No. 19,956; in Austria-Hungary June 27, 1886, No. 8,592 and No. 24,758, and in Denmark August 20, 1886, No. 754.

*To all whom it may concern:*

Be it known that I, THEODOR REMUS, a subject of the Emperor of Russia, residing at the city of Dresden, in the Kingdom of Saxony, Empire of Germany, have invented certain new and useful Improvements in Apparatus for Grooving Card-Board, (for which Letters Patent have heretofore been granted to me in Germany, No. 35,151, dated October 16, 1885,) of which the following is a specification.

In the manufacture of articles from pasteboard—such as paper boxes—it is necessary that grooves be formed in the pasteboard from which the boxes, &c., are to be made, to permit the bending and forming of the pasteboard into the desired shape.

The object of my invention is to provide a new and improved apparatus for cutting grooves of different sizes and shapes in pasteboard.

The invention consists in the combination of parts and details, as will be fully described and set forth hereinafter, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 is a front view of my improved apparatus for grooving pasteboard, parts being in section. Fig. 2 is a similar view of the same, showing it provided with a gouge. Fig. 3 is a cross-sectional view of the same, and Figs. 4 and 5 are sectional views of boards grooved by means of our improved apparatus.

Similar letters of reference indicate corresponding parts.

The bar *a* is provided with the dovetailed groove *a'*, in which the dovetailed heads of the screws *m* are held movably, the screws being provided at their outer ends with the nuts *n*. The knife-holders *b b'* are adjustable in longitudinal slots *s*, through which the screws *m* are passed. In the lower forked ends of the knife-holders *b b'* the circular blades or knives *c c'* are pivoted. A roller, *e*, is provided below the knives *c c'*, and serves to support the piece of pasteboard to be grooved.

In case a V-shaped groove is to be cut, as shown in Fig. 4, the knife-holders *b b'* are moved toward each other until the edges of the knives are in contact. The blades *c c'* are then locked in place by moving up the nuts *n* of

the screws *m*, and a sheet of pasteboard is drawn over the roller *e*, whereby a groove, *t*, is cut into the upper surface of the pasteboard on the roller *e*.

In case a U-shaped groove, *r*, is to be cut, as shown in Fig. 5, the holders *b b'* are so adjusted that the edges of the knives *c c'* are a short distance from each other. Between the circular knives *c c'* the tapered lower end, *d'*, of a curved gouge, *d*, is inserted, which gouge is held by a bolt, *h*, and a nut, *h'*, on a block, *g*, which is held by the same bolt *h* on the bar *a*. The inclined knives *c c'* cut the sides of the groove, and the sharpened end of the gouge *d* cuts the bottom. Gouges of different width have to be used, according to the width and depth of the groove.

The knife-holders *b b'* can be adjusted to any desired inclination, and can be shifted on the bar *a* to any desired position.

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

1. In an apparatus for cutting grooves, the combination, with a bar, of knife-holders held adjustably on the same, which knife-holders are mounted to swing on said bar toward and from each other, the knife-holders swinging in a plane parallel to that of the bar, substantially as shown and described.

2. In an apparatus for cutting grooves, the combination, with a bar, of knife-holders held adjustably on the same, circular knives pivoted in the forked ends of the knife-holders, and a gouge held adjustably between the knives, substantially as shown and described.

3. In an apparatus for cutting grooves, the combination, with a bar, *a*, having the longitudinal groove *a'*, of the bolts *m* and nuts *n*, the slotted knife-holders *b b'*, through the slots of which the bolts *m* pass, and the circular knives *c c'*, held in the forked ends of the knife-holders, substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THEODOR REMUS.

Witnesses:

PAUL DRUCKMÜLLER,  
EMIL DOMSCH.