G. LARDINOIS.

APPARATUS FOR GRINDING AND SMOOTHING GLASS.

APPLICATION FILED JAN. 6, 1909.

995,019. Patented June 13, 1911.

3 SHEETS—SHEET 1.

Fig. 1.

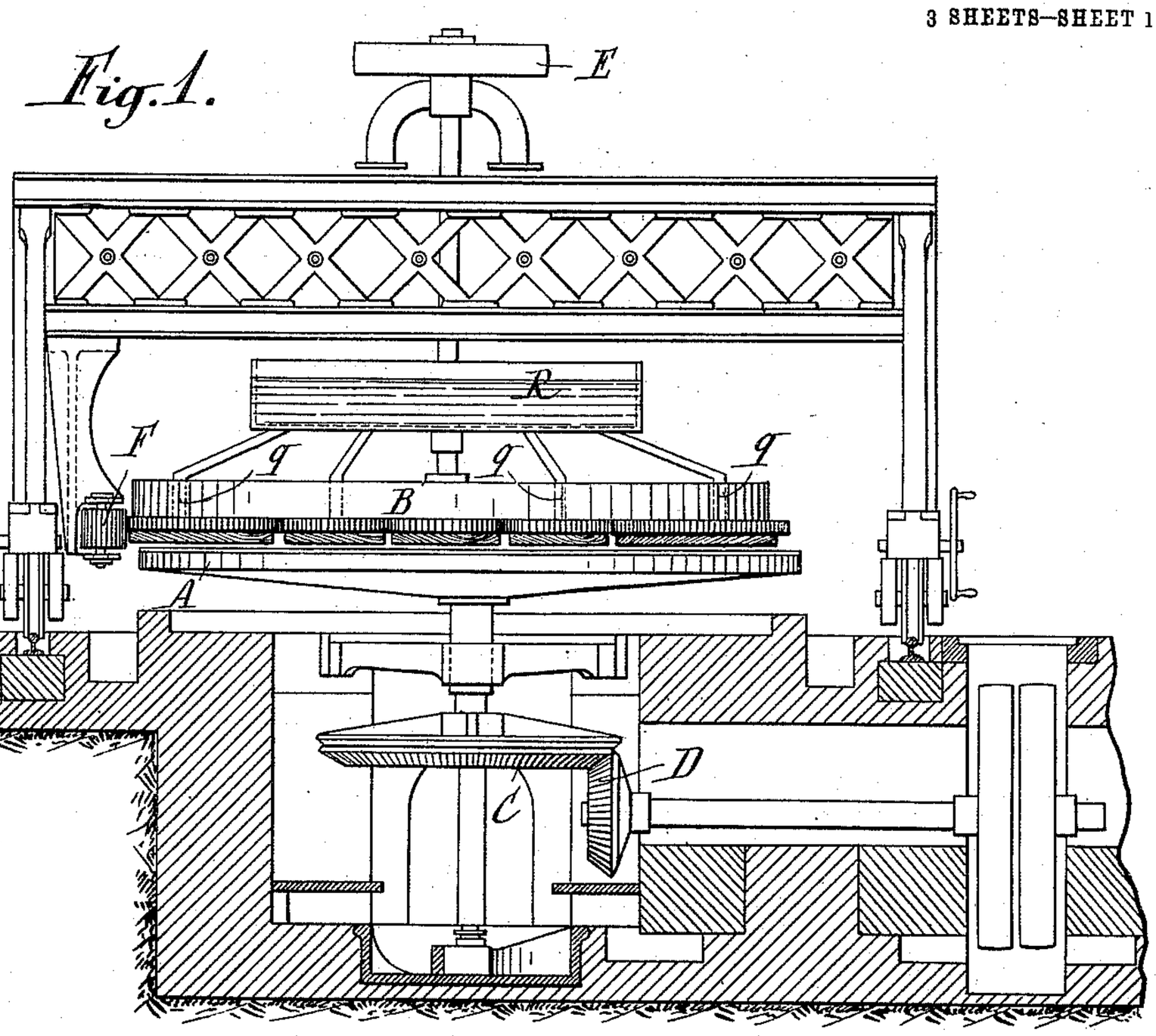
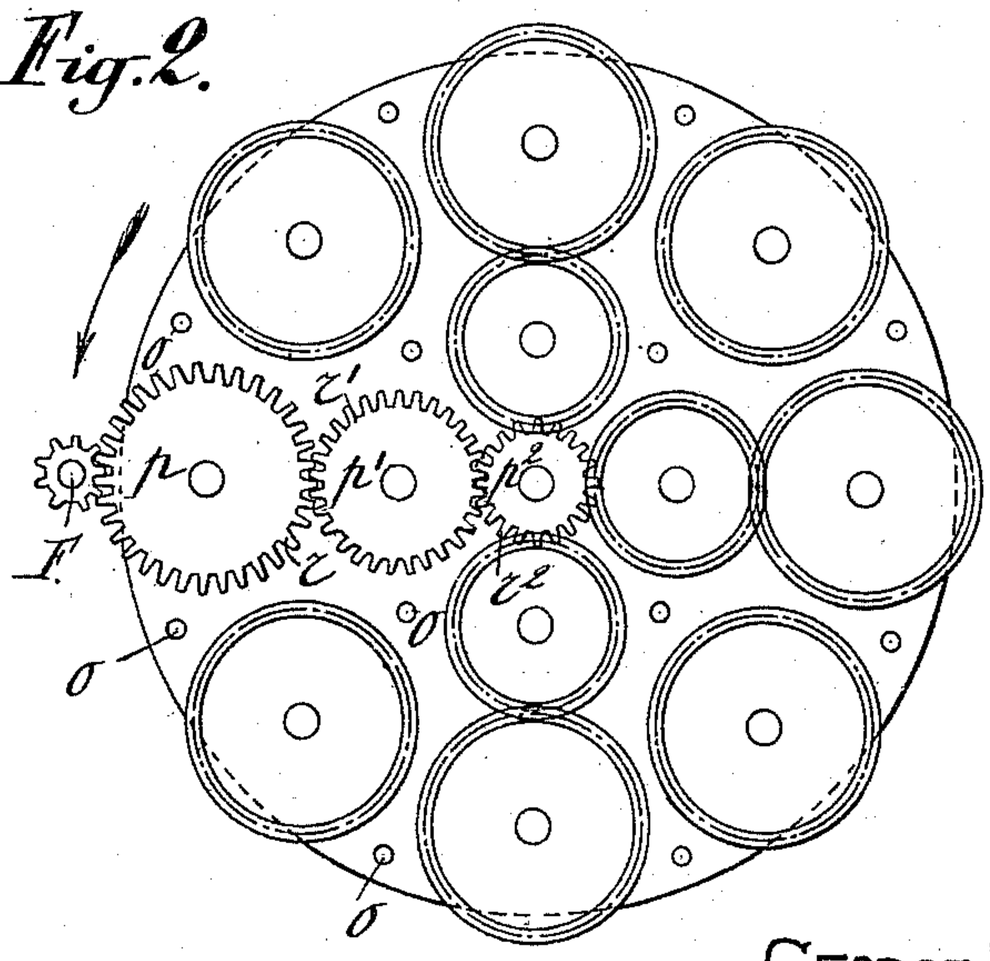


Fig. 2.



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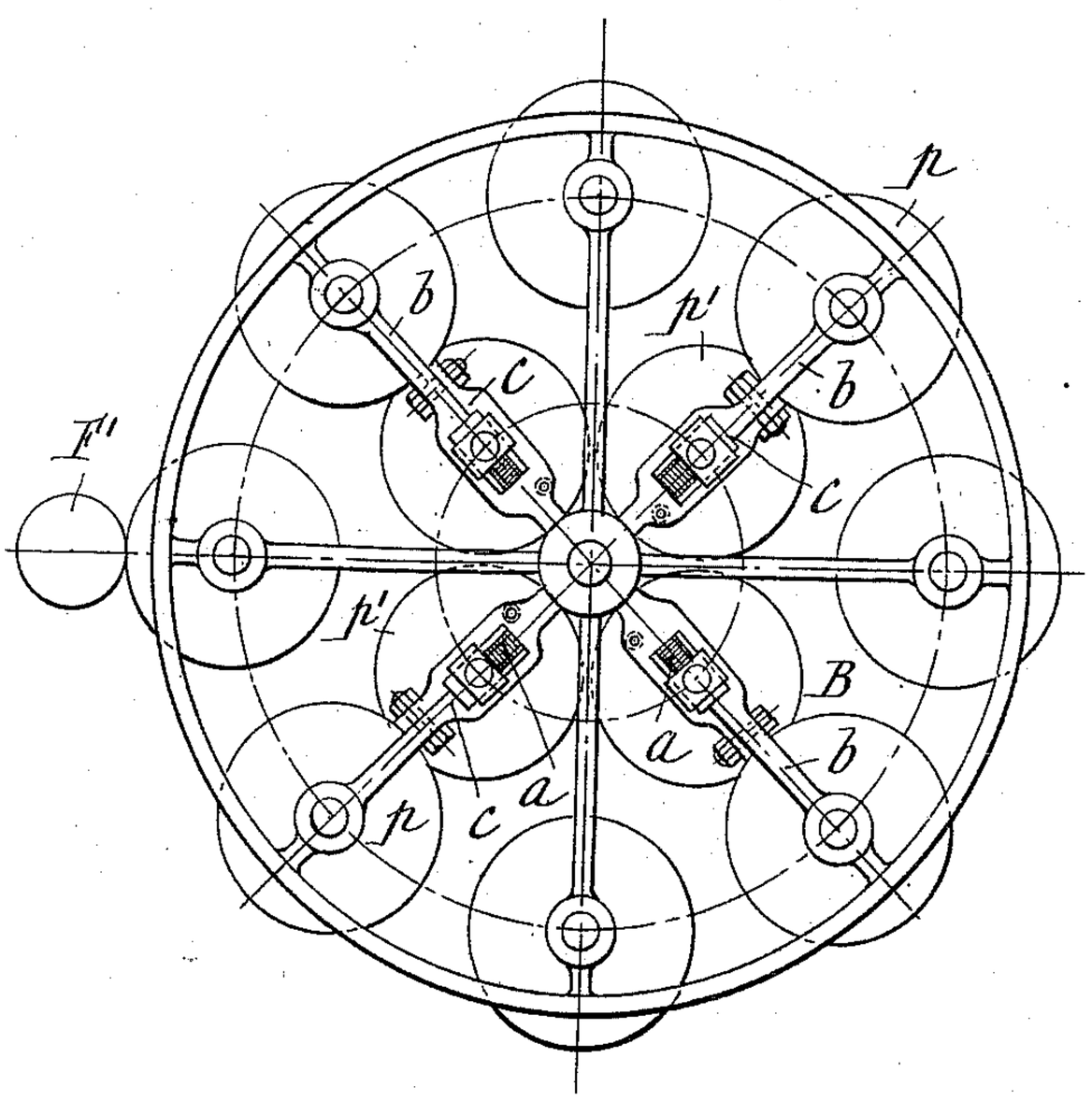
3 SHEETS—SHEET 2.

Fig. 3.



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3 SHEETS—SHEET 3.

Fig. 4.

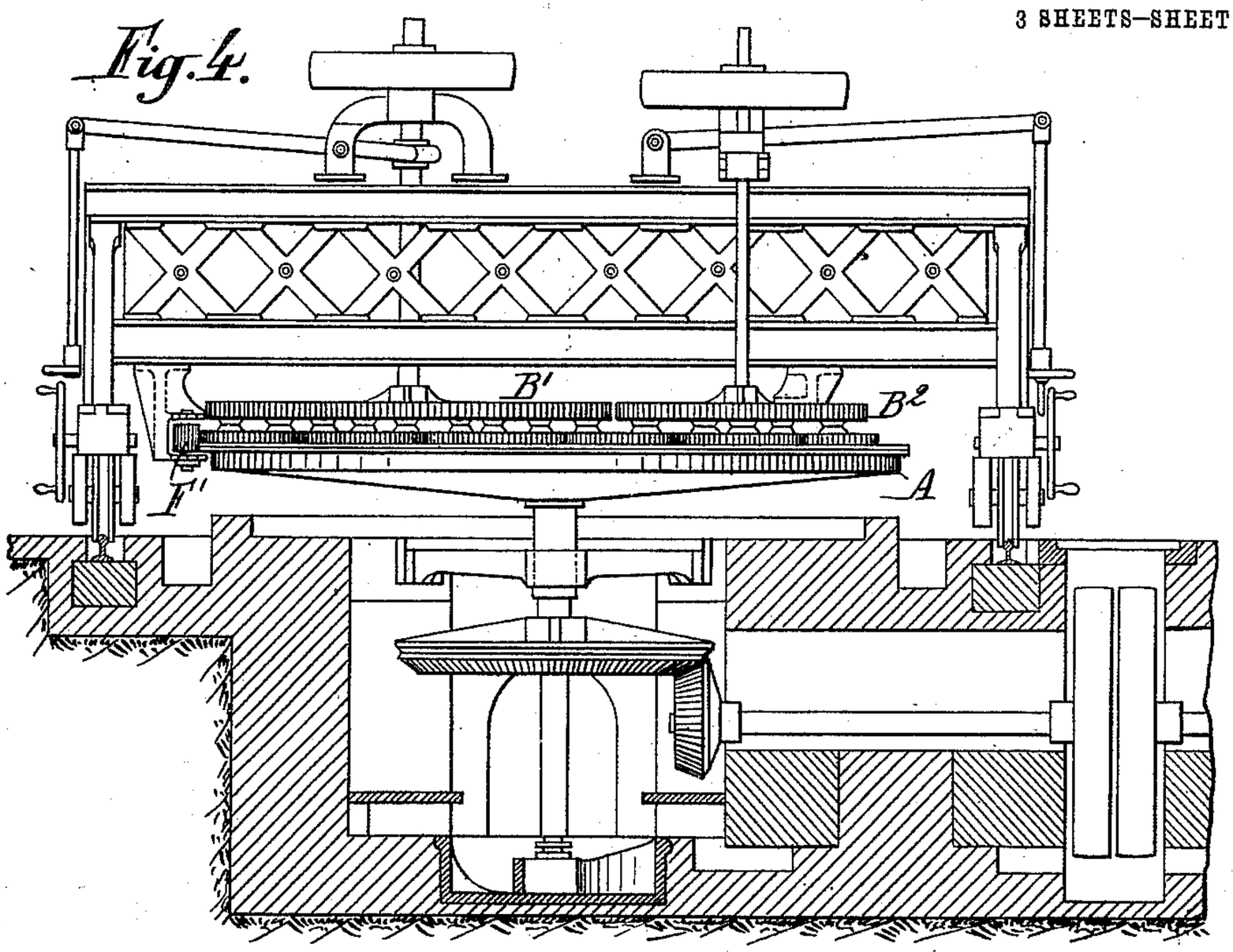
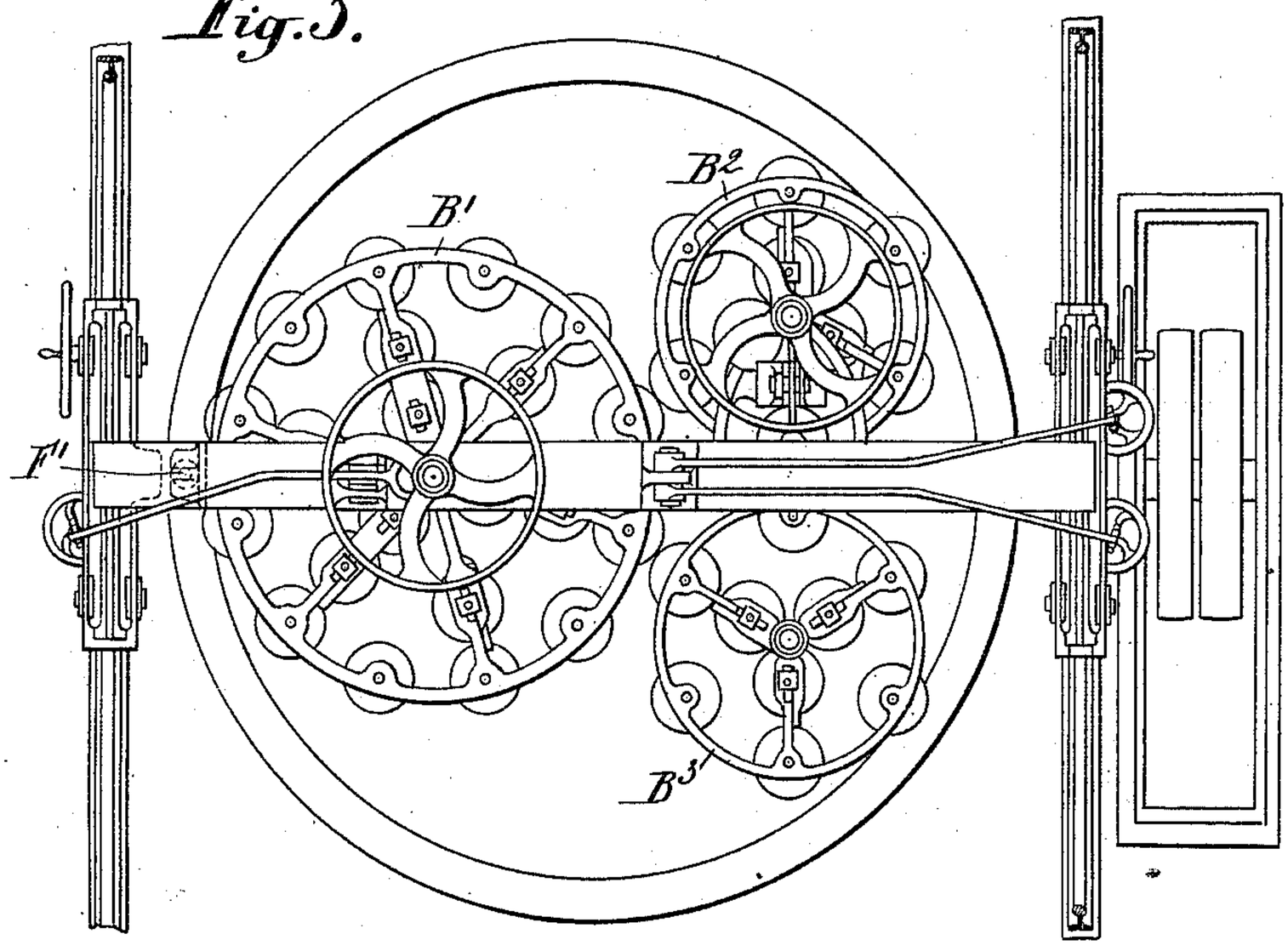


Fig. 5.



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR GRINDING AND SMOOTHING GLASS.

995,019. Specification of Letters Patent. Patented June 13, 1911.

Original application filed October 15, 1907, Serial No. 397,571. Divided and this application filed January 6, 1909. Serial No. 470,971.

To all whom it may concern:

Be it known that I, GEORGE LARDINOIS, a subject of the King of Belgium, residing and having a post-office address at 195 Rue des Palais, Brussels, Belgium, have invented a new and useful Improvement in Apparatus for Grinding and Smoothing Glass; and I do hereby declare the following to be a full, clear, and exact description of the same.

The present application is a division of my application, Serial No. 397,571, filed Oct. 15, 1907, for Letters Patent of the United States.

In my application Serial No. 397,571, filed October 15, 1907, for Letters Patent of the United States, I have described a method for grinding and smoothing glass, wherein the polishing material is pumice-stone and the rubbing plates are made of wood, cork, ebonite, vulcanized caoutchouc, hard felt, hard cardboard, or the like, or of pumice-stone cut into the form of plates, or pieces of pumice-stone agglomerated into the form of plates.

This invention relates to an apparatus for practicing this method. This apparatus is illustrated in the accompanying drawings.

Figure 1 represents an elevation of one form of the apparatus, and Figs. 2 and 3 are plans respectively of two forms of the rubber. Figs. 4 and 5 show in elevation and in plan respectively a modification of the machine.

A is the table which may serve of course for the preliminary grinding provided the apparatus is so constructed as to allow either the lower part, that is to say the table properly so called, or the upper part carrying the rubber, to be exchanged for other parts.

B is the rubber. It is of a diameter somewhat greater than that of the table and is mounted eccentrically in relation to the table. It turns in the direction the reverse of that in which the table turns.

The table is turned by means of the bevel gear C—D or by any other suitable transmission gear. The rubber is turned through a driving pulley E or by gearing, the arrangement being such that the table rotates at a speed five times that of the rubber.

The rubber B carries plates, p, p^1, p^2, made of wood or other appropriate substance. These plates are mounted within or are fixed to toothed wheels r, r^1, r^2, the function of which is periodically to rotate the plates. This rotation is effected by a pinion F driven in any suitable manner and engaging with the outer toothed wheels r at every rotation of the rubber.

R is a receiver containing water charged with washed pumice-stone which flows through pipes q extending through the holes in the rubber B so as to deliver pumice-stone and water on to the glass.

The periodic rotation of the rubbing plates, the object of which is to avoid the accumulation of the pumice-stone at certain parts of the table, may be brought about in several ways. For instance in Fig. 3 toothed wheels are not used, instead a roller F′ acts by friction on the plates of the rubber B which plates are in contact with each other and thus transfer the rotation produced by the roller F′ by its action on the outer plates to the inner plates. The plates are kept in contact with each other by springs a contained in bearings c carried by arms b in which bearings the plates b' can slide. The plates are preferably all of the same diameter.

In the modification shown in Figs. 4 and 5 there are three rubbers, B′, B², B³, each of diameter smaller than that of the table. The number three is only selected as an example. In this arrangement the principal rubber B′ should have a diameter greater than half the diameter of the table and should be eccentric in relation to the latter. The periodic rotation is in this case also obtained either by friction or through gear wheels as has been explained in regard to the preceding form.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. Apparatus for smoothing glass, comprising, in combination, a rotatable table, a rubber having a diameter greater than that of the table and mounted eccentrically to the latter, transmission gear for driving the rubber in the direction the reverse of that in which the table rotates, rubbing plates, carried by said rubber, toothed wheels, to which the rubbing plates are fixed, and a pinion adapted to engage said toothed wheels at intervals to impart to the rubbing plates a periodic rotation, independently of the rotation of the table and rubber, substantially as described.

2. Apparatus for smoothing glass having a rotatable table, a rubber of a diameter different from that of the table, and mounted eccentrically to the table, transmission gear for driving said rubber in the direction the reverse of that in which the table rotates, rubbing plates carried by said rubber, and means for imparting a periodic rotation to the rubbing plates, independently of the rotation of the table and rubbers, substantially as described.

3. Apparatus for smoothing glass having a rotatable table, a rubber of a diameter different from that of the table, and mounted eccentrically to the table, transmission gear for driving said rubber in the direction the reverse of that in which the table rotates, inner and outer rubbing plates carried by said rubber, the inner rubbing plate being in driving engagement with the corresponding outer plate, and means for imparting a periodic rotation to all rubbing plates, independently of the rotation of the table and rubber, substantially as described.

GEORGE LARDINOIS.

Witnesses:
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