

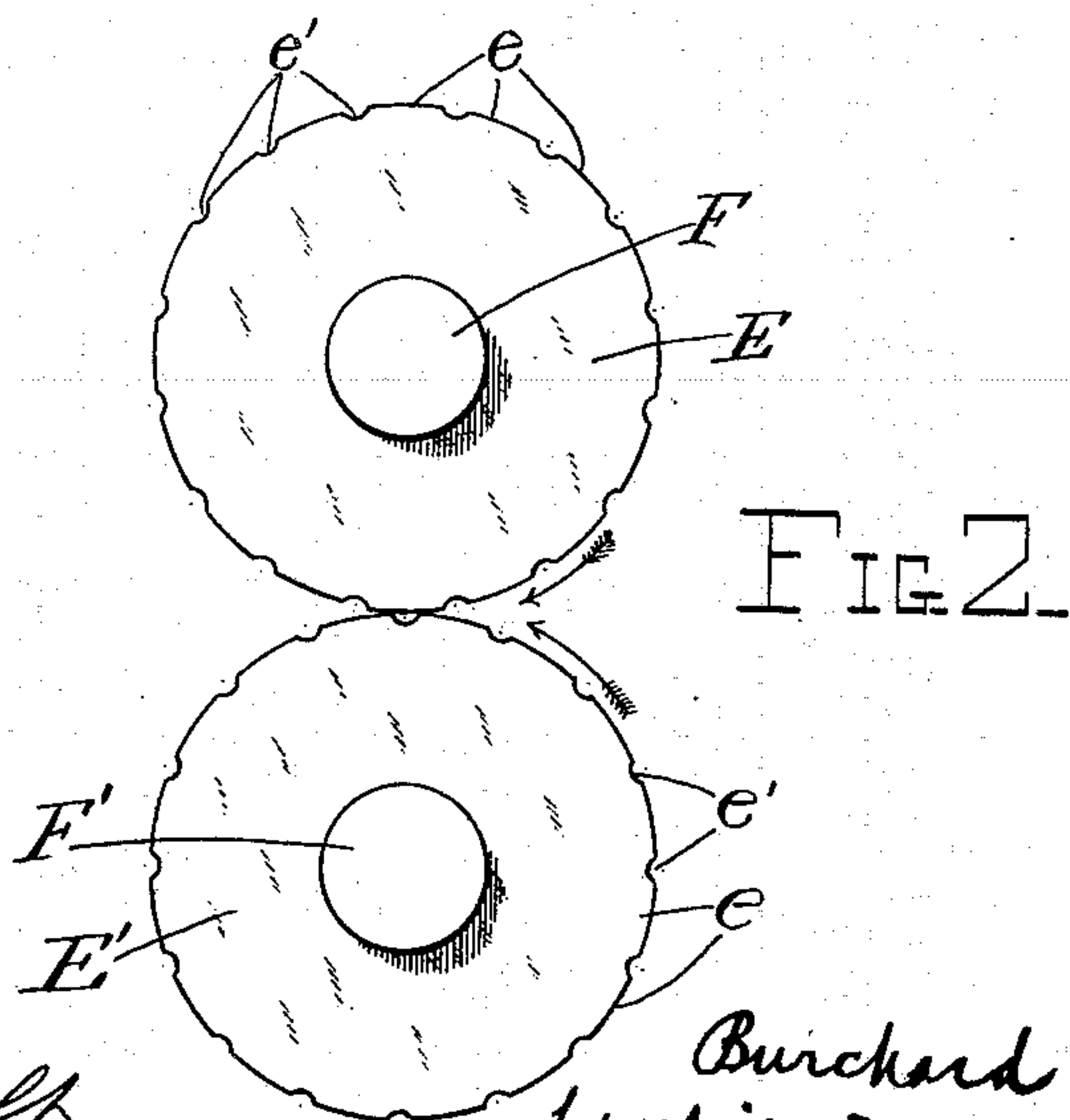
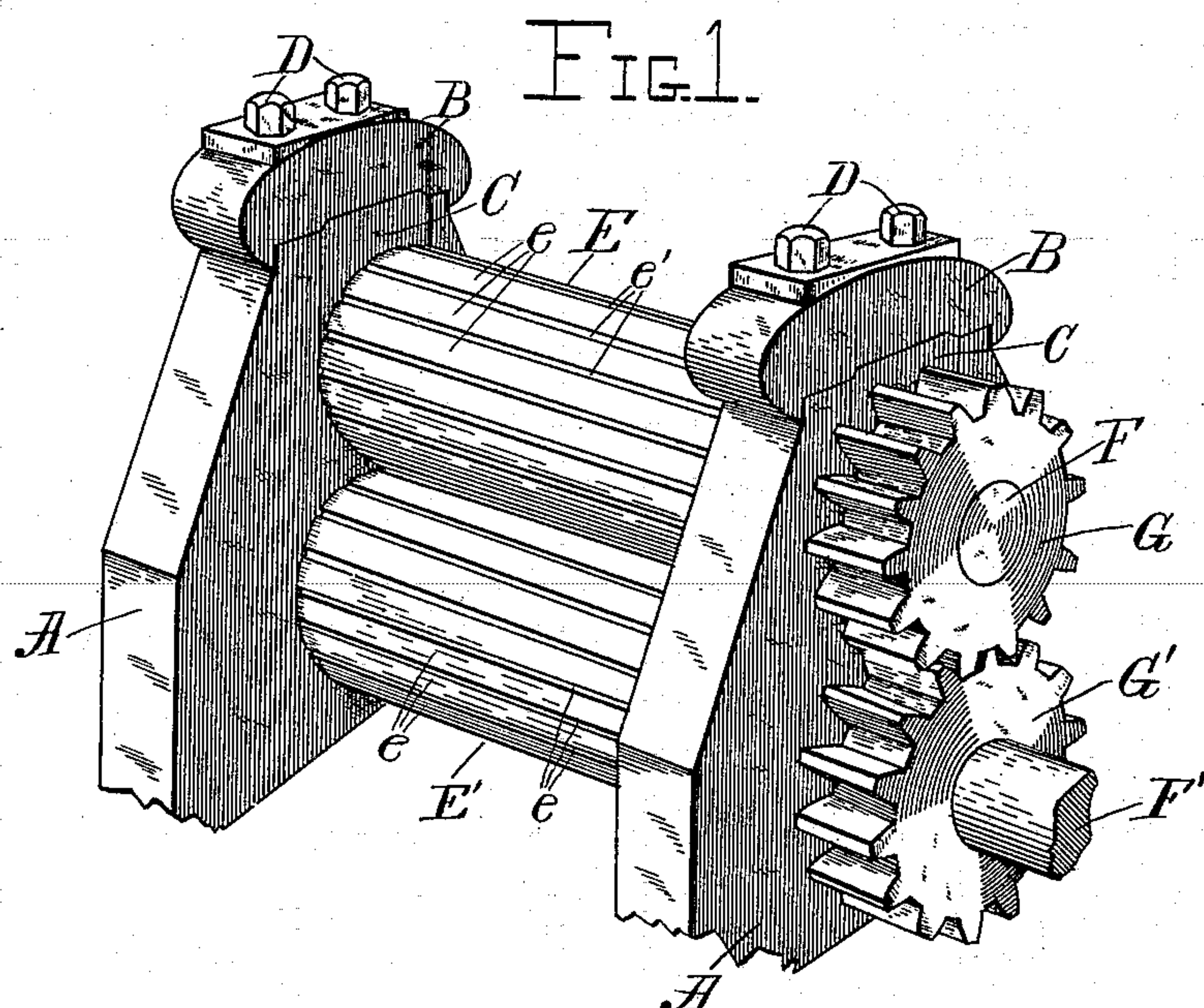
No. 615,590.

Patented Dec. 6, 1898.

B. THOENS.
CANE CRUSHER.

(Application filed Mar. 7, 1898.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

BURCHARD THOENS, OF NEW ORLEANS, LOUISIANA.

CANE-CRUSHER.

SPECIFICATION forming part of Letters Patent No. 615,590, dated December 6, 1898.

Application filed March 7, 1898. Serial No. 672,917. (No model.)

To all whom it may concern:

Be it known that I, BURCHARD THOENS, a subject of the Emperor of Germany, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Cane-Crushers; and I do hereby 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.

My invention relates to improvements in cane-crushers intended to give to the cane a preliminary maceration or crushing before it is fed to the mill proper. It has been found that this preliminary maceration or crushing of the cane before it is fed to the mill proper not only increases the capacity of the mill to handle large quantities of cane, but also increases the actual extraction of juice from the cane.

My invention is especially intended to provide means whereby the well-known two-roller mills, fast becoming obsolete, may be converted into crushers for the preliminary crushing of the cane, as has already been described.

Reference is had to the accompanying drawings, in which the same parts are indicated by the same letters in both views.

Figure 1 represents a perspective view of an improved cane-crusher constructed according to my invention. Fig. 2 represents an end view of the two rollers as detached from the housing and shows the relative positions of the longitudinal grooves in the shell of the rollers.

A represents the housing made of any suitable or well-known type, in which the rollers are journaled and beneath which the upper roller is secured in place by means of the bearing-block C, the cap B, and the bolts D.

The two rollers E and E' are mounted on shafts F and F', suitably journaled in the housing A, and these shafts are provided with gear-wheels G and G', which are of equal size, and thus cause the two rollers to revolve at equal speeds. The two rollers may be driven in any convenient way—as, for instance, by cog-gearing (not shown) connecting the shafts F' with the main engine (not shown) of the mill. These gear-wheels are so arranged rela-

tive to the longitudinal grooves *e'* in the shell *e* of the rollers E and E' that the grooves of one roller will always come in between the corresponding grooves on the opposite roller, as shown in Fig. 2. These grooves are preferably made in the form of arcs of small circles which indent the cylindrical surface of the crushing-roller. Thus the edges of these grooves *e'* will bite into the cane and feed the same in between the two crushing-rollers, at the same time macerating the cane somewhat, while the cylindrical portions of the roller-shell *e* between these grooves *e'* will subject the cane to a preliminary crushing and will extract part of the juice therefrom. These elemental or longitudinal grooves *e'* may be cut in the shells of the rollers of any two-roller mill, or two of the rollers of a discarded three-roller mill may be used for this purpose, and in this way an old and inefficient mill may be converted into a new and efficient crusher.

The various advantages of the herein-described construction not fully dwelt upon herein will be understood by any one skilled in the art.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A cane-crusher consisting essentially of two rollers, each provided with a plurality of equidistant longitudinal grooves, with means for rotating the two rollers at the same speed, and for maintaining the alternation of the grooves on the one roller between the grooves on the next opposite roller as the two rollers revolve, substantially as described.

2. In a cane-crusher, the combination with two rollers provided with equidistant longitudinal grooves thereon, the grooves of one roller being opposed to the cylindrical portion of the opposite roller, with gearing for driving the two rollers at the same rate of speed whereby the relative positions of the grooves and cylindrical portions on the opposite rollers will remain the same, substantially as described.

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

BURCHARD THOENS.

Witnesses:

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