No. 713,382. Patented Nov. 11, 1902.

F. BEAMER.

LEMON JUICE EXTRACTOR.

(Application filed Sept. 30, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

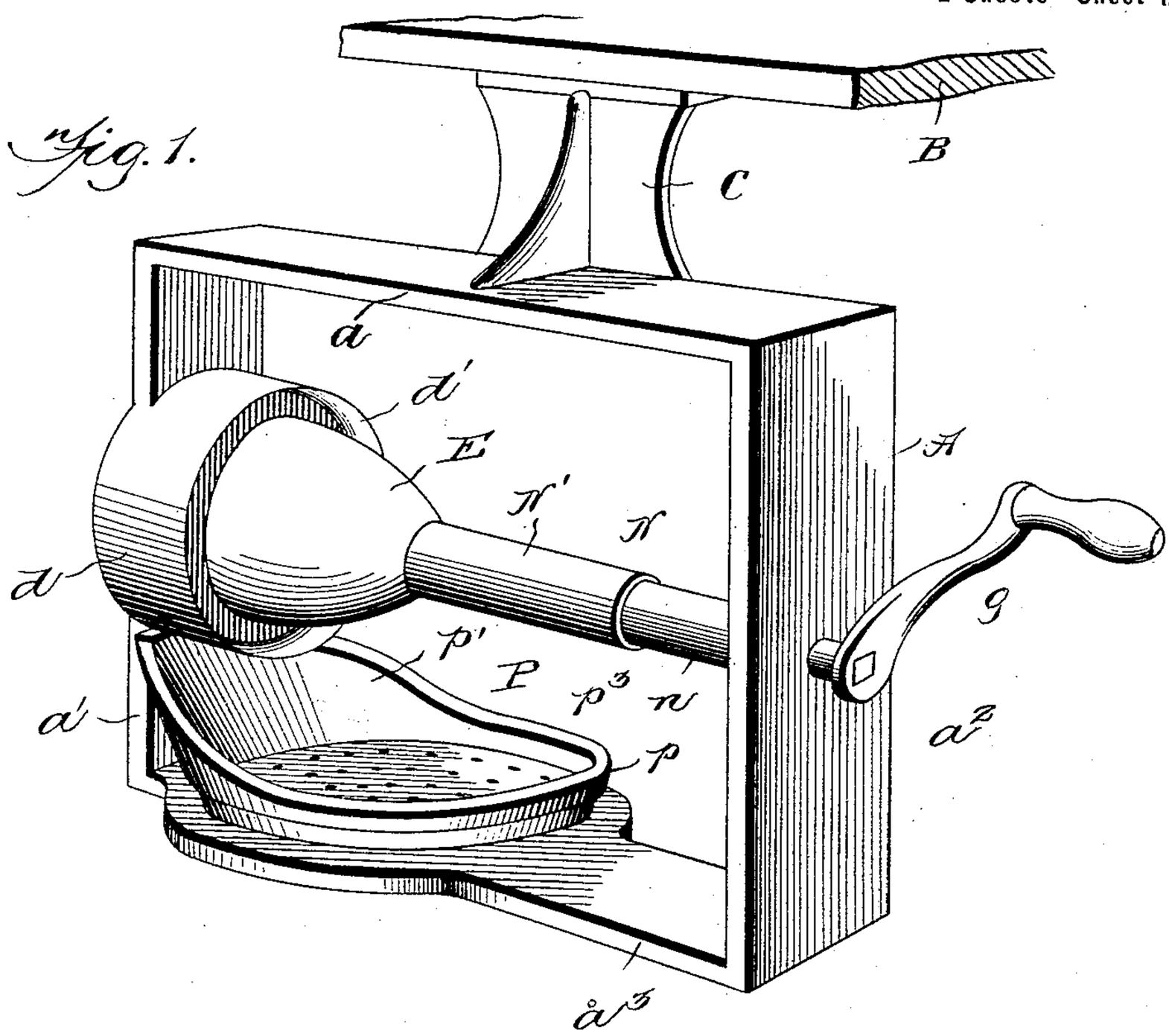

Fig. 4.

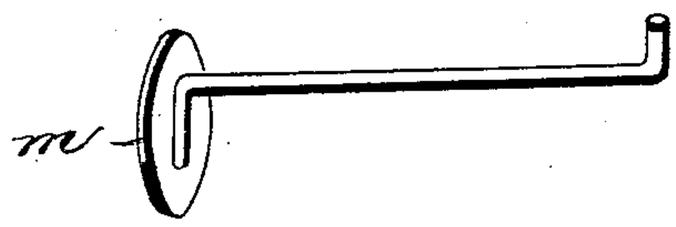

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Fig. 3.

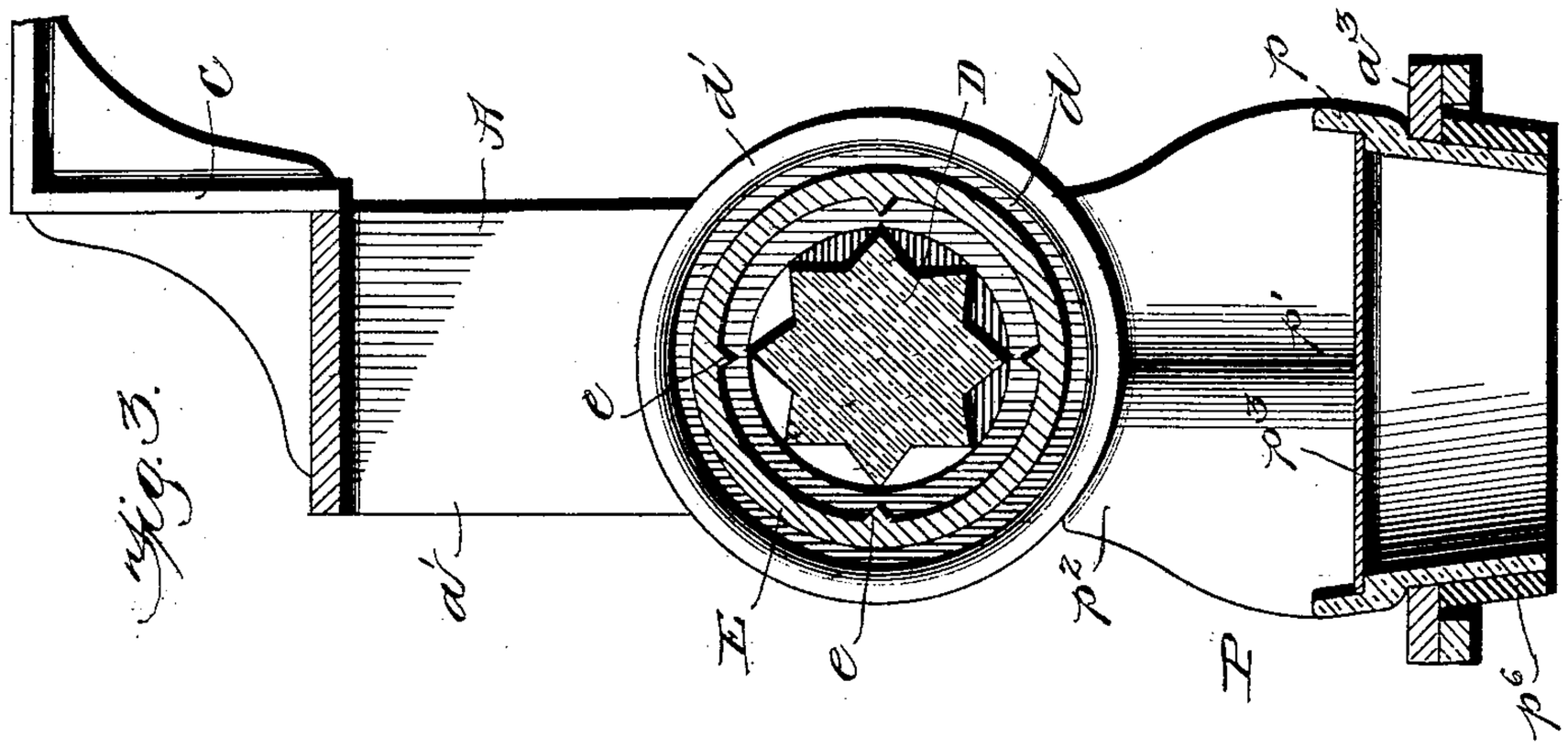
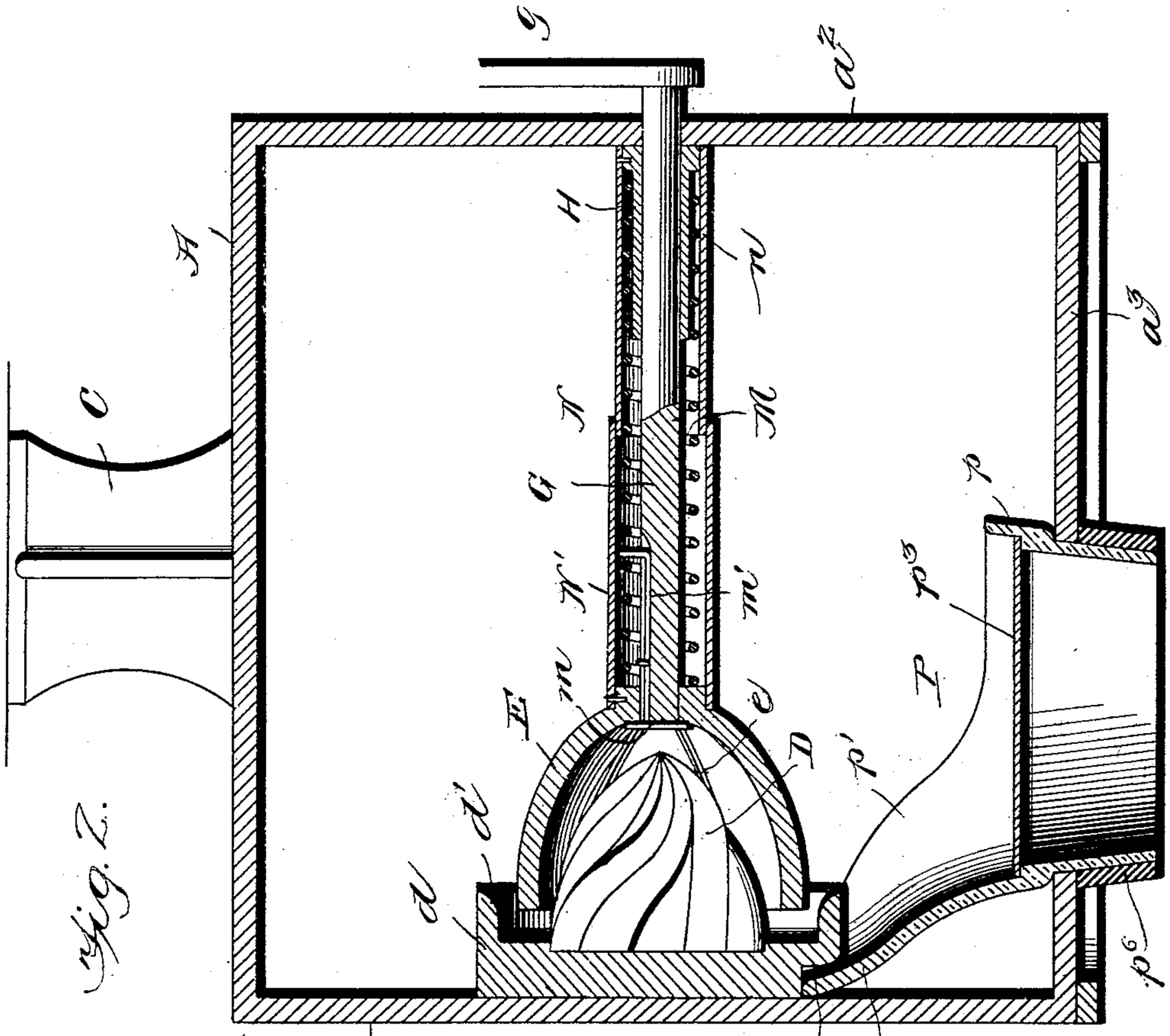


Fig. 2.



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UNITED STATES PATENT OFFICE.

FRANK BEAMER, OF LOGANSPORT, INDIANA.

LEMON-JUICE EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 713,382, dated November 11, 1902.

Application filed September 30, 1901. Serial No. 77,096. (No model.)

To all whom it may concern:

Be it known that I, FRANK BEAMER, a citizen of the United States, residing at Logansport, in the county of Cass and State of Indiana, have invented certain new and useful Improvements in Lemon-Juice Extractors, of which the following is a specification.

My invention is an improvement in lemon-squeezers designed particularly to provide a simple cheap apparatus having its parts so arranged that they may be readily cleansed, which will expeditiously and effectively extract the juice from a lemon and discharge the same into a suitable receiving-receptacle free from the pulp, seeds, and lemon-oil.

To this end the invention comprises a completely-organized apparatus, which may be permanently secured beneath a counter or upon a table and which includes a frame having a spirally-grooved pressing or extracting cone fixed thereto, a holding-cup intended to receive the lemon coacting with the cone, means for rotating the cup, and a funnel arranged in such a position relative to the extractor that it will receive the lemon-juice and direct it into any desired receiving-receptacle placed beneath the funnel.

The invention further comprises the particular location and construction of the parts constituting the complete apparatus, as will be hereinafter described, and particularly pointed out in the claims.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the apparatus secured beneath a counter. Fig. 2 is a longitudinal vertical sectional view of the apparatus. Fig. 3 is a cross-sectional view, and Fig. 4 is a detail view.

The apparatus, as shown in the accompanying drawings, includes a metallic frame A, preferably rectangular in shape, which may be permanently attached to a counter or table either beneath or upon the surface of the same. As indicated herein, it is secured beneath a counter B by means of an angle-bracket C, having one leg or member permanently secured to the upper bar *a* of frame A and its other leg or member bolted or screwed to the under side of the counter.

The extracting device proper includes a fixed spirally-grooved conoidal member and a conoidal-shaped cup forming a lemon-holder coacting therewith, the latter member having a rotary movement and a shifting or lateral movement to move the same toward or from the fixed member for a purpose to be described in detail hereinafter.

The spirally-grooved pressing or extracting cone D is preferably made of glass, and it extends axially from an integral circular base-plate *d*, secured to the vertical side *a'* of the frame A by means of screws or other fastening means. This base-plate is provided with a peripheral flange *d'*, forming an annular recess about the cone D to receive the edge of the lemon-holding cup, to be described, and a channel to receive the juice extracted from the lemon and to direct the same to the point of discharge.

The lemon-holding cup (indicated at E) is substantially conoidal in form to correspond in shape to the cone D, and it is provided on its inner periphery with a series of radially-projecting blades *e*, extending longitudinally thereof and adapted to enter the lemon inserted in the cup and prevent the same from slipping as the cup is rotated. The cup is fixed to the end of a horizontally-arranged shiftable spindle G, located in axial alinement with the cone D and guided through the side a^2 of frame A and the bore of a barrel H, extending inwardly from said side. A part of the spindle extends entirely through and beyond the side a^2 and is provided with a crank *g*, by which the spindle and the cup secured thereto may be rotated.

To provide means for automatically pressing the cup toward the cone, so that the lemon held therein will be forced over the latter, I have provided a helical spring M, which surrounds the spindle G and has one end fitted over the barrel H and bearing upon an annular shoulder thereon, while the opposite end of the spring finds a bearing against the end of the cup E. The spring is inclosed within and covered by means of a sleeve N, formed in two telescoping sections, which serve to maintain the spring in proper alinement. One section, *n*, of the sleeve is fixed to

the barrel H, while the other section, N′, thereof is fixed to the end of the cup E and telescopes over the section *n*.

The operation of the parts of the apparatus so far described is as follows: A lemon having been severed in two parts, the cup E is pushed back against the tension of the spring M until it is separated from the cone D a sufficient distance to permit one-half of the lemon to be inserted therein. As the lemon is pushed into the cup the blades *e* enter the same and serve to firmly retain the lemon against slipping as the cup is rotated, as will be described. The cup is then released, and the spring M forces the same toward the cone D, thereby causing the latter to enter the lemon. The crank *g* is now turned, which rotates the cup and causes the spiral cone to cut its way into the lemon and extract the juice therefrom. The extracted juice runs into the channel in the base-plate *d* and discharges from the same at a point directly beneath the cone D. After all the juice has been extracted from the lemon the holding-cup is again pressed back and the lemon removed. To effect this purpose automatically, I have provided an ejector within the cup. This ejector comprises a disk *m*, arranged axially within the cup, carried by a stem passing through the end of the latter and guided in a peripheral groove *m′*, extending longitudinally of the spindle G. As the cup is pressed back the disk moves toward the front or mouth of the cup and pushes the lemon therefrom. To prevent the hand from slipping when grasping the cup, its periphery is preferably roughened or milled near the mouth of the same.

In using an apparatus of this character the lemon-juice is generally discharged into a tumbler in which the lemonade is to be made by the addition of water and a sweetening medium. To so discharge the juice in an efficient manner, I provide in this apparatus a receiving-funnel, which is seated in the lower frame member a^3 and is provided with a neck depending below said member intended to have the mouth of the tumbler placed over the same, the upper part of the funnel being provided with means for insuring the passage of all the lemon-juice discharged from the channel in the plate *d* into said tumbler. The funnel is preferably made of glass and is indicated in the accompanying drawings by the letter P. It comprises a neck portion extending through the frame member a^3, provided with a peripheral shoulder *p*, which finds a seat on the upper face of said member, and an upper flaring portion *p′*. At one point this portion *p′* is provided with a prolongation or extension p^2, forming an enlarged lip, which is intended to fit behind a shoulder d^2 on the base-plate *d*. The contact between this shoulder and lip serves to normally hold the funnel in place and to lock the latter against accidental displacement; but by rotating said funnel the lip will be moved from behind said shoulder, and the funnel may then be removed from the frame member for cleansing or any other desired purpose. Around the inner periphery of the cup an annular shoulder is provided, which forms a seat for a strainer-plate p^3. To prevent the edges of the glasses placed over the neck of the funnel being chipped or broken by coming in contact with the same, a rubber band p^6 is preferably placed around said neck, which forms a protector or buffer.

It will be apparent that the juice extracted from the lemon and passing into the channel in the plate *d* will run therefrom directly into the funnel and be strained by the plate p^3 before it reaches the tumbler, the mouth of which is placed over the bottom edge of the neck of the funnel.

I claim—

1. In combination in a lemon-squeezing apparatus, a stationary extractor member, a lemon-holding cup having axial movement, means for rotating the same, and means located between the rotating means and the cup for exerting a constant pressure thereon to normally press the cup against said extractor member, substantially as described.

2. In combination in a lemon-squeezing apparatus, a stationary extractor member, a lemon-holding cup having axial movement, means for rotating the same, and a helical spring for exerting a pressure thereon to press the cup against the extractor member, substantially as described.

3. In combination in a lemon-squeezing apparatus, a rectangular frame an extractor member permanently secured to one side thereof, a spindle guided through the opposite side of the frame, means for rotating the spindle, a holding-cup coacting with the fixed member carried by said spindle, a barrel providing a guide for the latter, a helical spring for exerting a pressure on the cup, and a sleeve inclosing the spring comprising telescoping sections, one section being secured to said barrel, and the other section to the cup, substantially as described.

4. In combination in a lemon-squeezing apparatus a rectangular frame, a fixed extractor member secured to one side thereof, a lemon-holding cup, and a funnel seated in the side of the frame at right angles to the first-mentioned side, said funnel having a neck portion depending therethrough, and a lip coacting with said extractor member, substantially as described.

5. In combination in a lemon-squeezing apparatus, a frame, an extracting member secured thereto having a shouldered base-plate, a lemon-holder, a funnel seated in said frame having a neck portion depending therethrough an external shoulder on said funnel seated on the frame, an internal shoulder forming a strainer-plate seat, a strainer-plate resting thereon, and a lip coacting with the

shoulder on the base-plate, substantially as described.

6. In combination in a lemon-squeezer, a frame, an extractor member, a lemon-holder, and a funnel having a lip and a neck portion extending through said frame, said extractor member being supported entirely independent of the funnel and a buffer-ring encircling the lower portion of said neck, substantially as described.

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

FRANK BEAMER.

Witnesses:

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CHAS. BOONE.