

No. 751,541.

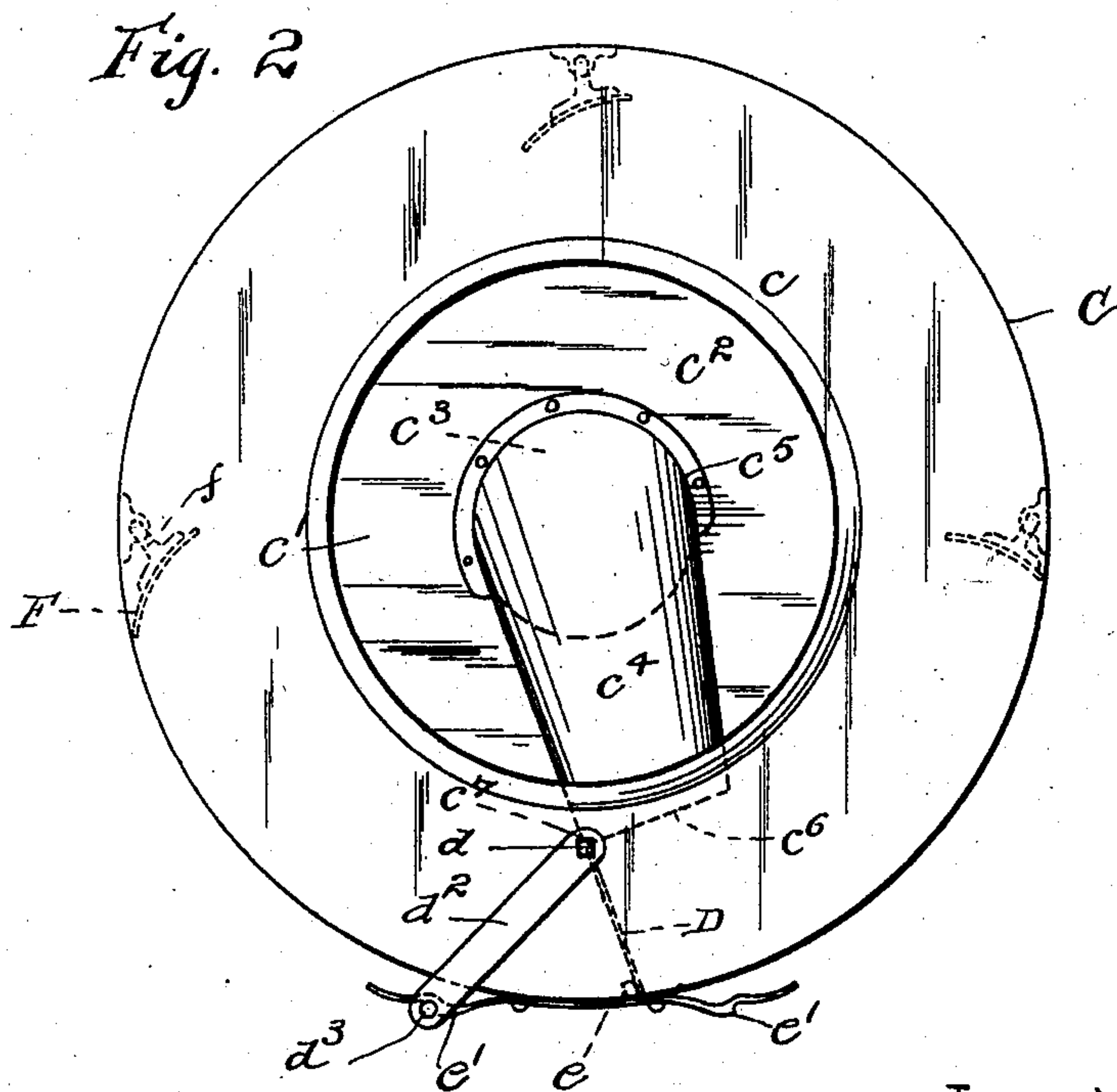
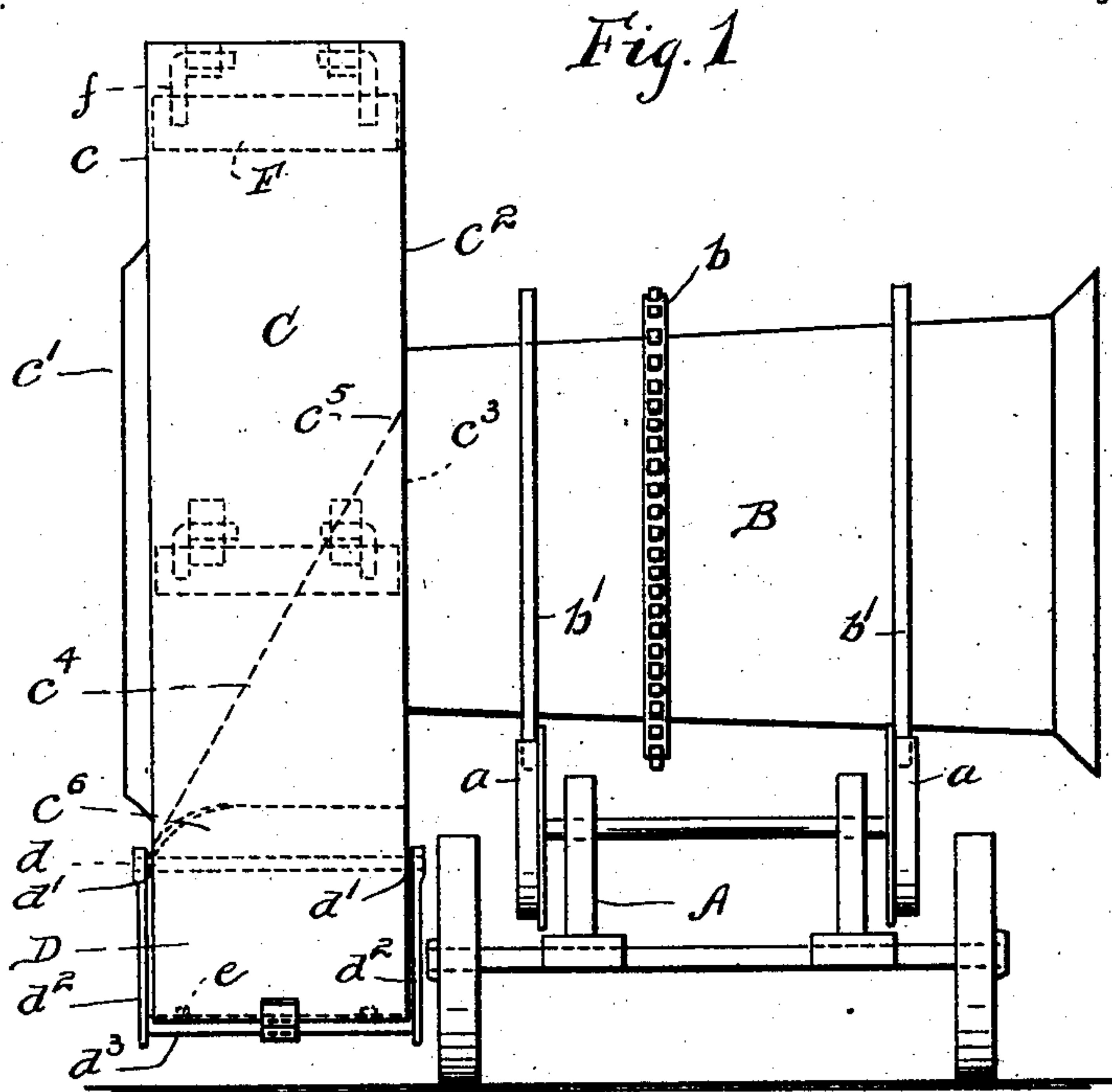
PATENTED FEB. 9, 1904.

S. P. McKELVEY.
ROTARY FEEDING DEVICE FOR CONCRETE MIXERS.

APPLICATION FILED SEPT. 19, 1902.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses:

Rose A. Johnson.

A. S. Schaffer

Inventor,

Samuel P. McKelvey

By Glenn S. Noble

Att'y.

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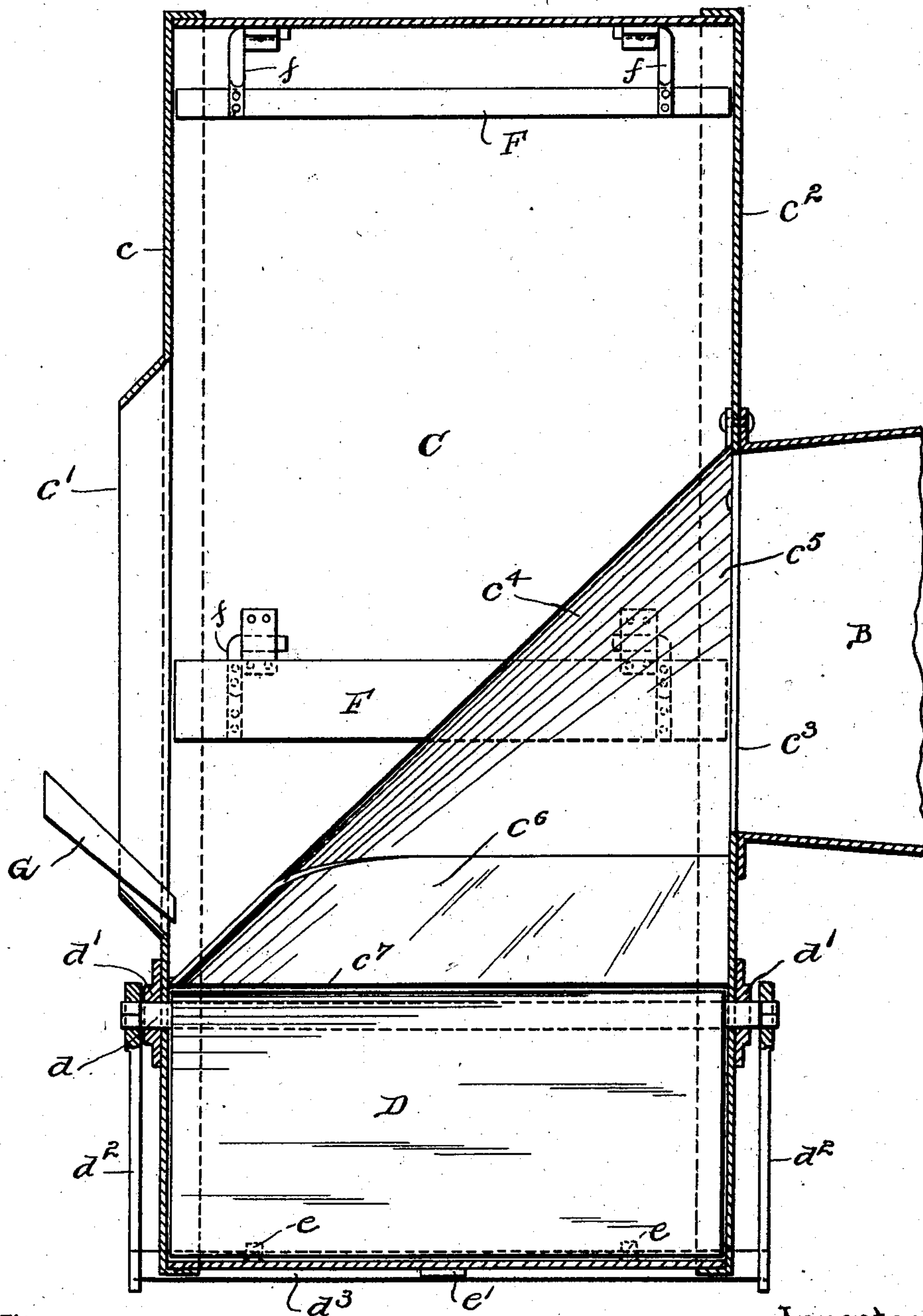
ROTARY FEEDING DEVICE FOR CONCRETE MIXERS.

APPLIOATION FILED SEPT. 19, 1902.

NO MODEL.

3 SHEETS—SHEET 2.

Fig. 3



Witnesses:

Roscoe A. Johnson,

C. B. Sheffer

Inventor,

Samuel P. McKelvey,

By Glenn S. Noble
Att'y.

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3 SHEETS—SHEET 3.

Fig. 4

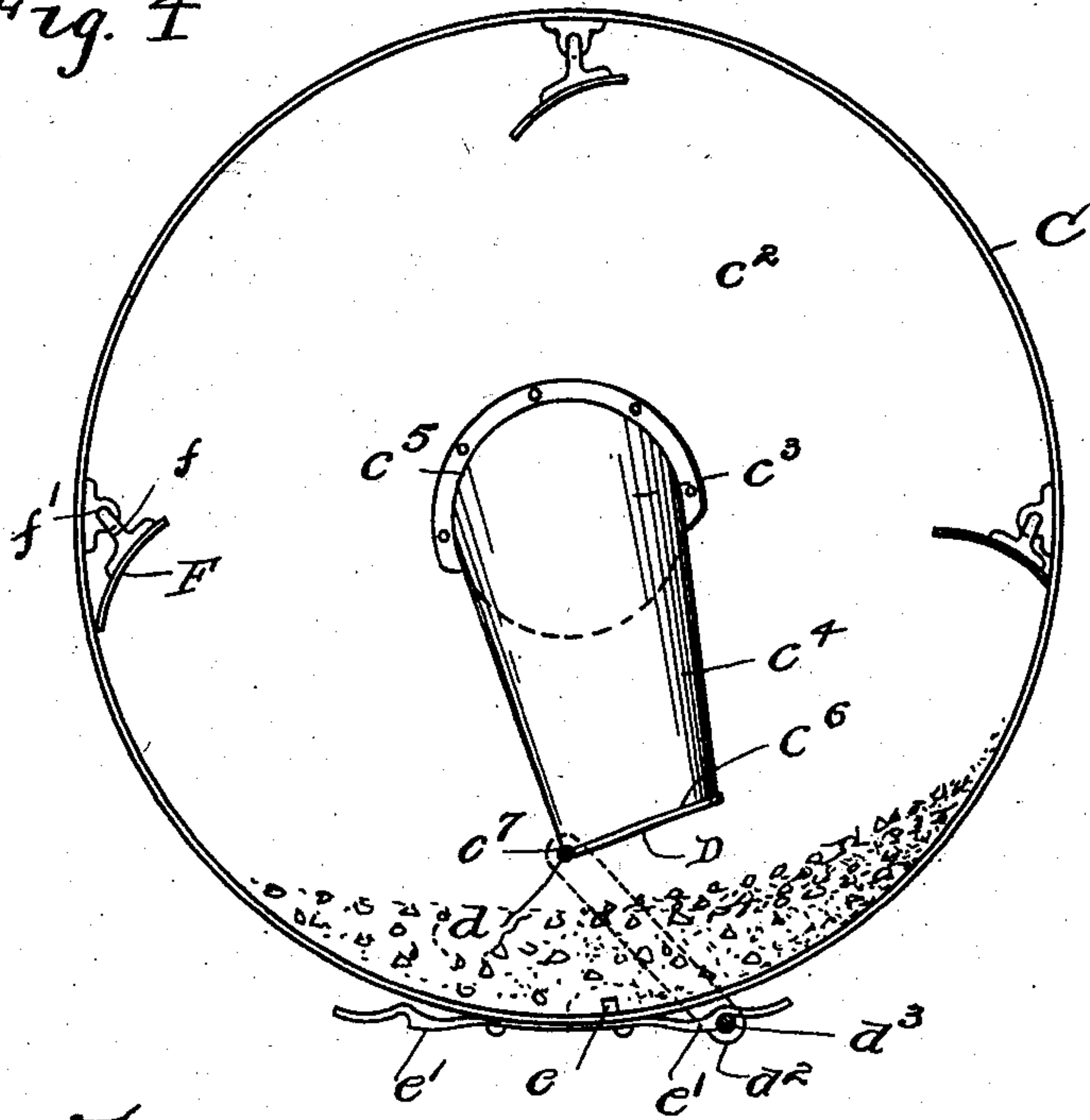
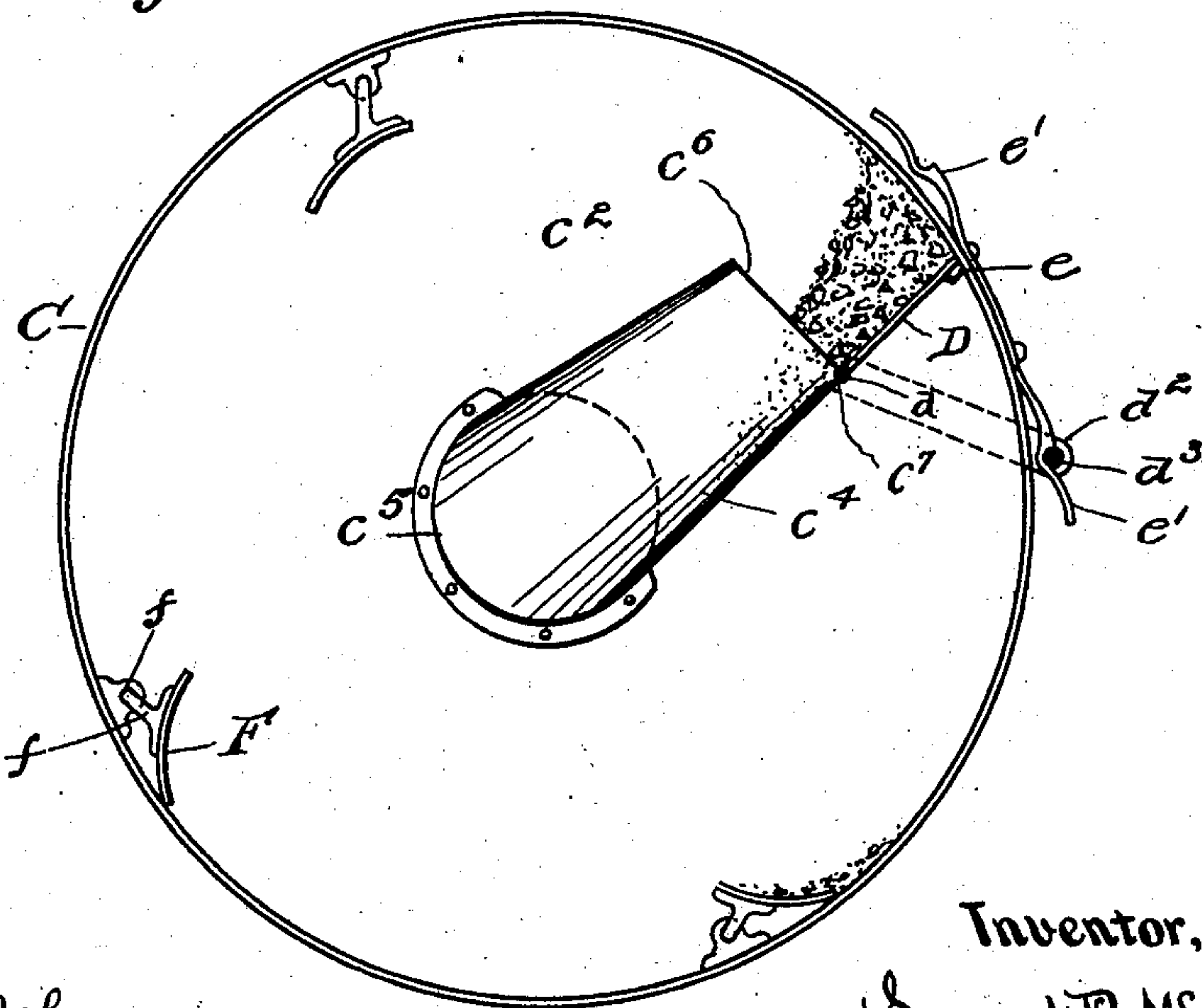


Fig. 5



Witnesses:

Roscoe A. Johnson.

A. B. Sheffer

Inventor,

Samuel P. McKelvey

By *Glenn S. Noble*

Att'y.

UNITED STATES PATENT OFFICE.

SAMUEL P. McKELVEY, OF CHICAGO, ILLINOIS, ASSIGNOR TO McKELVEY CONCRETE MACHINERY COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

ROTARY FEEDING DEVICE FOR CONCRETE-MIXERS.

SPECIFICATION forming part of Letters Patent No. 751,541, dated February 9, 1904.

Application filed September 19, 1902. Serial No. 123,982. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL P. McKELVEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Concrete-Mixers, of which the following is a specification.

In a concrete-mixer for general purposes it is desirable to dump the various materials—such as stone, sand, and cement—directly from the wheelbarrows into a suitable receptacle at a low elevation. If this is done in mixers of the continuous variety, the materials are frequently discharged without being properly proportioned.

This invention provides means whereby the material may be dumped into a suitable receptacle, where they will be more or less mixed and may be discharged therefrom into the mixing device proper at the will of the operator.

It comprises a suitable revoluble drum provided with feed and discharge openings, with means in said drum for gathering and discharging the material, a drum, as set forth, in combination with a suitable mixing device proper and auxiliary mixing devices in said drum, and such details and combinations as will be pointed out and claimed hereinafter.

In the drawings, Figure 1 is a front elevation of a machine embodying this invention, showing the feeding device in combination with a revoluble mixing-drum. Fig. 2 is a side elevation of the feeding device, taken from the intake or feed side, with the frame not shown. Fig. 3 is a longitudinal sectional view of the feeding device. Fig. 4 is a side elevation of the drum, partly in section, shown with the swinging gate open as in position when the material is being dumped in. Fig. 5 is a similar view showing position for discharge.

A represents a frame on which is mounted a revoluble mixing-drum B of any suitable construction, which is immaterial to the present invention, as it forms no part thereof. This drum may be driven in any desired man-

ner, as by a sprocket-chain from any convenient source of power engaging a sprocket *b* on the drum. The drum is carried on bearing-rings *b'*, which rest upon wheels *a*, which are mounted to revolve as the drum is turned. Secured to one end of this drum is my improved feed device, which comprises a drum or shell C of sufficiently large diameter to reach nearly to the ground, in which are carried the elevating and auxiliary mixing devices. As shown in Figs. 2 and 3, the outer head of the drum consists of an annulus *c* with a central feed-opening *c'* therein. The inner head of the drum is a similar annulus *c''*, with a discharge-opening *c'''* therein. Rigidly secured in this drum by riveting or otherwise is a peculiarly conical-shaped discharge-chute *c''''*, having a substantially U-shaped cross-section longitudinally of the drum. One end, *c'''''*, of this chute embraces the discharge-opening *c'''''*, and a side opening *c''''''* faces the periphery of the drum. Pivoted at the straight edge *c'''''''* of this chute is a gate D, rigidly secured to a shaft *d*, which has its bearings *d'* in the sides of the drum. At either end this shaft extends somewhat beyond the bearings and is provided with arms *d''*, which are secured thereto and project out beyond the periphery of the drum, where they are connected by a rod or handle *d'''*. The arrangement of this gate and handle is such that when the handle is drawn back the gate is swung out until its outer edge engages the inner periphery of the drum, and to support it in this position stop lugs or pins *e* are placed on the inner surface of the drum. When the handle is thrown forward, the gate is swung in and substantially closes the open end *c'''''* of the discharge-chute. In order to secure the gate in either of these positions, spring-catches *e'* are secured to the outer surface of the drum and engage the rod or handle *d'''*. In order to perform any auxiliary or dry mixing in this feed device, there are provided a plurality of swinging shovels F, which are carried on short arms *f*, pivoted at *f'* on the inner periphery of the drum. These shovels extend substantially across the drum.

The operation of this invention will be readily understood from the general views and especially from Figs. 4 and 5. The handle d^3 is thrown forward and the gate locked in position to close the end of the chute and leave an open passage-way around the inner periphery of the drum. Then the material—sand, stone, and cement—is dumped into the drum in the desired proportions. For this purpose a hopper G may be used, if desired. The drum being in constant rotation a certain amount of the material will be gathered on the shovels F, carried up a short distance thereby, and then turned back on the other material. This preliminary mixing will be carried on while the material necessary for a batch is being dumped or fed in, and as soon as it is all in the mixture will be ready to be discharged into the mixer proper or into any desired receptacle. The handle d^3 is then thrown forward and the gate swung out against the drum. This is preferably done while the gate is in an elevated position and away from the material in the bottom of the drum. As the drum continues to rotate the material will be gathered by the gate and carried up until it is sufficiently elevated to slide down the gate and out through the chute and the discharge-opening. When it has all been discharged, the gate is again swung back to close the chute and the process continued. The gate while in this position prevents any material from falling back into the drum, as well as preventing any from being unintentionally discharged through the chute. It will be observed that water may be added to the mixture either in the feeding device or after it has passed into the mixer. This device may be operated simply as a mixer without providing the drum B with mixing devices. In this case the drum B serves as an auxiliary discharge-chute.

It is apparent that a device of the nature disclosed in this specification may be mounted and driven in various ways and varied as to details of construction. Therefore I do not

wish to limit this invention to the exact construction shown; but

What I claim, and desire to secure by Letters Patent, is—

1. In combination, a revoluble drum, mixing devices in said drum, a feed-opening in one end of said drum, a discharge-opening in the other end of said drum, a substantially conically shaped discharge-chute in said drum having one end embracing the said discharge-opening in the drum and having a side opening facing the periphery of the drum, a gate pivoted along one edge of said side opening and adapted to close between said edge and the periphery of said drum, and means for swinging said gate.

2. In a feeding device for concrete-mixers, the combination of a revoluble drum, a feed-opening in one end of said drum, a discharge-opening in the other end of said drum, a discharge-chute in said drum having an outlet leading to said discharge-opening and an inlet-opening facing the periphery of said drum and extending substantially the length of the drum, a gate pivoted along one edge of said opening and adapted to alternately close said opening and close between the edge of said opening and the inner periphery of said drum, trunnions upon which said gate is pivoted having bearings in the ends of said drum, arms secured to said trunnions, a cross-rod connecting said arms beyond the periphery of said drum, and catches on said drum to engage said rod when the gate is swung to its extreme positions.

3. In combination, the revoluble drum, a discharge-chute rigidly secured in and to said drum, a plate pivoted on a shaft through said drum, adapted to intermittently deliver material from said drum into said discharge-chute, and an arm on said shaft external of said drum for swinging said plate.

SAMUEL P. McKELVEY.

Witnesses:

ROSCOE A. JOHNSON,
C. B. SHEFLER.