

No. 733,942.

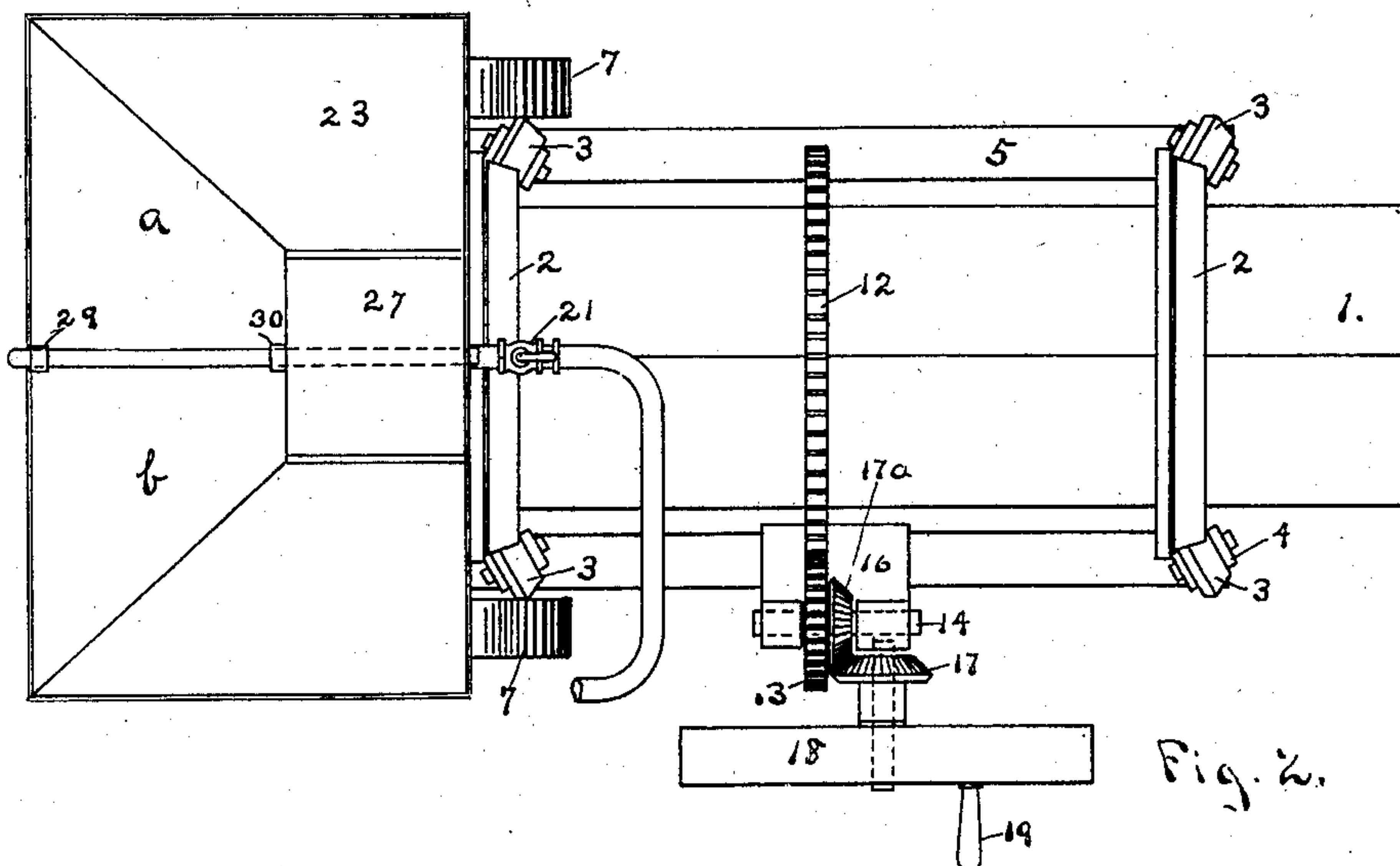
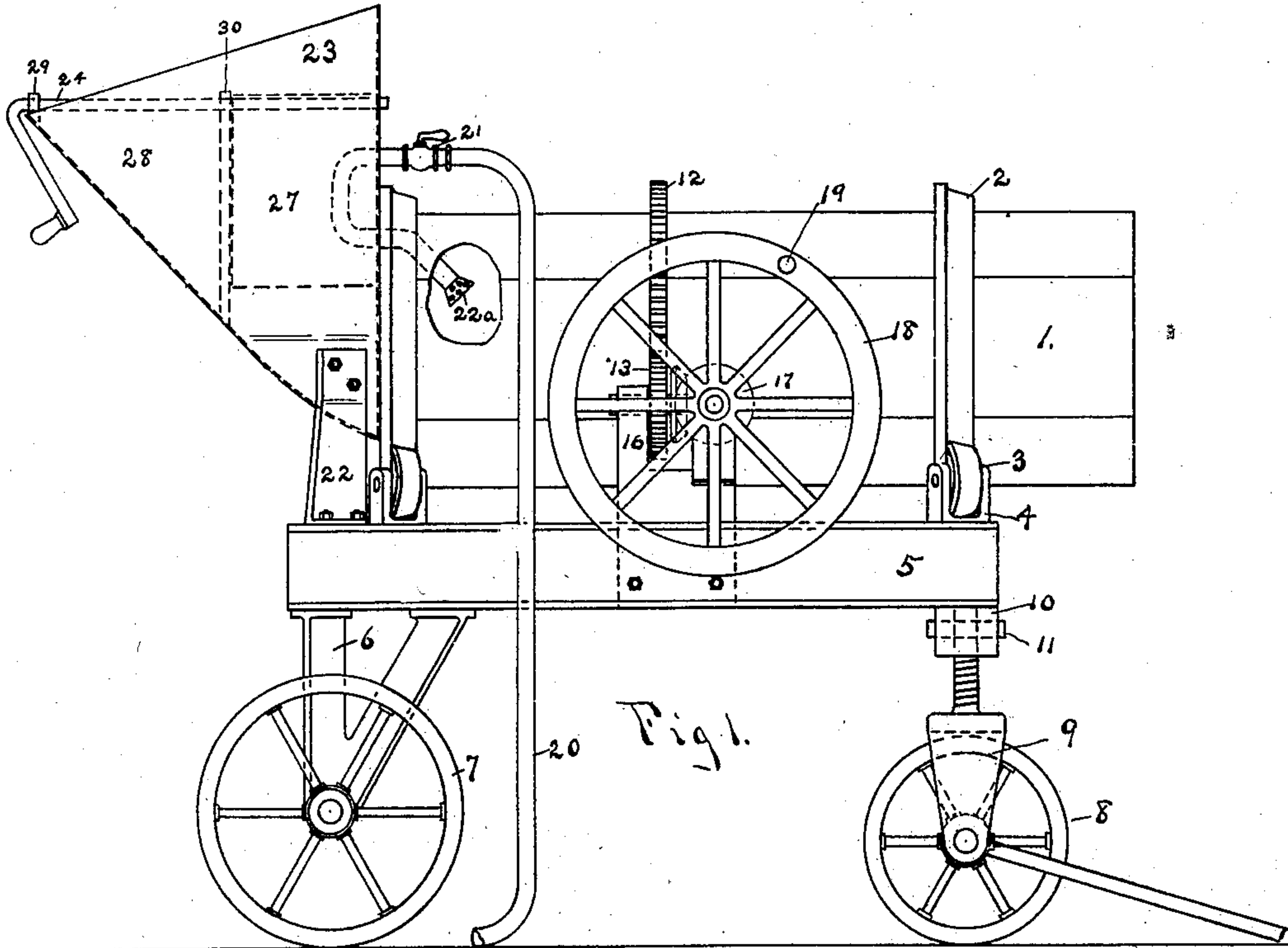
PATENTED JULY 21, 1903.

E. S. BRYANT.
CONCRETE MIXER.

APPLICATION FILED OCT. 23, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
Louis Ott.
Geo. W. Barnes.

Inventor
E. S. Bryant.
by Edward M. Pagelsen
his Attorney.

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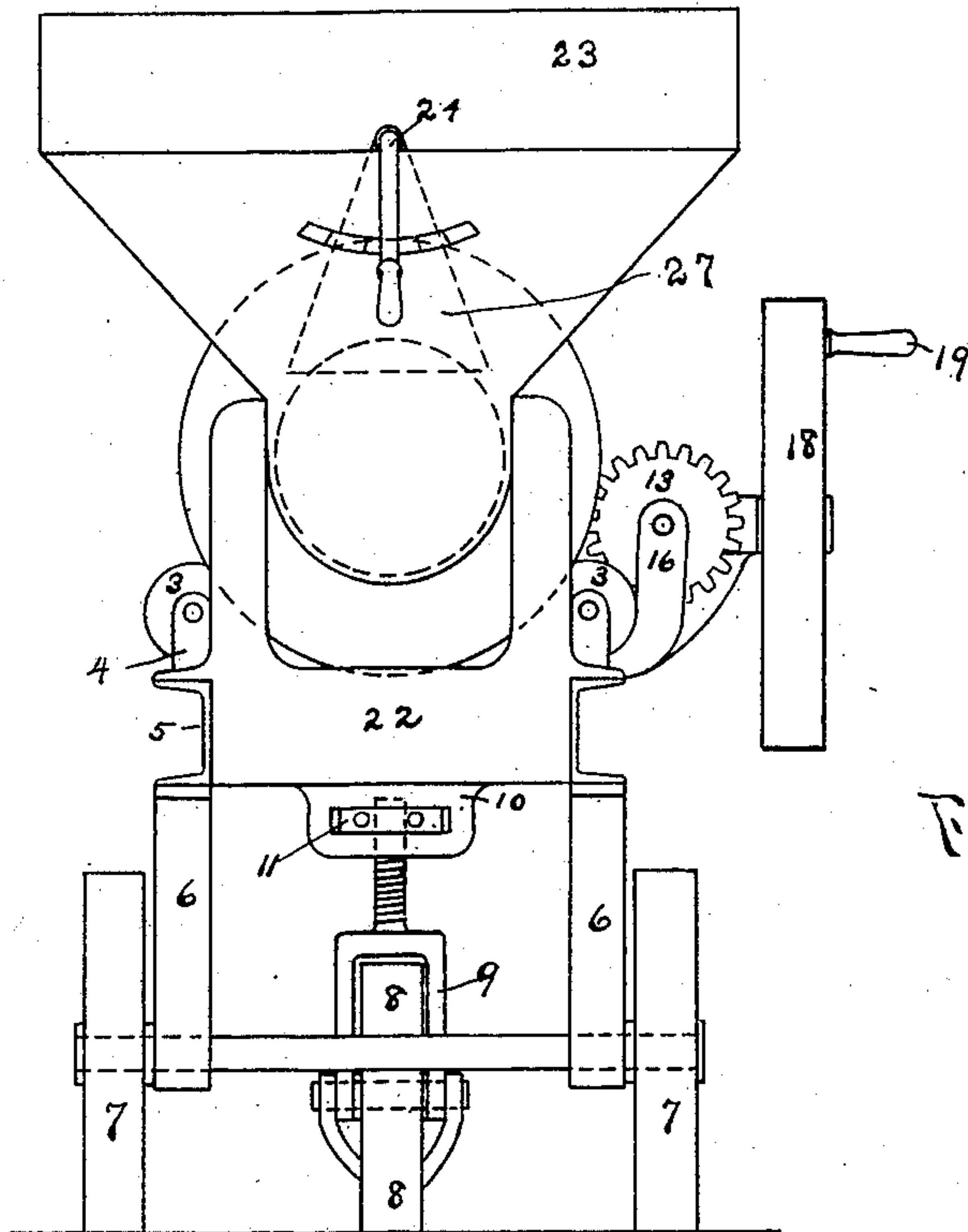


Fig. 3.

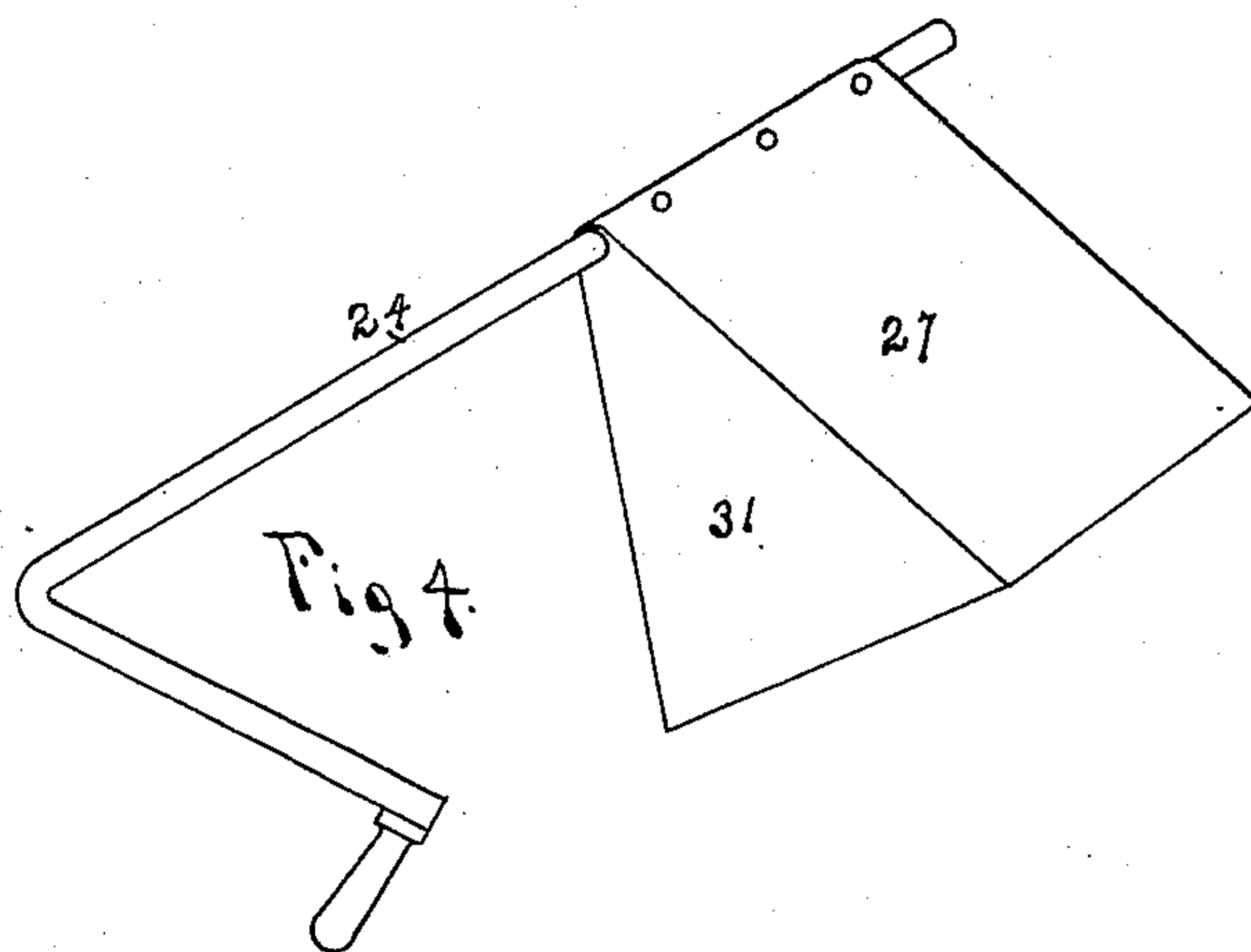


Fig. 4.

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UNITED STATES PATENT OFFICE.

ELLSWORTH S. BRYANT, OF DETROIT, MICHIGAN.

CONCRETE-MIXER.

SPECIFICATION forming part of Letters Patent No. 733,942, dated July 21, 1903.

Application filed October 23, 1902. Serial No. 128,514. (No model.)

To all whom it may concern:

Be it known that I, ELLSWORTH S. BRYANT, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Concrete-Mixer, of which the following is a specification.

My improvement relates to that class of concrete-mixers in which the material to be mixed is placed into the interior of a revolving drum or barrel; and the objects of my improvement are, first, the forming of the drum in the shape of a polygon, so as to insure thorough mixing; second, to provide means for readily adjusting the drum at various inclinations to regulate the time the material remains in the drum; third, providing conical supporting bands or tracks around the drum, which rest on conical rollers, thus preventing the drum from sliding downward, and, fourth, providing a governing-valve to regulate the amount of cement and mixed sand and broken rock fed into the machine. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the machine. Fig. 2 is a plan view. Fig. 3 is a view of the feed end, and Fig. 4 is a view of the valve and shaft supporting same.

Similar reference characters refer to similar parts throughout the several views.

The barrel or drum 1 is shown to be a hexagon in cross-section, but can be made with any desired number of sides. Attached to the drum are the conical rings or bands 2, which bear on the wheels 3, which wheels are loose on shafts fastened in jaws 4. These jaws are attached to the main frame 5. These shafts are at an angle to the axis of the drum to prevent sliding friction. One end of this main frame rests on the brackets 6, which carry an axle on the ends of which are the wheels 7. The other end of the frame is composed of the bracket 10, which is provided with a slot to receive the adjusting-nut 11. This end of the frame is supported by the wheel 8, loose on a shaft, which is secured in the lugs of the front fork 9. The upper part of this fork is threaded and passes up into bracket 10 through the nut 11, as shown in Figs. 3 and 4. By turning this nut 11 the

end of the drum is raised or lowered. Surrounding the drum is the gear 12, which meshes with and is driven by pinion 13 on shaft 14, supported by bracket 15, attached to the main frame. On shaft 14 is the bevel-gear 17^a, meshing with gear 17 on the same shaft with fly-wheel 18, which carries handle 19. The manner of revolving the drum is evident. The desired amount of water is discharged into the drum through sprinkler 22^a, which causes the moistening to be even and thorough. The valve 21 regulates the amount of water conducted through pipe 20.

The brackets 22 support the hopper 23. Across the top of this hopper is supported the shaft 24, which is turned by handle 25, the distance being indicated by the graduated arc 26. (See Fig. 3.) The bottom of the hopper is rounded. The end toward the drum has an opening, so that material will be discharged from the hopper into the drum. This opening in the hopper and a corresponding one in the drum are indicated by the dotted circle in Fig. 3. To the shaft 24 is attached a prismatic valve 27, triangular in cross-section, as shown in Figs. 2 and 3. This valve regulates the amount of the material discharged from the right or left side of the hopper, and as it is never intended to entirely close either side the action is satisfactory. The broken stone or shells may be placed in side *a* of the hopper and the sand and cement in side *b*, or the sand may be placed with the stone or the cement with the stone. This depends upon the judgment of the operator and varies with the class of work. A plate 28 is fastened to the inside of the hopper and is stiffened and held in a vertical position by two upright bars 29 and 30, which also serve to support the shaft 24. This plate and the valve divide the hopper into two compartments, and the discharge from the compartments is regulated by the valve. The valve 27 is shown in Fig. 4. One end is closed by the plate 31, while the other is open. The valve covers that part of the pipe 20 which is inside the hopper.

In operating the machine the wheel 18 is turned by hand, thus revolving the drum. The material is rolled over and thoroughly mixed on account of the unevenness of the drum. In large machines this will be done

by a steam-engine or other motor. The discharge end of the drum is raised or lowered by turning nut 11, according to the desired thoroughness of the mixing. The materials
5 are dumped into the hopper 23, and the amount allowed to pass into the drum is regulated by the valve. While the mixing is going on the material is moistened, as desired.

What I claim as my invention, and desire
10 to secure by Letters Patent, is—

1. In a concrete-mixer, the combination of a polygonal drum, a frame supporting the same, a bracket and wheels supporting the rear end of the frame, a bracket attached to the front
15 end of the frame, a fork attached to said bracket, wheels carried by said fork, and a screw and nut forming connecting means between the fork and bracket, said means also regulating the inclination of the drum.

20 2. In a concrete-mixer, the combination of the hopper, a partition in said hopper, a revoluble polygonal drum, a shaft extending across the top of said hopper, a prismatic

valve inside the hopper attached to said shaft to regulate the discharge of material from the
25 hopper into the end of the drum.

3. In a concrete-mixer, the combination of a hopper, a hexagonal drum, a frame supporting the same, a bracket and wheels supporting the rear end of the frame, a bracket attached to
30 the front end of the frame having a horizontal slot, a supporting-wheel for the front end, a fork embracing said wheel, a vertical screw extending upward from said fork and passing into a vertical hole in the front bracket, and
35 a nut in the slot in said bracket engaging said screw and revoluble to regulate the height of the front end of the drum.

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

ELLSWORTH S. BRYANT.

Witnesses:

W. SANFORD CRANE,
DAN O'CONNOR, Jr.