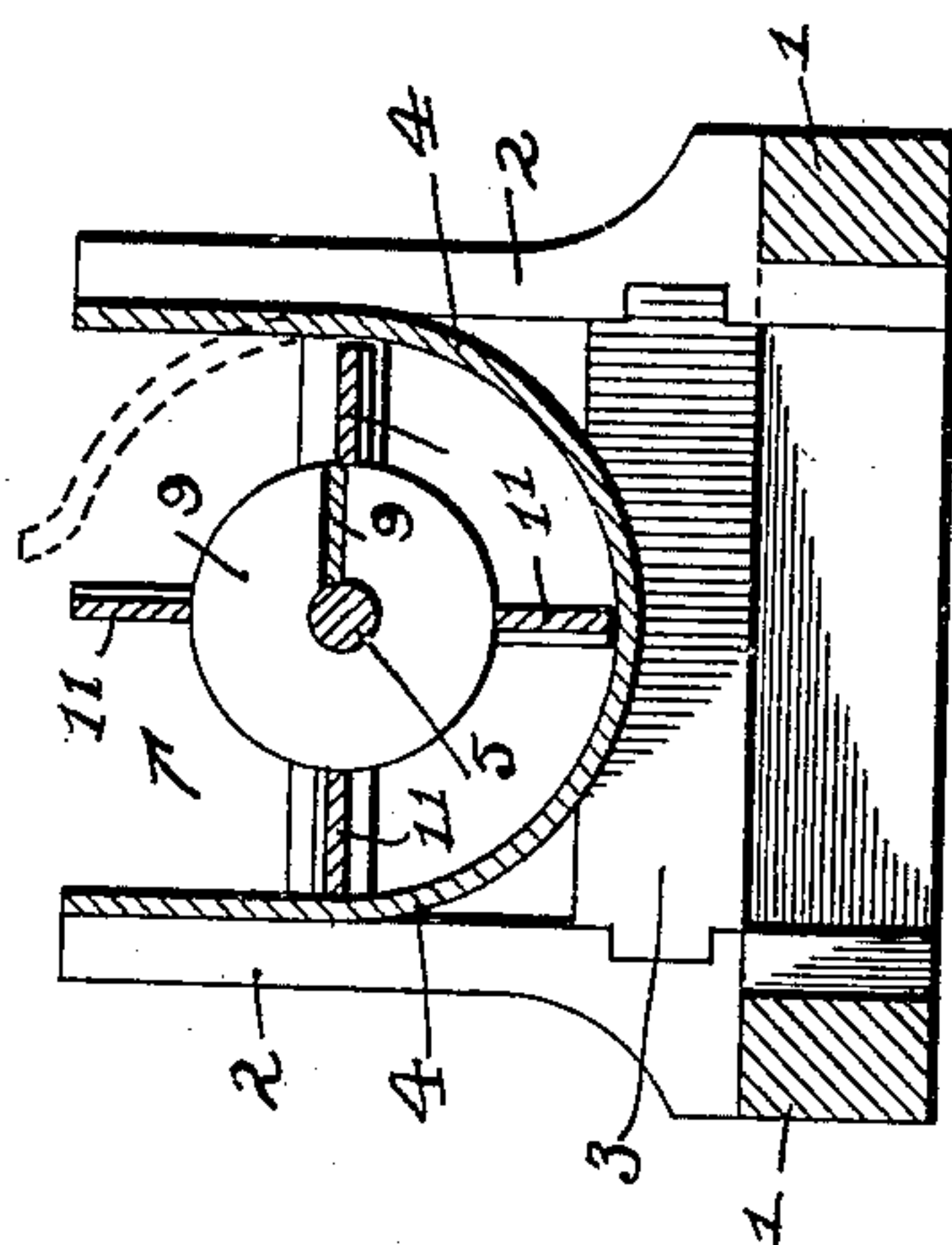
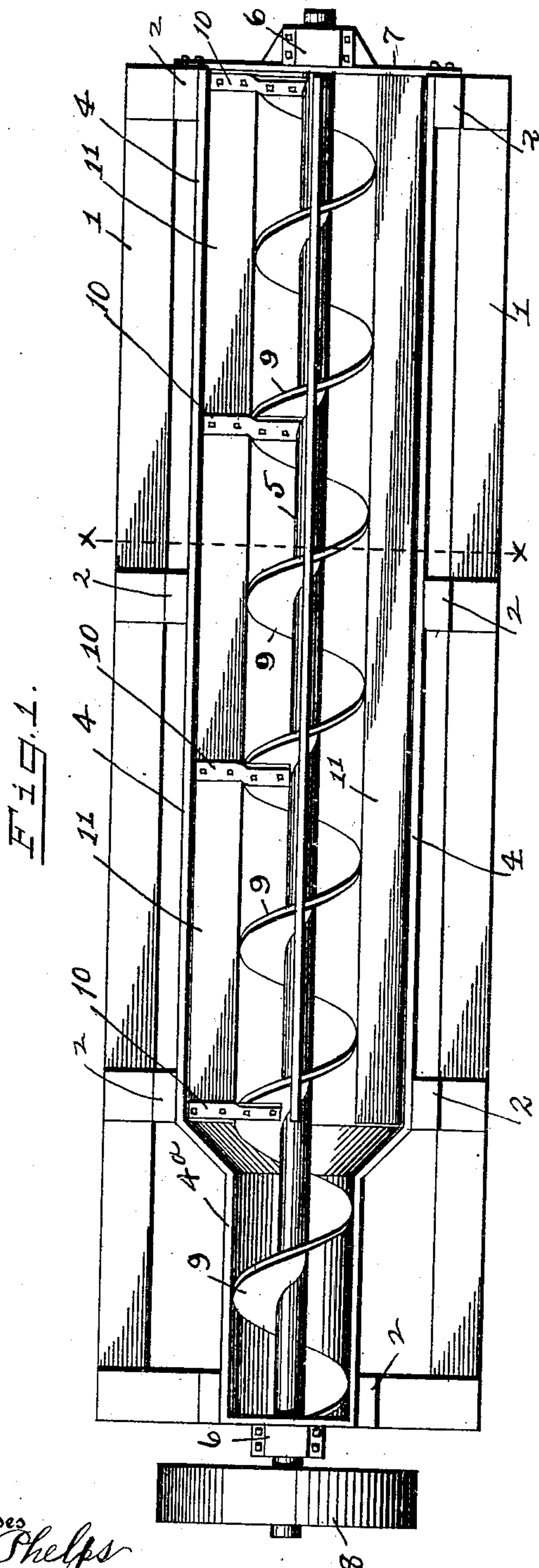


935,891.

APPLICATION FILED JAN. 13, 1909.

Patented Oct. 5, 1909.



Witnesses
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UNITED STATES PATENT OFFICE.

LAWRENCE W. CARGILL, OF COLUMBUS, OHIO.

CONCRETE-MIXER.

935,891.

Specification of Letters Patent.

Patented Oct. 5, 1909.

Application filed January 13, 1909. Serial No. 472,037.

To all whom it may concern:

Be it known that I, LAWRENCE W. CARGILL, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Concrete-Mixers, of which the following is a specification.

My invention relates to the improvement of concrete mixing machines, and the objects of my invention are to provide an improved concrete mixer of superior construction and arrangement of parts, whereby a thorough mixing of the ingredients may be accomplished; to construct my improved concrete mixer in a simple and inexpensive form and to produce certain improvements in details of construction which will be more fully pointed out hereinafter. These objects I accomplish in the manner illustrated in the accompanying drawing, in which—

Figure 1 is a plan view of my improved concrete mixer, and Fig. 2 is a transverse section on line $x-x$ of Fig. 1.

Similar numerals refer to similar parts throughout the several views.

In carrying out my invention, I employ two horizontally disposed and parallel base beams 1, from which rise at desirable intervals vertical standards 2, the end standards being connected in their lower portions by transverse frame members 3. Supported between the standards 2 and extending lengthwise of the framework is a U-shaped mixing trough or casing 4, the latter being reduced in size as indicated at 4^a toward its inner end portion. Extending centrally through the mixer trough is a shaft 5, this shaft having bearings in boxings 6 supported from a transverse cross bar 7 at one end of the machine and from the end of the trough 4 at the remaining end thereof. At its inner end the shaft carries a belt wheel 8 and between the inner closed end of the casing and the outer end bar 7, said shaft carries a spiral blade 9, which in conjunction with the shaft 5 forms a screw-like mixer and conveyer.

At desirable intervals I secure to the spiral blade 9 within the larger portion of the trough or casing 4, radially extending arms or bars 10 and to each horizontal row of said arms, I connect a horizontal mixing bar or blade 11, the latter being parallel with the shaft 5. These horizontal bars or blades 11 have their inner edges adjacent to the edges of the spiral blade 9, and their outer edges being when the shaft is rotated, brought into

close proximity with the inner surface of the trough 4.

It will be understood that rotary motion may be imparted to the blade carrying shaft 5 by a belt applied to the belt wheel 8, or by other suitable or well known mechanical means. The ingredients to be mixed may be shoveled into the reduced end portion of the trough or casing 4^a or deposited therein through a chute or otherwise, from which point the material will be carried by the revolving spiral blade 9 into the end of the enlarged portion of the trough where it will not only be subjected to the mixing and conveying action of the spiral blade, but where it will also be subjected to the mixing action of the horizontal blades or bars 11, which are carried by said spiral blade. It will be understood that these horizontal bars will serve to scrape or move the material from the inner surface of the trough inward toward the spiral blade, thus preventing an accumulation of material against the inner wall of the trough and insuring a thorough mixing thereof as the material passes to the outer end of the casing, through which it may be discharged into a suitable receptacle.

In Fig. 2 of the drawing, I have shown in dotted lines, a modification in the construction of the trough, which consists in bending or curving one of the upwardly extending walls thereof, inward toward the center of the trough. It will be understood that this latter construction may be employed to insure a continuance of contact of the bars 11 with the wall of the trough toward which said bars are moving and thereby prevent stones or other comparatively large pieces of material becoming wedged between the outer edges of the bars or blades 11 and the inner surface of the trough wall.

From the construction shown and described, it will be readily understood that a comparatively simple and inexpensive form of concrete mixer is provided, which will produce a thorough agitation and mixture of the ingredients during the passage of the latter from the rear to the forward end of the machine.

What I claim, is:

1. In a concrete mixer, the combination with a framework and a mixing trough supported within said framework, of a rotatively mounted shaft running through said mixing trough, a spiral mounted directly upon said shaft, said trough comprising an enlarged

body portion and a reduced entrance end
portion and horizontal bars directly con-
nected to the periphery of the spiral and
rotating with said spiral, the enlarged por-
5 tion of the trough being of such size as to
receive both the spiral and the bars, and
the reduced portion of the trough being of
such size as to accommodate only the spiral.

2. In a concrete mixer, the combination
10 with a stationary mixing trough of a shaft
having a rotative spiral conveyer thereon
and mounted in said trough, said conveyer
being smaller in diameter than the interior

of said trough and a plurality of longitudi-
nally extending bars secured to said con- 15
veyer and rotating therewith, said bars lying
outside of the periphery of the conveyer and
extending from the conveyer substantially
to the inner wall of the trough.

In testimony whereof I affix my signature 20
in presence of two witnesses.

LAWRENCE W. CARGILL.

Witnesses:

C. C. SHEPHERD,

L. CARL STOUGHTON.