

June 19, 1923.

J. J. KRAUSE

1,459,220

SHIP SIREN

Filed June 19, 1922

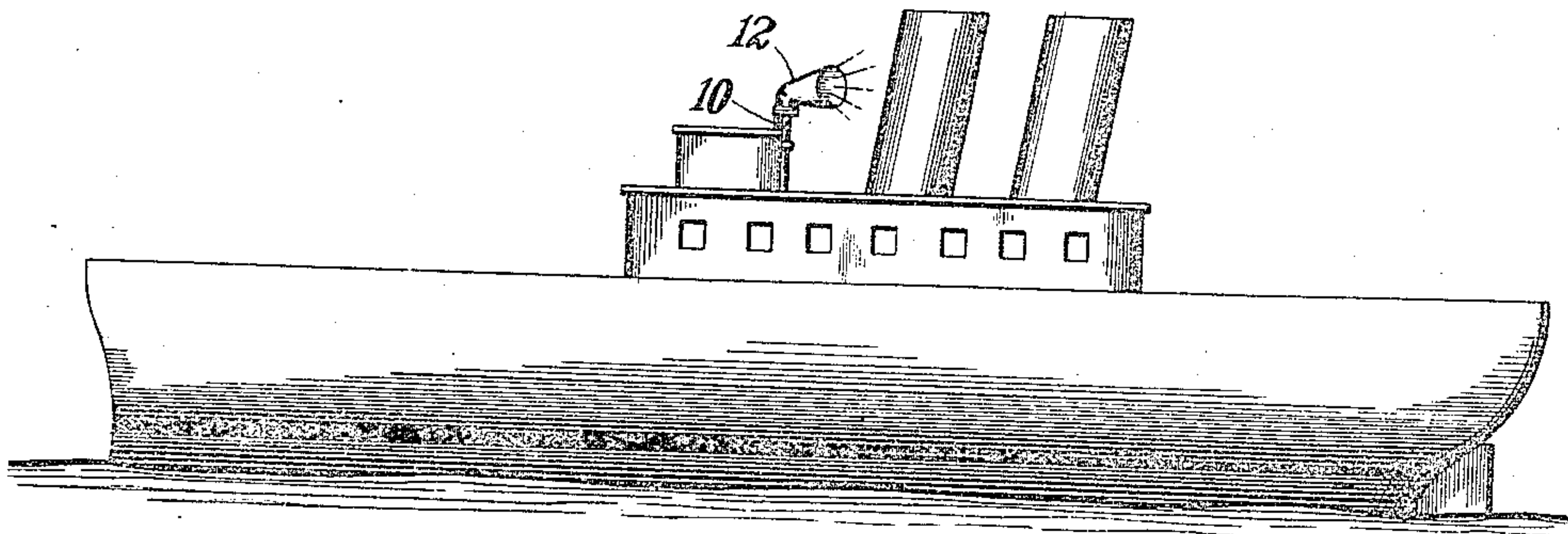


Fig. 1

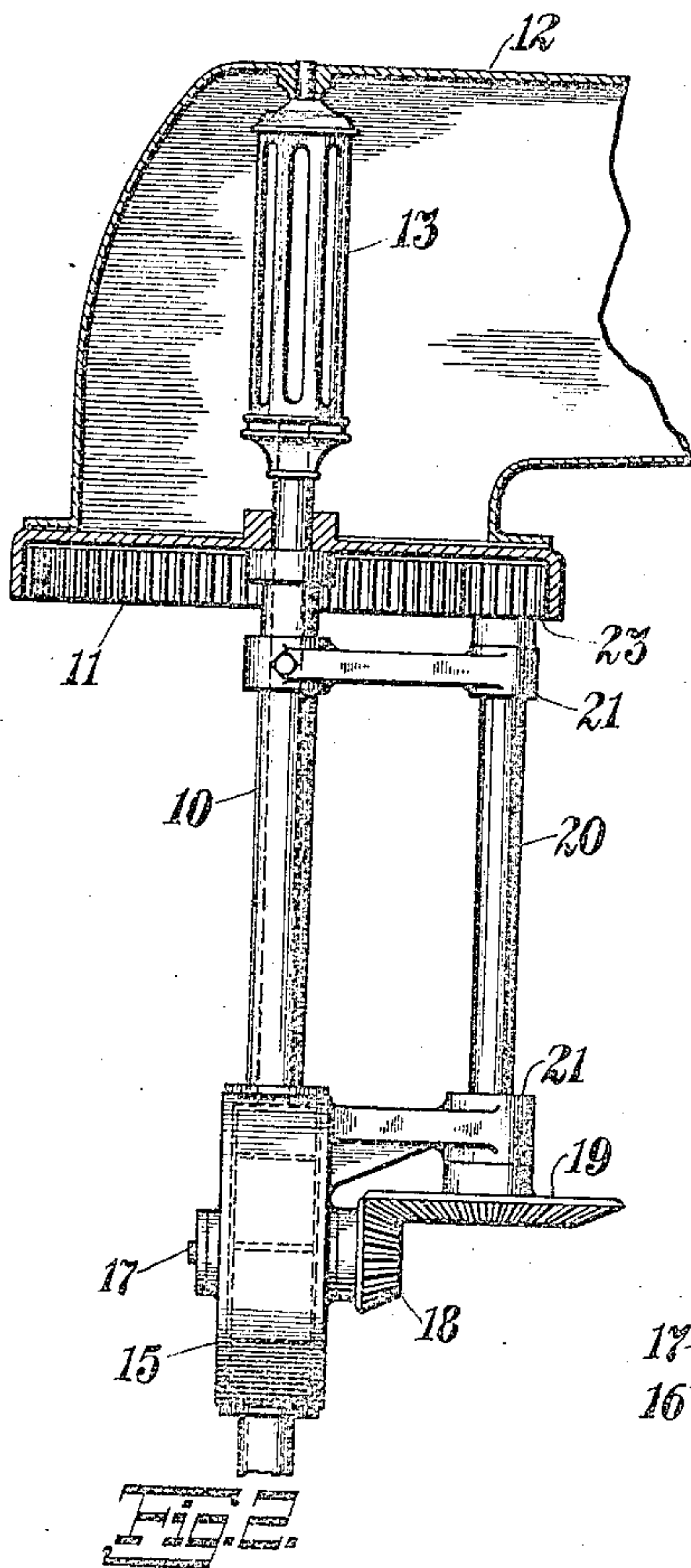


Fig. 2

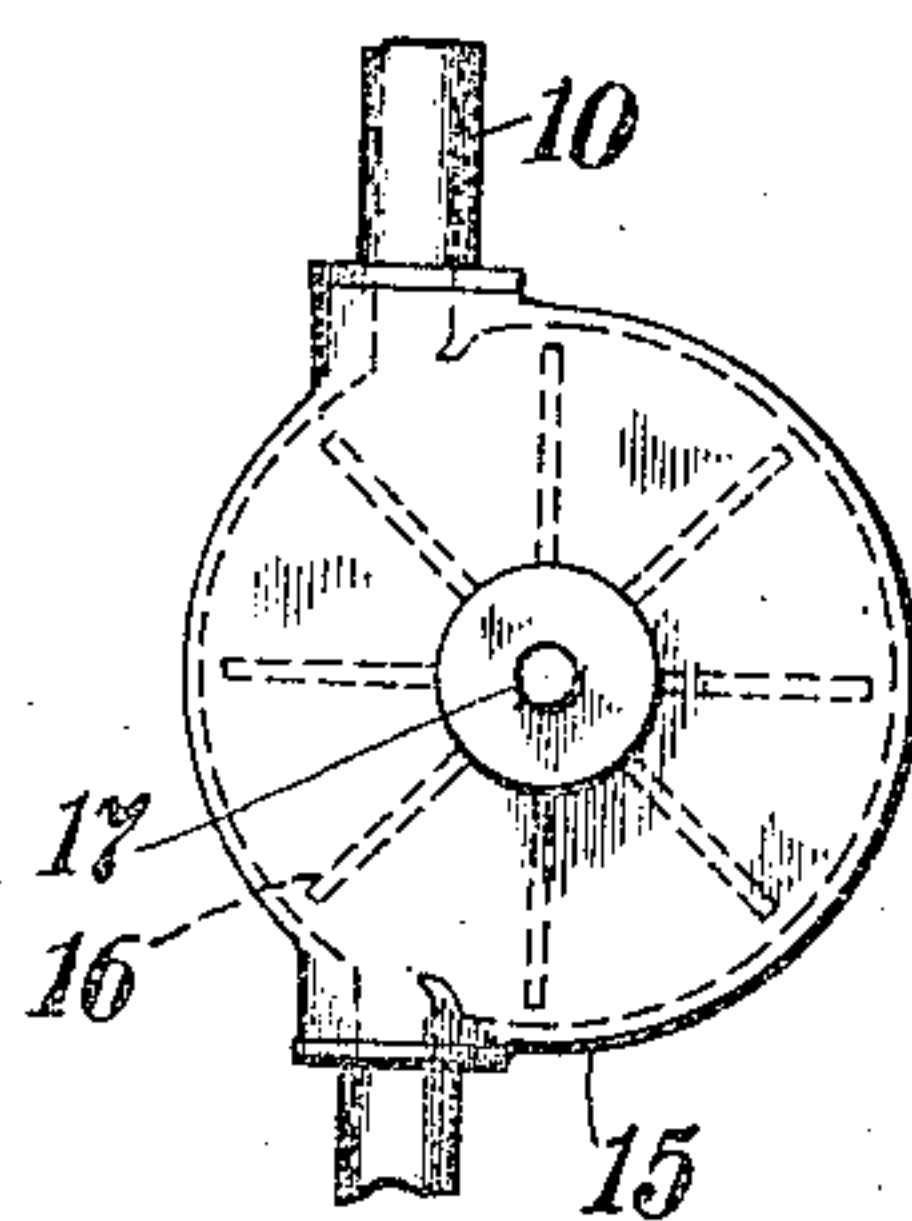


Fig. 3

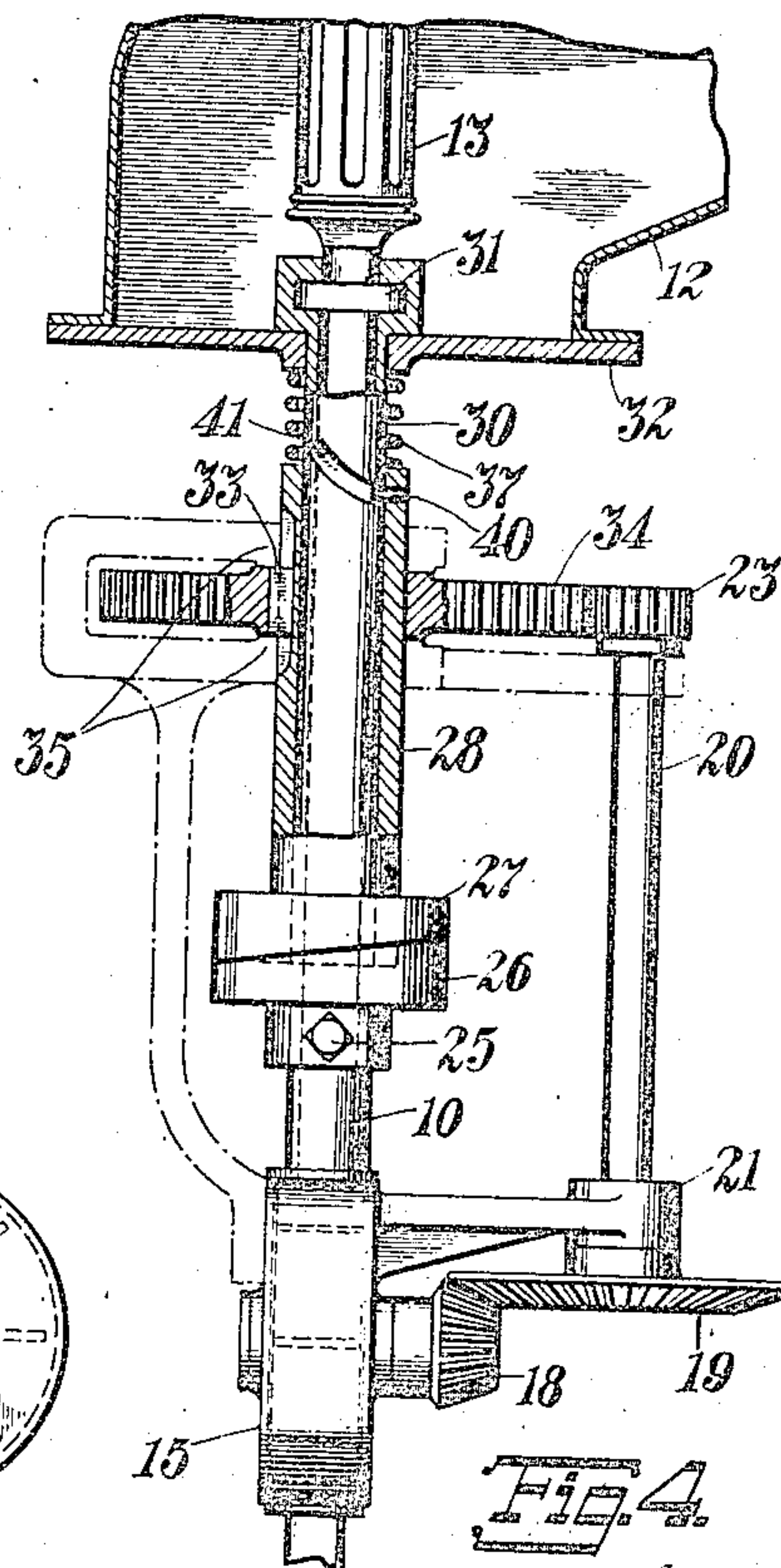


Fig. 4

Inventor
John J. Krause.

By

John J. Polachuk

Attorney

Patented June 19, 1923.

1,459,220

UNITED STATES PATENT OFFICE.

JOHN J. KRAUSE, OF PORTAGE, PENNSYLVANIA.

SHIP SIREN.

Application filed June 19, 1922. Serial No. 569,318.

To all whom it may concern:

Be it known that I, JOHN J. KRAUSE, citizen of Poland, residing at Portage, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Ship Sirens, of which the following is a specification.

This invention relates to a ship siren, and it has for an object to provide a novel construction of siren adapted to revolve while sounding so as to direct the sound to all points of the compass.

A more specific object of the invention is to provide a siren of this type which revolves unevenly so as to sound in a desired direction, such as into the wind, for a relatively long time.

For further comprehension of the invention, and of the objects and advantages thereof, references will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

Fig. 1 of the drawings is a side view of a steamship, indicating my improved siren in position thereon.

Fig. 2 is a part side view and part vertical sectional view of the siren.

Fig. 3 is a fragmentary elevation showing the turbine.

Fig. 4 is a fragmentary elevational view, partly in vertical section, showing a modification.

Referring now to the drawings the reference numeral 10 indicates a vertical pipe which may lead from a source of steam or compressed air. Upon the upper end of this pipe 10 an internal gear 11 is mounted for free rotation and has mounted in turn thereon the horn 12 of the siren, the upper end of the pipe 10 being provided with an ordinary sounding device 13 located in the horn.

Suitably placed in the pipe 10, a short distance below the gear 11, is a turbine 15 whose rotor 16 is fixed on a shaft 17 to which is fixed a bevel pinion 18 meshing with a bevel gear 19 fixed on the lower end of a vertical shaft 20 supported by two bearing elements 21.

On the upper end of shaft 20 is fixed a spur pinion 23 meshing with the internal gear 11.

As will be apparent, the steam or compressed air fed through pipe 10 to the siren

will rotate the turbine wheel 16, causing the siren horn 12 to revolve around the pipe.

In Fig. 4 I have shown a modification adapted to cause an uneven revolution of the horn 12, so that the latter may sound for a relatively longer time when pointed in any selected direction.

In this arrangement the pipe 10 has adjustably fixed thereto as by the set screw 25, at a point just above the turbine 15, a cam disk 26 engaged by a second cam disk 27 fixed on the lower end of a sleeve 28 freely surrounding the pipe 10. The upper portion of the bore of this sleeve 28 is larger than the pipe to receive the lower end of a second sleeve 30 also freely surrounding the pipe 10 to be rotatable thereon, but being held against axial movement by suitable engagement at its upper end with a collar 31 fixed to the pipe.

Fixed to the sleeve 30 is a disk 32 on which is mounted the horn 12, the pipe having the sounding element 13 on its upper end. Feathered as at 33 upon the sleeve 28 is a gear 34 which engages the pinion 23 on the upper end of shaft 20. This gear 34 is held against axial movement between a pair of fixed bearing elements 35. The cam disks 26, 27 are normally pressed together by a spring 37 bearing between the horn-carrying disk 32 and the top of sleeve 28. The sleeve 28 has a drive connection with the sleeve 30 by means of a pin 40 carried by the former and engaging in a spiral slot 41 in the latter.

In the operation of this form of the device, as gear 34 is rotated by pinion 23 it rotates sleeve 28 which latter rotates the sleeve 30, through the medium of pin 40 engaging in the slot 41. As sleeve 28 rotates it is moved longitudinally by reason of cam disk 27 riding over the fixed cam disk 26 and because of the spiral disposition of slot 41, causes the sleeve 30 and in consequence the horn 12 to revolve at varying speeds during different portions of each revolution. By loosening set screw 25 the cam disk 26 may be adjusted so as to cause the retardation of the revolving movement to take place as the horn is pointing in any desired direction.

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

1. A siren for ships comprising a revolvably mounted horn, a sounding device therein,

a cylindrical member fixed to and extending axially of said horn and having a spiral slot in the side thereof, a sleeve surrounding said member and having a pin engaging in said slot, means for rotating said sleeve, and means for moving it axially.

2. A siren for ships comprising a revolvable mounted horn, a sounding device therein, a cylindrical member fixed to and extending axially of said horn and having a spiral slot in the side thereof, a sleeve surrounding said member and having a pin engaging in said slot, means for rotating said sleeve, and means for moving it axially, said last means comprising a stationary cam, a cam mounted on one end of said sleeve and bearing on said stationary cam, and a spring pressing against said sleeve.

3. A siren for ships comprising a pipe, a

horn revoluble on said pipe and held against movement longitudinally of said pipe, a sleeve fixed to said horn and surrounding said pipe, a second sleeve freely surrounding the pipe and having telescopic engagement with said first sleeve, one of said sleeves having a fixed pin engaging in a spiral slot in the other sleeve whereby the second sleeve rotates the first, co-operating cam disks fixed respectively on said second sleeve and said pipe, a gear having a feathered engagement with said second sleeve, a turbine adapted to be driven by fluid passing through said pipe, and drive connections between said turbine and gear.

In testimony whereof I have affixed my signature.

JOHN J. KRAUSE.