

No. 640,552.

Patented Jan. 2, 1900.

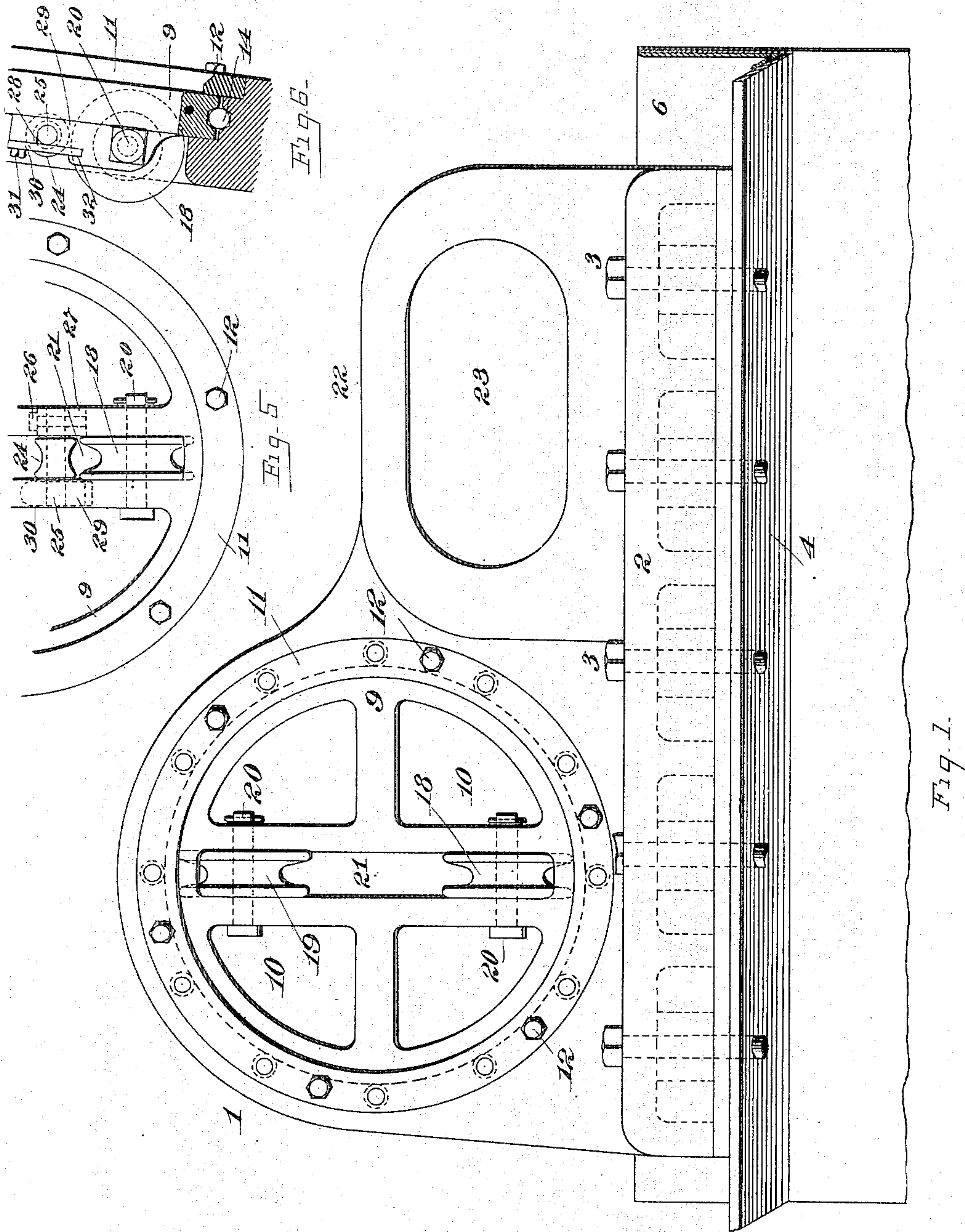
D. E. FORD.

MOORING AND TOWING CHOCK.

(Application filed Nov. 25, 1898.)

2 Sheets—Sheet 1.

(No Model.)



Witnesses:

Jas. F. Coleman
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Inventor
Daniel E. Ford

by Frank L. Dyer

Att'y.

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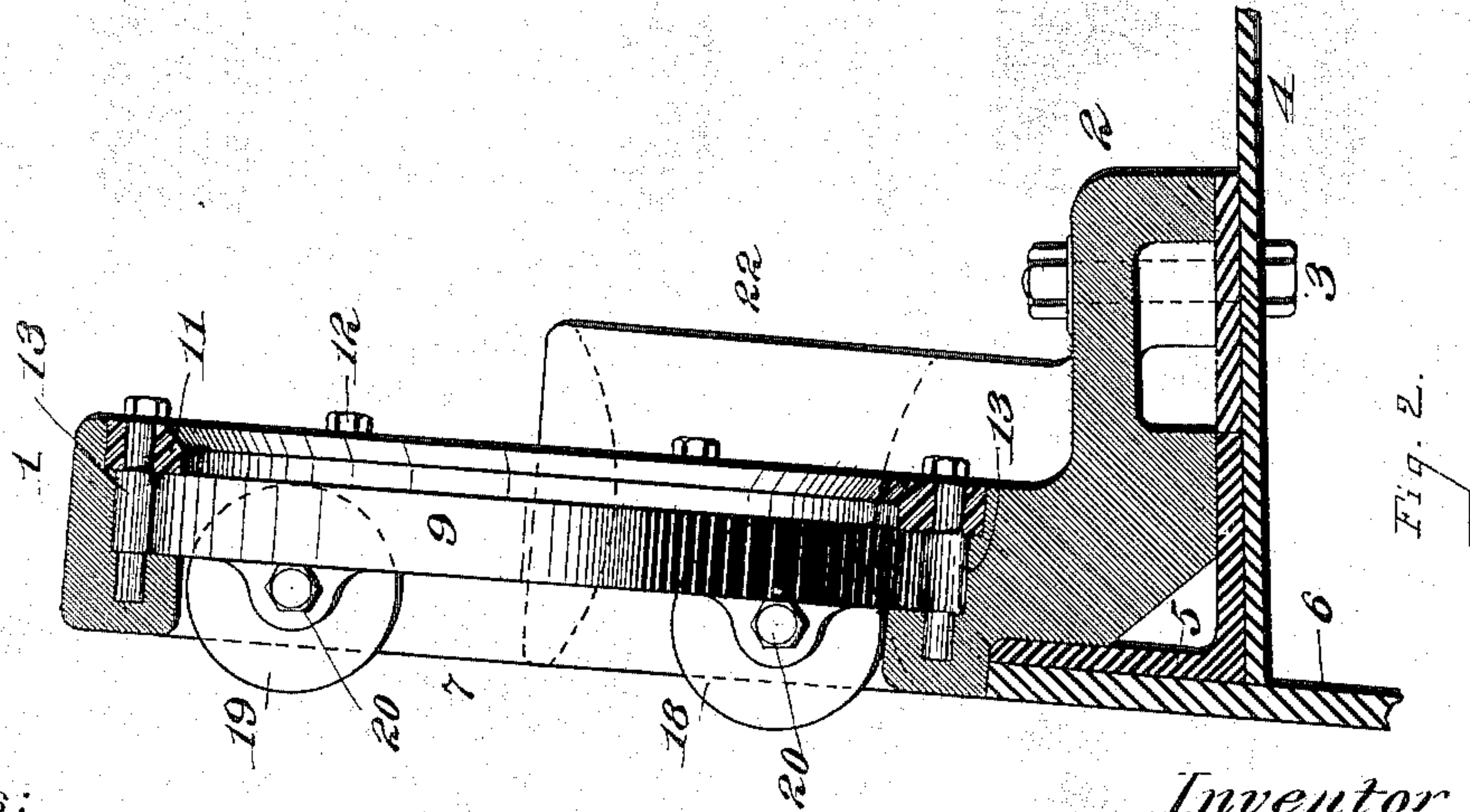
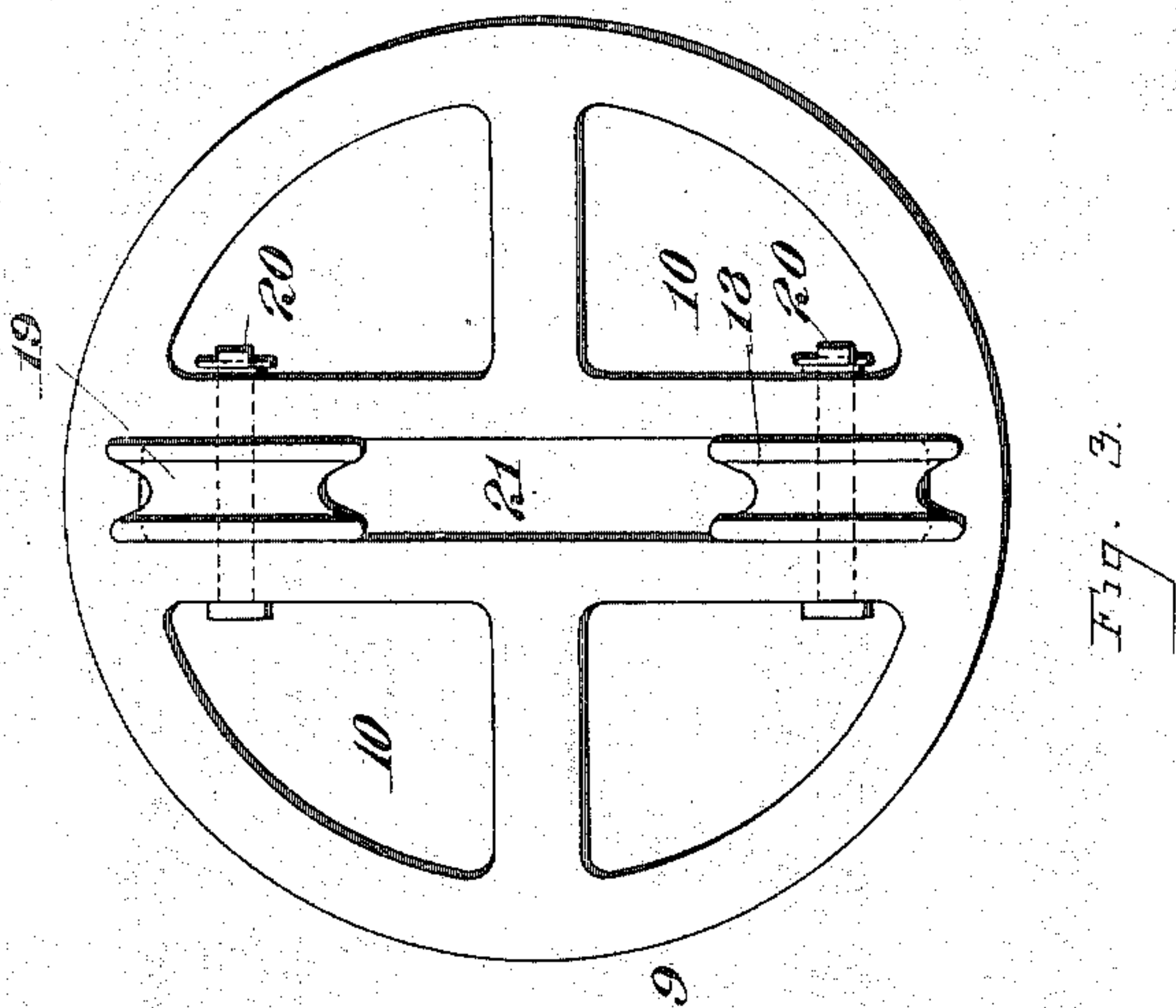
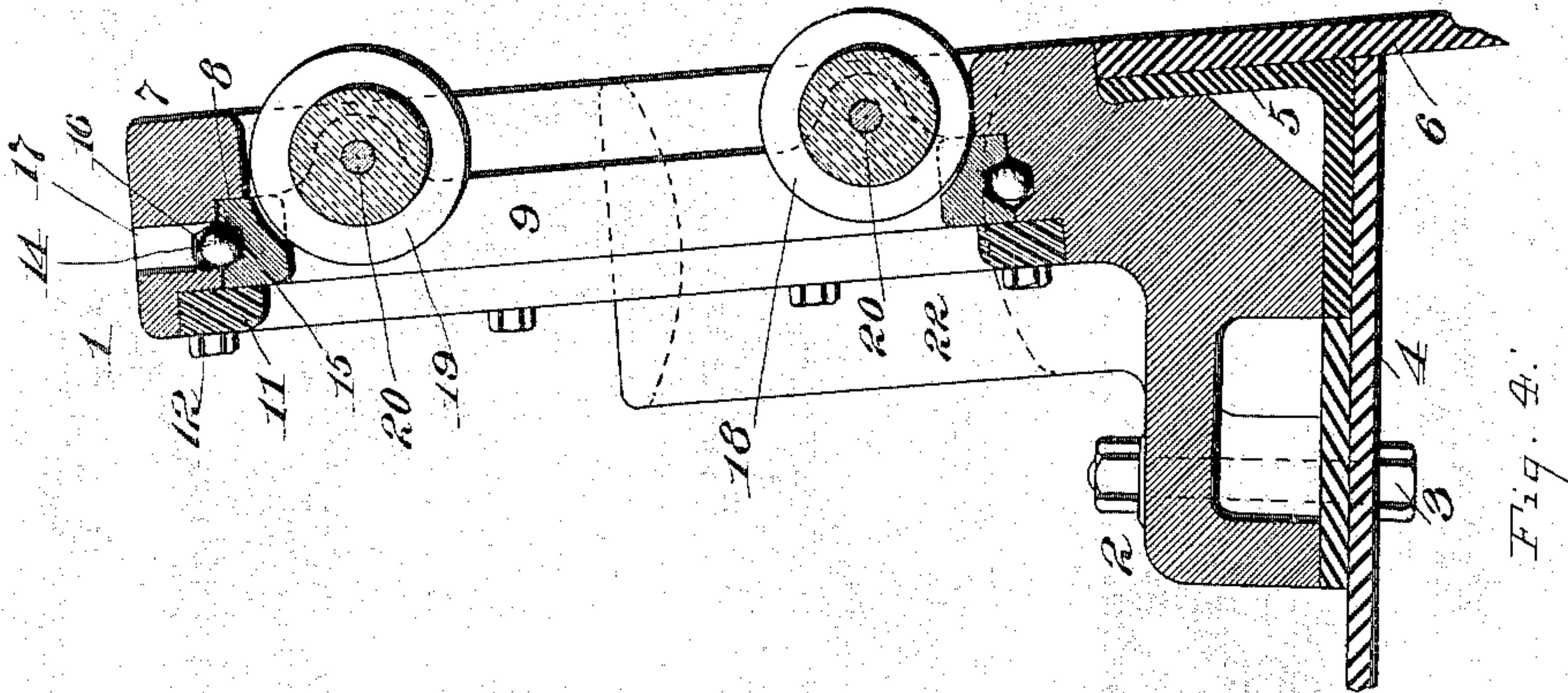
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UNITED STATES PATENT OFFICE.

DANIEL E. FORD, OF WEST SUPERIOR, WISCONSIN.

MOORING AND TOWING CHOCK.

SPECIFICATION forming part of Letters Patent No. 640,552, dated January 2, 1900.

Application filed November 25, 1898. Serial No. 697,363. (No model.)

To all whom it may concern:

Be it known that I, DANIEL E. FORD, a citizen of the United States, residing at West Superior, in the county of Douglas and State of Wisconsin, have invented a certain new and useful Improved Mooring and Towing Chock, of which the following is a specification.

At the present time it is the common practice to make use of wire cables for mooring and towing purposes. If ordinary chocks are used with such cables, the constant movements of the latter in use result in the cutting and wearing away of the chock and at the same time injury to the cable.

The object of my invention is to provide an improved chock for mooring and towing purposes which shall be especially adapted for use in connection with wire cables and wherein the objection noted will be overcome. Preferably my improved chocks are also capable of being used in connection with ordinary rope cables, if desired.

In order that my invention may be better understood, attention is directed to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a front elevation of a chock embodying my present improvements, illustrating the same as being also adapted for use in connection with ordinary rope cables; Fig. 2, a vertical section with the roller-frame in elevation, illustrating the employment of anti-friction-rollers for said frame; Fig. 3, a front elevation of the roller-frame detached; Fig. 4, a vertical section illustrating the employment of anti-friction-balls for the roller-frame, as is preferable; Fig. 5, a front elevation of a portion of a roller-frame, illustrating an arrangement of rollers therein especially adapted for use for a towing-cable; and Fig. 6, a section taken at right angles to Fig. 5.

In all of the above views corresponding parts are represented by the same numerals of reference.

The main portion or body 1 of my improved chock is essentially annular in its construction, being provided with a heavy base 2, which is bolted in place. I illustrate the base 2 as being secured by means of heavy bolts 3 to the deck 4 of a vessel, the said base being received upon an angle-iron 5 between the deck and the gunwale 6.

When the chock is used for towing purposes, it will be secured in the eyes of the vessel or at the stern thereof in any suitable way. The annular portion 7 of the body is preferably tilted at a slight angle from the vertical, as shown, and is provided with a circular shoulder 8 therein. Mounted within said shoulder is a roller-frame 9, which may be a solid disk, but preferably is cut away at 10 10, as shown in Fig. 3, for the purpose of lightness. This roller-frame is held in place by a ring 11, secured in position by tap-bolts 12. In order to reduce friction of the roller-frame 9 in rotating, anti-friction-rollers 13 may be used, as shown in Fig. 2; but instead thereof I prefer to make use of anti-friction-balls 14, as shown in Fig. 3. These balls are located between grooves 15 and 16 in the roller-frame 9 and annular portion 7, respectively, being introduced between said grooves through an opening 17 in the top of said annular portion, as shown in Fig. 4. The roller-frame 9 carries, preferably, two rollers 18 and 19, each mounted on a stationary axis 20. The cable occupies the space 21 between said rollers and may engage with either of said rollers in use. It will be seen that when a cable is passed through the opening 21 it will engage with either of the rollers 18 19, swinging the roller-frame 9 to the desired inclination. If the inclination of the cable changes or the position of the vessel is altered, the roller-frame 9 will turn correspondingly, so that the cable is never allowed to partake of a rubbing or wearing action on any of the parts.

If desired, the base 2 of the apparatus may support an ordinary chock 22, having an opening 23 therein, as is common, and through which may be passed a rope cable if used. This chock 22 may, however, be dispensed with.

When my improved chock is used, especially for towing purposes, and is placed either at the bow or stern of the vessel, I prefer to use a slightly different arrangement of the rollers 18 and 19 from that shown in Figs. 1 to 4, respectively, for the reason that a towing-cable partakes of almost constant movement, and it is desirable to limit the play thereof in the space 21. I therefore prefer to make use of the construction shown in Figs. 5 and 6, respectively. In this form of the device the

roller 18 is mounted on a stationary axis 20, as before, and a smaller roller 24 is employed, mounted immediately above the roller 18, with only sufficient space between said rollers to admit of the easy working of the towing-cable. The roller 24 is mounted on a pin 25, pivoted to a vertical pivot 26 in a lug 27, cast to the roller-frame. The pin 25 is adapted to be received at its inner end in a recess 28, formed in a corresponding lug 29, which recess is adapted to be closed by a swing-plate 30, pivoted to a pin 31 and working in a slot 32 at its lower end, so as to be firmly maintained in position. By moving the swing-plate 30 to one side the pin 25 can be swung on the pivot 26 to allow for the introduction of the rope into contact with the pulley 18, after which the pin 25 will be returned to its position and will be locked in place by means of the swing-plate 30.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is as follows:

1. In a mooring or towing chock, the combination with a stationary body, of a rotatable frame carried in said body, a slot or opening in said frame extending substantially the entire width thereof, a roller mounted on each extremity of said slot, entirely to one side of the center of the frame, whereby the bight of the rope will engage either of said rollers without the use of fair leads, substantially as set forth.

2. In a mooring or towing chock the combination with a stationary body, a rotatable

frame mounted in said body, a roller in said frame with which the cable may engage, anti-friction devices for supporting said frame, a ring 11, secured to said body for retaining the said anti-friction devices, substantially as set forth.

3. In a mooring or towing chock, the combination with a stationary body, of a rotatable frame mounted in said body, a roller carried by said frame and with which the cable may engage, and a supplemental roller mounted on a swinging axis carried in said frame, substantially as set forth.

4. In a mooring or towing chock, the combination with a stationary body, of a rotatable frame mounted in said body, a roller carried by said frame and with which the cable may engage, a supplemental roller mounted on a swinging axis carried in said frame, and means for locking the swinging axis of the supplemental roller in its active position, substantially as set forth.

5. In a mooring or towing chock, the combination with a supplemental body, of a rotatable frame mounted in said body, a roller in said frame with which the cable may engage, and a supplemental chock also carried by the said body, substantially as set forth.

This specification signed and witnessed this 31st day of October, 1898.

DANIEL E. FORD.

Witnesses:

JNO. R. TAYLOR,
FRANK L. DYER.