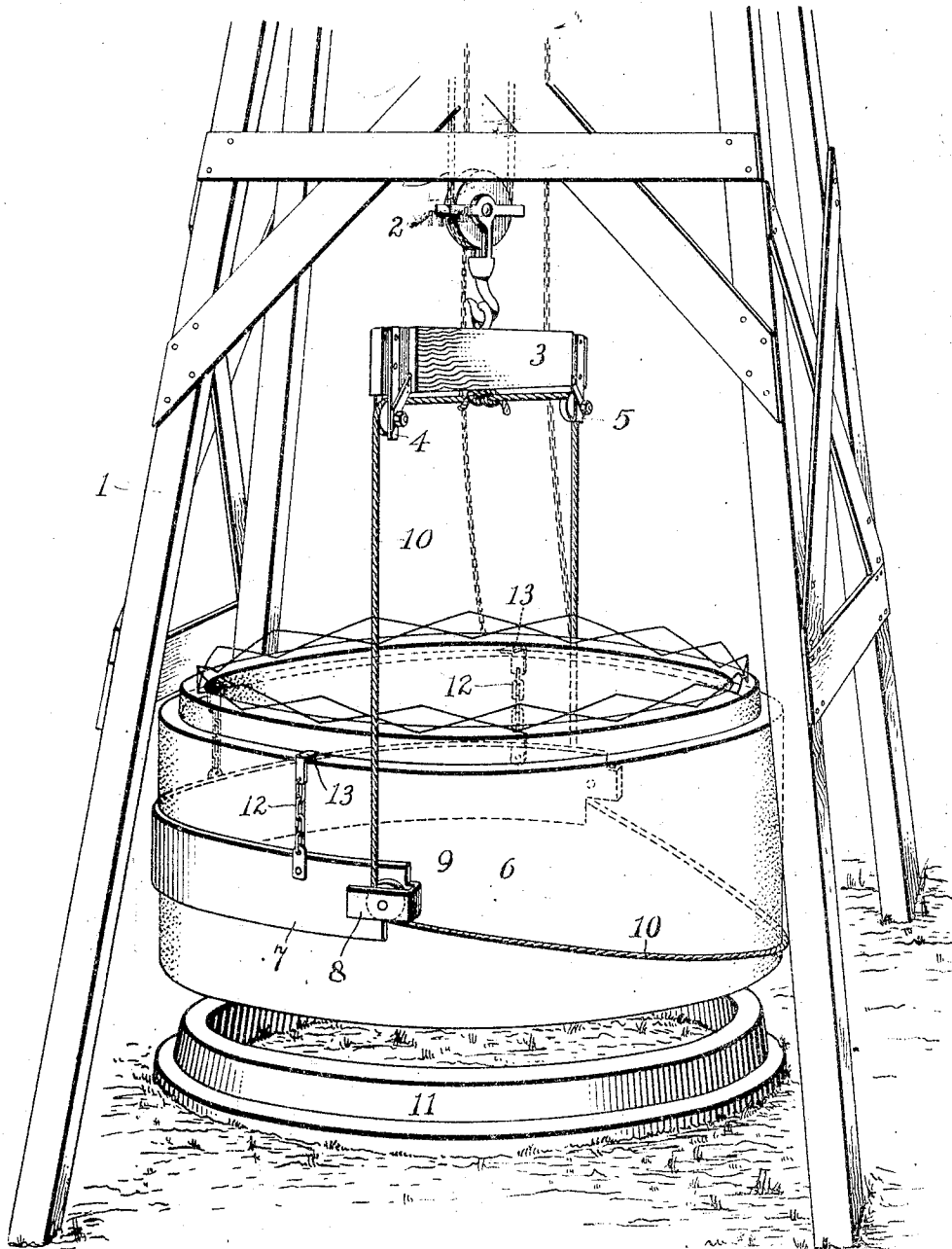


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 APPARATUS FOR HANDLING CONCRETE PIPE SECTIONS.
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UNITED STATES PATENT OFFICE.

JOHN C. MITCHELL, OF NEWPORT NEWS, VIRGINIA, AND COLEMAN MERIWETHER, OF MONTCLAIR, NEW JERSEY, ASSIGNORS TO LOCK JOINT PIPE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

APPARATUS FOR HANDLING CONCRETE-PIPE SECTIONS.

933,093.

Specification of Letters Patent.

Patented Sept. 7, 1909.

Application filed April 10, 1906. Serial No. 489,219.

To all whom it may concern:

Be it known that we, JOHN C. MITCHELL and COLEMAN MERIWETHER, citizens of the United States, and residing at, respectively, 5 Newport News, county of Warwick, and State of Virginia, and Montclair, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Apparatus for Handling Concrete-
10 Pipe Sections, of which the following is a full, clear, and exact description.

In the manufacture of concrete pipe-sections it is the universal custom to mold the sections in the upright position, that is, with
15 the axis of the section vertical. This means that after the side portions of the mold have been removed the entire section must be lifted to detach it from the bottom of the mold, after which the section must be shifted laterally, clear of the mold-bottom, to
20 permit another section to be cast. This handling of the sections is troublesome, and in the case of large and heavy sections is also exceedingly laborious. We have therefore been led to devise our present invention, which has for its chief object to provide simple and effective apparatus by which
25 even the heaviest and most unwieldy pipe-sections can be handled easily and expeditiously. To this and other ends the invention resides in the novel features and combinations of elements hereinafter described and more particularly set forth in the appended claims.

35 The nature of the invention will be readily perceived from a more or less detailed description of the preferred embodiment thereof, in connection with the accompanying drawing in which such embodiment is illustrated.
40

Referring now to the drawing, which shows the apparatus in perspective, 1 designates a frame work or derrick, preferably of general pyramidal form, built of timber or
45 metallic members, as desired, and having one or two sides open for some distance from the ground, as shown. At the top of the derrick is a pulley block (not shown) from which hangs a block 2. Suspended from the latter is a horizontal lifting-beam 3, connected by its center to said block 2. Pulleys
50 4, 5, are secured to the lifting-beam in any convenient manner, the distance between the

pulleys being about equal to the outside diameter of the pipe to be handled. 51

Partially encircling the concrete pipe section 6 is a flexible metal strip or gripping band 7, of a length sufficient to extend a little more than half way around the pipe section. This band has its ends reduced in
60 width and bent backwardly in the form of hooks, as shown at 8, and mounted in each hook is a pulley, one of which is shown at 9, the proportions of the parts being such that the distance from pulley to pulley,
65 measured on the band, is slightly greater than the semi-circumference of the pipe section.

Passing through the pulleys on the gripping band and the lifting beam is a cable or
70 rope 10, having its ends secured together and constituting in effect a continuation of the gripping band.

The operation of the apparatus will now be readily understood. Assuming that the
75 pipe section is resting on the mold-bottom 11, the band 7 and cable 10 are arranged in the manner shown in the drawing, the gripping band being suspended from the top of the pipe section by means of hangers 12 provided with hooks 13 which engage the upper
80 edge of the section. The lifting beam is now raised, with the result that the cable 10 is shortened between the ends of the band, thereby gripping the pipe section firmly and
85 causing the band to do the same. The bight of the cable is inclined downwardly, as shown, being maintained in that position by the friction of the rough surface of the concrete pipe, and hence exerts its pull down-
90 wardly, as well as circumferentially, on the gripping band, so that there is no tendency of the latter to slip off the section. The pipe is thus tightly grasped by the band and cable, and continued lifting of the beam 3
95 therefore raises the section, as shown, off the mold bottom. Or, if the latter should stick, it can be easily knocked off. Since the pulleys on the gripping band lie more than way
100 around the pipe, it is clear that the side of the section engaged by the band will tend to fall, making the section turn on the pulleys as pivots. The excess of weight on the band side is only slight, however, and can
105 easily be counteracted by a single workman so as to keep the pipe about level. When

free from the mold bottom the section is turned horizontally, if necessary, to bring the heavier side opposite an open side of the derrick, after which the heavier side is allowed to fall and the whole gently lowered, leaving the section resting on its side. It can then be disengaged from the handling apparatus and rolled away, leaving the space clear.

The apparatus has been found to be thoroughly successful in practice, two men being able to handle with despatch sections as large as seven feet in inside diameter and weighing a ton or more.

It is to be understood that the embodiment herein specifically illustrated and described is merely the preferred form of the invention, and may be modified in its details of construction without departure from the proper spirit and scope of the invention as defined by the appended claims.

What we claim is:

1. In an apparatus for handling concrete pipe sections, the combination of a derrick, a hoisting device suspended therefrom, an arc-shaped gripping band adapted to encircle more than half the circumference of the pipe section to be handled, pulleys carried by the ends of the gripping band, and a binding cable passing under the said pulleys as a continuation of the gripping band and connected with the hoisting mechanism, whereby upward movement of the hoisting device will cause the cable to bind the gripping band into firm frictional engagement with the pipe section.

2. In an apparatus for handling concrete pipe sections, the combination with a horizontally arranged lifting beam, means for raising and lowering the same, an arc-shaped gripping band adapted to encircle more than half the circumference of the pipe section, pulleys carried by the ends of the gripping band, and a binding cable passing under said pulleys as a continuation of the grip-

ping band and connected with the lifting beam.

3. In an apparatus for handling concrete pipe sections, the combination of a horizontally arranged lifting beam, pulleys at the ends thereof, means for raising and lowering the lifting beam, an arc-shaped gripping band adapted to encircle more than half the circumference of the pipe section to be handled, pulleys carried by the ends of the gripping band, and an endless cable passing under the pulleys on the gripping band and over the pulleys on the lifting beam.

4. In an apparatus for handling concrete pipe sections, the combination of a gripping band comprising a metal strip having hooks at its ends, pulleys journaled in said hooks, a hoisting device, and a cable passing under the said pulleys and connected with the hoisting device.

5. In an apparatus for handling concrete pipe sections, the combination of an arc-shaped gripping band having pulleys at its ends, means for suspending the gripping band on a pipe section, a cable passing under the said pulleys as a continuation of the gripping band to encircle a pipe section, and hoisting means connected with the cable.

6. In an apparatus for handling concrete pipe sections, a gripping band comprising an arc-shaped strip of metal having pulleys journaled at its ends.

7. In an apparatus for handling concrete pipe sections, a gripping band comprising an arc-shaped strip of metal having hooks at its ends and provided with pulleys journaled in the hooks.

In testimony whereof we have affixed our signatures in the presence of two subscribing witnesses.

JOHN C. MITCHELL.

COLEMAN MERIWETHER.

Witnesses:

A. M. HIRSH,

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