

C. S. DRISCOLL.

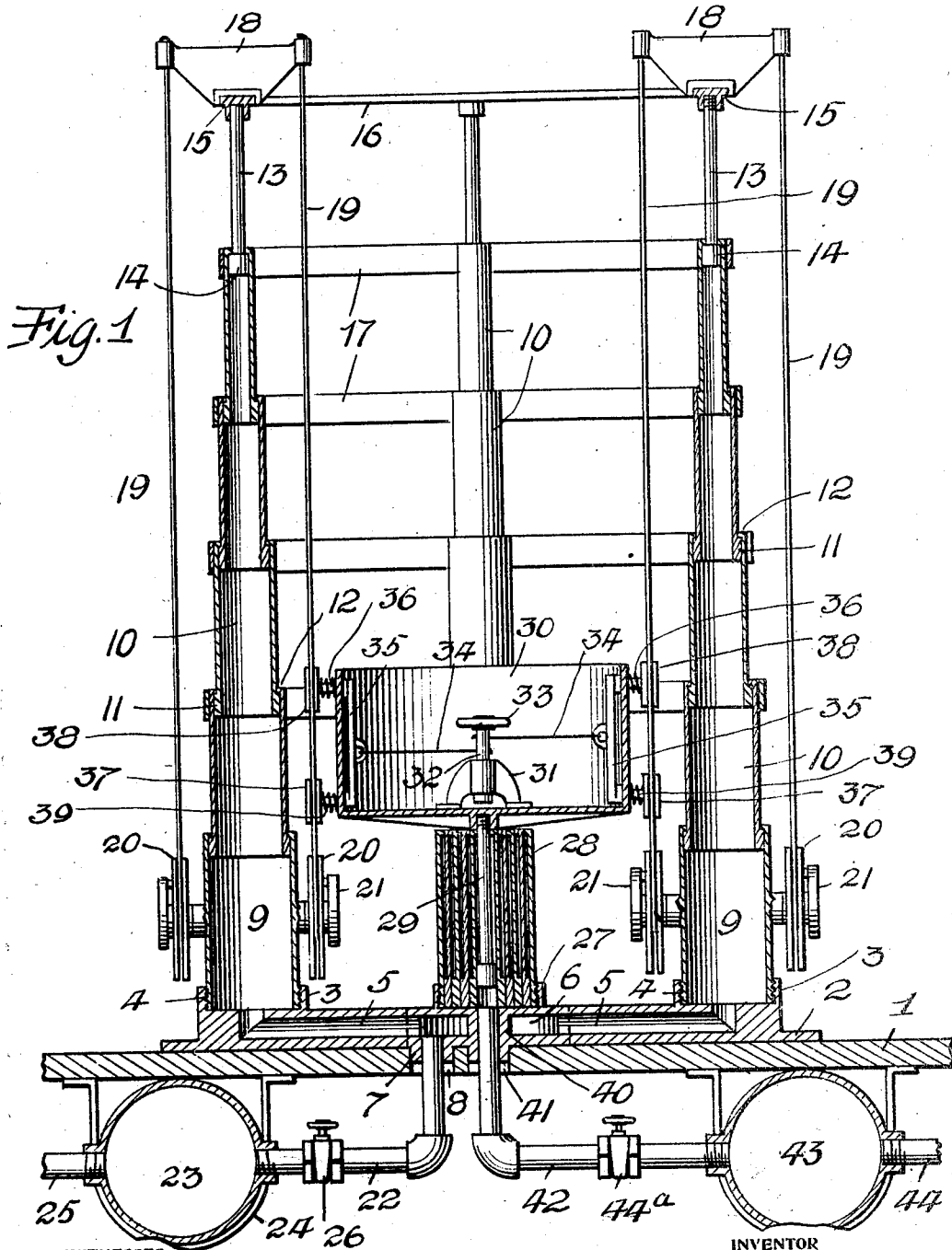
ELEVATOR.

APPLICATION FILED APR. 24, 1912.

Patented July 16, 1912.

2 SHEETS-SHEET 1.

1,032,819.



WITNESSES

Samuel Payne
Ralph C. Evert.

INVENTOR

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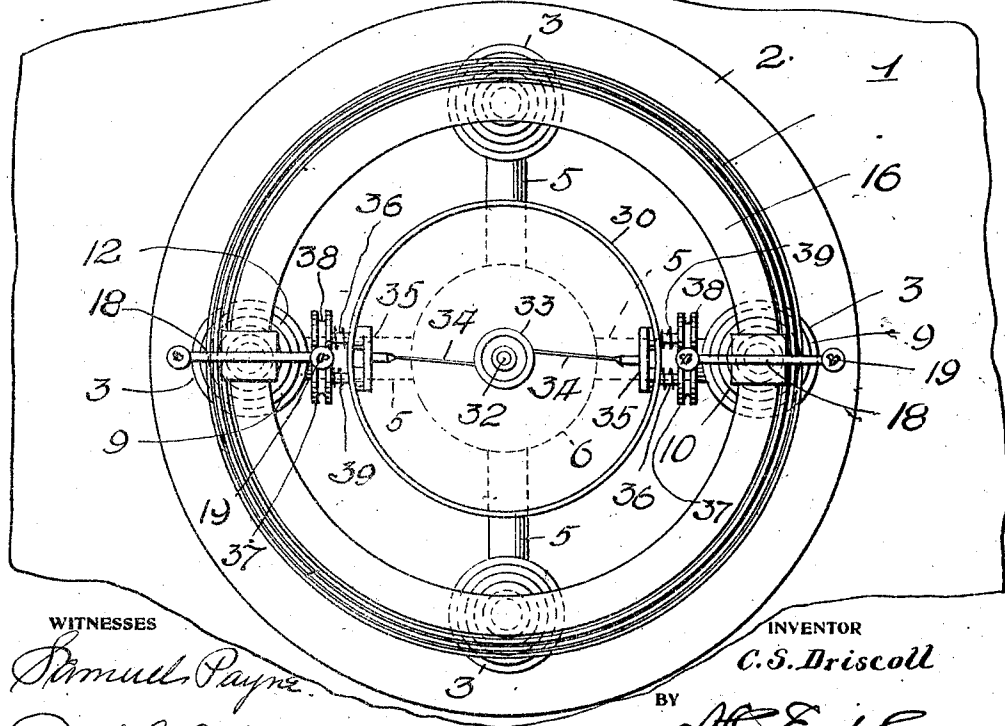
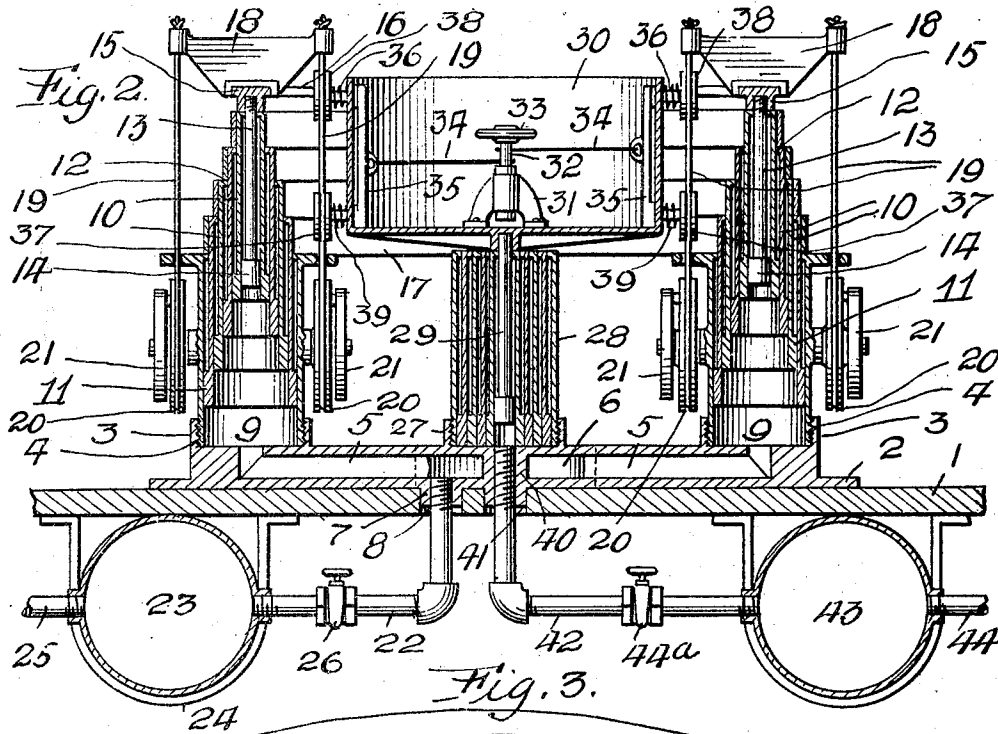
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UNITED STATES PATENT OFFICE

CHARLES S. DRISCOLL, OF COULTER, PENNSYLVANIA.

ELEVATOR.

1,032,819.

Specification of Letters Patent.

Patented July 16, 1912.

Application filed April 24, 1912. Serial No. 692,797.

To all whom it may concern:

Be it known that I, CHARLES S. DRISCOLL, a citizen of the United States of America, residing at Coulter, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Elevators, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to elevators, and the primary object of my invention is to provide a fluid or air pressure elevated apparatus that can be advantageously used as a fire escape, a water tower, a scaffolding for painters and decorators, as a stationary derrick for the oil fields, and for a great many uses that will be apparent as the invention is better understood.

20 Another object of this invention is to provide an elevator of the above type that has telescopic guides and provision for retarding the descent of the elevator, particularly when containing a load, as would be the instance when used as a fire escape.

25 A further object of this invention is to accomplish the above results by an apparatus that is durable, inexpensive to manufacture and highly efficient for the purposes for which it is intended.

30 With the above and other objects in view, the invention resides in the novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

35 Reference will now be had to the drawing, wherein:—

40 Figure 1 is a vertical sectional view of the elevator with the guides thereof in an extended position, Fig. 2 is a similar view showing the guides collapsed, and Fig. 3 is a plan of the elevator.

45 An elevator in accordance with this invention comprises a platform 1 and arranged upon said platform is a bed plate 2. The bed plate 2 is circular in plan and adjacent to the edges thereof is provided with a plurality of sockets 3 that have the inner walls thereof screw threaded, as at 4. Formed integral with the bed plate 2 are converging conduits 5 that have the outer ends thereof in communication with the sockets 3. The inner ends of the conduits 5 terminate in a chamber 6 and communicating with said chamber is a depending nipple 7 that extends into an opening 8 provided therefor in the platform 1.

Screwed or otherwise mounted in each socket is the lower section 9 of a telescopic upright, said upright comprising a plurality of telescopic sections 10 that are hollow and tubular in form with the lower ends thereof provided with collars 11 and the upper ends thereof with inwardly projecting annular flanges 12. The flanges 12 limit the opening or extended position of the uprights by reason of the collars 11 engaging said flanges. The uppermost section of each upright is designated 13 and is solid with the ends thereof provided with heads 14 and 15. The heads 15 of the uprights are connected by an annular brace 16 and the upper ends of the sections 10 are connected by annular braces 17, the braces 16 and 17 preventing the uprights from sagging, swaying or otherwise moving that would be detrimental or unsafe when the apparatus was in use, particularly when the uprights are in an extended position, as illustrated in Fig. 1.

Mounted upon two oppositely disposed heads 15 of the solid section 13 are cross heads 18 and connected to the ends of said cross heads are the upper ends of guide cables 19. The lower ends of said cables are attached to and wound upon grooved wheels or sheaves 20 revolvably supported at oppositely disposed sides of the base section 9 of an upright, and associated with said wheels or sheaves are spiral springs 21 that retain the cables 19 normally taut with said springs winding the cables upon the wheels 20 when the uprights are in a lowered or retracted position.

Tapped into the nipple 7 is the end of a pipe 22 that is connected to an air or fluid supply cylinder 23 suspended from the bottom of the platform 1 by straps 24. The cylinder 23 has a supply pipe 25 and said cylinder can be charged from a suitable pump and air or fluid compressed therein for instant use. The pipe 22 is provided with a valve 26 whereby the use of the air or fluid within the cylinder 23 can be controlled, and the capacity of the cylinder 23 is such that the telescopic uprights can be extended and retained in an extended position by the pressure of air or fluid within the cylinder 23 and within said uprights.

Arranged centrally of the bed plate 2 is a socket 27 and mounted in this socket is a telescopic elevator upright that has been generally designated 28, said upright being similar to the other uprights previously de-

scribed. Mounted upon the upper end of the solid section 29 of the elevator upright is a cylindrical elevator cage 30 that has the bottom thereof provided with a bearing 31 for a brake shaft 32, said shaft having a hand wheel 33. Attached to the brake shaft 32 and adapted to wind thereon are cables 34 and the outer ends of said cables are attached to frames 35 having the upper and lower ends thereof provided with sets of pins 36 that extend through openings provided therefor in the elevator cage. The outer ends of the pins 36 are connected by parallel cross heads 37 and it is between these cross heads that the innermost cables 19 extend. Revolvably mounted between the cross heads 37 are sheaves 38 that engage the cables 19. Encircling the pins 36, between the cross heads 37 and the outer walls of the elevator cage 30 are coiled compression springs 39, these springs retaining the pins 36 in a normally extended position, whereby the sheaves 38 can easily ride against the innermost cables 19. When the cables 34 are wound upon the brake shaft 32, the frames 35 are pulled inwardly thereby shifting the cross heads 37 toward the elevator cage and causing the sheaves to bind against the innermost cable 19 and thereby retard the movement of the elevator cage 30. Such braking operation is necessary when the cage contains a load and is descending.

The socket 27 has a connection 40 extending through the chamber 6 into an opening 41 provided therefor in the platform 1, and tapped into the connection 40 is a pipe 42 that is connected to an air or fluid pressure cylinder 43. The pipe 42 has a valve 44^a and the cylinder 43 is connected by pipe 44 to a suitable pump and is suspended below the platform 1 similar to the cylinder 23. The cylinder 43 is charged with air or fluid under pressure sufficient to elevate the cage 3.

In the practice of my invention, I prefer to make the platform 1 part of a vehicle in some instances to make the same detachable, whereby it can be removed from the vehicle and placed upon the ground. In all instances, it is preferable to use a pump in connection with the cylinders 23 and 43, whereby said cylinders can be gradually exhausted as the uprights are lowered or retracted, and in connection with the elevator upright 28, it is necessary that the pump be used in order that the elevator can make several trips, especially when the apparatus

is used as a life saving device. The invention, however, resides in the telescopic uprights and the cables thereof that serve as guides for the telescopic elevator uprights. For this reason any suitable means can be resorted to for raising and lowering the uprights of the apparatus, and with the entire apparatus made of strong and durable metal, it is obvious that the same can be safely used.

While in the drawing there is illustrated a preferred embodiment of the invention, it is to be understood that the structural elements are susceptible to such variations and modifications as fall within the scope of the appended claims.

What I claim is:—

1. In an elevator, a bed plate, telescopic uprights carried thereby, annular braces connecting said uprights, guide cables carried by oppositely disposed uprights, a telescopic elevator upright arranged upon said bed plate, an elevator cage carried thereby, braking mechanisms carried by said elevator cage and adapted to engage said cables and retard the movement of said elevator cage, and means arranged below said bed plate for extending said uprights.

2. An elevator, comprising a platform, a bed plate arranged upon said platform, telescopic uprights arranged upon said bedplate, annular braces connecting said uprights, guide cables carried by said uprights, wheels carried by the lower ends of said uprights for supporting said cables with said uprights in a retracted position, a telescopic elevator upright carried by said bed plate, an elevator cage carried by the upper end of said upright, a braking mechanism carried by said cage and engaging two of said cables for retarding a movement of said cage, and means carried by said platform and adapted to extend all of said uprights.

3. An elevator comprising a telescopic upright, a cage carried by the upper end thereof, telescopic uprights associated with the first mentioned upright, guide cables carried thereby and cooperating with said uprights in guiding said cage, and means engaging said cables and operable from said cage for retarding a movement thereof.

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

CHARLES S. DRISCOLL.

Witnesses:

ALVIN D. FEICK,
FRED E. WYLLIE.