

(No Model.)

W. P. GIBSON.

HYDRAULIC OR OTHER ELEVATOR.

No. 378,674.

Patented Feb. 28, 1888.

Fig. 1.

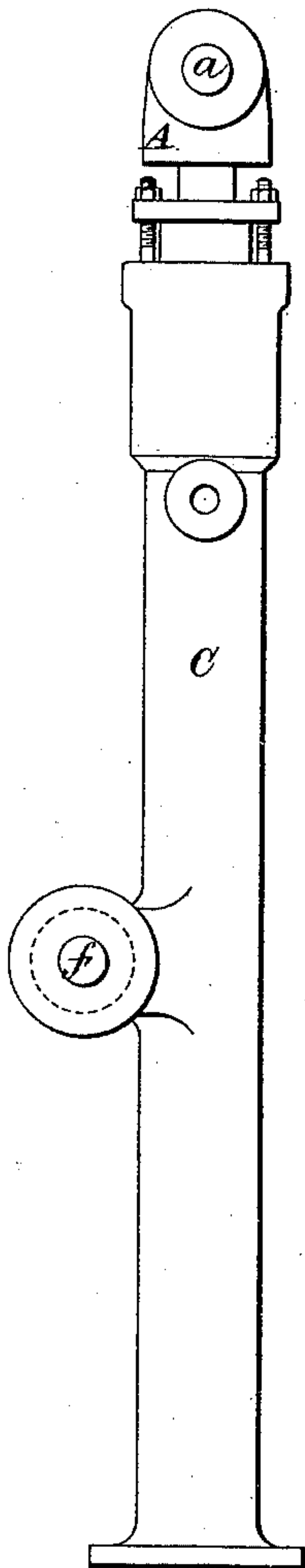
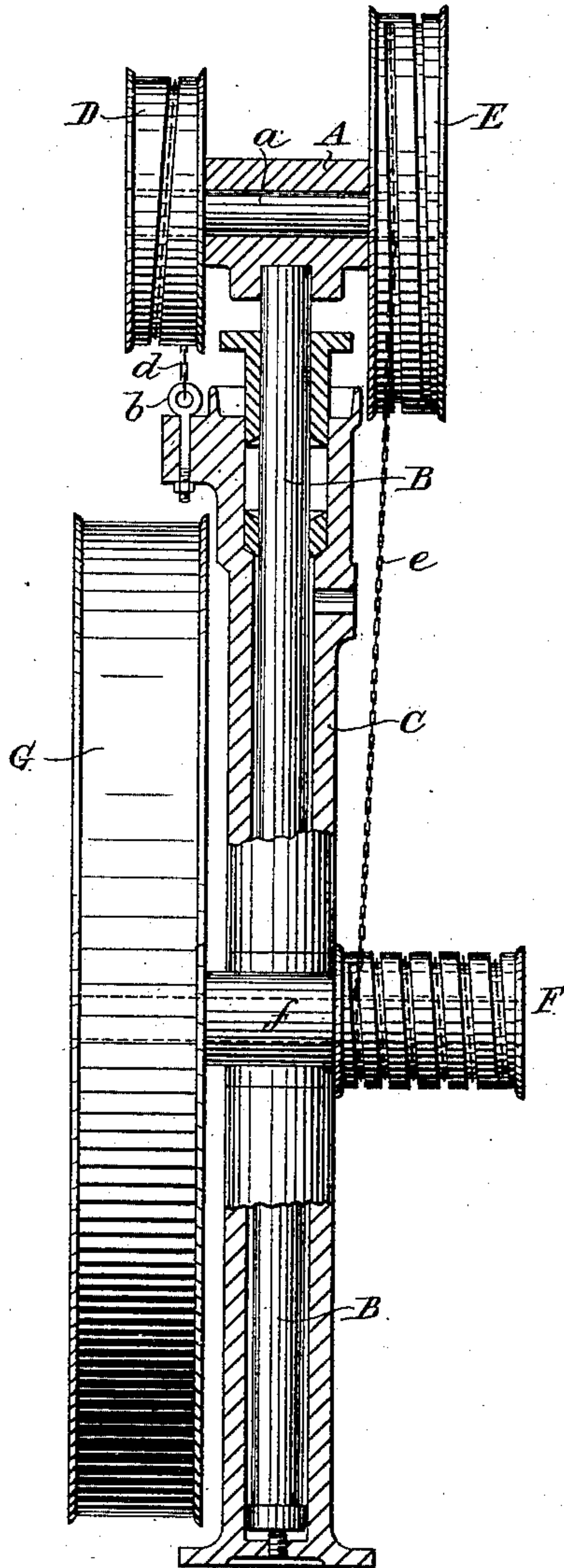


Fig. 2.



Witnesses.
Arthur L. Gibson.
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UNITED STATES PATENT OFFICE.

WILLIAM P. GIBSON, OF LONDON, ENGLAND, ASSIGNOR TO THE AMERICAN
ELEVATOR COMPANY, OF SAME PLACE.

HYDRAULIC OR OTHER ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 378,674, dated February 28, 1888.

Application filed September 21, 1887. Serial No. 250,332. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM PARKER GIBSON, a citizen of the United States, residing at 4 Queen Victoria Street, in the city of London, England, have invented a new and useful Improvement in Hydraulic or other Elevators, of which the following is a specification.

This invention relates to that class of hydraulic or other elevators or lifts in which the cage to be lifted or lowered is carried upon a rope or chain which is wound or unwound from a drum or barrel, said drum or barrel being operated by hydraulic or other power.

In order that my invention may be fully understood by others skilled in the art to which it appertains, reference is made to the accompanying drawings, in which—

Figure 1 represents a side elevation, and Fig. 2 a front elevation, partially in section.

According to my invention, I propose to mount a cross-head, A, upon the end of the ram or piston-rod B, and outside of the cylinder C, said cross-head carrying an axle, *a*, upon either end of which are keyed rope or chain wheels D and E. Around the wheel D is coiled a rope or chain, *d*, one end thereof being secured thereto and the other end being attached to an eyebolt or other fixed point, *b*. If the ram or piston B be raised, the strain on said rope *d* will cause the wheel D to be revolved, and with it the axle *a* and the wheel E attached thereto. From wheel E passes a rope or chain, *e*, to a third wheel or drum, F, which is attached to the axle *f* of the main or cage drum G. Around this drum G is wound the cage-rope, which is not shown, and which passes up to the top of the building over the usual pulley and down to the cage, as is well understood.

Any upward movement of the piston or ram B will cause the rope or chain to be wound upon the drum G, and the cage accordingly to be lifted, while the weight of the piston and connected parts is sufficient to cause them to descend when the pressure is removed, the weight of the cage when descending causing the drum G, with the attached axle *f* and wheel or drum F, to be revolved, thereby turning the wheel E, and, through axle *a*, the wheel D, upon which what may be termed the "driving rope" or "chain" *d* is coiled.

It will be evident that by proportioning the diameter of the wheels and drums any requisite amount of cage-travel may be obtained for any given piston or ram travel, and also that the apparatus may be operated by high or low pressure hydraulic steam or other power, and this renders the invention particularly useful for what are known as "dinner," or "light lifts," or "elevators," where a quick cage-travel is desired.

What I claim is—

1. In an elevator or lift, the combination, with a cylinder, its piston and piston-rod, of a pair of wheels mounted in bearings upon the piston-rod, and a removable drum, one of the wheels having a chain or rope connected thereto and to a fixed point, and the other wheel having a chain or rope connected to it and to the revoluble drum, and connections between the latter and a cage, whereby when the piston is moved the pair of wheels will be revolved to thereby revolve said drum to actuate the cage, substantially as described.

2. In an elevator or lift, the combination, with a cylinder, its piston and piston-rod, of a pair of wheels of different diameters mounted in bearings to travel with the movement of the piston, a drum adapted to be rotated by the rotation of said wheels, two independent chains or ropes, one for each of said wheels, the end of one of the said chains or ropes connected to a fixed point, and the other of said chains or ropes connected to and wound upon said drum, and connections between the latter and a cage for actuating it, substantially as described.

3. In an elevator or lift, the combination, with the cylinder, its piston and piston-rod, of wheels D and E, secured upon a shaft, *a*, and mounted to turn in bearings on the piston-rod, drum F and cage-drum G, mounted to revolve together in fixed bearings, independent chains *d* *e*, one secured to the wheel D and to a fixed point and adapted to be wound on and unwound from said wheel, and the other secured to the wheel E and to the drum F, and adapted to be wound on and unwound from said wheel and drum, substantially as described.

4. The combination of the cylinder provided with a bearing for a shaft, *f*, and drums mounted

on said shaft upon opposite sides of said bearing, the piston and its rod, a bearing for a shaft, *a*, secured to the end of the piston-rod and arranged parallel with the first-named
5 bearing and shaft, wheels secured to said shaft *a*, one upon opposite sides of the bearing, a rope or chain wound upon one of said wheels and secured to a fixed point, and a second rope or chain wound upon the other of said wheels

and connected with one of said drums, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WM. P. GIBSON.

Witnesses:

ARTHUR L. GIBSON,

C. CLARKE.