(Model.)

G. F. SKINNER.

DUMB WAITER.

No. 263,734. Patented Sept. 5, 1882.

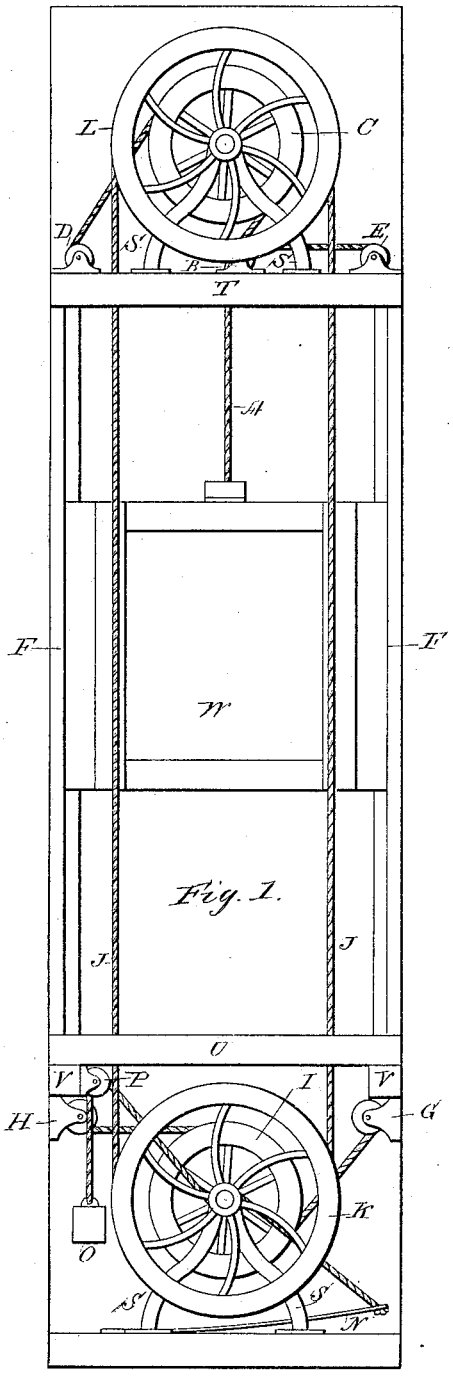

Fig. 1.

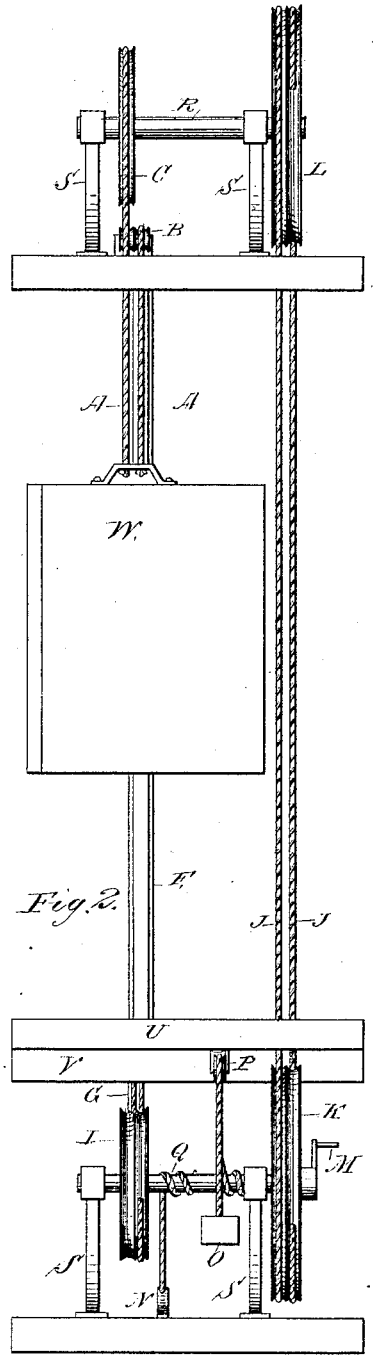

Fig. 2.

Witnesses
Thomas Early

Inventor:
George F. Skinner

UNITED STATES PATENT OFFICE.

GEORGE F. SKINNER, OF POUGHKEEPSIE, NEW YORK.

DUMB-WAITER.

SPECIFICATION forming part of Letters Patent No. 263,734, dated September 5, 1882.

Application filed March 30, 1882. (Model.)

To all whom it may concern:

Be it known that I, GEORGE FRANCIS SKINNER, a citizen of the United States, residing at Poughkeepsie, in the county of Dutchess and State of New York, have invented certain new and useful Improvements in Dumb-Waiters; and I do hereby declare that the following is a full, clear, and exact description of the invention.

My invention relates to dumb-waiters; and it consists in certain improvements by which counter-weights are dispensed with, as will more fully appear in the specifications and claims.

Heretofore dumb-waiters have required extra space for weights and pockets for the same, and a serious objection has been the great strain and friction when a single cable has been employed, often causing the cable to part and occasioning serious accidents, which by the use of my device are entirely obviated. The objects of my invention are to do away with and prevent the aforementioned objections and accidents, and to provide a safe and reliable dumb-waiter.

In the drawings, wherein similar letters refer to similar parts in the two views, Figure 1 represents a front view of the apparatus, and Fig. 2 shows a side view of the same.

My dumb-waiter requires no weights nor weight-room. It also takes the great strain from the upper works by transferring the same to the lower part of the machine, where it is more easily controlled, and the danger thereby diminished. It remains stationary at any point in its ascent or descent, whether empty or laden, without being fastened, and is adapted to dwelling-houses of all kinds, restaurants, and also to light work in manufactories.

The shaft R is firmly secured in journal-bearings at the highest point desired to be reached in the building furnished with one of my waiters, while Q is a similar shaft in the lower part of the same building. These are each supported by a frame-work or stanchions, S S.

Above the shaft Q, with its attachments, and below shaft R are shelves T U, which divide the machinery-spaces from the well, these shelves being supported by cleats V or equivalent means.

A A are two wire cables attached to the top of center of the waiter W, thence passing over the double-grooved wheel or pulley B and the pulleys C, D, and E, and down through the covered side grooves, F F, thence under the pulleys G and H, and out the double-grooved wheel I, to which said cables are secured. Hence the action of both cables is regular and equal, and each cable is independent of the other. Thus in the event of either cable breaking it leaves the uninjured one intact and capable of performing the work of both, rendering the waiter doubly secure.

J J are the hand-ropes or lifters, attached to the double-grooved wheels K and L, and thereby allowing the hand-ropes to move off of one wheel and onto the other, rendering them doubly secure in the case of either parting.

The machine can also be operated for light work by a crank, M, attached to the end of the axle Q, which carries the wheel K, whereby the use of the hand-ropes may be dispensed with, if desired.

The waiter may be operated by a spring, N, the cable attached to the spring passing over a pulley and fastened through a hole in shaft or axle Q, or attached directly to shaft Q, or when attached to a weight, O, passing over the pulley P, and thence to the shaft Q; or both may be used, as deemed fit.

It will be seen that there are two motions in the working of my waiter—fast and slow—as the wheels C and I are from sixteen to twenty times greater in diameter than the shaft Q. A rapid ascending and descending motion of the waiter is caused, while the revolution of shaft Q is correspondingly slow. Thus I obtain from the space beneath a counter or shelf—say three feet high—under which the lower working parts of the machinery are placed the advantages of raising and carrying the waiter fifty feet or more—in fact to whatever height it is desired to go—and yet always keeping it under control, as the main working-power is within reach and command. It has also greater capacity and holding-power when freighted, for it will be seen by placing the hand under the waiter W and lifting it no effect is had on the movement of the works, while if this be done with waiters actuated by weights within pockets the result is quite different. Again, it will be seen that my improved device will carry more weight

upward and downward than the ordinary waiter, as the revolution of shaft Q is slow, thus giving it greater holding capacity.

Having thus described my invention and improvement, what I claim therein as new, and desire to secure by Letters Patent, is—

1. In a dumb-waiter, the combination of the waiter W, the double wire cable A A, passing over a series of pulleys and through the covered slides or grooves F, the double-grooved pulley-wheel B, wheels C and I, and the pulleys D E G H, arranged and operating in the manner and for the purposes shown and described.

2. The combination of the hand-ropes J, wheels L K, (the wheel K being provided with a crank, M, to allow dispensing with the hand-ropes, if desired,) and the spring N and weight O for controlling the motion of the wheel K on the shaft Q.

3. The combination of the waiter W, double wire cable A A, system of pulleys B C D E G H, covered grooves F, hand-ropes J, and the wheels K and L, all as hereinbefore shown and described.

GEORGE FRANCIS SKINNER.

Witnesses:

JACOB B. DIXON,

THOMAS J. ZIMMER.