

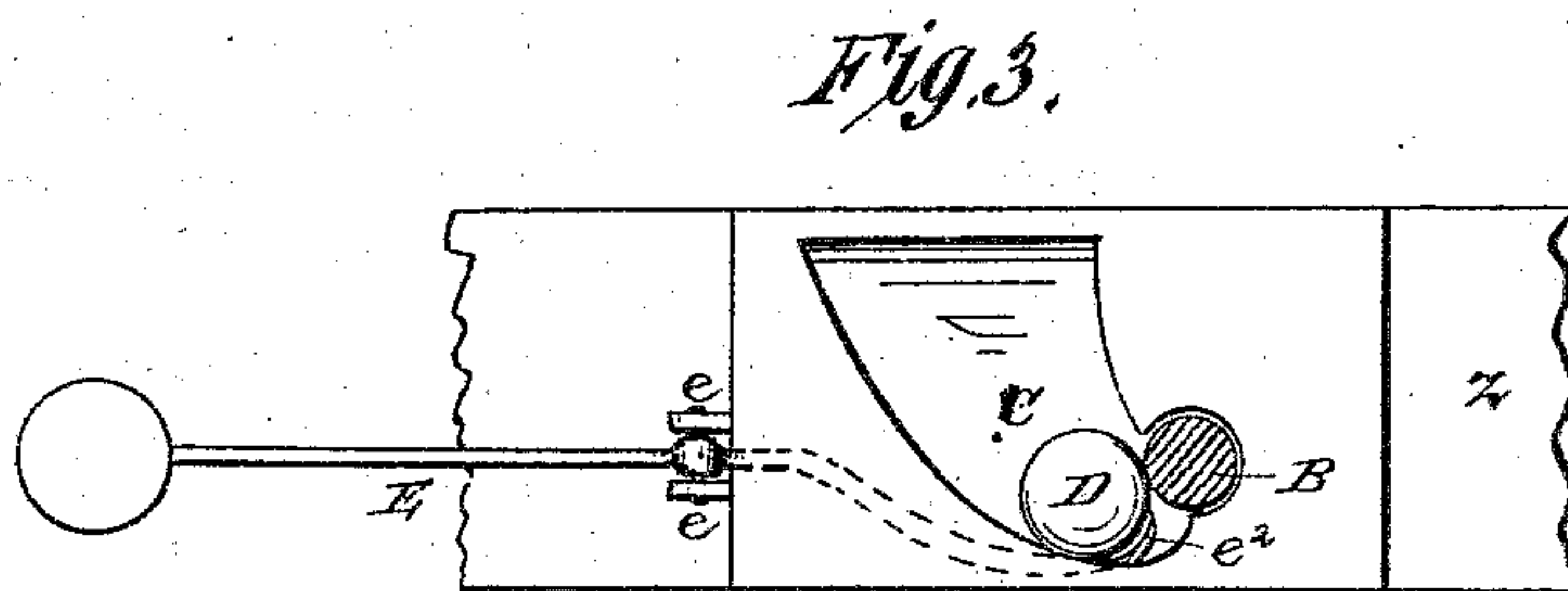
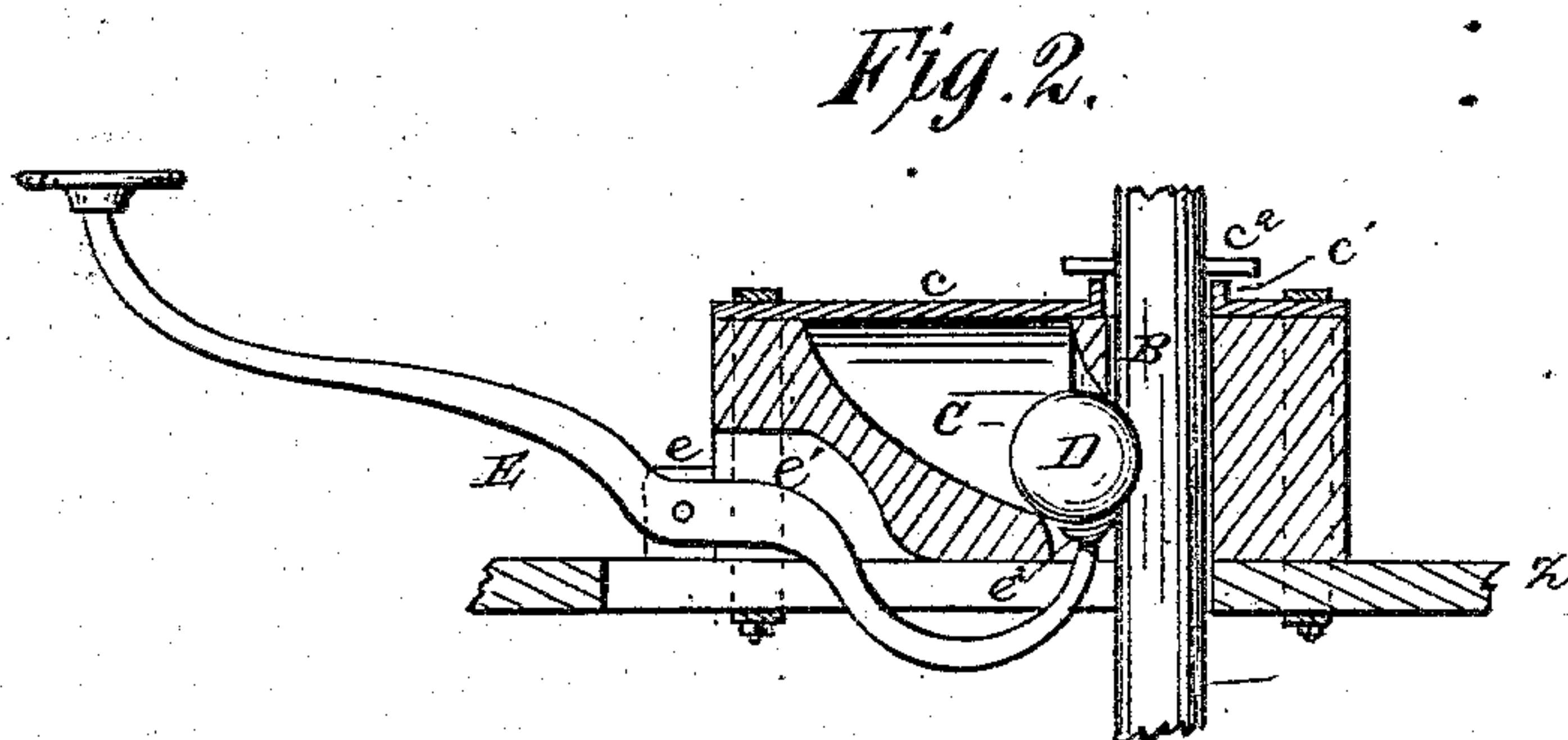
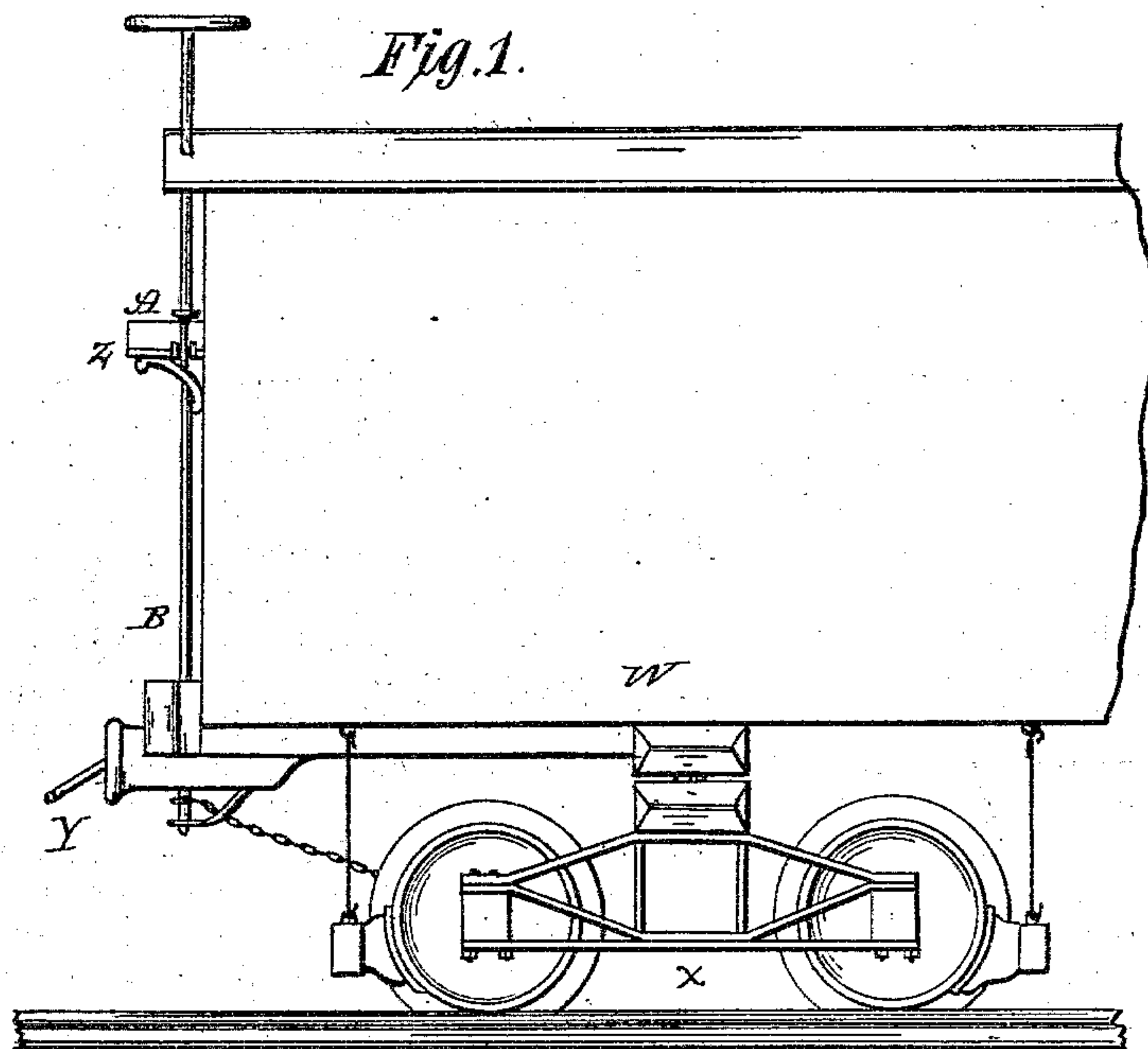
(No Model.)

C. C. CLAY.

BRAKE LOCK.

No. 281,222.

Patented July 10, 1883.



Witnesses:
H. J. Asgood
P. Pringle

Inventor:
Cyrus C. Clay,
by Howard A. Snow
his Atty.

UNITED STATES PATENT OFFICE.

CYRUS C. CLAY, OF DUNNINGS, PENNSYLVANIA.

BRAKE-LOCK.

SPECIFICATION forming part of Letters Patent No. 281,222, dated July 10, 1883.

Application filed November 1, 1882. (No model.)

To all whom it may concern:

Be it known that I, CYRUS C. CLAY, a citizen of the United States, residing at Dunning, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Brake-Locks, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention has relation to an improvement in devices for holding the brakes of steam passenger and freight coaches, and all vehicles to which it may be applied, from unwinding after the brake has been turned on; and it consists in the construction and arrangement of its several parts, as will be hereinafter fully set forth, and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of a car, showing the position of my brake-lock thereon; Fig. 2, a vertical section of the lock-block; and Fig. 3 is a top plan of the same.

The drawings show my lock as applied to a freight-car; but it will be readily understood that it can also be applied to steam passenger and horse cars, or, in fact, any vehicle using a brake, by merely altering its position upon the length of the brake-rod. In its use upon the two kinds of carriages last named I prefer to attach it to the under side of the platforms, immediately beneath the hole through which the rod passes, and the lever for releasing the lock be carried up through the platform and operated by the foot of the brakeman. In other vehicles it can be applied where found most convenient.

The construction and operation of my lock are as follows, it being first stated that *w* represents an ordinary freight-car, *x* its truck, *y* the coupling, and *z* the usual foot-board extending horizontally across the end near the roof. All freight-cars are not provided with the foot-board shown, and when cars not thus supplied are to receive my lock it is applied either resting on the platform or under, as hereinafter set forth.

A represents a block, preferably made rectangular and suitably secured to the foot board *z* in such position that the brake-rod *B* passes vertically through a hole formed in it, as shown; but in the upper side of the block is a groove, *C*. Its commencement is shallow, wide,

and parallel with the edge of the block, and deepens with a sharp pitch, narrows, and is carried with a somewhat abrupt curve into the hole through which the brake-rod passes. The bottom of the groove, immediately adjoining the rod, is cut away, to allow the entrance of the tripper. The top of the block is covered by a suitable cap, *c*, having a collar, *c'*, formed around the hole through which the brake-rod passes, and upon the rod, immediately above the cap, is a flange, *c''*, of rubber or other suitable material, to prevent the entrance of water into the groove.

D is the lock-ball, which rolls in the groove *C*. Its diameter is such that it is enabled to roll by the attraction of gravitation into the bottom of the groove, between the front wall thereof and the rod, so that when said rod is turned to carry the ball farther along the groove it will jam between the brake-rod and the wall and prevent the rod from turning.

Ordinarily car-brakes are wound up by turning the rods from left to right, and in this case the groove will be situated upon the left-hand side of the rod, facing the end of the car, as shown in the drawings. It will be seen, then, that as the parts are here arranged the rod can be turned from left to right to wind the brake-chain, for the reason that the revolutions of the rod will act to carry the ball into the wide part of the groove, but that the attempt to unwind (from right to left) will be met by the ball, which the rod turns into the narrow portion of the groove and jams firmly between the opposite parts.

It will be seen that as the groove rapidly deepens toward its narrow end the attraction of gravitation will influence the ball to roll toward the deep portion as soon as released by the trip, so that it is at all times in position to catch and hold the rod.

E is the trip-lever. It is bent, preferably, into the shape shown, is pivoted near its center between ears *e e*, passes through a suitable slot, *e'*, in the edge of the block, is curved around under the block, and its end passes up into the hole formed at the bottom of the groove and under the ball. The end of the rod is formed into a suitable foot, *e''*, which acts to lift the ball and throw it back from contact with the rod. The outer end of the lever

extends outwardly and slightly upwardly, and on its end is formed a pedal for the foot to rest upon when tripping the ball. The shape and method of pivoting the trip-lever are clearly shown in Fig. 2 of the drawings.

In the operation of the device it is seen that the rod can be turned from left to right to wind the brake, but that it cannot be turned in the opposite direction so long as the ball remains jammed between it and the wall of the groove. In order to release the brake, the pedal end of the trip-lever is depressed, which throws up the opposite end and carries the ball into the wide part of the groove free of the rod, which can then unwind freely.

It will be found that after constant use the friction of the ball will wear a groove around the rod at the lines of its impingement, thereby weakening it. I provide that when such is the case a collar can be shrunk around the weakened portion. I further provide that where the lock is used on the platform it can be let into a suitable recess thereon, and thus made flush with the top of said platform.

I do not confine myself to the specific construction herein shown, and claim the privilege of adopting whatever modifications or alterations may be found advantageous by practical use.

What I claim is—

1. The device for locking brakes, consisting of a ball located in a groove which pitches toward and communicates with the brake-rod, said ball being arranged to bear against the circumference of the rod and prevent it from unwinding by becoming jammed between said rod and the outer wall of the groove, substantially as shown and described.

2. The device for locking brakes, consisting

of a ball located in a groove which pitches toward and communicates with the brake-rod, said ball being arranged to bear against the circumference of the rod and prevent it from turning by becoming jammed between said rod and the outer wall of the groove, and consisting, further, in a trip-lever suitably bent and pivoted, whereby the ball is pushed away from the rod when it is desired to release the brake, as set forth.

3. In a device for locking brakes, the combination of a ball located in a groove pitched toward the brake-rod, said ball being adapted to bear against the rod, whereby it is prevented from unwinding, and of a trip arranged to push the ball away from the rod and release it, as set forth.

4. The locking device for brakes, consisting of a block having cut in its face a groove made wide and shallow at its commencement and deepening with sharp pitch and narrowing toward the brake-rod, communicating with the passage for said rod, of a ball located in the groove and adapted to bear against the rod and jam it by impingement between the rod and wall of the groove, and of a trip journaled to the side of the block, one end passing around under the block and entering a suitable recess under the ball, the outer end being extended outwardly and adapted to be pressed upon by the foot, whereby the ball is pushed away from the rod and the brake is released, substantially as shown and described.

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

CYRUS C. CLAY.

Witnesses:

H. E. DEWEY,
JACOB BRYANT.