2 Sheets—Sheet 1.

W. E. COOPER.

Car Brake.

No. 23,663. Patented Apr. 19, 1859.

Fig. 2.

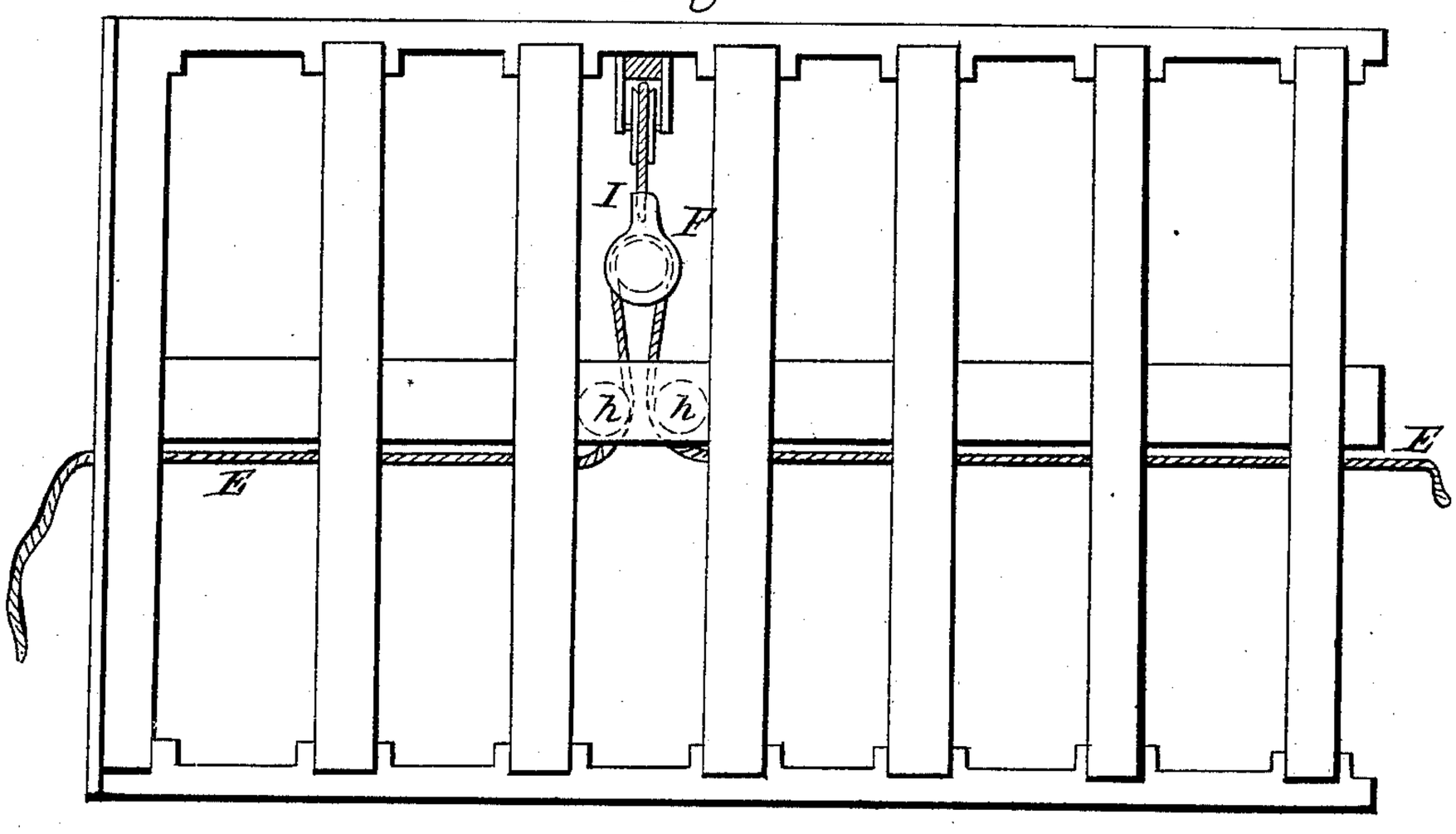


Fig. 1

Witnesses:

A. A. Geatman

C. M. Alexander

Inventor:

W. E. Cooper

2 Sheets—Sheet 2.

W. E. COOPER.

Car Brake.

No. 23,663.

Patented Apr. 19, 1859.

Fig 3

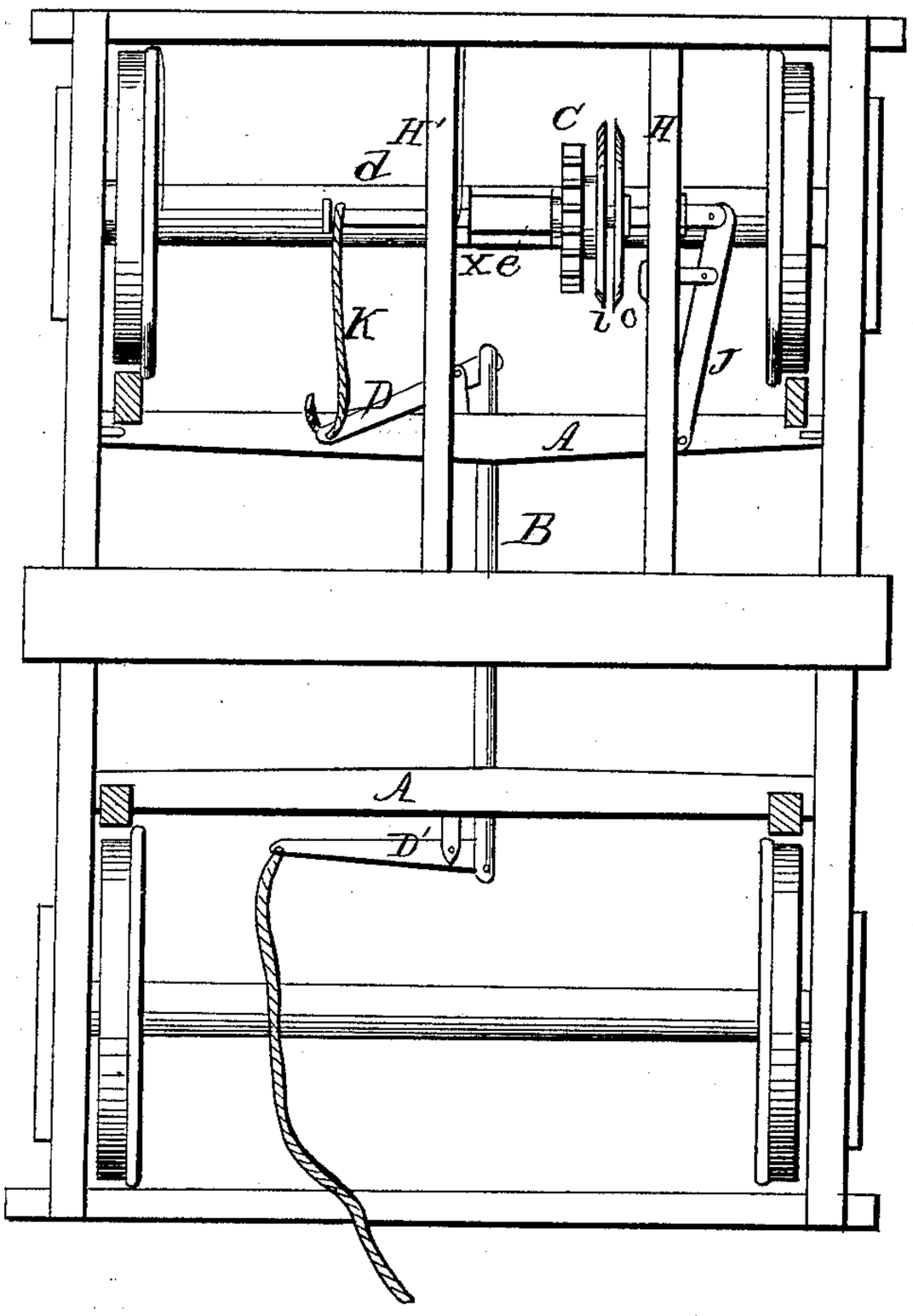
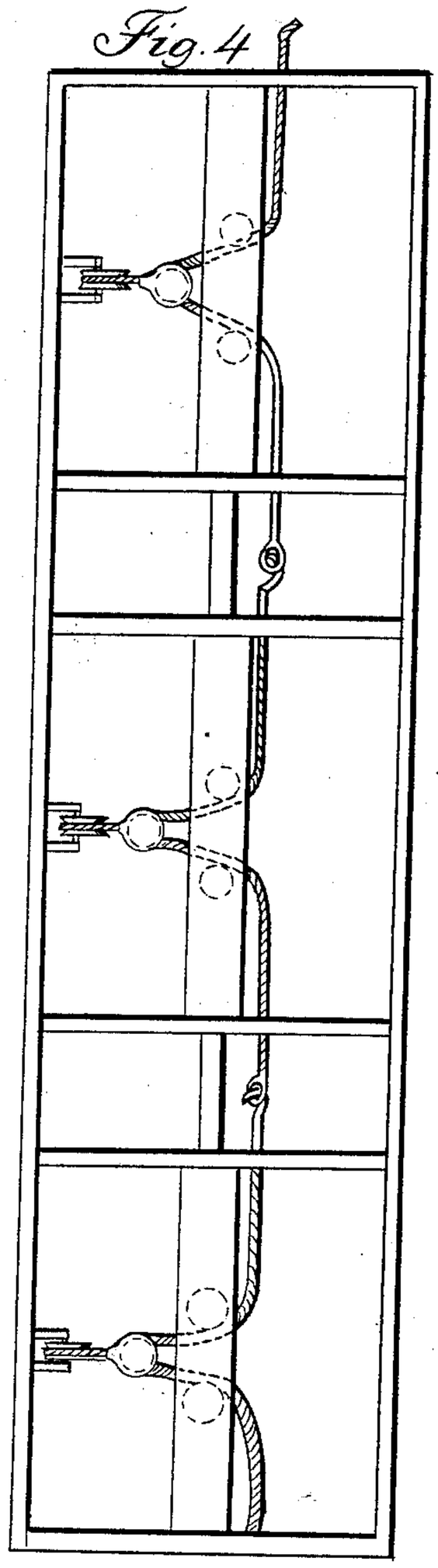


Fig. 4



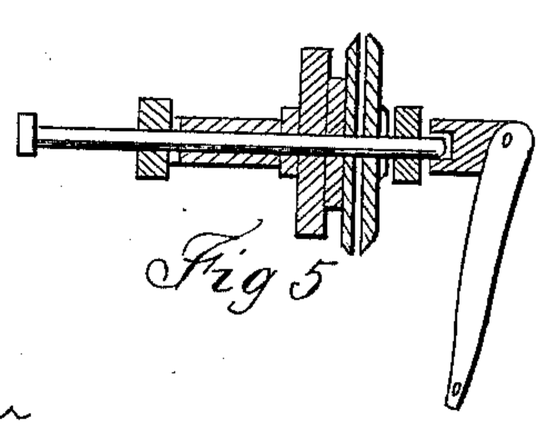


Fig 5

Witnesses:
A A Seaman
C M Alexander

Inventor:
Wm E Cooper

UNITED STATES PATENT OFFICE.

WILLIAM E. COOPER, OF DUNKIRK, NEW YORK.

RAILROAD-CAR BRAKE.

Specification of Letters Patent No. 23,663, dated April 19, 1859.

To all whom it may concern:

Be it known that I, WILLIAM E. COOPER, of Dunkirk, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in the Mode of Operating Railroad-Car Brakes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

In the drawings Figure 1 is a longitudinal vertical section. Fig. 2 is a top view of the car body without cover. Fig. 3 is a plan view of the trucks. Fig. 4 shows a continuous connection of the bell cord and lever cords.

In the construction of my invention I will remark in the first place, that the trucks and the car bodies are constructed in any of the known ways. The brakes may be in any known form, and attached to the trucks in any known manner. The particular mode which I have adopted for the purpose of applying the brakes to the wheels I will now proceed to describe. I provide one of the axles of each truck with a cog wheel *a*, which gears into a cog wheel *c*, which is secured on a short shaft which is located above the axle. Said shaft has its bearings in the frame pieces, H, H′, this cog wheel *c*, is not made fast to said shaft, but is firmly secured to a sleeve which passes over the shaft. To both ends of this sleeve are secured firmly two plates—plate *x* presses against the frame piece H′, while plate *i*, being made larger is pressed against when it is necessary to apply the brakes, by a corresponding plate *o*, which is firmly attached to the shaft *d*, which passes through the sleeve *e*.

J, is a lever which is provided at one end with a rod which has a socket in its end, into which one end of the shaft *d*, is received. A cord I, is attached to the other end of said lever for the purpose of operating it. When pressure is applied to this lever, it will be seen that the shaft *d*, is shoved endwise, and the two plates *i*, and *o*, are made to come in contact. This produces a degree of friction which causes the shaft *d*, to revolve.

A, represents: the brake bars,—to either end of which bars are attached the brake blocks. A rod B, connects the two brake bars, on each truck, by being connected to the ends of levers secured firmly to said bars. D, D′, represent said levers. A cord *k*, connects one end of lever D, with the shaft *d*, and when said shaft *d*, is made to revolve, said cord *k*, winds around said shaft, draws upon the lever D, and thus causes the brake blocks to act against the wheels of the car. The cord I, which is secured to one end of lever J, passes up through the body of the car and near the top of the car passes around a pulley *n*, and attaches to one side of a movable pulley block, F. In a small frame attached to the ceiling of the car are secured two pulleys, *h h*. The bell cord E, passes over one of said pulleys, then around the pulley in the movable pulley block, and then over the other pulley *h*, as is represented in the drawing, Fig. 2. The bell cord passes on from one car to another, but is connected in every car with the cord which leads down to the brake. Thus the whole series of brakes are connected together from one end of the train to the other; and when the cord E, is drawn at any point in the car all of the brakes are acted upon simultaneously. The brakes may be applied by the conductor of the train, by the brakeman, or by any or all of the passengers within the cars. As the bell cord runs forward to the engine it is evident that the engineer or fireman in any apprehended danger may apply all of the brakes immediately.

The arrangement of the bell cord herein represented may be applied to any of the present car brakes on the principal roads. The mode of applying the brake blocks which I have herein described is not a necessary part of my invention, as I may attach the cord I, to any other series of devices for accomplishing the desired object. I set the brakes in my invention by drawing upon the bell cord, and they may be drawn off by springs as is ordinarily the case.

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

The arrangement of the bell cord E, pulleys *h h*, and *n*, and movable pulley block, F, with the brake cord, I, the same being connected and operated substantially in the manner herein set forth for the purpose of setting all of the brakes in the entire train simultaneously and from any point within the train as is fully described.

WM. E. COOPER.

Witnesses:

C. M. ALEXANDER,

A. A. YEATMAN.