

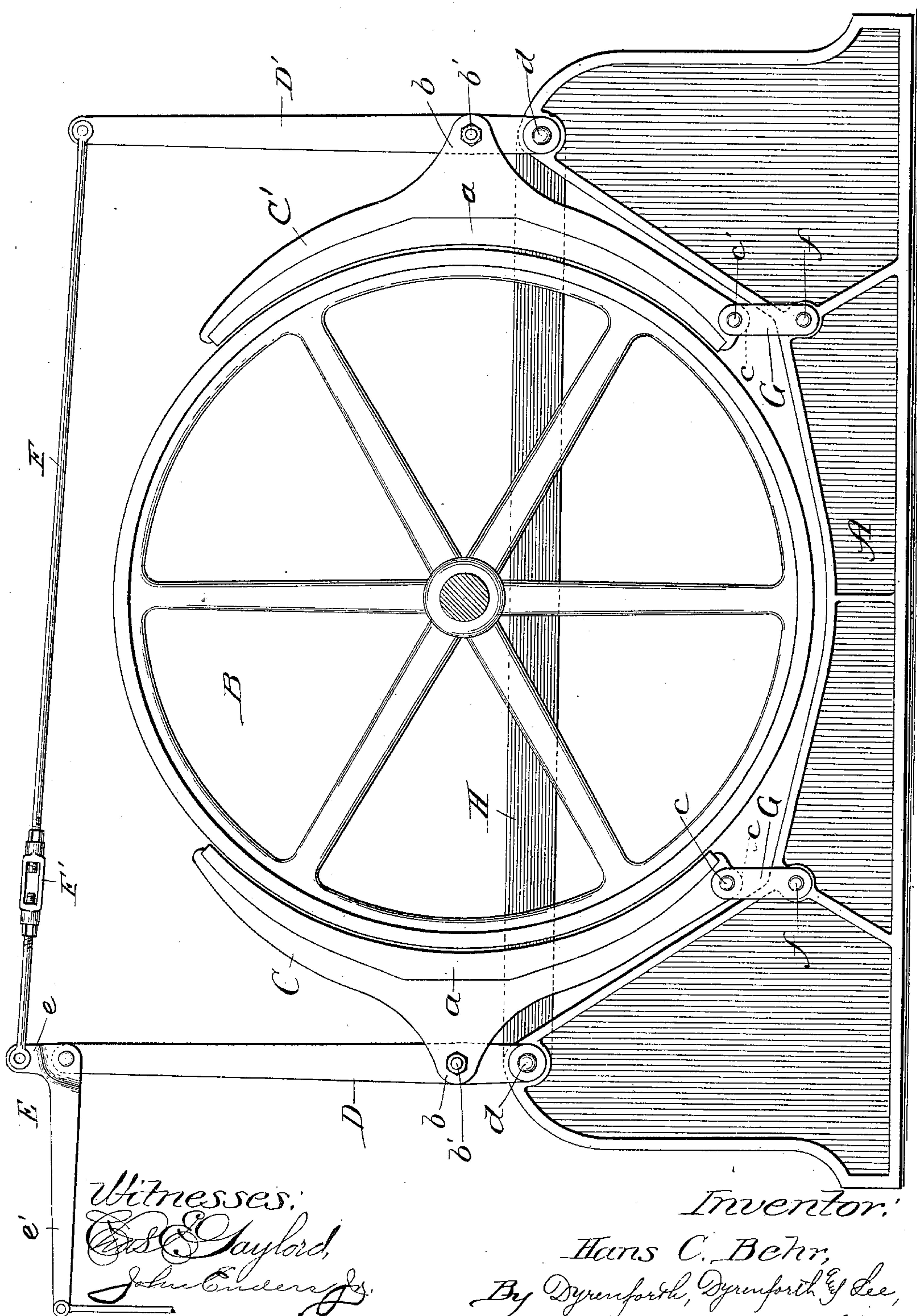
No. 663,597.

Patented Dec. 11, 1900.

H. C. BEHR.
BRAKE.

(Application filed June 27, 1900.)

(No Model.)



UNITED STATES PATENT OFFICE.

HANS C. BEHR, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO THE
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BRAKE.

SPECIFICATION forming part of Letters Patent No. 663,597, dated December 11, 1900.

Application filed June 27, 1900. Serial No. 21,772. (No model.)

To all whom it may concern:

Be it known that I, HANS C. BEHR, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented a new and useful Improvement in Brakes, of which the following is a specification.

My invention relates to improvements in brakes, and while it is devised more especially for use in hoisting machinery it is not to be limited to use in any particular connection.

In all brake mechanism of the class to which my invention relates and of which I am aware the brake-blocks are pivotally mounted on levers in such a manner that they may turn independently to cause the shoes to find their bearings after contacting with the brake-wheel, with the result of unequal pressure and wear in use, or the levers which carry the brake-blocks are supported to move in such a manner that the pressure and consequent wear of the shoes becomes greater at one end portion than at the other.

My object is to provide brake mechanism of an improved construction which will operate positively to move the brake-shoes simultaneously and equally throughout their bearing-surfaces into and out of braking engagement with the brake-wheel.

The drawing shows a brake wheel or drum provided with my improved brake mechanism.

A is a stationary bed-frame, and B a brake wheel or drum to which the brakes are applied.

C C' are brake-blocks each fitted in any approved manner with a brake-shoe *a*, having a bearing-face of the same arc as the circumferential face of the wheel B. The brake-blocks are provided on their rear sides, preferably midway between their ends, with bearing-ears *b* and at their lower ends with bearings *c*.

D D' are brake-levers pivotally connected near their lower ends to pins *b'* on the ears *b* of the respective brake-blocks. At their lower ends the levers are fulcrumed upon bearing-pins *d* on the bed-frame. The upper end of the lever D is pivotally connected to the angle of a bell-crank lever E, which lever has a short arm *e* and long arm *e'*. A tie-rod F, provided with an interposed turnbuckle

F', is pivotally connected at one end to the short arm *e* of the bell-crank lever and at its opposite end to the upper end of the lever D'.

G G are links pivotally connected at their upper ends to pins *c'*, passing through the ears *c* of the brake-blocks and pivotally connected at their lower ends to pins *f* on the bed-frame. The link G at the brake-block C extends approximately parallel with the lever D, and the distance between its pivots *f c'* is preferably exactly the same as the distance between the pivots *d b* of the said lever, and the link G at the brake-block C' extends approximately parallel with the lever D', and the distance between its pivots *f c'* is preferably exactly the same as the distance between the pivots *d b'* of the lever D'.

In operation a downward pull on the long arm *e'* of the bell-crank lever moves the lever D to the right and the lever D' to the left, whereby the brake-shoes are moved into contact with the brake-wheel. By reason of the link connections G the lower ends of the brake-blocks are moved positively in the arc of a circle, the same as the ears *b*, thereby causing the brake-shoes throughout their lengths to be moved positively in the same way. As the distance of movement between braking and release position of the shoes need be but a small fraction of an inch, the shoes move substantially in a horizontal line and equally throughout, whereby they contact with the wheel simultaneously over their entire braking-surfaces and with equal pressure throughout. Thus wear upon each brake-shoe will be the same over its entire engaging surface, with the result of prolonging the life of the shoe, and the full effect of the entire friction-face of the shoe under equal pressure throughout will be brought against the brake-wheel. The brake-shoes may be adjusted to take up any wear by simply turning the turnbuckle F' to shorten the rod F.

For the purpose of strengthening the bed-frame the brace-bar H is provided.

While I prefer to construct the brake-operating mechanism throughout as shown and described, it may be variously modified, as conditions render necessary or expedient, without departing from the spirit of my invention as defined by the claims.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a brake-wheel, of
5 brake-blocks at opposite sides thereof, an op-
erating-lever for each brake-block to which
the respective block is pivotally connected at
one point in its length, a connection between
the levers, and a swinging link for each brake-
10 block to which the respective block is pivot-
ally connected at another point in its length,
the lever and link at the same side of the
wheel being movable in substantially similar
arcs at their points of connection with the
brake-block.
- 15 2. The combination with a brake-wheel and

bed-frame, of levers fulcrumed at opposite
sides of the wheel upon the bed-frame, a con-
nection between the free end portions of the
levers, brake-blocks pivotally connected at or
near their centers to the levers, and links piv- 20
otally connected at opposite ends respectively
to the bed-frame and to end portions of the
brake-blocks, the levers and links being mov-
able in substantially similar arcs at their
points of connection with the brake-blocks. 25

HANS C. BEHR.

In presence of—

D. W. LEE,

A. D. BACCI.