(No Model.)

C. M. STURGIS.

CAR BRAKE.

No. 339,597. Patented Apr. 6, 1886.

Fig. 1

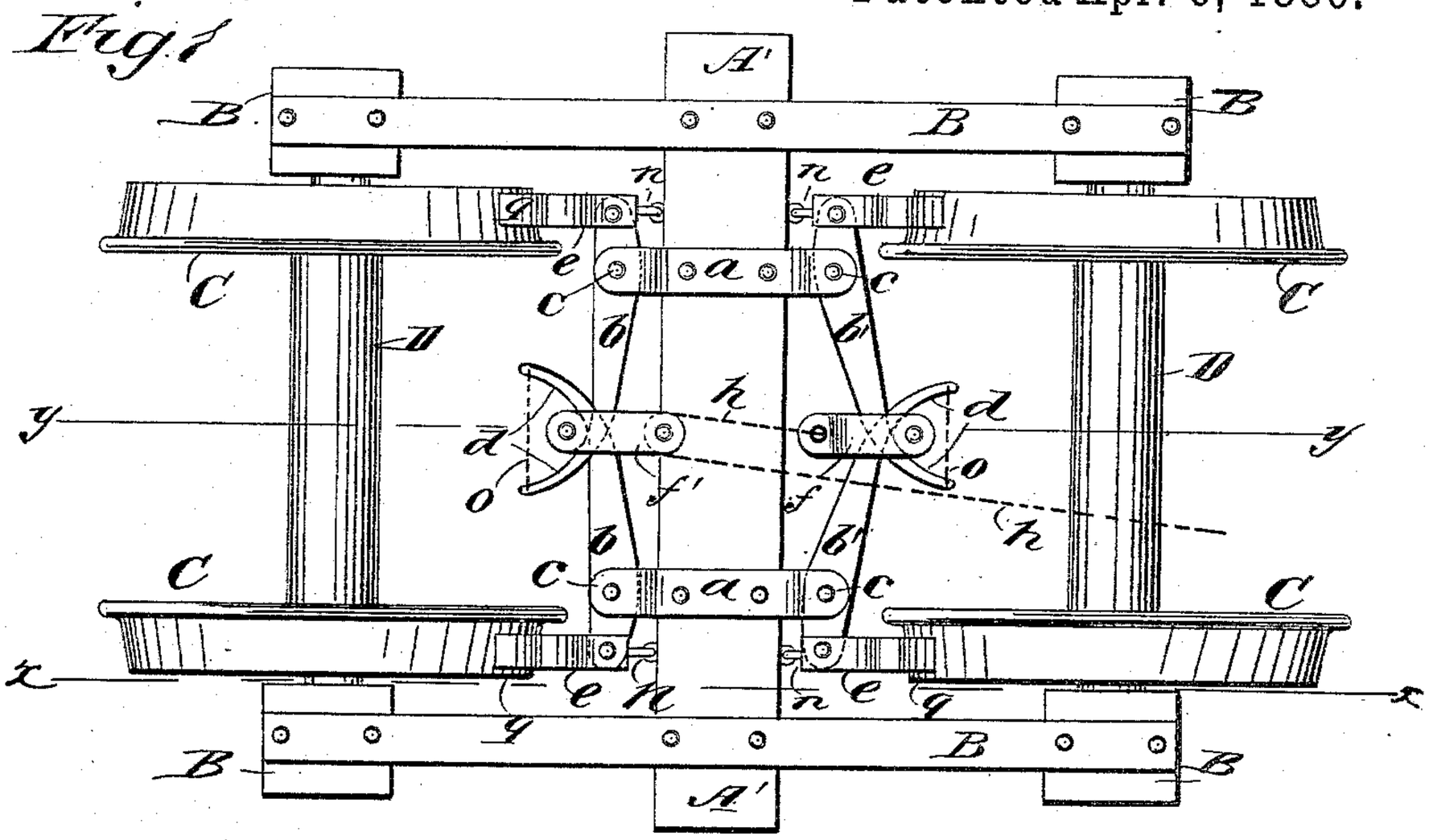


Fig. 2.

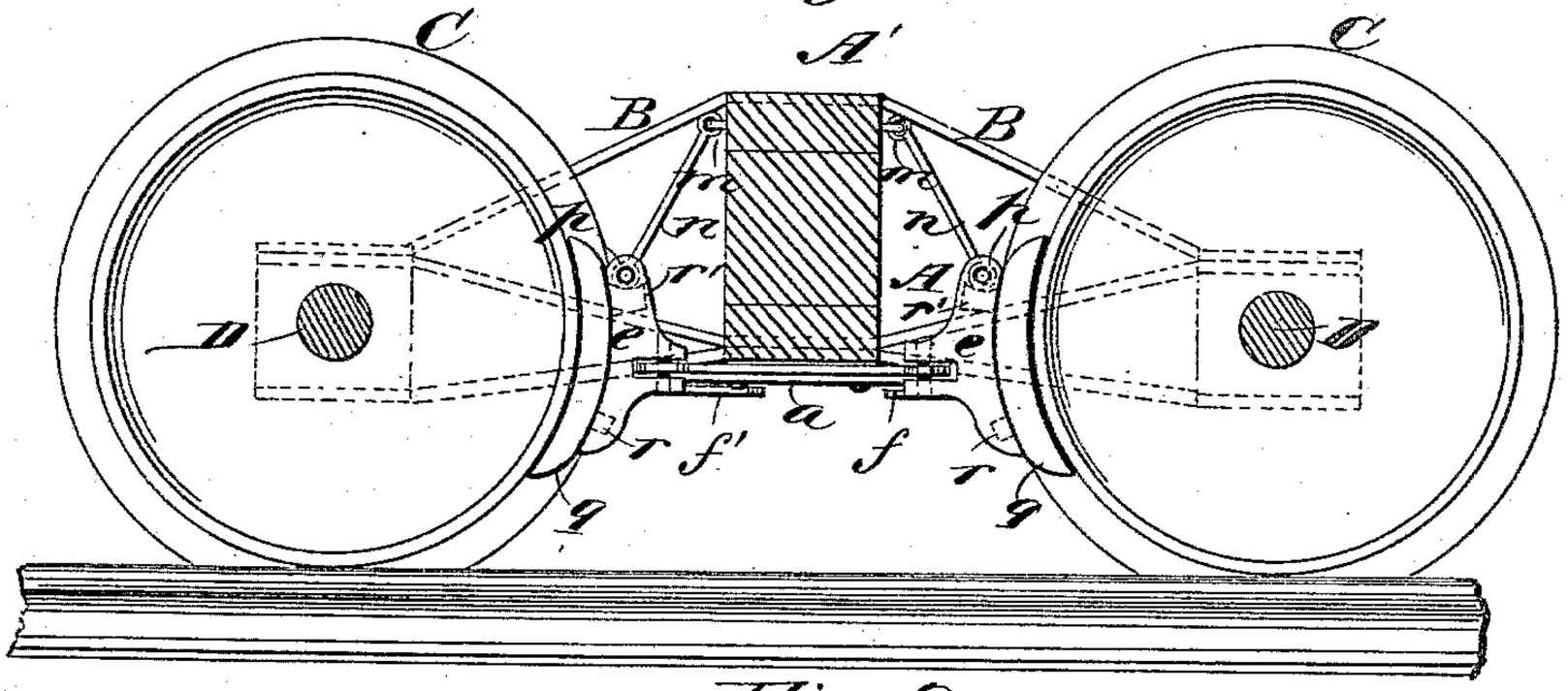


Fig. 3

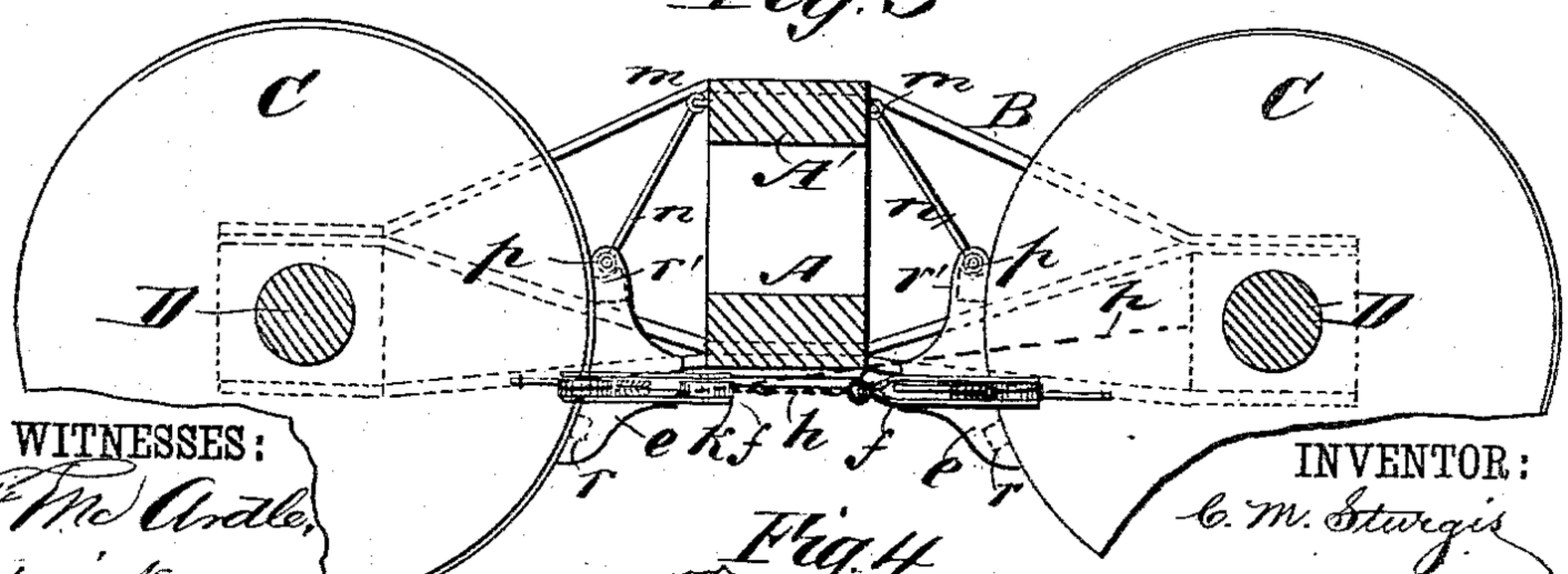
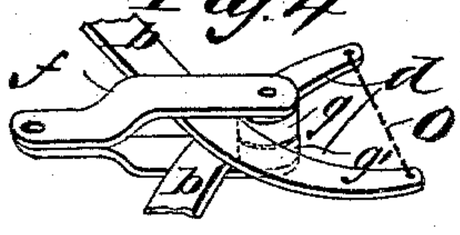


Fig. 4



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UNITED STATES PATENT OFFICE.

CHARLES M. STURGIS, OF BIRMINGHAM, ALABAMA, ASSIGNOR TO HIMSELF, THOMAS M. DE EARHEART, AND ALEXANDER O. LANE, ALL OF SAME PLACE.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 339,597, dated April 6, 1886.

Application filed September 8, 1885. Serial No. 176,489. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. STURGIS, of Birmingham, in the county of Jefferson and State of Alabama, have invented a new and Improved Car-Brake, of which the following is a full, clear, and exact description.

The invention relates to improvements in car-brakes; and it consists in the peculiar construction and arrangement of parts, as hereinafter fully described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a view of the under side of a truck with my invention applied thereto. Fig. 2 is a sectional view taken on line *x x* of Fig. 1, the truck and connections being, however, shown in their normal upright position. Fig. 3 is a sectional view taken on line *y y* of Fig. 1; and Fig. 4 is a perspective view illustrating in detail the construction of the lever-arms and operating-blocks.

Referring now to the general construction illustrated in the drawings, A A′ represent the central timbers of the truck, from which, as is usual, the various braces which support the journal-bearings branch off. These bearings are outlined at B B, and the axles which carry the wheels C C are shown at D D. Two cross-bars, *a a*, are rigidly secured to the under side of the timber A, preferably so as to be slightly within the line of the flanges of the wheels C C, as is best shown in Fig. 1. The projecting ends of the bars *a a* are slotted, and in the slots so formed I insert levers *b b* and *b′ b′*, which are pivotally connected to the bars *a a* by bolts *c c*. The short arms of these levers are pivotally connected with the brake-heads *e e*, while the ends of the long arms overlap and curve outward, as shown at *d d*. The overlapping ends of the levers *b b* and *b′ b′* pass through blocks *f* and *f′*, which carry sheaves *g g′*, arranged to bear upon the outer faces of the lever-arms, the two blocks being connected by a chain, *h*, which is made fast to the block *f*, and passed about a sheave, *k*, which is mounted in the block *f′*, the chain *h* being finally carried to the brake-spindle, which is operated by the ordinary form of hand-wheel. The brake-heads *e e* are supported by the hanger-arms *n n*, which are secured to the timber A′ by the eyes *m m*, the heads *e e* being slotted to receive the lower ends of the arms *n n*, which are held in place by bolts *p p*, which also serve to retain the brake-shoes *q q*, as will now be explained. The shoes *q q* are formed with two lugs, *r r′*, upon their rear side, said lugs being arranged to fit within correspondingly-placed recesses or slots in the brake-heads. The recess within which the lug *r* rests is formed to fit the lug, which has straight sides; but the recess within which the lug *r′* rests is simply a continuation of the slot entered by the lower end of the hanger bar or arm *n*, the lug *r′* being formed with an upwardly-curved upper side, the rear of which projects above the bolt *p;* and the shoe is prevented thereby from becoming displaced.

From the foregoing description it will be readily understood that by simply winding the chain *h* upon the spindle, to which it reaches, the blocks *f f′* will be brought nearer together, and the long arms of the levers *b b b′ b′* drawn in, which movement will force the brake-heads apart and bring the shoes *q* hard against the treads of the wheels C, thereby preventing the rotation of the wheels, the brakes being relaxed by simply unwinding the chain *h,* when the brake-heads will fall back to their normal position, being suspended from above by the arms *n n*, as stated.

Instead of being secured beneath the timber A, the bars *a a* might be placed above such timber, and in certain cases this change of position would be desirable.

To prevent the blocks *f f′* from becoming displaced, I connect the ends of the levers *b b* and *b′ b′* by chains, as *o*.

When such a brake as has been described is required for both trucks, the chain *h* is branched, one end going to the nearest spindle, and the other over a sheave to a long rod that is suspended beneath the car and connected in a similar manner to the chain of the other truck.

I am aware that angular brake-levers pivoted together at their angles have had pulleys arranged between the longer arms of the oppo-

site levers, around which pulleys a cord passes to the brake-spindles; and I therefore do not claim such invention.

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

1. A brake mechanism consisting of levers pivotally connected with the truck and brake-heads, a movable guide-block through which the long arms of the said levers project, and a chain leading to the ordinary manipulating mechanism, as set forth.

2. In a brake mechanism, the combination, with the truck-frame and its wheels, of levers *b b* and *b' b'*, supported in pivotal connection with the truck and being pivotally connected to the brake-head, blocks *f f'*, carrying sheaves *g g'*, and connected by a chain, as *h*, secured to one of the blocks and passing about a sheave carried by the other and leading to a manipulating mechanism, substantially as described.

3. In a brake mechanism, the combination of the following elements: truck frame and wheels, brake-heads *e e*, suspended by arms *n n*, and pivotally connected to levers *b b* and *b' b'*, that are operated by sheaves *g g'*, carried by blocks *f f'*, connected by a chain, *h*, which leads to the ordinary form of manipulating mechanism, substantially as described.

4. In a brake mechanism, the combination of the following elements: truck frame and wheels, brake heads and shoes *q q*, suspended by arms *n n*, pivotally connected by levers *b b* and *b' b'*, chains *o o*, blocks *f f'*, and chain *h*, leading to any ordinary form of manipulating device, substantially as described.

CHARLES M. STURGIS.

Witnesses:
SEARS LOVETT,
WILLIAM LOVETT.