(No Model.) 2 Sheets—Sheet 1.

R. CLARK.

DRAFT ATTACHMENT FOR CARS.

No. 497,264. Patented May 9, 1893.

Fig. 2.

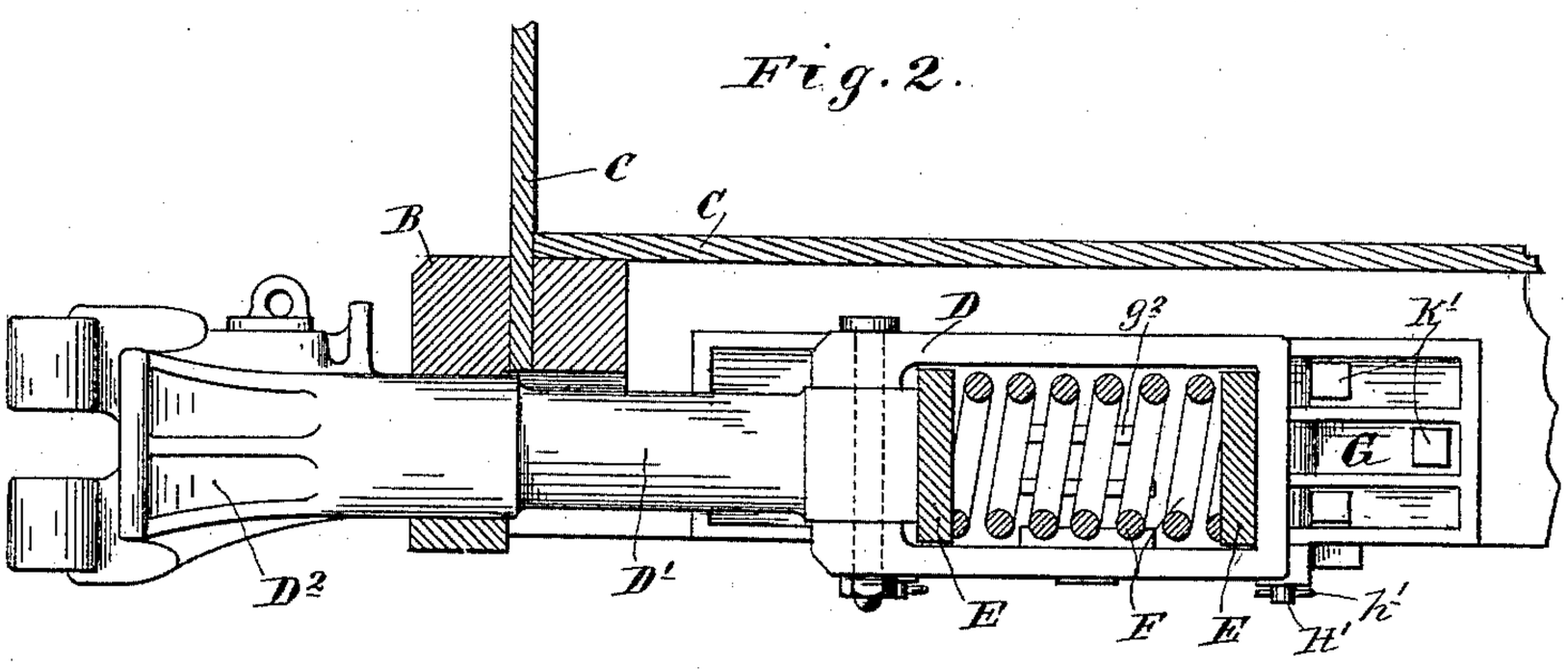


Fig. 1.

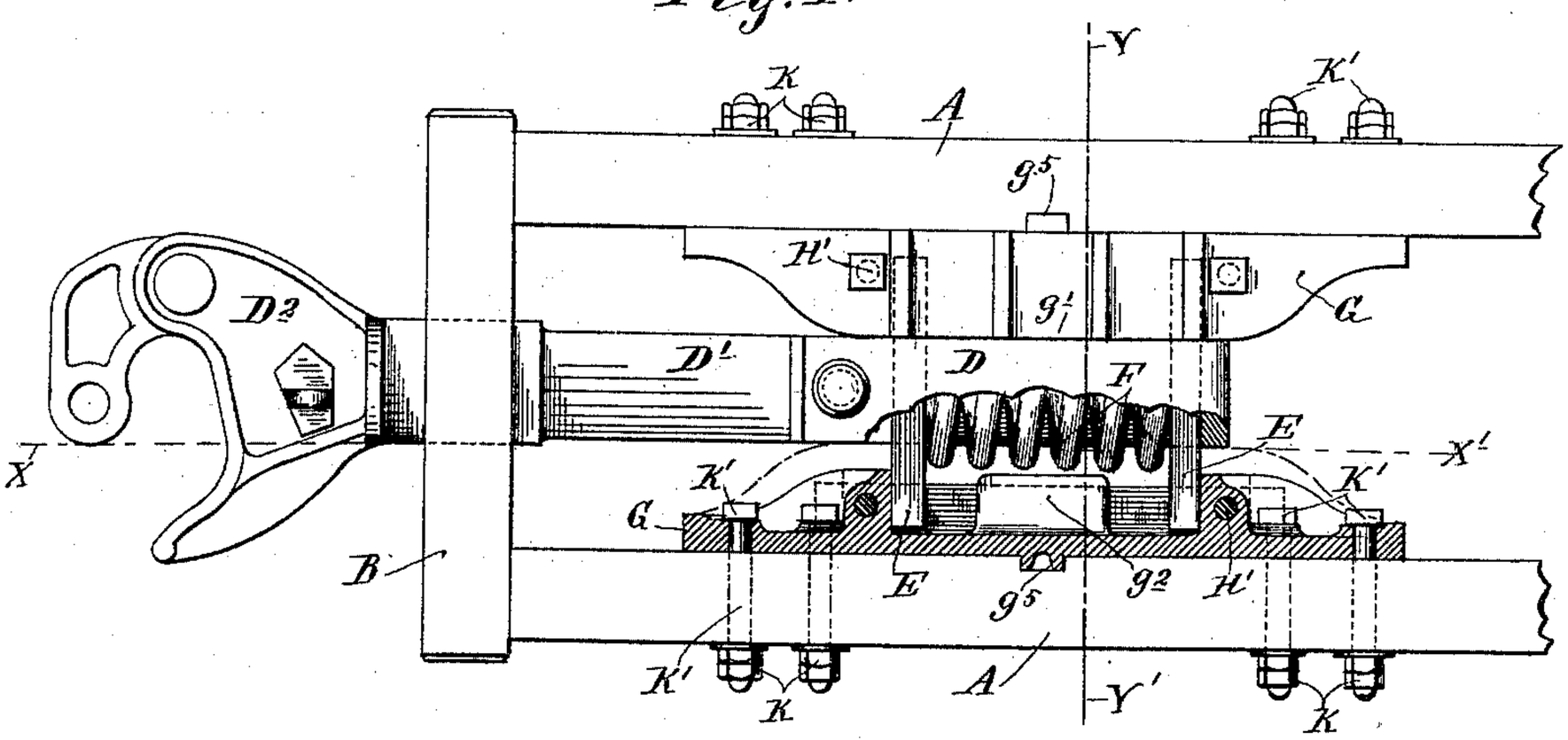


Fig. 3.

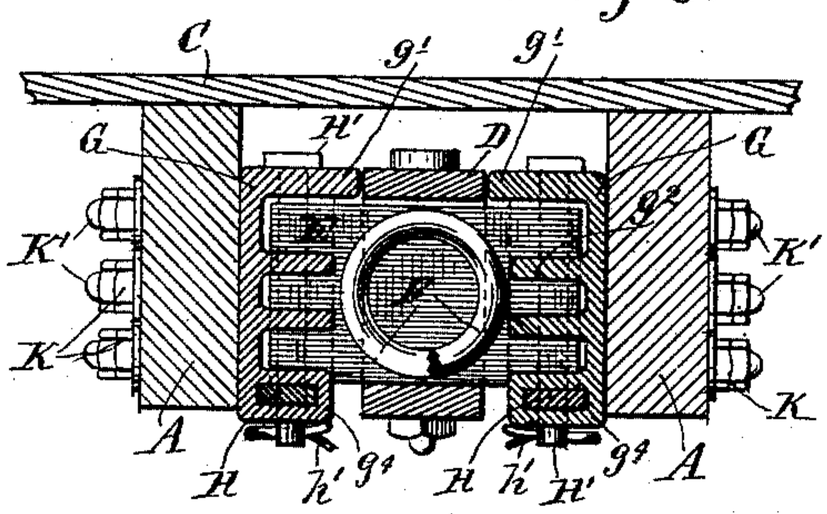
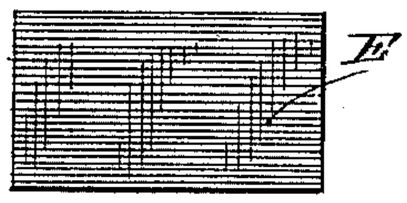


Fig. 4.



Witnesses.
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Paul D. Merchant.

Inventor.
Roselle Clark
By his attorney.
Jas. F. Williamson

(No Model.) 2 Sheets—Sheet 2.

R. CLARK.

DRAFT ATTACHMENT FOR CARS.

No. 497,264. Patented May 9, 1893.

Fig 6.

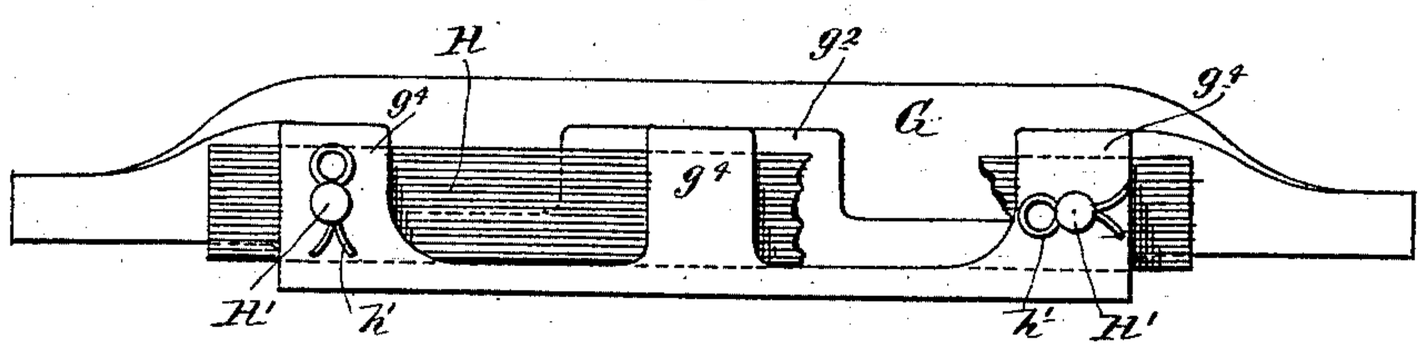


Fig. 5.

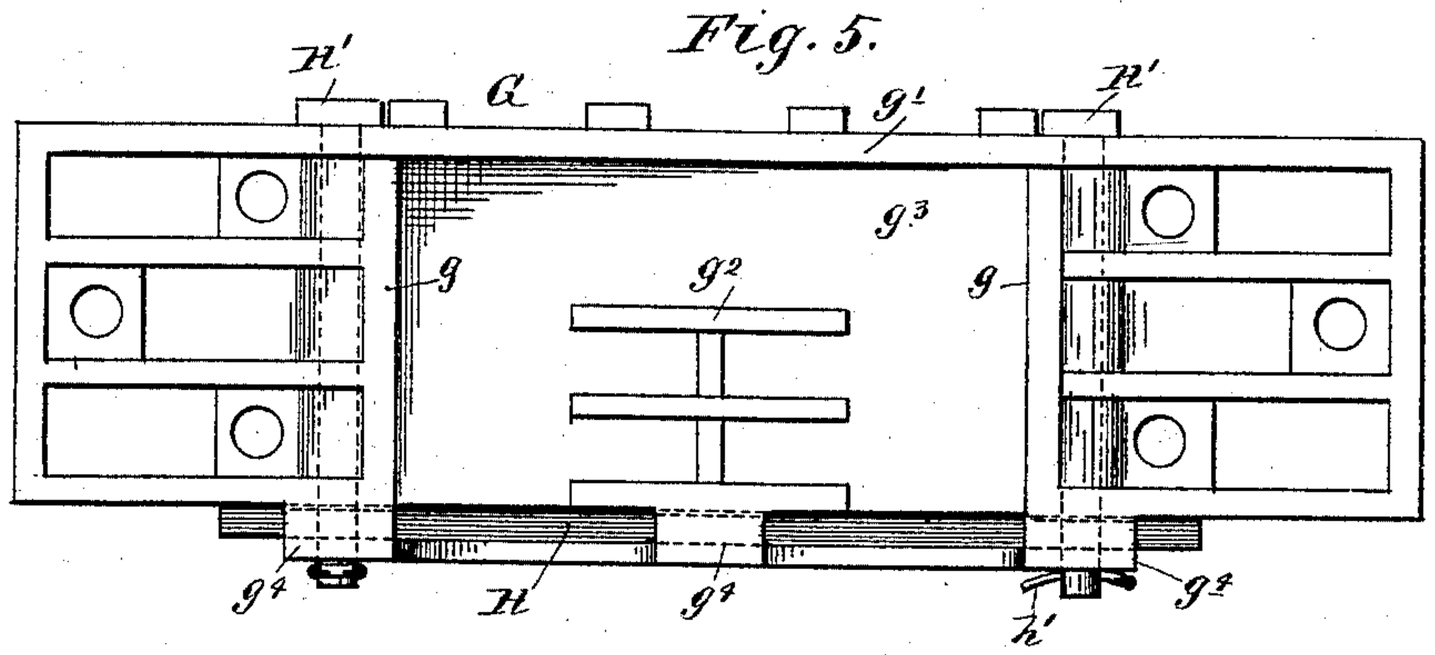
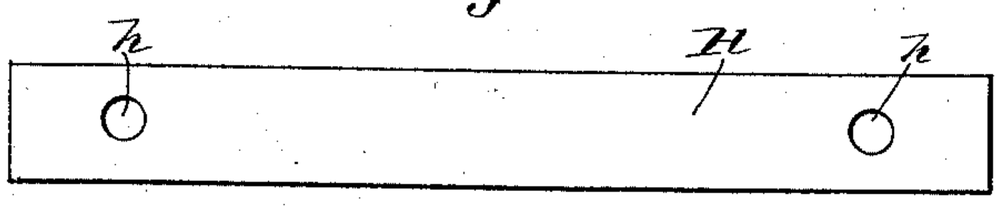


Fig. 7.



Witnesses.
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Frank L. Merchant.

Inventor.
Roselle Clark
By his attorney.
Jas. F. Williamson

UNITED STATES PATENT OFFICE.

ROSELLE CLARK, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF TWO-THIRDS TO RALPH W. JACOBS AND JAMES CLEMENCE, OF SAME PLACE.

DRAFT ATTACHMENT FOR CARS.

SPECIFICATION forming part of Letters Patent No. 497,264, dated May 9, 1893.

Application filed January 13, 1893. Serial No. 458,232. (No model.)

To all whom it may concern:

Be it known that I, ROSELLE CLARK, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Draw-Bar Draft Attachments; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to draft attachments for draw-bars of railway cars. A large amount of trouble to trainmen, delay to traffic and expense to railways is caused by the breakage and impairment of draw-bar draft attachments. One of the large items of expense in the car department, especially in the freight service, is for the maintenance of draw-bars.

In the construction, most generally hitherto used, tail-bolts have been employed to hold the spring and spring-pocket in position. As thus made, all the lateral strain at the rear end of the draw-bar, such as arises, for example, when the train is rounding curves falls on the tail-bolts, resulting in frequent breakage of the bolts and the displacement or breakage of the springs. To obviate this trouble with the tail-bolt, another construction was designed, which has come more or less into use, wherein the spring is held in its pocket by short spuds, projecting from the followers. With this construction, however, the pocket will slip or sheer sidewise on the followers, under lateral strain, thereby buckling and quickly destroying the spring.

Another source of annoyance with all existing constructions hitherto used, so far as I am aware, is the frequent loss of the straps which uphold the followers. These straps have hitherto been bolted to the under surfaces of the draft lugs. The whole downward strain from the followers and draw-bar was therefore taken on the strap bolt-heads or nuts, resulting in the frequent loss of the nuts or the breakage of the bolts, and the consequent dropping or breakage of the straps and the displacement or breakage of the followers and draw-bar.

My invention is designed to meet the existing necessities of the service as brought to my notice in a large practical experience; and has for its object to overcome all the above noted defects, and, at the same time, secure a comparatively simple and cheap construction.

To these ends, my invention consists in the novel devices and combinations of devices hereinafter fully described and defined in the claims.

The accompanying drawings illustrate my invention as applied in use, wherein, like letters referring to like parts throughout, Figure 1 is a plan view of a draw-bar and my improvements in working position, some of the parts being removed and others broken away. Fig. 2 is a vertical longitudinal section, substantially on the line X X′ of Fig. 1 and through a part of the superimposed car-body. Fig. 3 is a cross section on the line Y Y′ of Fig. 1, looking toward the front. Fig. 4 is a detail, showing one of the followers detached. Fig. 5 is an inside or face view in elevation, of one of the castings containing one pair of the draft lugs and other co-operating parts. Fig. 6 is a bottom view of the casting shown in Fig. 5, with a part of the strap broken away. Fig. 7 is a detail, showing one of the straps detached.

A A represent the draft-timbers and B the front end beam all of the ordinary well-known construction.

C C represent parts of the car-body.

D D′ D^2 represent an ordinary draw-bar, of which parts, D is the pocket, D′ the shank or stem, and D^2 the coupler head, which may, of course, be of any suitable kind.

E E are the followers and F the spring within the pocket of the draw-bar and between the follower plates E.

G is a casting of malleable iron, containing on its inner face, one set of draft-lugs g, a guide-flange g' for the pocket of the draw-bar and centrally located flanges g^2 constituting guide-surfaces for the spring F. The draft-lugs g, the pocket-guide g' and the spring guide g^2 are all formed integral with a common connecting plate g^3, which constitutes the body of the casting and a backing surface against which the ends of the followers E work, when in position. The casting G is also provided with keeper-like strap-seats g^4, for receiving

the straps H, which uphold the follower plates. The strap-seats g^4 are constructed, to permit the insertion and removal of the straps H endwise, and when the straps are in position, the strain thereon from the followers and draw-bar will be taken entirely on the keeper-like seats g^4. The straps are held from endwise displacement, by bolts H′, which are gravity seated in the draft-lug casting and work through holes h in the strap, and preferably also through corresponding holes in the strap seats g^4, and are positively held by cotters h', working through the projecting ends of the bolts below the seats. The casting G is provided on its back with projections g^5, which, when the castings are in position, are embedded in suitable seats cut in the draft timbers; and the casting is held in position by strong bolts and nuts K K′, working through the casting and the draft timbers. When the parts are in working position, they will appear as shown in Figs. 1, 2 and 3. The top of the pocket will then be held and guided by the horizontal top-flanges g', which will thereby prevent any lateral movement of the pocket and always constrain the rear end of the draw-bar to move in a straight line parallel to the draft timbers. The spring F rests loosely in the pocket between the followers E at its ends and the centrally located side flanges g^2, which constitute side bearing surfaces for the spring, which in co-operation with the other parts holds the spring to a straight line movement in the compressing and the expanding action of the same. There can be no displacement of the spring, as long as the followers are in position, and there can be no buckling of the same, under any strain thereon from the draw-bar. The ends of the followers work against the metallic backing surface or connecting plate g^8 of the casting G and on the straps H. They have therefore, metallic surfaces throughout against which to work. The fact that the draft-lugs and guide flanges are all integral with each other on a common casting, affords great strength and distributes the strain from the draw-bar over a large surface on the draft timbers. In virtue of the fact, that the followers and the spring are loosely held in their working positions, and are all independent of each other, the substitution of a new spring or a new follower, is easily made, requiring but a little time. In virtue of the general construction and arrangement of the parts, these draft-attachments are much less liable to breakage or displacement, and are much more durable in service. The repair account is greatly reduced; and when repairs are required they can be much more easily and cheaply made.

It will of course be understood, that changes might be made in some of the minor features and details of the construction. For example, one bolt H′ might be quite sufficient to retain one of the straps H in position, but the use of two bolts gives double security. Again, the spring-guides g^2 might be continuous raised surfaces, instead of projecting flanges as shown.

It should be especially noted, that any of the well-known standard draw-bars, whether of the spindle, tail-bolt or spud-variety, will work with my pocket guides and spring guides, and hence may be applied, if desired, for repairs, or temporary use on foreign cars. The custom among railways, is to keep in stock a lot of extras of the spindle variety of draw-bars and to insert the same whenever necessary, to provide a substitute draw-bar on a foreign car. The adaptability of my pocket and spring guides, and other features of the draft-lugs for this purpose is an important advantage in the service. It should be further noted, that in virtue of the manner in which the straps H are secured in position, to-wit: by the keepers g^4 and the bolts H′, in case any one or more of the keepers should be broken, said bolts and their cotters h' would suffice to hold the said strap up in position; or in case screw-threaded bolts were used, nuts would be applied to the same for the purpose of securing the said straps.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with a draw-bar and follower, of draft lugs for the same and fixed flanges cooperating to form a centering guide for the spring pocket of the draw-bar, substantially as and for the purpose set forth.

2. The combination with a draw-bar and followers, of draft-lugs for the same and fixed side-guides for the draw-bar spring, substantially as described.

3. The combination with a draw-bar and followers, of draft lugs for the same, fixed guide flanges for the spring pocket, of the draw-bar and fixed guides for the draw-bar spring, substantially as and for the purposes set forth.

4. The combination with a draw-bar and followers, of a set of continuous draft-lug plates securable to the draft timbers, and provided with one set of flanges cooperating to form a pocket guide, and another set of flanges or raised surfaces cooperating to form a spring-guide, substantially as and for the purpose set forth.

5. The combination with the draw-bar and followers, of draft lugs, each pair of which is formed integral with a continuous connecting plate and provided with keeper-like strap-seats, straps for upholding the followers, and strap-bolts seated in the draft-lugs and working through the said straps, for retaining the same in position, substantially as described.

6. The combination with a draw-bar and followers, of the draft-lugs, each pair of which are integral with a continuous connecting plate, provided with keeper-like strap seats, the straps for upholding the followers insertible into said seats, and one or more strap-bolts gravity seated in the draft lugs and working through said straps, substantially as and for the purposes stated.

7. The combination with a draw-bar and followers, of the draft-lugs, each pair of which are integral with a continuous connecting plate, provided with keeper-like strap seats, the straps insertible endwise into said seats, the strap-bolts gravity seated in the draft-lugs and working through said straps and strap-seats, and cotters working through the ends of the bolts below the keepers, for positively securing the bolts and straps in position, substantially as described.

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

ROSELLE CLARK.

Witnesses:
EMMA F. ELMORE,
JAS. F. WILLIAMSON.