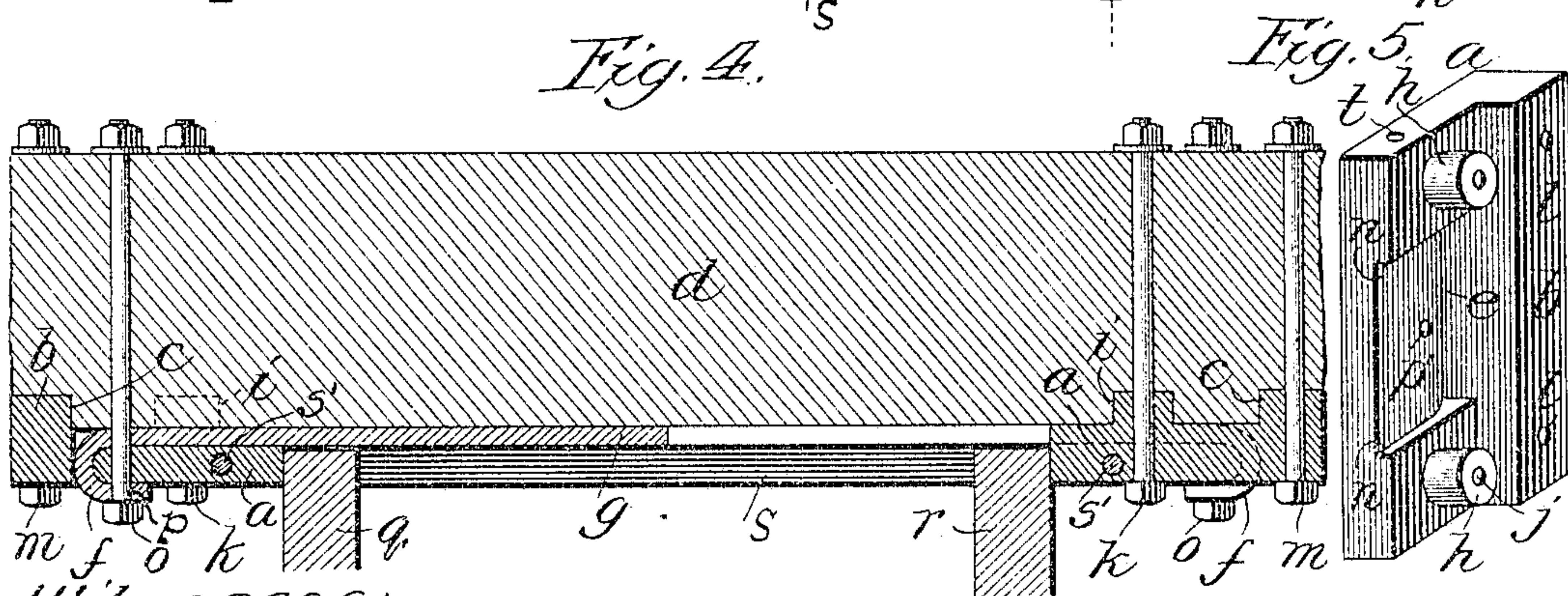
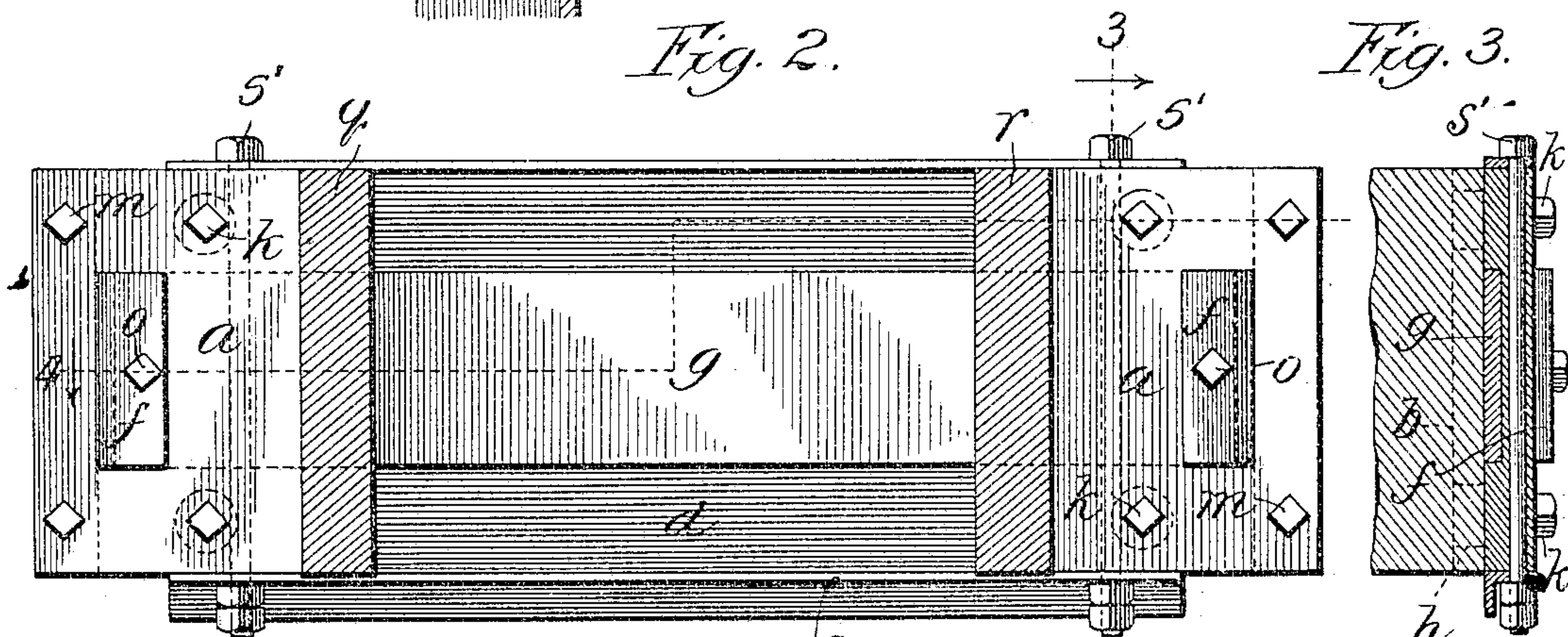
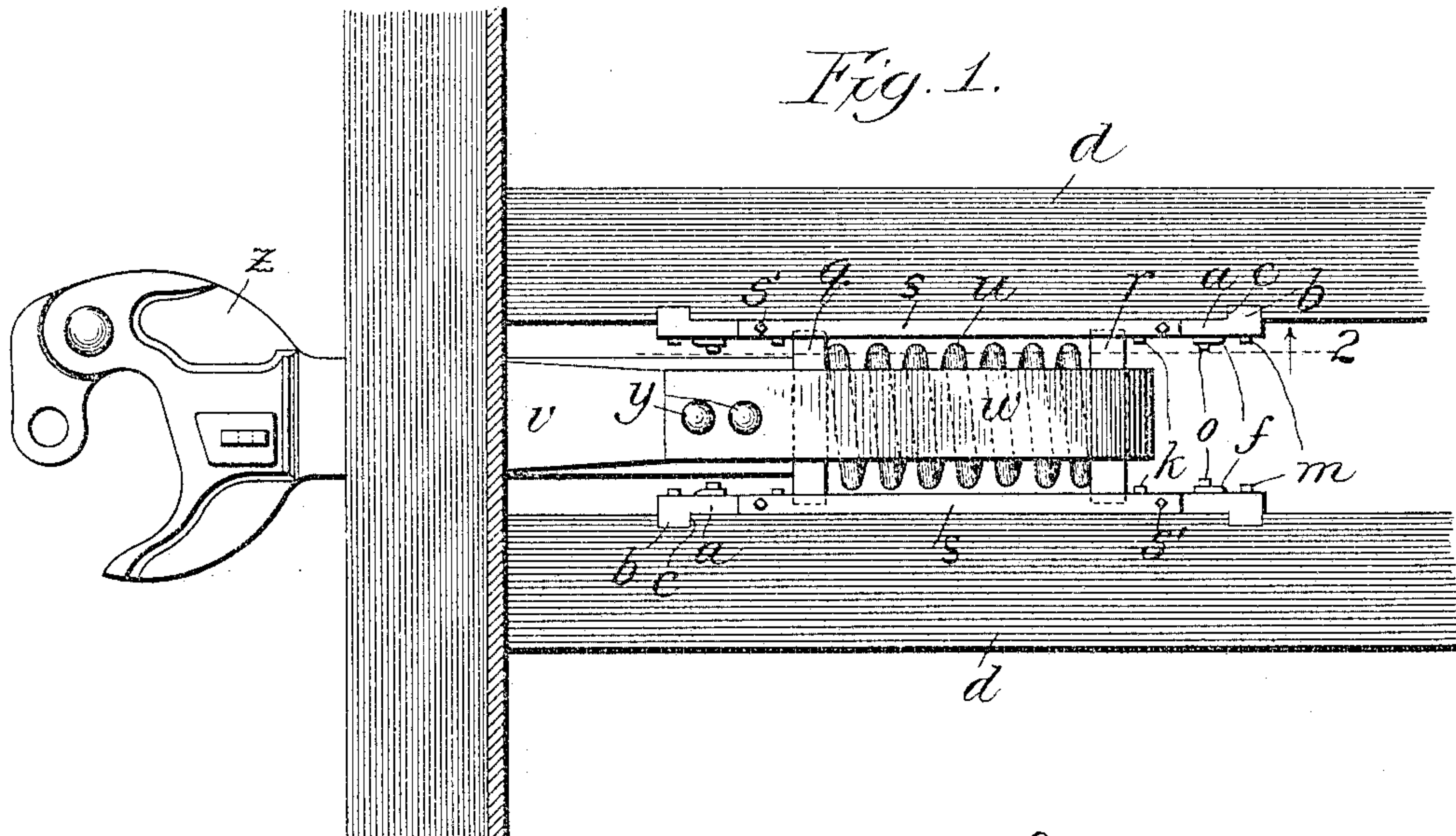


S. OTIS.
DRAFT RIGGING FOR RAILWAY CARS.
APPLICATION FILED SEPT. 21, 1903.



Witnesses:

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DRAFT-RIGGING FOR RAILWAY-CARS.

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To all whom it may concern:

Be it known that I, SPENCER OTIS, of Chicago, Illinois, have invented certain new and useful Improvements in Draft-Rigging for Railway-Cars, of which the following is a specification.

My invention relates to that class of draft-riggings having front and back draft-lugs connected together by means of metallic cheek-plates. The draft-lugs are made, preferably, of metal, while the connecting cheek-plates are made of wrought metal, so as to efficiently withstand the great tensile strains to which such parts are subjected in operation. The cheek-plates are separate from both the upper and lower follower-plate guides or tracks and also separate from the draft-lugs.

The principal object of my invention is to provide a simple, economical, and efficient draft-rigging for railway-cars.

A further object is to provide draft-rigging for railway-cars comprising separate draft-lugs, with means whereby such lugs may be connected by the cheek-plates for the sills in such manner that the strains to which the draft-lugs are subjected are transferred in part from one to the other, thus enabling the front and rear draft-lugs and the cheek-plates to be constructed, placed in operative position, and removed separately and both economically and efficiently.

Other and further objects of the invention will appear from an examination of the drawings and the following description and claims.

My invention consists in the features, combinations, and details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a plan view of a draft-rigging constructed in accordance with my improvements; Fig. 2, a longitudinal sectional elevation taken on line 2 of Fig. 1 looking in the direction of the arrow; Fig. 3, a detail sectional elevation taken on line 3 of Fig. 2 looking in the direction of the arrow; Fig. 4, a sectional plan view taken on the irregular line 4 of Fig. 2 looking in the direction of the arrow, and Fig. 5 a perspective view of one of the draft-lugs.

In constructing a draft-rigging in accordance with my improvements I provide a plu-

ality of draft-lugs *a*, preferably of cast metal, as illustrated in Fig. 5. All of these draft-lugs being identical in construction, a description of one will be sufficient to enable those skilled in the art to understand the same. It is therefore deemed unnecessary to here describe each individual draft-lug in detail. Each of these draft-lugs is provided with a shoulder *b*, which engages one of the follower-plates, and with a projection or tenon *b'* on the opposite side extending transversely of the draft-lug and adapted to fit into a similarly-shaped groove or pocket *c* in the longitudinal sills *d* or other desired portion of a car-frame. Each draft-lug is further provided with an opening *e* therethrough for the admission of one of the curved or hooked ends *f* of a cheek-plate *g*, which is in the form of a wrought-metal strap having hooked ends. Projections *h*, integral with the main body portion of the draft-lugs, are also provided, adapted to fit into pockets *i* in the longitudinal sills of the car, such projecting portions having central perforations *j* therethrough for receiving headed bolts *k*, by means of which the draft-lugs are attached to the longitudinal sills of the car-frame. Perforations *l* in each draft-lug admit headed bolts *m*, which, together with the bolts *k*, above mentioned, serve to hold the draft-lugs firmly in position upon the sills.

In mounting the draft-lugs in operative position the curved ends of the wrought-metal cheek-plates *g*, above mentioned, are placed in the openings in such lugs with their backwardly-folded hooks or end portions resting between the shoulders *n*, and headed bolts *o* are passed through perforations *p* in the hooked end portions of the cheek-plates and through perforations *p'* in the draft-lugs into the sill. The lugs and cheek-plates are thus held firmly in engagement with each other and in operative position upon the sills. The front and rear draft-lugs being thus connected by means of the cheek-plates, as shown in Fig. 4, it will be readily understood that such lugs may be made of cast metal, such as iron or steel, which is well adapted to perform the functions of such elements, while the connecting cheek-plates may be formed of wrought-iron, which is best adapted to with-

stand the tensile strains to which it is subjected in operation. In this way the immense strains to which the draft-lugs are subjected in operation may be distributed or transmitted from the front to the back lugs, or vice versa. Front follower-plates *q* and rear follower-plates *r* are slidably mounted between tracks or upper and lower guides *s* and between the front and rear draft-lugs. The lower follower-plate guide is made, preferably, of angle-iron, and both the upper and lower guides are held firmly in operative position by means of bolts *s'*, which extend through perforations *t* of the draft-lugs. The draft-spring *u* is mounted between these follower-plates, and a draw-bar *v* is provided with a yoke *w*, which extends from the end of such draw-bar backward over the follower-plates and draw-spring and underneath the same, encircling such plates and spring, being attached to the draw-bar by means of bolts *y* or in any ordinary and well-known manner. By this arrangement the front and rear follower-plates are held by the tension of the spring against the front and rear draft-lugs, respectively, and it will be readily seen that when force is applied to the draw-head *z* to pull the car forward the strain to which the front draft-lugs is subjected is communicated to the rear draft-lugs, already described, and that when force is applied, which moves the front follower-plate backward against the tension of the spring, the strain upon the rear draft-lugs is communicated in a similar manner to the front lugs by means of the connecting cheek-plates. It will also be readily apparent that when it is desirable to remove or repair one or more of the draft-lugs or to replace any one or more of them or to remove or replace a worn cheek-plate it can be done without destroying both the front and rear draft-lugs and that the draft-lugs thus constructed separately and of cast metal and connected together by means of wrought-metal cheek-plates possess the great advantages of economy of construction and simplicity and efficiency in operation.

I claim—

1. In a draft-rigging for railway-cars, the combination of separate front and back draft-lugs, a cheek-plate connecting each front

draft-lug with a rear draft-lug and having hooked ends in hooked engagement with such draft-lugs, and means for attaching such draft-lugs and cheek-plates to the car-frame, substantially as described.

2. In a draft-rigging for railway-cars, the combination of separate front and back draft-lugs formed of cast metal and each provided with an opening therethrough for receiving the ends of a metallic cheek-plate, a wrought-metal cheek-plate connecting each front draft-lug with a rear draft-lug and having hooked ends mounted in the openings in such lugs, and means for attaching such draft-lugs and cheek-plates to the car-frame, substantially as described.

3. In a draft-rigging for railway-cars, the combination of a draw-bar provided with a draw-head, a yoke for such draw-bar, follower-plates mounted within such yoke, a draft-spring mounted intermediate such follower-plates, guides between which such follower-plates are slidably mounted comprising a lower guide formed of angle-iron a separate upper guide, cheek-plates formed of a wrought-iron strap connecting each front draft-lug with a rear draft-lug and having hooked ends in hooked engagement with such draft-lugs, and means for holding such draft-lugs and cheek-plates in position upon a car-frame, substantially as described.

4. In a draft-rigging for railway-cars, the combination of a draw-bar provided with a draw-head, a yoke for such draw-bar, follower-plates mounted within such yoke, a draft-spring mounted intermediate such follower-plates, guides for such follower-plates, separate front and back draft-lugs, each provided with an opening therethrough for receiving the ends of a cheek-plate, a metallic cheek-plate provided with hooked end portions extending through such openings in the draft-plates and in engagement therewith, and means for holding such draft-lugs and cheek-plates in operative position, substantially as described.

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Witnesses:

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