(No Model.)

2 Sheets—Sheet 1.

S. D. REYNOLDS.

WAGON.

No. 546,346. Patented Sept. 17, 1895.

Fig. 7.

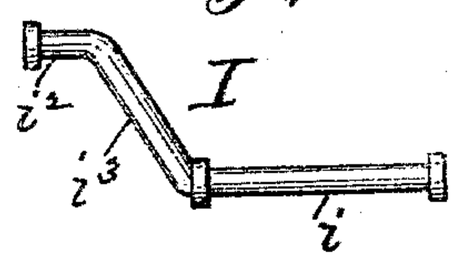


Fig. 5.

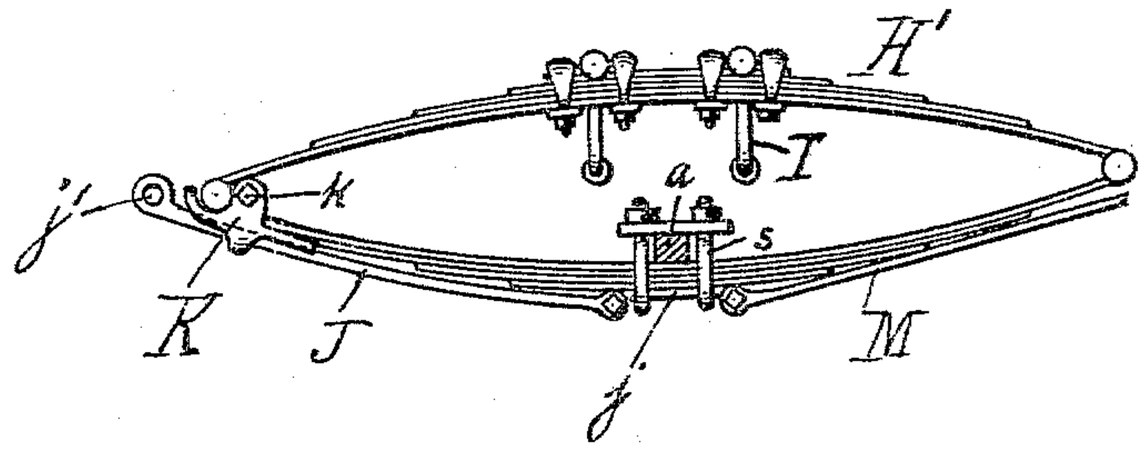


Fig. 1.

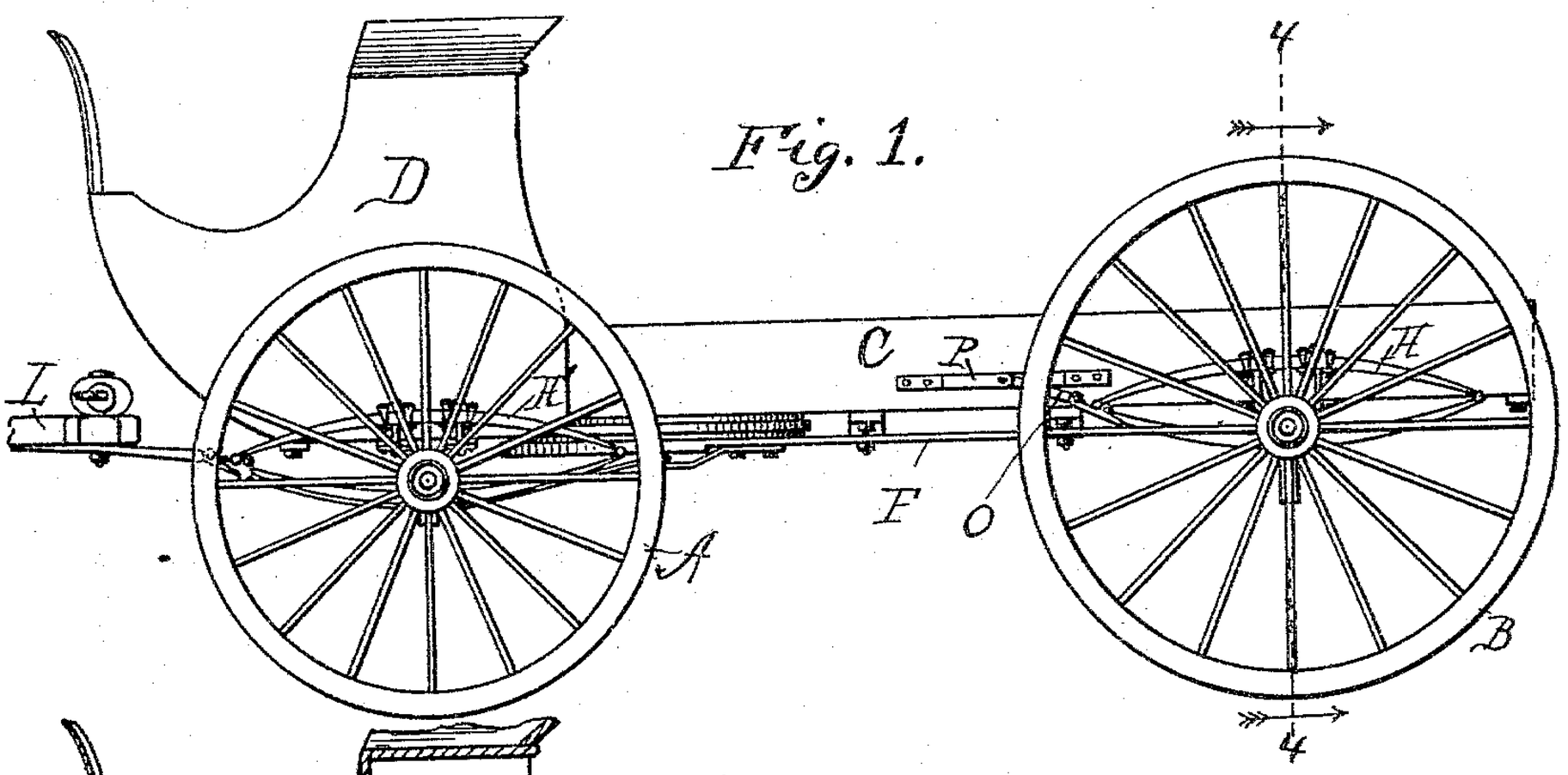
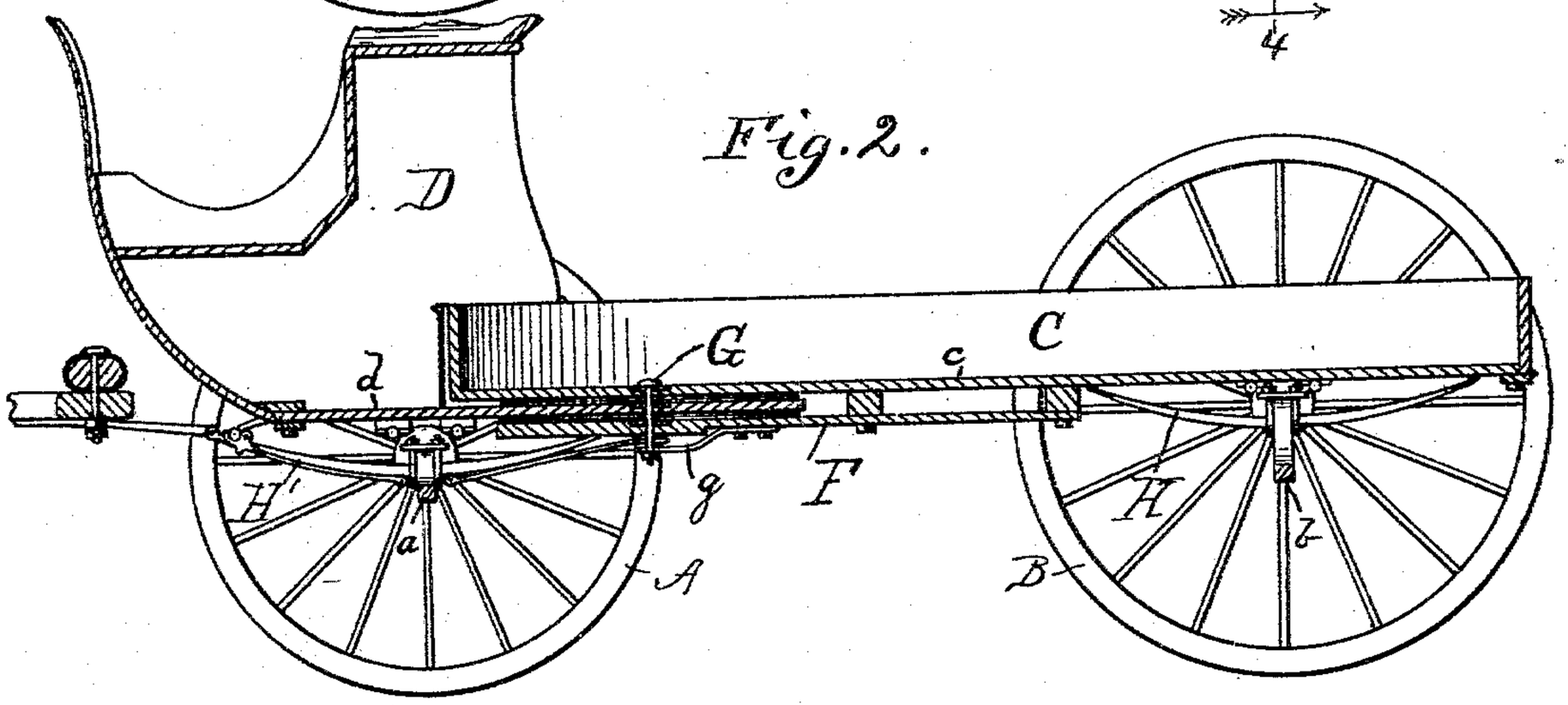


Fig. 2.



Witnesses
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(No Model.) 2 Sheets—Sheet 2.

S. D. REYNOLDS.

WAGON.

No. 546,346. Patented Sept. 17, 1895.

Fig. 3.

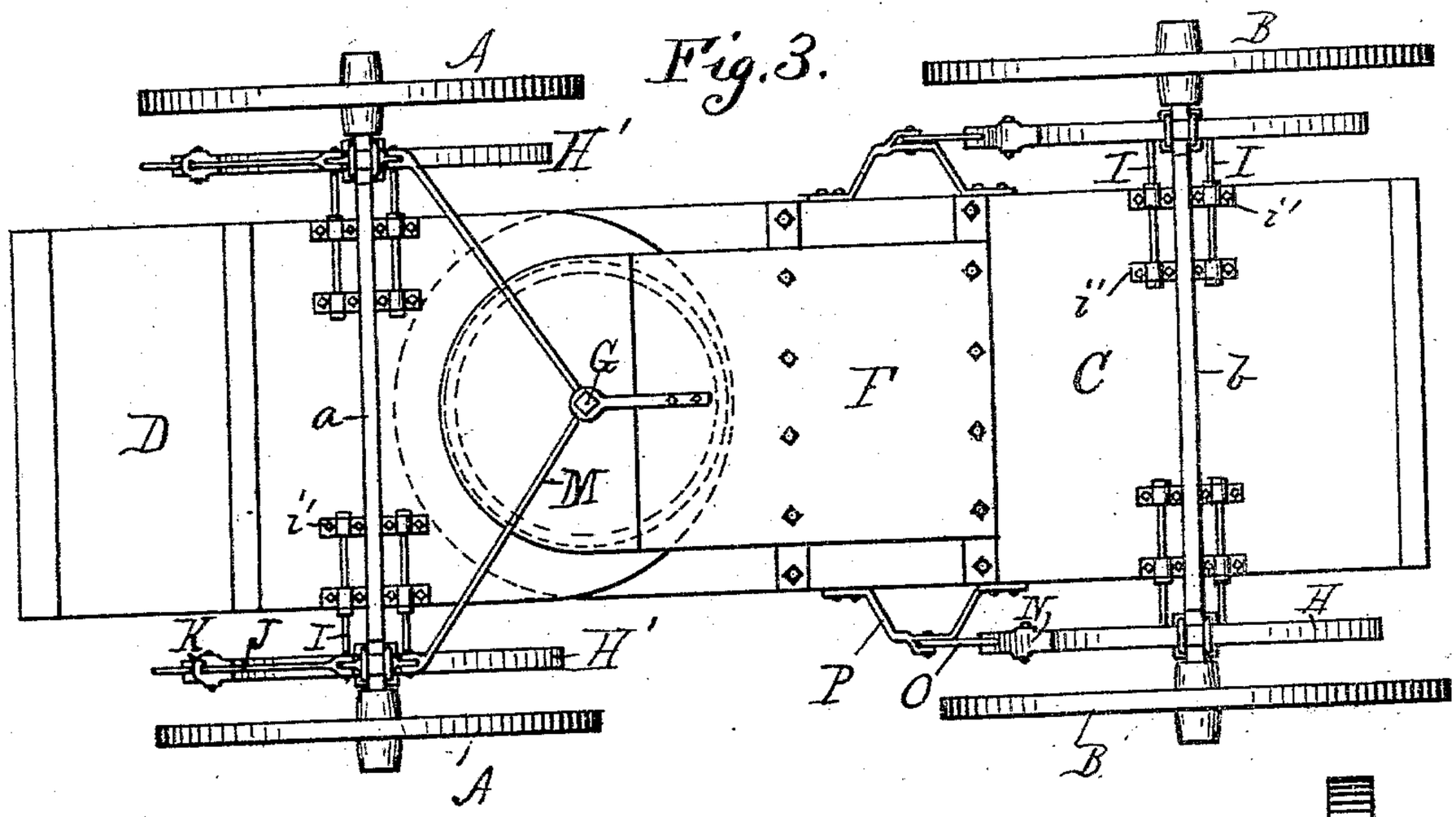

Fig. 4.

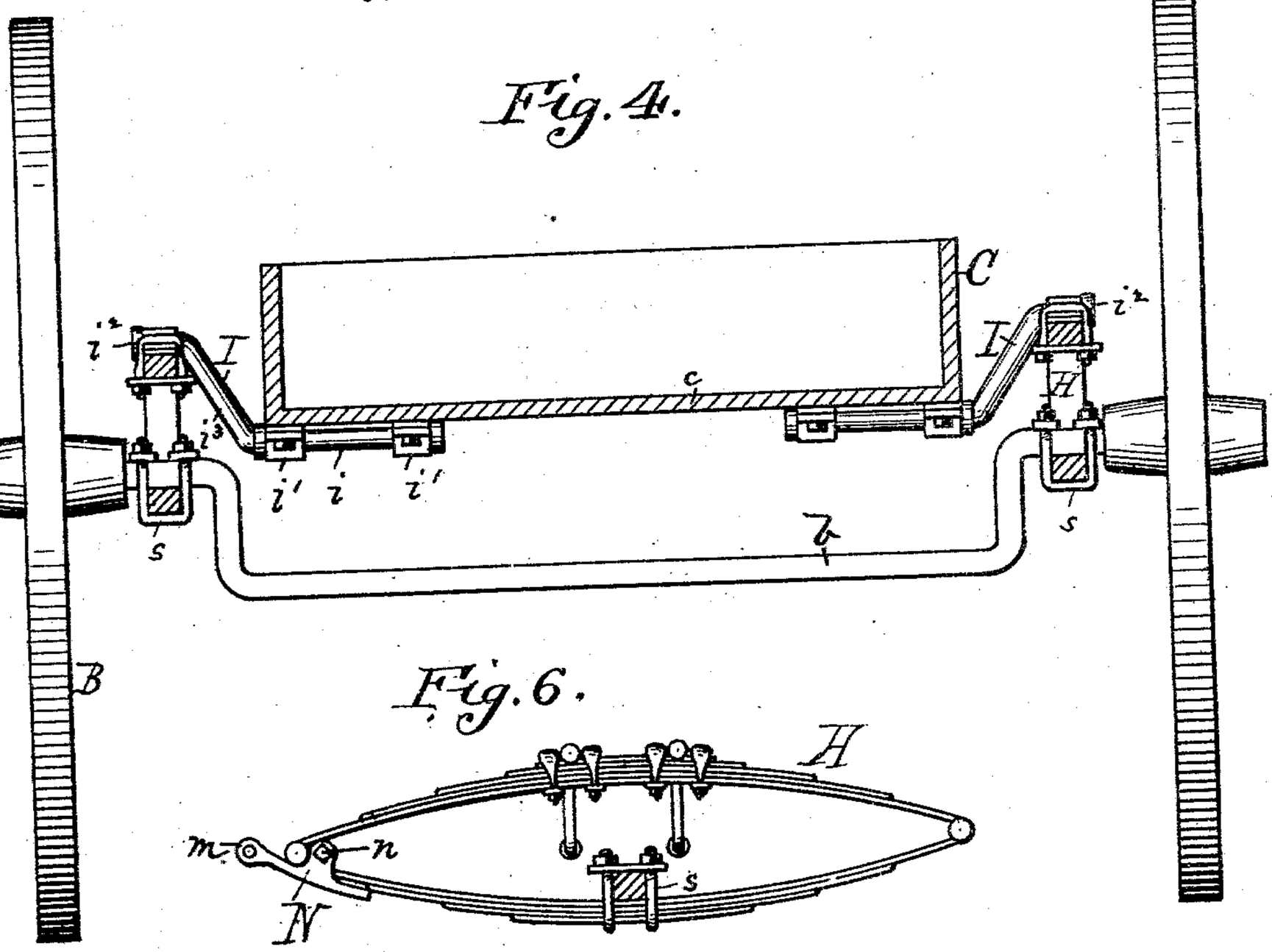

Fig. 6.

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UNITED STATES PATENT OFFICE.

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WAGON.

SPECIFICATION forming part of Letters Patent No. 546,346, dated September 17, 1895.

Application filed May 2, 1893. Serial No. 472,789. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL D. REYNOLDS, a citizen of the United States, residing in Rochelle, in the county of Ogle and State of Illinois, have invented a new and useful Improvement in Wagons, of which the following is a specification.

The wagon which forms the subject of this invention has been designed more especially for the transportation of pianos and like objects. To adapt it to this use the body is supported upon springs, but in several other respects it is a material departure from old methods of construction. In the first place I dispense with the ordinary reach by making the wagon-body in two parts and attaching them together by a king-bolt, which allows the front part to turn upon the rear part. I also connect the front springs to the tongue and the rear springs to the wagon-body in such manner as to prevent any rocking by them or getting out of their proper vertical positions by the axles.

The nature of my improvements will be fully understood from the accompanying drawings and the following description thereof.

In said drawings, Figure 1 is a side elevation of my improved wagon. Fig. 2 is a central longitudinal vertical section. Fig. 3 is a bottom view. Fig. 4 is an enlarged section on the line 4 4 of Fig. 1. Figs. 5 and 6 are partial sections showing the front and rear springs. Fig. 7 is a detail of one of the rocking shafts whereby the wagon-body is supported from the springs.

In the drawings, A represents the front wheels; B, the rear wheels; *a*, the front axle; *b*, the rear axle; C, the main portion of the wagon-body, and D the seat or front portion. The wagon-body C extends forward to a point nearly over the front axle, its floor being of the full length of the body C and indicated at *c*. Beneath the floor *c* and attached to it is a subfloor, plate, or frame F, a horizontal space being formed between the two in which is inserted the floor *d* of the seat portion of the wagon.

The main and the seat portions of the body are secured together by a king-bolt G, located some distance back of the front axle and passing through the parts F, *c*, and *d*, so that the front portion of the wagon may turn or change position relative to the body C whenever necessary. The front end of the floor F and the rear end of the floor *d* are each rounded, as indicated in Fig. 3, to permit this turning to the fullest extent necessary. The floors *d* and F give a large bearing-surface, both above and below, to the projecting part of floor *d*, and insure the maintenance of the same relation between the two so far as their horizontal positions are concerned. The king-bolt is braced below by the brace *g*.

The wagon-body is joined to the springs H by supports which permit a limited longitudinal movement by the body. The preferred construction of these supports is illustrated, and it consists of rocking-pivots I, whereof the lower horizontal portions *i* are journaled in bearings *i'*, secured upon the under surface of the wagon-body, and the upper horizontal portions i^2 rest upon the top of the springs, as plainly indicated, the parts *i* and i^2 being connected by a downwardly-extending portion i^3. These pivotal supports allow the floor of the wagon to be placed near the ground, and in order to prevent contact by the wagon-body with the axle *b* the latter is bent, as indicated at Fig. 4, with its central portion depressed. The seat or swiveled portion of the wagon is supported from springs H', resting upon axles *a*, (also bent in the same manner as axle *b*,) by other pivotal supports I, similar in all respects to the pivotal supports already described, and joined to the floor *d* and the springs in the same manner as the supports employed with springs H are joined to the body and springs.

For the purposes already stated, and in order to transmit the power or pull of the draft directly to the axles and to the king-bolt, the following construction is adopted: The springs are each clipped to their respective supporting-axles by clips *s*, encircling the lower halves of the springs, as plainly indicated in the drawings, and in the case of each forward spring a metal strap J is applied to the under surface of the spring and bolted to a plate *j*, located at the center of the springs and embraced by the clips *s*. This strap also passes through and is secured in a metal clamping-piece K at the end of the spring

and having a fastening-bolt *k*, passing through its sides and through the inner angle at the ends of the spring. Beyond this clamp K the strap J is furnished with an eye *j'*, suitable for the attachment of the wagon-tongue L. From the rear side of the plate *j* a metal brace or rod M, hinged to the plate, extends to and encircles the lower end of the king-bolt. This being the construction employed with both of the front springs, it will be readily seen that the power of the draft is transmitted directly to the front axle and that the latter is held rigidly against any displacement by the connections between the springs and the king-bolt.

In the case of the rear springs I provide a connection between each of them and the wagon-body, so that such springs are also rigidly held against rocking or displacement, and the rear axle is kept in its proper vertical plane relative to the body. This connection may be made as follows: At the forward end of each of the rear springs is placed a clip N, having a retaining-bolt *n*, passing through the inside of the spring and furnished with eye *m* at its forward end. A connecting piece or plate O is pivotally joined to the clip N and also to a bracket P, attached to the side of the wagon-body and preferably standing out therefrom, so that the connection O may be permanently parallel to the side of the wagon-body. Through these connections it will be seen that the results stated will be accomplished.

My improved wagon is not only very light and strong, but also much cheaper than the ordinary construction, the amount of metal and labor involved being considerably less than is requisite in the old constructions.

By depressing the axles and suspending the body and front portion of the wagon in the manner shown, I am enabled to bring the floor near the ground and below the tops of the springs, which is always desirable where heavy objects are carried. By extending the floor *d* under the floor *c*, I am also permitted to make the body quite long and to extend it beyond the king-bolt, which, of course, is an advantage.

A peculiarity of my improved wagon is that the entire weight comes upon those portions of the axles immediately adjacent to the carrying-wheels. This enables me to use lighter axles than is possible where the weight is put upon them at points farther away from the wheels or at the center. My construction also simplifies the running-gear of the wagon and dispenses with bolsters, hounds, and reach.

It is desirable that the main floor *c* be made sufficiently long to enable pianos and other long objects carried in the wagon to be positioned wholly on said floor, and thereby to avoid any contact by them with the floor *d*, which changes position with every change in the direction the wagon is drawn, and in order to accomplish this without unduly increasing the length of the wagon, I cause said floor *c* to lap over the floor *d* as far as it can conveniently without interfering with the swiveling movements of the front part D.

I claim—

1. The wagon having front and rear axles, a body made in two parts which are pivoted together, springs whereby the body and front portion are supported from the axles, means for attaching the draft to the forward springs, bracing connections for same springs, and draft connections for the rear springs, substantially as specified.

2. The wagon having front and rear axles, a body made in two parts which are pivoted together, springs whereby the body and front portion are supported from the axles, the straps J and braces M forming the draft connections of the forward springs, and suitable draft connections for the rear springs, substantially as specified.

3. The wagon having front and rear axles, a body made in two parts which are pivoted together, springs whereby the body and front portion are supported from the axles, draft connections joined to the front springs, and draft connections N O P joined to the rear springs, substantially as specified.

4. The combination of the bent axles, the body made in two parts which are pivotally joined together, the springs, the supports whereby the body and front portion are movably supported from the springs, and the draft connections, substantially as specified.

5. The combination of the bent axles, the body made in two parts which are pivotally joined together, the springs, the rocking pivots whereby parts of the body are suspended from the springs, and the draft connections, substantially as specified.

6. The downwardly bent axles, the springs, and the wagon body made in two parts pivotally united together, in combination with rocking supports I whereby the two parts of the body are suspended from and below the top of the springs, substantially as specified.

7. The combination with the springs H' and the axle to which they are clipped, of straps J secured at one end at the axle and at the other end to clamping pieces K, and said clamping pieces K, substantially as specified.

8. The four wheeled wagon, the body whereof is made in two pivotally united parts C and D with one axle under each part, the rear part C being the main portion and having its floor extended over the floor of the front part D, whereby the wagon is adapted to carry pianos and other long objects, substantially as specified.

SAMUEL D. REYNOLDS.

Witnesses:
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