No. 740,798. PATENTED OCT. 6, 1903.

S. H. BOONE & C. W. STAPLES.

WAGON.

APPLICATION FILED NOV. 8, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1

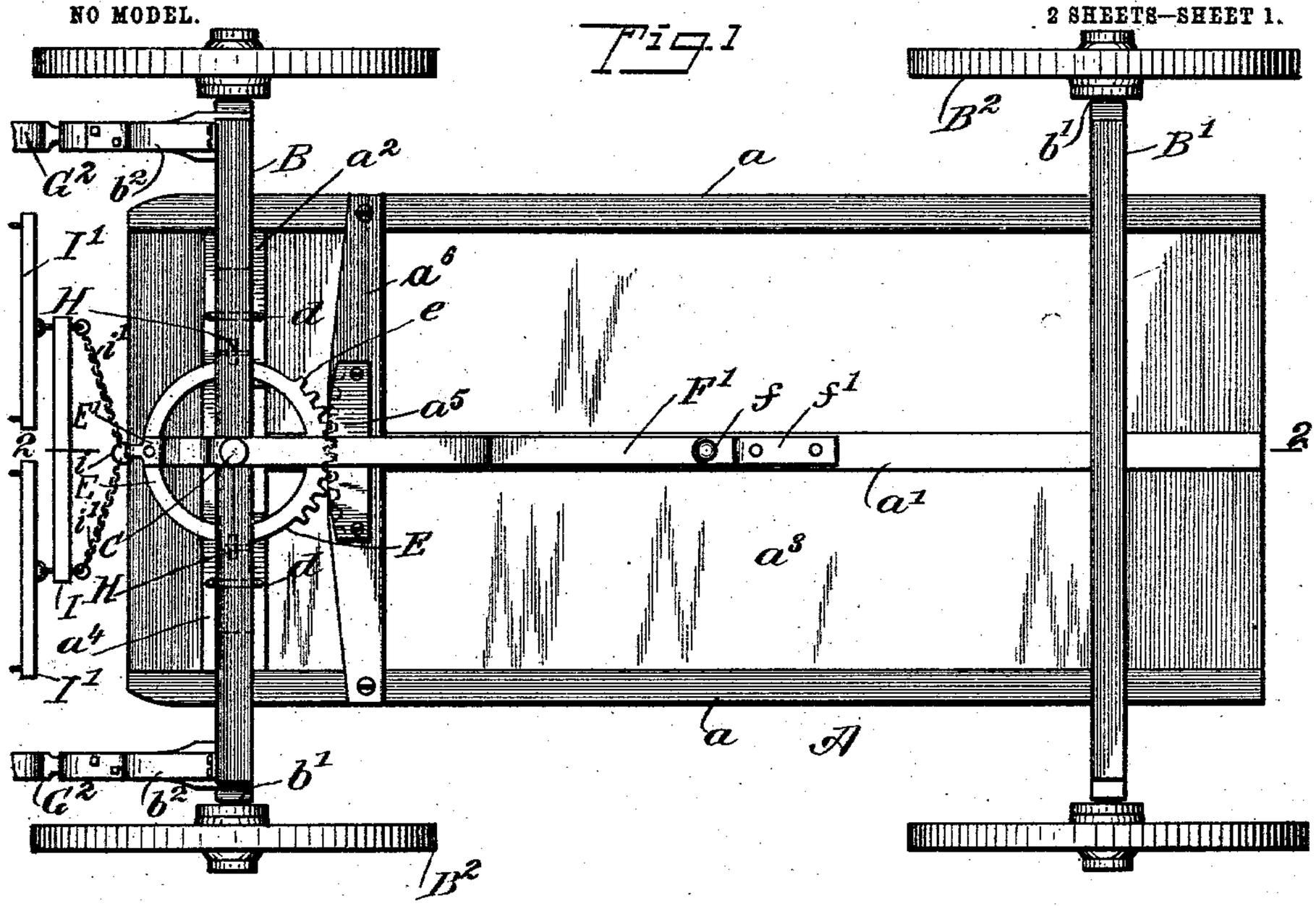
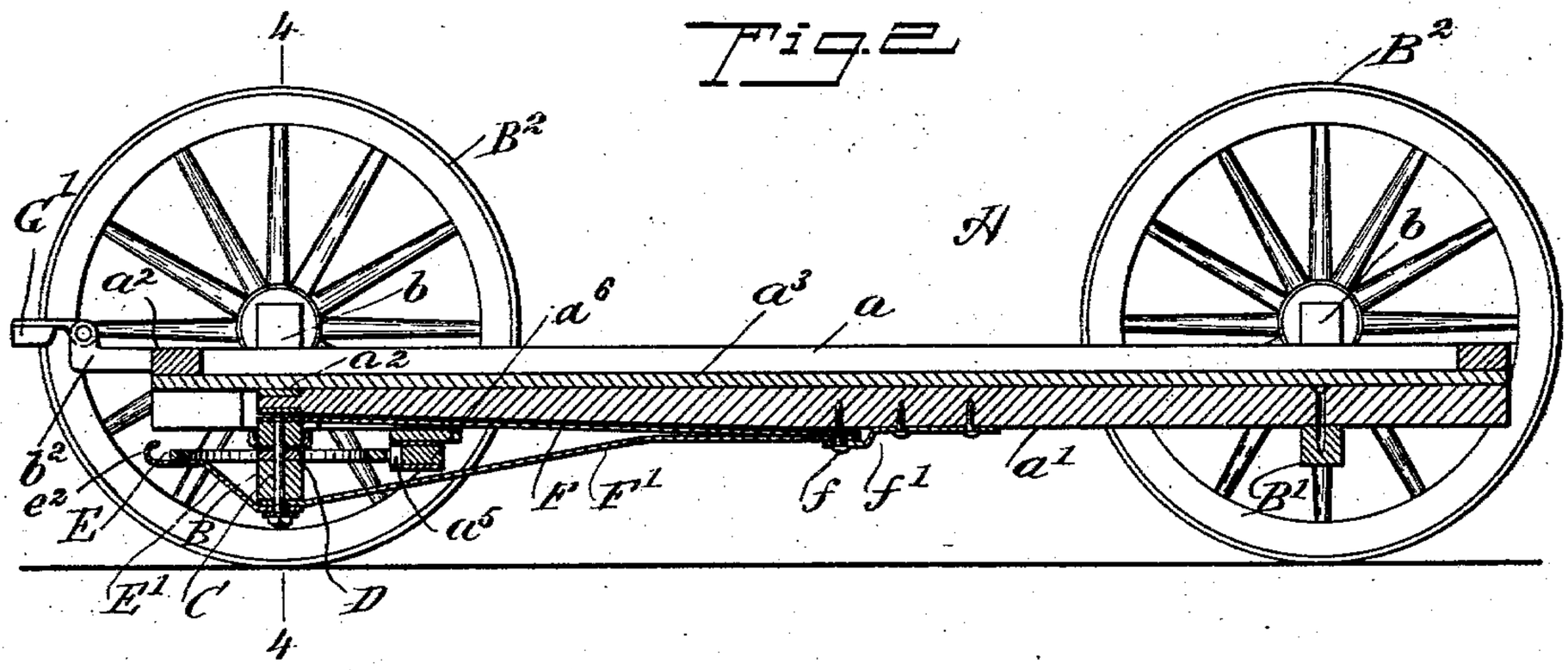


Fig. 2



WITNESSES:

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3

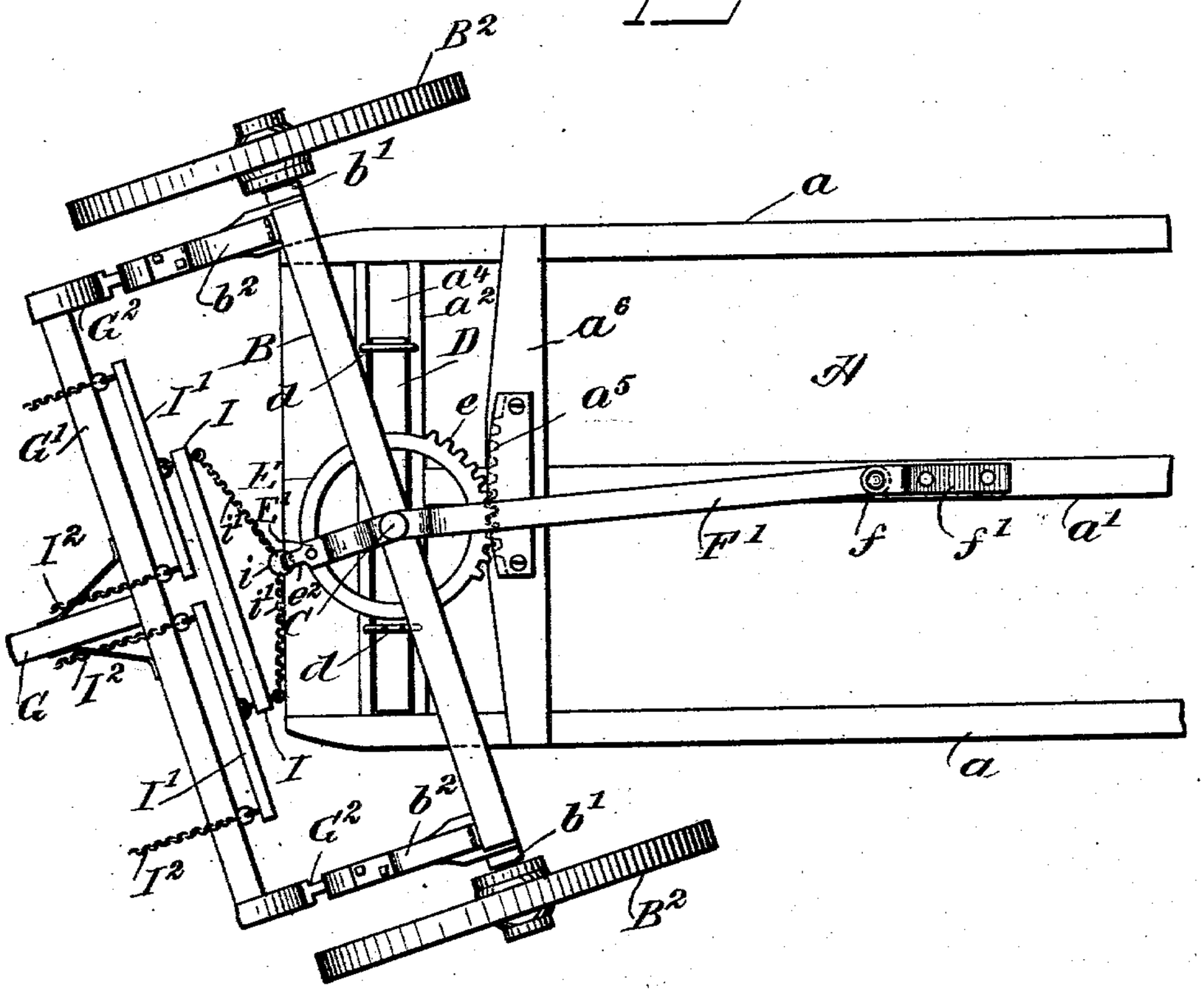
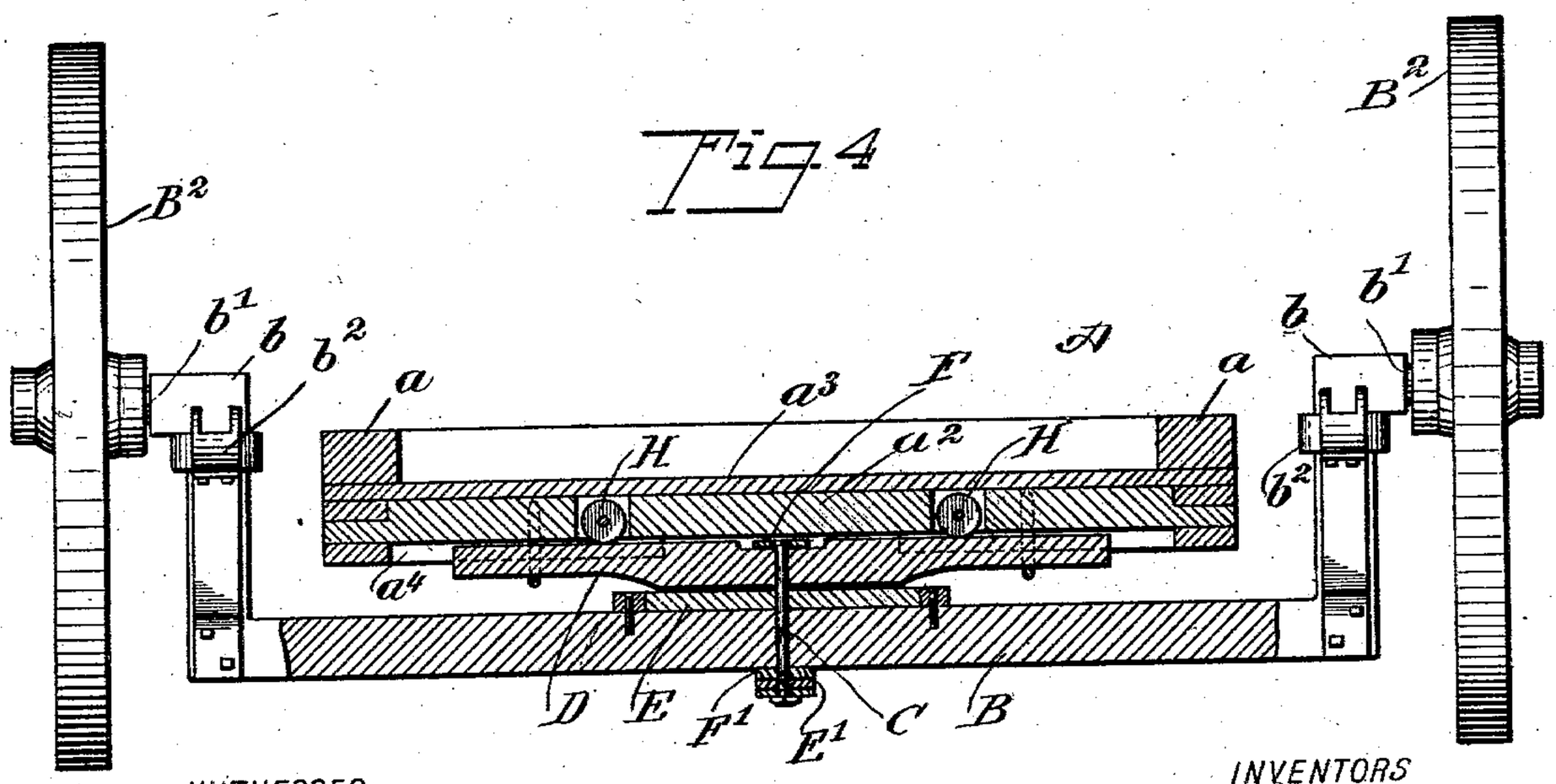


Fig. 4



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UNITED STATES PATENT OFFICE.

SAMUEL HENRY BOONE AND CHARLES WALTER STAPLES, OF BURTTS CORNER, CANADA, ASSIGNORS OF ONE-THIRD TO WILBERT T. FOSTER, OF BURTTS CORNER, CANADA.

WAGON.

SPECIFICATION forming part of Letters Patent No. 740,798, dated October 6, 1903.

Application filed November 8, 1902. Serial No. 130,553. (No model.)

To all whom it may concern:

Be it known that we, SAMUEL HENRY BOONE and CHARLES WALTER STAPLES, subjects of the King of Great Britain, and residents of Burtts Corner, in the county of York, Province of New Brunswick, and Dominion of Canada, have invented a new and Improved Wagon, of which the following is a full, clear, and exact description.

The invention relates more particularly to wagons having low-down axles. In most wagons of this character the front of the wagon-body is of reduced dimension and is not available for receiving its proportion of the load. In our invention the wagon-body may be of the full dimensions throughout, and it extends beyond the front axle, thereby accommodating a larger load. This principal advantage is due to our improved manner of mounting the body on the front axle. Other advantages will be understood from the novel construction and arrangement of parts hereinafter to be particularly described, and defined in the claims.

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

Figure 1 is a bottom plan view of a wagon embodying our invention. Fig. 2 is a longitudinal section taken on the line 2 2 of Fig. 1. Fig. 3 is a fragmentary bottom plan view of the forward portion of the wagon with the parts shown in the position they assume in the turning of the wagon, and Fig. 4 is a transverse section on the line 4 4 of Fig. 2.

The body A of the wagon shown comprises side bars a a, a central longitudinal bar a', front cross-bar a^2, and bottom a^3. These details may be modified. The front axle B and rear axle B′ are U-shaped, the ends rising, as at b, and being provided with spindles b' for the wheels B^2.

A king-bolt C pivotally unites the front axle B and the bolster D, and said bolster is fitted to slide transversely on the front cross-bar a^2 of the body, whereby there is, in effect, a sliding connection established between the wagon-body and the front axle. The cross-bar a^2 is grooved on the under side, as at a^4, to partially receive and guide the bolster D, the connection being completed by clips or staples d, as best shown in Fig. 3, which clips or staples constitute guides for the said bolster, as well as means whereby said front axle and bolster are hung or suspended, as it were, from the said front cross-brace a^2.

The fifth-wheel E is secured to the axle B, and said fifth-wheel at the rear of the axle has a curved series of teeth e, which mesh with a rack a^5 on a cross-bar a^6, secured to the under side of the body. The effect of this is to cause a relative sliding movement of the wagon-body and axle in a transverse direction when the axle is turned.

To facilitate the sliding of the bolster and body, the latter is provided with antifriction-wheels H H, against which the upper surface of the bolster bears.

A pivotally-secured draft-bar connects the front axle with the wagon-body and consists of the top member F and bottom member F′, secured, respectively, at their front ends to the top and bottom of the axle by means of the king-bolt C and pivotally secured at their rear ends to the body by a bolt f, which passes through a bracket f', on which the draft-bar rests, so that the said draft-bar may accommodate itself to the relative movements of the front axle and body when the axle is turned. A short brace E′ extends from the under side of the axle to the front of the fifth-wheel, being held at its lower end by the king-bolt C.

On the upright ends b of the front axle near the top are forwardly-extending arms b^2, which provide a connection for a pole G, to the cross-bar G′ of which are suitably connected the clips G^2, which are suitably coupled to the arms b^2. This connection of the pole, it will be seen, is at points about on a level with the axes of the wheels B^2, which will be found very effective in turning and backing the vehicle.

The draft connection is made at the center of the vehicle, for which purpose there is provided on the brace E′ of the fifth-wheel or on any adjacent support a hook e^2. This hook e^2 receives the ring i of spread-chains i', secured to a draft-tree I, carrying swingletrees

I', with which traces I^2 are connected, as will be readily understood from Fig. 1.

With this construction of vehicle and appurtenances a very short turn may be made, and the wheels are prevented from striking the wagon-body, since an end of the bolster will come to a stop against the end wall of the groove a^4. This construction also prevents the pole or shafts from side lashing when a wheel strikes an obstruction, and in further explanation of the operation of the parts of the vehicle it may be stated that inasmuch as the bolster D is centrally pivoted to the axle by means of the king-bolt C it follows, therefore, that whenever the axle is turned in one direction or the other the same not only turns on the king-bolt as a center, but at the same time the axle is caused to swing bodily upon the pivot *f* as a center, the said center first named thus being a changeable one in conformity with the said bodily-swinging movement of the axle, and during both of these movements the said bolster D is caused to slide transversely in the guide therefor, as will be apparent.

As will be noted, the slidable bolster is limited in its movements, such movements being lengthwise of the bolster and substantially in a direct line transversely of the body of the vehicle, and, as will be also noted, the swinging movement of said forward axle is prevented from taking place to such an extent as would carry the axis for the independent rotatable movement thereof beyond a certain limit on either side from the center of such swinging movement.

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

1. In a vehicle, the combination with the body thereof, of a forward axle having a horizontally-rotatable movement, together with a horizontally-swinging movement, from a point of the body substantially centrally of the forward and rearward wheels of the vehicle, a straight bolster pivoted at its center to the center of said axle, and having independent lengthwise movement, substantially in a direct line transversely of the body, and devices rigid with the axle and body, engaging each other in the movements of the axle.

2. In a vehicle, the combination of a body, an axle having a rotatable movement, together with an independently-swinging movement from a point of the body substantially intermediate the forward and rearward wheels of the vehicle, a bolster pivoted at its center to the center of said axle, and having independent slidable movement transversely of the body, a fifth-wheel rigid with the axle and having teeth on a part of its periphery, and a transverse rack rigid with the body and engaged by said teeth in the movements of the axle.

3. In a vehicle, the combination of a body, the forward axle having a rotatable movement, together with an independently-swinging movement with respect to the body, a fifth-wheel carried by the axle and provided with teeth, and a rack on the body with which the teeth of the fifth-wheel mesh.

4. In a vehicle, the combination with the body and the forward axle, of a bolster on which the body rests and has guided movement in a transverse direction, the said bolster being pivoted to the axle, the pivotal connection between the bolster and axle serving to prevent any sliding movement of the bolster relative to the axle.

In testimony whereof we have signed our names, on September 30, 1902, to this specification in the presence of two subscribing witnesses.

SAMUEL HENRY BOONE.
CHARLES WALTER STAPLES.

Witnesses:
GEORGE WILLIAM MASSIE,
GEORGE WURGATT TORRENS.