

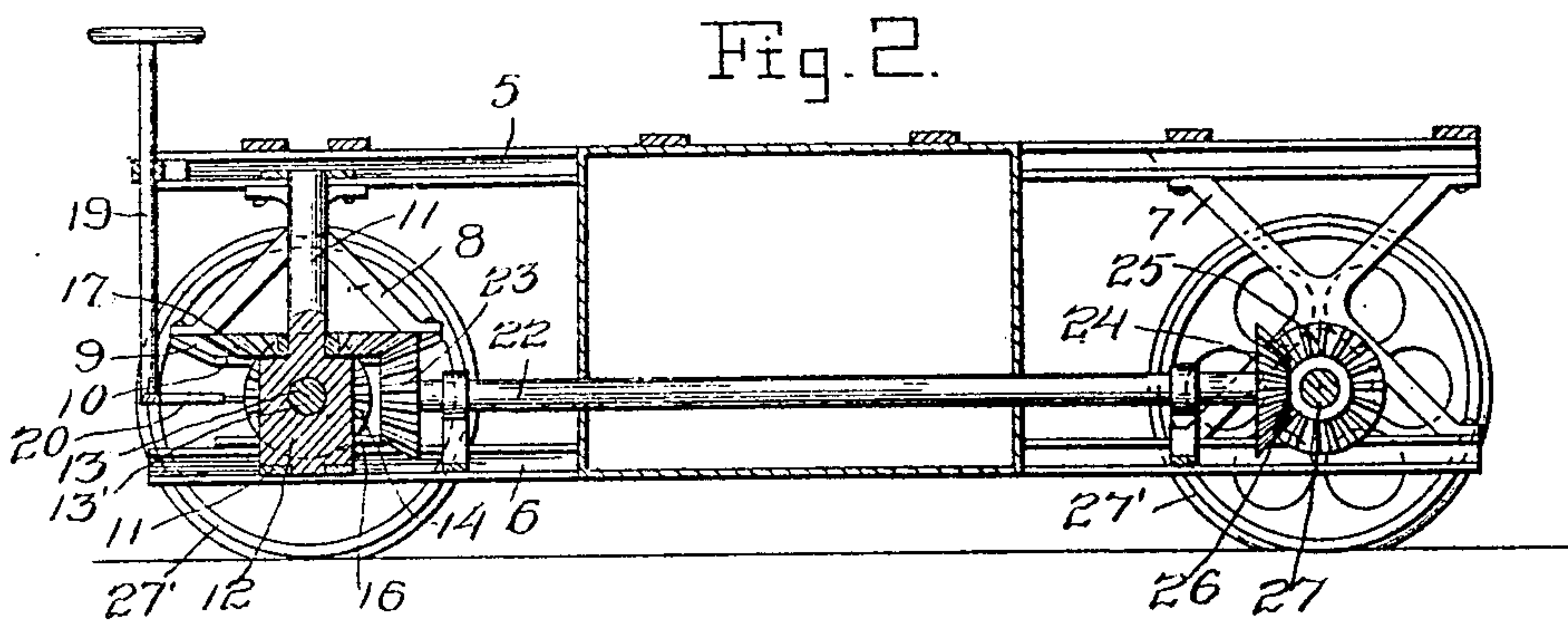
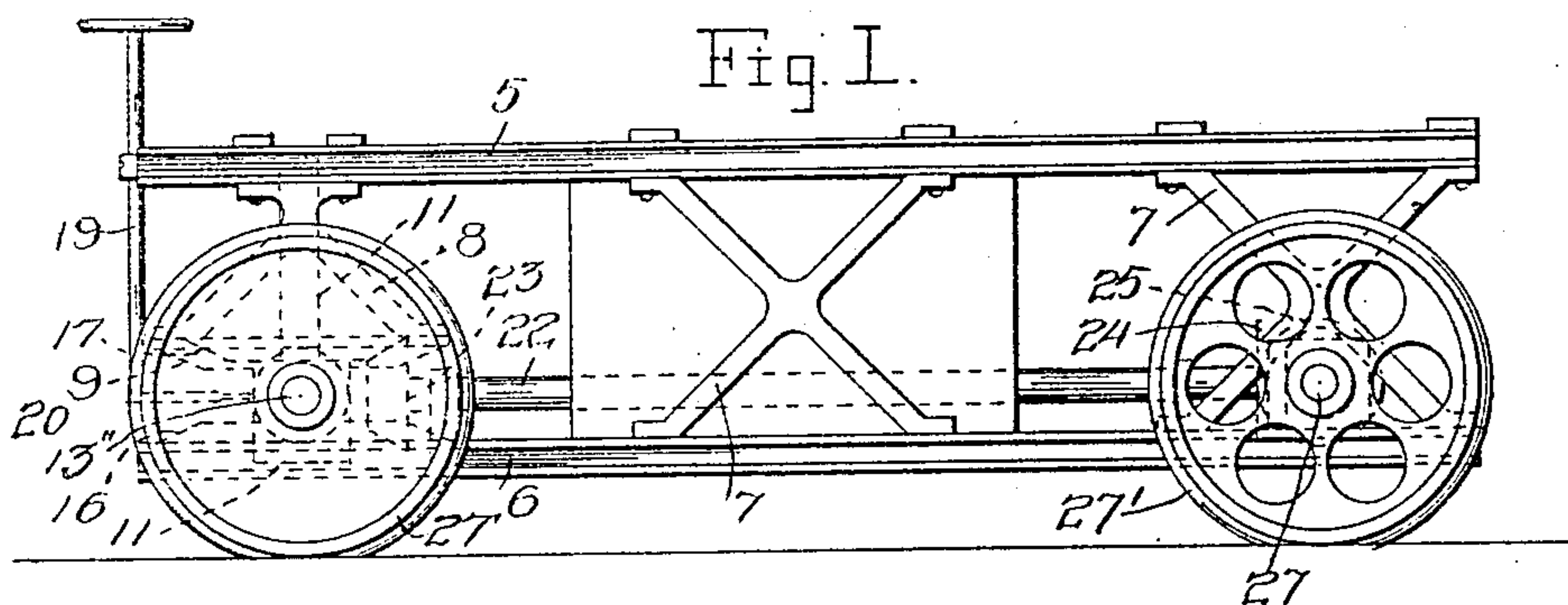
No. 813,058.

PATENTED FEB. 20, 1906

W. T. PENROSE.
AUTOMOBILE.

APPLICATION FILED JUNE 26, 1905.

2 SHEETS—SHEET 1.



Witnesses
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E. M. C. Ford

Inventor
W. T. Penrose.
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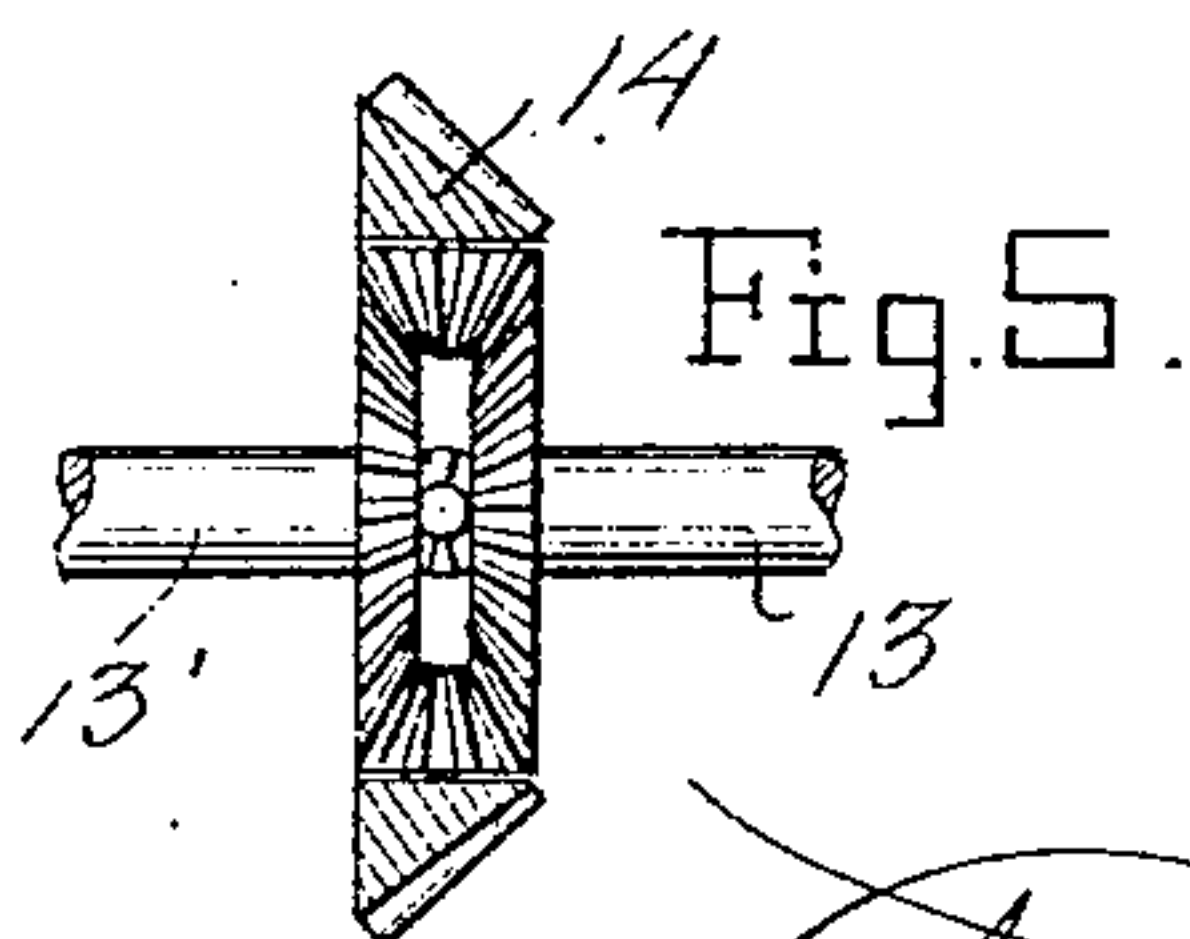
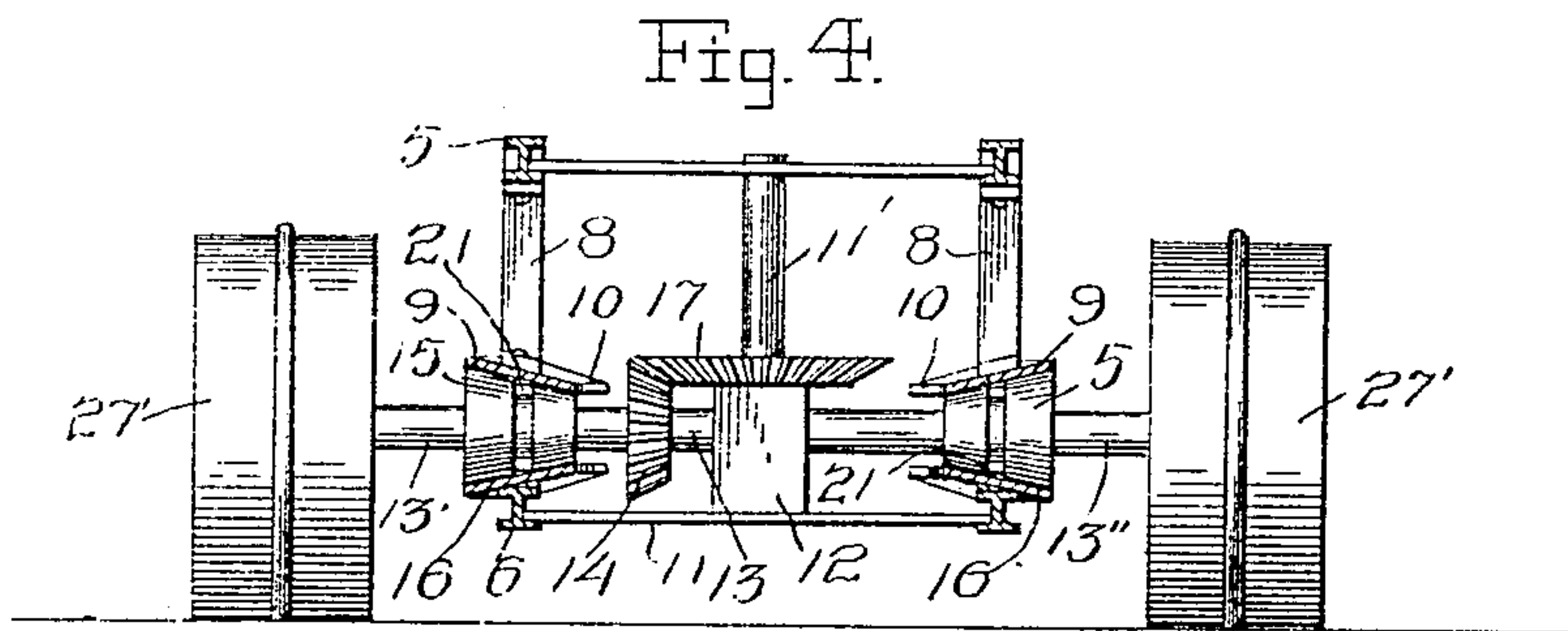
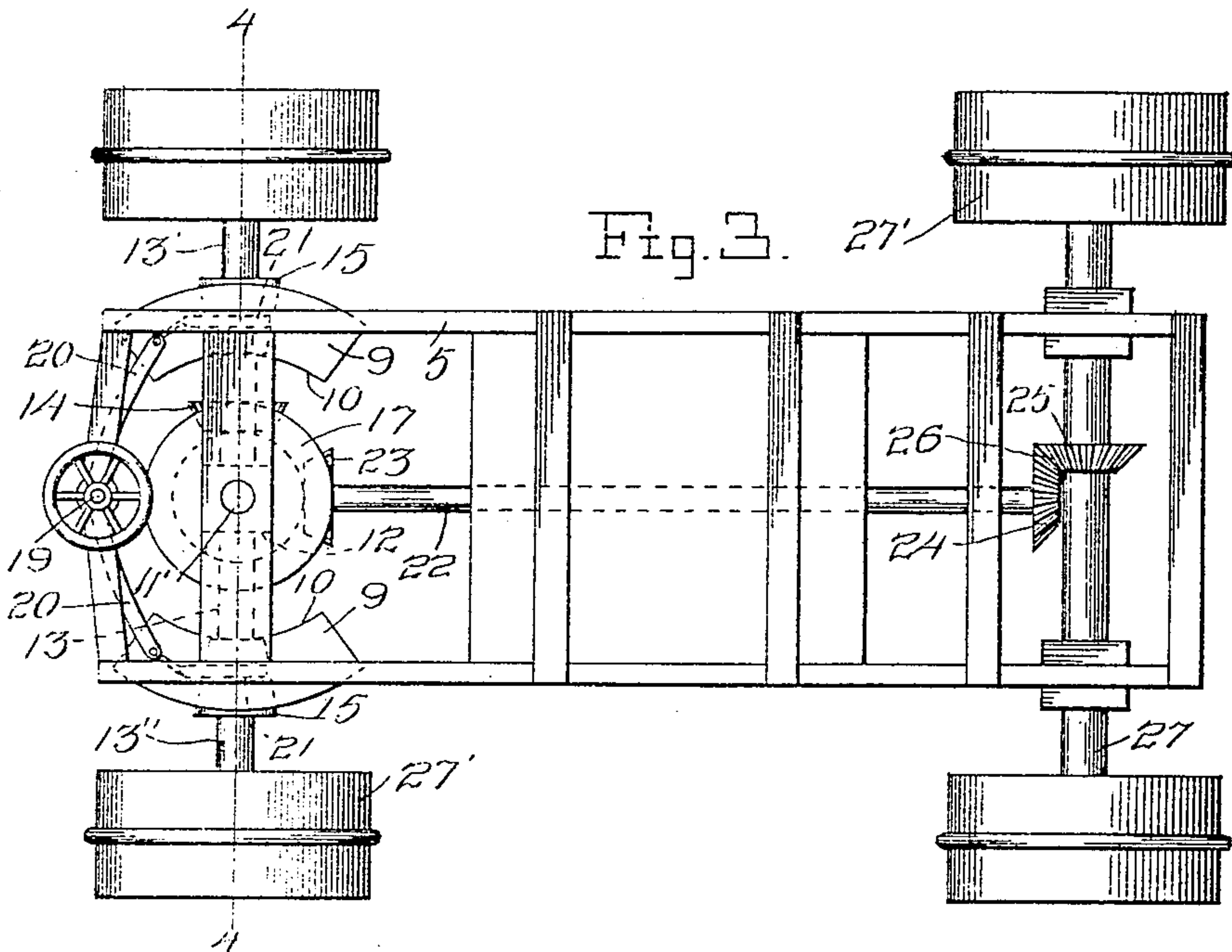
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

WILLIAM T. PENROSE, OF SPOKANE, WASHINGTON.

AUTOMOBILE.

No. 813,058.

Specification of Letters Patent.

Patented Feb. 20, 1906.

Application filed June 26, 1905. Serial No. 266,994.

To all whom it may concern:

Be it known that I, WILLIAM T. PENROSE, a citizen of the United States, residing at Spokane, in the county of Spokane, State of Washington, have invented certain new and useful Improvements in Automobiles; 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.

This invention relates to vehicles, and more particularly to power-vehicles, and has for its object to provide a power vehicle equipped with a source of energy and provided with means for transmitting power from said source to all four wheels of the vehicle.

Another object is to provide a vehicle of the kind mentioned which will include a novel arrangement of parts and which will permit of shifting a pair of the wheels to steer the vehicle.

Other objects and advantages will be apparent from the following description, and it will be understood that changes in the specific construction shown and described may be made within the scope of the claim and that any suitable materials may be used without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side elevation of the present vehicle. Fig. 2 is a longitudinal section. Fig. 3 is a top plan. Fig. 4 is a section on line 4 4 of Fig. 3. Fig. 5 is a section showing the differential.

Referring now to the drawings, the present vehicle includes upper and lower frames 5 and 6, connected by pairs of X-shaped braces 7, located at the centers of the sides of the frames and at the rearward ends thereof. Secured to the sides of the frame 5, adjacent to its forward end and depending therefrom, there are brackets 8, each having a horizontally-extending arcuate plate 9 secured to its lower portion, and these plates are disposed with their concave edges 10 directed inwardly.

A transversely-extending plate 11 is mounted in the frame 6 beneath the plates 9, and pivoted in this plate there is a vertical shaft 11', which is also pivoted at its upper end in the frame 5, this shaft forming what may be

termed the "king-bolt." At its lower end the shaft 11' is enlarged, as shown at 12, and in this enlargement there is journaled a live axle 13, including two sections 13' and 13'', which are connected by a differential gear 14, located at one side of the shaft 11'. This axle is provided with rollers 15, mounted thereupon adjacent to its ends, these rollers lying beneath the plates 10 and upon similar plates 16, mounted upon the frame 6. Journaled upon the shaft 11' above the enlargement there is a bevel-gear 17, which meshes with beveled cog-teeth 18, carried by the differential gear.

An upwardly-extending steering-shaft is journaled in the frame 5 and is indicated at 19, and this shaft extends downwardly also and has laterally-extending rearwardly-curved arms 20 at its lower end, which are connected with yokes 21, revolvably engaged with the rollers 15 and lying below the surfaces thereof, so as to be out of engagement with the plates 9 and 16. It will thus be apparent that the axle 13 may be swung upon the shaft 11' by means of the steering-shaft 19 and that when this is done the differential gear will move over the bevel-gear 17, and the steering of the vehicle will thus be accomplished.

A centrally-located gasoline-engine or other source of energy is mounted upon the frame 6 between the central braces 7, and this source of energy is connected with a longitudinally-extending shaft 22, having a bevel-gear 23 at its forward end meshing with the bevel-gear 17 to drive the latter. The shaft 22 has a second bevel-gear 24 at its rearward end meshing with a bevel-gear 25, forming a portion of a differential gear 26, carried by a rear axle 27, which is mounted in the frame. The two axles have wheels 27' mounted thereon, as will be readily understood.

It will be thus apparent that a mechanism is provided arranged to transmit power to all four wheels of the vehicle and which also permits of movement of two of the wheels to steer the vehicle.

What is claimed is—

In a vehicle, the combination with upper and lower horizontally-disposed frames, of depending brackets carried by the upper frame, longitudinally-extending arcuate plates carried by the brackets, longitudinally-extending arcuate plates carried by the lower frame in vertical alinement with the first-

named plates and spaced therefrom, a plate
carried by the lower frame, a vertical shaft
pivotaly mounted upon the plate and in the
upper frame, a live axle journaled horizon-
5 tally in the vertical shaft and extending be-
tween the spaced plates, rollers carried by
the axle and engaging the plates, wheels car-
ried by the axle, a bevel-gear journaled upon
the vertical shaft, a bevel-gear carried by the

axle and meshing with the first-named bevel- 10
gear, and means for driving the first-named
bevel-gear.

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

WILLIAM T. PENROSE.

Witnesses:

N. J. LAUMER,
L. W. PERKINS.