

C. M. WALTZ.
VEHICLE SPRING.
APPLICATION FILED AUG. 26, 1912.

1,061,342.

Patented May 13, 1913.

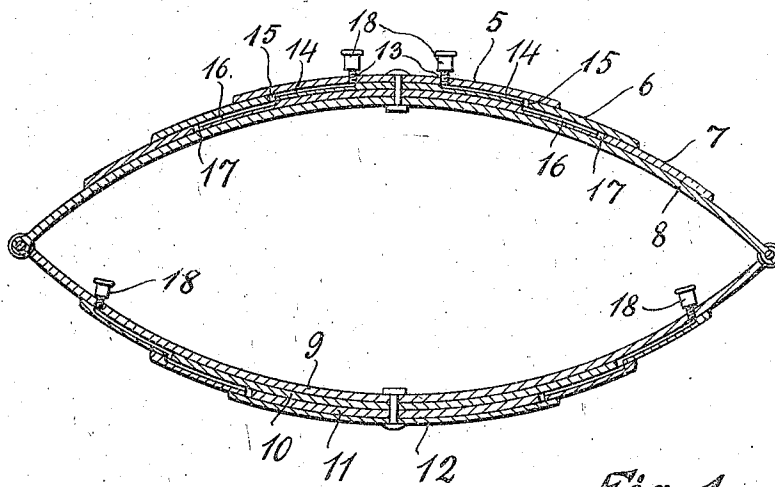


Fig. 1

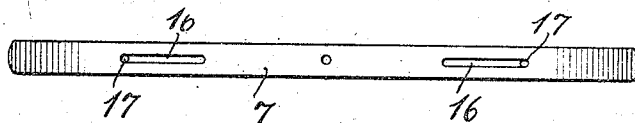


Fig. 2.

Witnesses

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CLAUDE M. WALTZ, OF SUMMITVILLE, INDIANA.

VEHICLE-SPRING.

1,061,342.

Specification of Letters Patent.

Patented May 13, 1913.

Application filed August 26, 1912. Serial No. 717,104.

To all whom it may concern:

Be it known that I, CLAUDE M. WALTZ, a citizen of the United States, residing at Summitville, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Vehicle-Springs, of which the following is a specification.

Vehicle springs as ordinarily constructed are extremely difficult to lubricate, considerable time and hard work being required to pry the leaves apart and force the lubricant therebetween, and in order to obviate this difficulty, the structure which is the subject of the present invention has been designed, the same comprising means whereby the springs can be readily kept lubricated, so that they will not creak, and will ride easier and last longer.

The structure will be described in detail hereinafter, reference being had to the accompanying drawing in which—

Figure 1 is a central vertical section of a full elliptic spring made in accordance with the invention. Fig. 2 is a plan view of one of the leaves of the spring.

In the drawing, 5, 6, 7 and 8 denote the superposed bowed leaves of the top half of the spring, and 9, 10, 11 and 12 denote the leaves of the bottom half thereof. A full elliptic spring is shown, but it is to be understood that the invention is not limited to such a form of spring but may, with equal facility, be applied to a semi-elliptic or other forms of springs. The number of leaves in the spring may also be varied without a departure from the invention. The parts thus far described are arranged in the ordinary manner and nothing is claimed with respect thereto.

In the top leaf 5 of the upper half of the spring are made two small openings 13 which are located respectively on opposite sides of the middle portion of the spring. These openings extend entirely through the leaf and each registers with the inner end of a groove 14 in the top of the next leaf 6, said grooves extending in the direction of the length of said leaf. The outer end of each of the grooves 14 registers with an opening 15 in the leaf 6, which opening extends entirely through said leaf. Each opening 15 registers with the inner end of a longitudinal groove 16 in the top of the next leaf 7, and the outer end of each groove 16 registers with an opening 17 in the leaf 7.

The openings 17 extend entirely through the leaf 7 and thus establish communication with the top surface of the bottom leaf 8.

The herein described arrangement of openings and grooves in the leaves produces two continuous lubricant ducts which start in the top leaf 5 and terminate at the top surface of the bottom leaf 8. The general direction of the ducts is outward in opposite directions from the middle portion of the top half of the spring, and as the leaves are inclined from this portion, in the direction of their outer ends, it will be seen that the grooves 14 and 16 in the top of the intermediate leaves 6 and 7 are inclined in the direction of the openings in the said leaves, and the oil or other lubricant will therefore work down by gravity and in between the several leaves. The contiguous surfaces of the leaves are therefore supplied with a lubricant, thereby eliminating creaking, and making the spring ride easier, and last longer by reducing wear. The lubricant ducts in the bottom half of the spring are also formed by openings and grooves in the same manner as the lubricant ducts of the top half of the spring, with the exception that the ducts of said bottom half start near the outer end of the same and extend inward. This arrangement being necessary for the reason that the incline of the leaves is inward toward the middle portion of the spring. At the mouth of each duct is mounted an oil or grease cup 18.

The herein described structure which permits lubrication of the spring is very simple and will not materially increase the cost of the spring; nor is the spring weakened to any appreciable extent as the openings and grooves form out the lubricant ducts are very small.

I claim:

1. A spring composed of a series of superimposed bowed leaves, the top surface of the intermediate leaves of the series having intercommunicating longitudinal grooves, the longitudinal grooves of the intermediate leaf which is contiguous to the bottom leaf of the series being in communication with the top surface of said bottom leaf, and the top leaf of the series having openings which communicate with the grooves of the intermediate leaf which is contiguous to said top leaf.

2. A spring composed of a series of superimposed bowed leaves, there being openings

through the top and intermediate leaves of the series, and the top surface of the intermediate leaves having longitudinal grooves communicating at one end with the openings in said leaves, and at their other ends with the openings in the next leaf above.

3. A spring composed of a series of superimposed bowed leaves, there being openings through the top and intermediate leaves of the series, and the top surface of the intermediate leaves having grooves communicat-

ing at one end with the openings in said leaves, and at their other end with the openings in the next leaf above, the aforesaid grooves running in the direction of the incline of the leaves.

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

CLAUD M. WALTZ.

Witnesses:

FRANK H. CUSTER,
SIMEON JOKEL.