

LATEST NEWS OF THE AUTOMOBILE TRADE AND INDUSTRY

ELECTRICAL SPECIALISTS CONTINUE DISCUSSION ON THE CONNECTIONS BETWEEN AUTOMOBILE'S MOTOR AND ENGINE

(By Special Permission from Motor Age.)

The Bendix drive consists of a solid or hollow shaft having screw threads on the outside and a hollow gear having screw threads on the inside...

When the electric motor starts it drives through the spring and turns the screw shaft. Because of the weight the gear is too heavy to turn with the screw shaft...

After the screw gear has moved along the screw shaft and engages with the flywheel gear it then keeps on moving along until it reaches the stop at the end of the screw shaft...

As soon as the engine starts exploding and runs under its own power the flywheel turns much faster than when it was cranked by the starter...

Now that the screw gear is out of mesh, it is natural to suppose that if the electric motor keeps running the gear automatically will be screwed right back into mesh with the flywheel gear...

The gear on the screw shaft has an automatic self-cleaning action, but in any extreme case, should the gear tend to stick on the shaft...

The teeth on the screw gear and flywheel are chamfered, or pointed, on only one side to make the meshing natural and easy.

If, while the engine is running, the electric motor should be started accidentally, the screw gear will screw over against the turning flywheel. But instead of the clashing and smashing of gears that might be expected...

The starter drive used on the old Rushmore system, which was acquired by the Bosch Magneto company and later known as the Bosch-Rushmore system...

The construction of the Bosch-Rushmore motor is such that the armature can be shifted endwise in its bearings. In the non-operating position the armature is held out of its electric center...

The motor is provided regularly with three terminals, two of which are heavier or of larger diameter than the other.

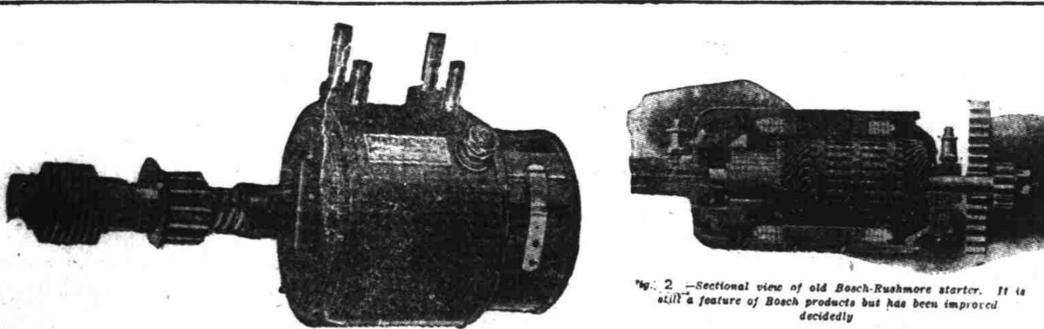


Fig. 1 - Bendix drive, or automatic pinion shift, showing the relation of the various parts as applied to Remy motor

Fig. 2 - Sectional view of old Bosch-Rushmore starter. It is still a feature of Bosch products but has been improved decidedly

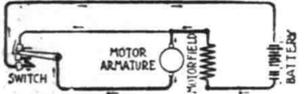


Fig. 3 - Electrical circuit of Bosch system with switch pedal in first part of downward movement

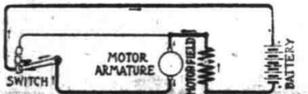


Fig. 4 - Here the switch pedal has completed the downward movement and the engine turns over

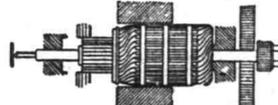


Fig. 5 - Armature of Bosch starting motor in non-operating position



Fig. 6 - Armature of Bosch starting motor in operating position

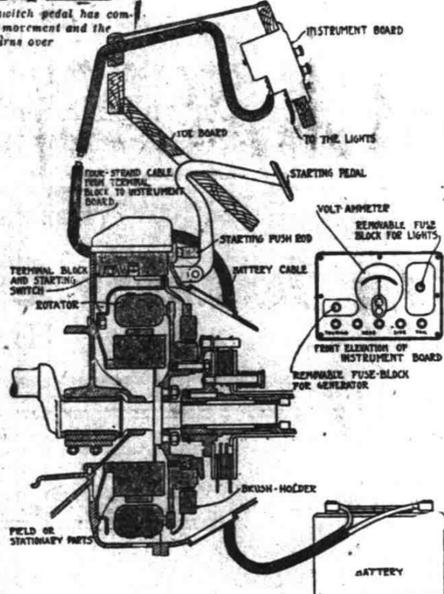


Fig. 7 - Section through assembled U. S. L. system. The parts shown in white are furnished by the maker of the car; those in shaded areas, by the U. S. L. company

small terminal is for the shunt circuit.

During the first part of the downward movement of the switch pedal an electrical circuit is established which causes the current from the battery to pass through the switch shunt. The amount of current that can flow is limited by the resistance of the circuit...

Operation is Rapid. As the switch pedal reaches its limit of motion the flow of battery current through the switch shunt, as well as that through the shunt cable to the field coils, is interrupted...

As soon as the engine starts the starting motor is relieved of its load and the current passing through it drops rapidly in volume, this being a characteristic of series motors. In consequence the strength of the field magnets is lessened to a point where the spiral spring in the end of the armature shaft overcomes the magnetic attraction holding the armature...

The combined motor and generator used in the system manufactured by the United States Light & Heating Co. differs from any of the other systems which are designed primarily for starting and lighting systems in that the device is incorporated in the flywheel housing...

amount of current utilized when the motor is running free is not sufficient to overcome the tension of the spiral spring.

reduction gears or chains of any kind. A section through an assembled system is shown in Fig. 7, in which the parts shown in shaded areas are to be furnished by the United States Lighting & Heating Co. and parts shown in white, or section, are to be furnished by the manufacturer of the car.

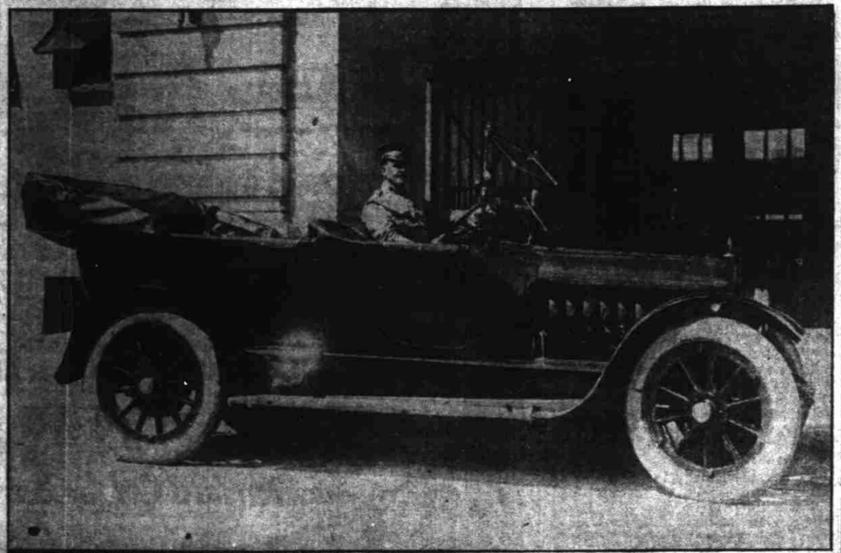
The object of a back-kick release is to take care of any excessive strain which may be put on the device used in connecting the motor to the engine. If the spark lever be too far advanced there will be a premature explosion...

A device used by the Northeast Co. consists of a friction clutch which is held in contact by springs. This clutch will not slip under ordinary and reasonable loads...

A friction clutch is used on the Hartford starter on account of the irreversible worm-and-worm gear drive used, as the teeth of the gear would more than likely be damaged in case the engine backfired.

A brake band is sometimes used in combination with the starting gears, and this band is held tight in such a manner that it holds and transmits power in one direction only.

General Sam Johnson In His Peerless



General Johnson prefers the Peerless because he thinks it is always reliable and ready for action. He is enthusiastic about motoring as well as swimming. He is here shown leaving the Army in his Peerless.

Lewis Party Motor Over The Wonderful Roads In Oregon

Columbia Highway Extends for 50 Miles Along Great River—Section Abounds in Beautiful Scenery—Lewis Says Traffic Officers in Honolulu Are Far Superior to Those in Northwest—Portland, Oregon, Has Many Beautiful Parks

By ONE OF THE PARTY The party left the Olympic hotel at Tacoma for Portland about 9:45 a. m., over a beautiful concrete road covered with a thin Skugee coat.

We passed by the race track where the auto races were held July 4th, and where the two men were killed, the first time around the track. The auto that finally did the damage skidded nearly across the track; the second time around the car turned completely around once, and when the driver found himself, he started up again at his 90-mile clip...

We have taken note of the traffic methods and traffic officers, and can assure you we have seen nothing equal to the traffic officers you have in Honolulu. In Seattle, their system is easy on the officer as he has a seat on the street corners some four or five feet above the sidewalk...

But Seattle is the one city where pedestrians have some consideration, as no vehicle of any kind is permitted to interfere with the street crossing. There is a line across the street built right in the pavement back of the line of sidewalk...

The lines that were put on the streets in Honolulu in the special traffic districts were put there for that purpose, but they were not permanent enough.

We passed the U. S. training camp where there are some 25,000 men in training. There are beautiful pine and fir forests all along the highways.

We passed right alongside of con-

crete roads that were finished, but not opened yet, and seemingly miles of rail fence, showing that timber is not of much value up that way.

In passing through some little village there was a chair in the road, not quite the center, but very near, inviting you to stop and rest, and some of the party recognized the invitation and were perfectly willing to stop awhile, but you know when you stop for 10 minutes it means 30, so we passed on.

Portland has been experimenting with the various road materials on one of its main streets, oil macadam, wood blocks, concrete, Warrens.

The oil macadam has stood the heavy traffic pretty well. The traffic is the heaviest in the city, the wood blocks were being repaired the day we passed. Great big pieces were being taken out and replaced with new ones...

We passed by our first oat fields, acres upon acres of oats and wheat fields, but a very poor stand; the fields looked as though they had never been rested, nor had any fertilizer been put on them.

Thousands of signs all along the highway, such as "Have your car washed at the Auto Laundry," "St. Martin's College," and at the little town of Chehalis we saw our first Hawaiian advertisement, "Libby Hawaiian Pineapple."

The orchards we passed on this trip seemed very old, especially the cherries and apples.

We got on a road that was closed for repairs, and after we had traveled some miles, we met three men that were taking up the old planks that were there, with their teams, and they made no effort to move or pull to one side, so Mr. Lewis took the side and passed over the road.

The farmers of Oregon are complaining of drought and one paper of

(Continued on page two)

Team Work Essential In This Time of Trouble Says Writer

J. K. McAlpine Says That Cooperation Means Much in All Lines of Business Now—Farmer is Man Behind Nation at Present Time—Good Times in Store for Everyone—America Has Oversubscribed in Every Line of Endeavor This Year

With the registering of over 10,000,000 of our young men now willing to serve our country; with the Liberty bonds oversubscribed by 50 per cent; with over \$100,000,000 given to that everworthy cause, the American Red Cross, and all of this within a period of 30 days, who is there among us that can be at all pessimistic over the ultimate outcome of the war which we are now waging for the world's liberation?

With the expenditure of possibly \$10,000,000,000 within the next year by the United States and Allied governments, nothing but good times are in store for all, but it is up to us to help make them so.

As the great English poet, Rudyard Kipling, has so aptly put it:

It ain't the guns, nor armament, Nor funds that they can pay, But the close cooperation That makes them win the day.

It ain't the individuals, Nor the army as a whole, But the everlasting team work 'Of every bloomin' soul'.

Now of all times in our national history, this is the time for team work. What we are all prone to do is to worry ourselves and others about what cannot be avoided, and that is what many of us are now doing instead of steadily applying ourselves to the very best of our ability to the work before us.

And yet many American business men insist on still regarding the farmer as a rube person who says "by heck" and has a chronic aversion to anything "new fangled." Picture our Hawaiian Islands without the farmer, the American farmer today is among the most alert and open-minded people of the United States. He is optimistic. He can judge without prejudice what city merchandise will be of help to him in his farm work and the pleasure of his family, and he is quick to seize it.

He has just answered the president's call for increased crop production by virtually doubling that of last year. In some products he more than doubled it. The department of agriculture estimates that the crop production this year will be \$2,900,000,000 in excess of last year. The more we buy 1,250,000 Hudson Super-Six motor cars, and it would take the factory at its present rate of production, more than 35 years to supply that order.

Judge from this the enormity of the business opportunity that has been created among farmers this year, in excess of last year. Not only is the farmer destined to feed the world, but also to become the world's best customer. All honor to the American farmer. He is the man behind the man behind the man.

Alameda Society Girls Are Driving Trucks In France

Letters from the Misses Alexine and Marian Elliott, Alameda society girls, who are driving supply trucks "somewhere in France," are being prepared for magazine publication by Mrs. C. L. Tilden of 1031 San Antonio avenue, Alameda. The proceeds of the publication will be devoted to the relief of the French wounded.

Miss Alexine Mitchell has been in France for several months in the interest of the American fund for the French wounded. In one of her letters she describes her thrilling experiences in Normandy. The younger sister has but recently arrived in Paris, where she is doing similar work.

On the day of her arrival, she writes, she saw 8000 French soldiers leaving for the front. She declares that they clamored for small American flags in preference to cigarettes or tobacco and were widely enthusiastic over America's entry into the war.