

the steering knuckles. They are thus in a fixed relation to the wheels, regardless of how the latter are deflected for steering. Integral with these latter gears *N* are others *PP*, meshing with the large bevel gears *Q*, attached to the front wheels. Thus the front wheels are driven each with the same turning effort, but, by virtue of the compensating gear between the bevel gears that drive them, they are able each to take its own speed in going around a curve. Again, by virtue of the large compensating gear *D*, the driving force is divided equally between the rear and front wheels. A proper distance between the sprocket pinions *J J* and the counter-shafts which they respectively drive, is maintained by the distance rod *R*.

#### THE POWER PLANT.

The boiler of this truck is of the fire-tube type, familiar in steam carriages. It

6-inch steel tires, and detachable "spuds" may be used for traction in soft ground. The controlling levers are so grouped that one man can handle the vehicle without moving from his seat.

It is obvious that in any vehicle with four wheels the weight should be divided as uniformly as possible between the front and rear wheels, since as the same power is applied to both front and rear wheels, the maximum power at any wheel cannot be allowed to exceed that at the wheel which has the least traction. Consequently there is not the same need in this truck as in others for the platform to project far beyond the rear wheels, and this constitutes a noticeable feature in the appearance of the Aultman truck as compared with, for example, the best-known English "lorries."

We take pleasure in acknowledging our indebtedness to Mr. E. A. Wright—under

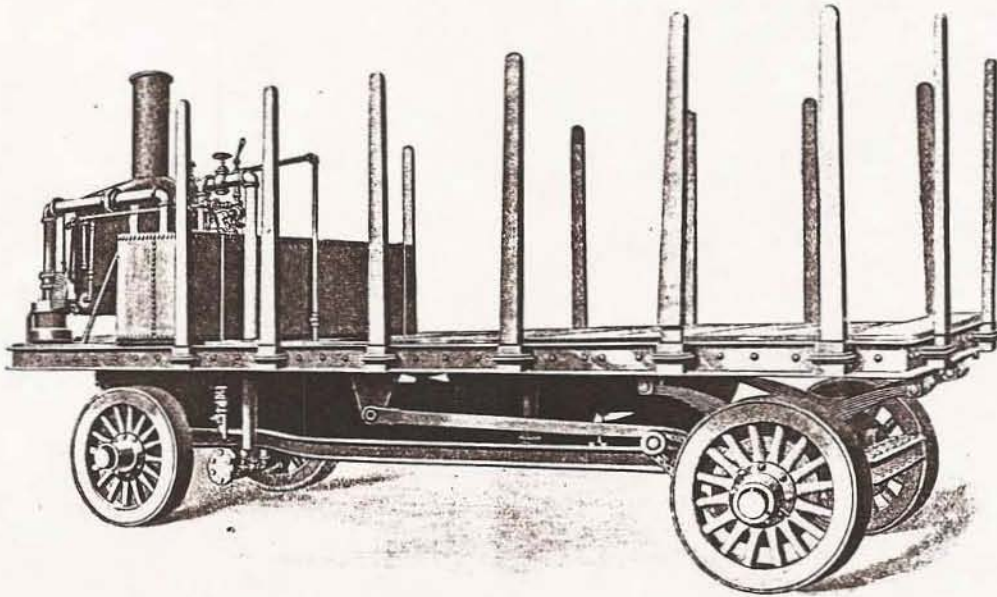
## DETROIT RACES THRILL THOUSANDS OF VISITORS.

### FORD-COOPER VS. WINTON BULLET

Local Management Praised by Devotees of Sport—"Red Rover" Acts as Band Wagon But Breaks Down—Chicago Automobile Club Sends Delegation of Fifteen Members.

Staff Correspondence.

DETROIT, Oct. 25.—The closing meet of the season, that given yesterday and today, at the Grosse Point mile race track, by the Detroit Automobile Club, was, in spite of two postponements, of great value in stimulating the sport and interest in it. Though the crowd each day was not so large as that at the Cleveland races, the total was about the same, there being 5,000 in attendance at each program. The races were all interesting, most of them excited the spectators, and several were veritable "thrillers." With the exception of the



EXPERIMENTAL 4-WHEEL DRIVE STEAM WAGON BUILT BY THE AULTMAN CO., CANTON, OHIO.

is of extraordinary size, however, being 32 inches in its inside diameter and 18 inches high. It has 1,368 half-inch copper tubes, and a heating surface of 244.64 square feet, or 15.3 square feet per horse power. The shell is of 3-8 inch steel boiler plate, and the heads are 7-16 inch thick, stayed with ten 3-4 inch stay bolts. The burner, which is illustrated in Fig. 5, is 31-2 inches deep, with 786 half-inch copper air tubes. It is peculiar in having two mixing tubes entering from opposite points, these being necessary to obtain an even distribution of gases. The gasoline tank holds 50 gallons, and the water tank 100 gallons. The engine is of the conventional type, with Stephenson link motion and enclosed crank cases.

This truck is designed to carry a load of 5 tons, and has a platform space 6 by 12 feet. The wheels are shod with plain

whose supervision the experimental work has been conducted—for the data and drawings incorporated in this description.

#### Stage Line in Texas.

C. J. Spittal, of Clarendon, Tex., has purchased two Century steamers and will use them on a stage line in the Panhandle of Texas. His route is sixty miles each way, over almost perfectly level roads. Each machine will carry six persons, and the fare for the sixty miles, which will be covered in one day, will be \$3. It takes the horse stages two days. Mr. Spittal is a cattleman who sees an opportunity in his stage line. The number of passengers making the trip on the stage coaches has often been as high as thirty. He looks for a good part of this patronage, and may buy more machines in the future.

Cannon steamer, all of the prominent racing cars were on hand and also the races for light vehicles were well filled and well fought.

#### MANY NOTABLE MACHINES.

The Bullet and Winton's smaller racing car, known as the "Pup," H. S. Harkness' Mercedes, White's steam racer, and the swift Chicago Locomobile, were the stable attractions. Added to these were the Ford-Cooper racing car, the new Geneva steam racer, two exceptionally fast stripped Oldsmobiles, a Northern, similarly dismantled of superfluous weight and wind resistance, and the new 4-cylinder Peerless racer. The last, however, did not compete, as it was fresh from the shop and hardly in working trim. In fact, its completion occurred on the boat between Cleveland and Detroit.

The most exciting and notable event was the winning of the manufacturers' challenge cup by Barney Oldfield with the Ford-Cooper racer, which included beating the Winton Bullet.

The spectators showed keen appreciation of the sport and officials and visitors declared the occasion highly creative of future glories in like lines.

Friday the meet was blessed with an admirable autumn day and in view of the good races Saturday's crowd would probably have been doubled but for a quick and great chance toward cold weather. But in spite of the raw wind to-day's gathering stayed an enthusiastic whole till the closing event had been run.

Numerous out-of-town visitors, aside from competitors and officials, were present. The Chicago Automobile Club sent a delegation of fifteen and it can be quoted that this body and the other visitors, were given, as well as a glad welcome, a continued generous treatment which sends them home praising not only Detroit automobile races, but also Detroit automobilists.

#### MOTORISTS ASSIST STEWARDS.

These same automobilists greatly assisted the stewards of the meet in attracting local attention Friday morning by turning out nearly 100 vehicles strong to form a street parade. This was well formed and run out but for the unfortunate balking of the motor band wagon—the Detroit "Pilot," formerly the well-known "Red Rover" of New York; a hybrid with a checkered career.

The lack of record breaking was mainly due to the fact that the track, while fairly smooth near the pole, was not in as good condition, nor as highly banked as the Cleveland track on which the fastest times were run this year. There was also a constant wind blowing across the inclosure.

The stewards and active managers of the meet were W. E. Metzger, E. H. Broadwell and W. M. Perrett. The officials were: Referee, George Collister, Cleveland; Judges, Hon. W. C. Maybury, Detroit; W. Crawford, Cleveland; H. B. Joy, Detroit; L. H. Newberry, Detroit; R. H. Croninger, Chicago; F. X. Mudd, Chicago; Timers, S. A. Miles, Chicago; K. F. Peterson, Chicago; C. B. Hartners, Cleveland; R. A. Alger, Jr., Detroit; E. E. Kirk, Toledo; R. B. Clark, Detroit; Starter, E. H. Broadwell, Detroit; Clerks of Course, W. M. Perrett, Detroit; W. G. Morley, Detroit; Walter Perrett, Chicago.

#### EVENTS ON OPENING DAY.

When W. C. Buckman and Windsor T. White, with stock Geneva and White carriages, respectively, were sent away as the sole starters in the 5-mile race for steam road vehicles the crowd agreed that Mr. Buckman had an easy task. He led for four miles, but in the back stretch of the last mile White ran past him easily and rounded the turn with a good lead. Buck-

man quit in the middle of the stretch. White's time was 10:42.

The five-mile event for carriages of 1,000 pounds or under, which was handily won by the little Locomobile from Chicago with Rimers driving, brought out a striking trio of stripped small machines. Huss and Wigle, of Detroit, each drove a bodyless Oldsmobile, while J. D. Maxwell appeared on a likewise scantily clad Northern. The remaining starters were J. L. McNamara, Oldsmobile, and J. J. Miller and J. P. Schneider, with Elmores. The Loco at once took the lead when the gun was fired with Huss close behind. In the second mile there was a pretty race between Huss, Wigle and Maxwell for second position, but in the third mile Huss dropped back and out. The Northern then worsted Wigle's Olds and caught up with Rimer's Loco, but soon lost the pace and again regained it only to be shaken off as the two rounded into the home stretch. The Loco's winning lead over the Northern was about 50 yards. Wigle was third with the others far in the rear. The winner's time was 7:51 4-5, with the best mile done in 1:30 4-5.

From a large entry list in the 5-mile race for gasoline vehicles of the 2,000-pound class, Shanks and Harkness emerged as sole competitors. The latter has succeeded in stripping his Mercedes-Simplex so that by about a 30-pound margin it came within the weight limit. The race was easy for the German machine, which took the lead without delay and gradually widened the space between it and the little Winton "Pup." Harkness won in 6:01 2-5, with a lead of about a half mile.

#### ONLY MISHAP OF THE MEET.

The only accident of the meet occurred in the 10-mile handicap, which was in itself interesting and at times spectacular. J. D. Maxwell, while well on the way to victory, with his speedy stripped Northern, was the unfortunate one, his fall assuming the form of a sudden jump toward and a miraculous escape from death. The line-up was: J. J. Miller, Elmore, 7:00; J. L. McNamara, Oldsmobile, 6:30; J. D. Maxwell, Northern, 6:00; W. V. Newman, Winton, 4:30; A. Y. Malcomson, Winton, 4:30; Windsor T. White, White racer, 3:00; W. C. Buckman, Geneva racer, 3:00; H. S. Harkness, Mercedes-Simplex, 1:30; Alexander Winton, Winton Bullet, scratch.

McNamara's lead over the rear bunch was too much to be overcome, although Winton ran successive miles from 1:06 to 1:08, and Harkness averaged about 1:10. The latter worked well up, however, and both made splendid runs. It was in the fourth mile that Maxwell fell. He was almost a sure winner, and running fast close to the pole. Winton went past on the first turn and, according to his usual custom, swung wide to get down close again in the middle of the turn. Maxwell,

fearing to stick to the pole as Winton swung around, ran wide, intending to go outside. His speed was too great to turn the trick and he grazed the rear of Winton's machine. A complete aerial loop-the-loop was taken by both machine and driver and the crowd shouted "killed." But Maxwell arose almost as soon as he had alighted. Examination showed a sprained wrist as the greatest hurt. The machine, also, was but slightly damaged. This spill left McNamara in the lead.

While Harkness and Winton were working up White and Buckman rode a little race with never more than 100 yards between them, and with White ahead. Harkness succeeded in catching these steamers, but Winton was unable to do so, though all the others had been passed. Harkness thus finished second, behind McNamara, with White third, Buckman fourth and Winton fifth. The winner's time was 18:15. Winton's time was 11:45 1-5.

#### FORD-COOPER CAR EXHIBITION.

After the handicap Barney Oldfield appeared in one of the Ford-Cooper racers for an exhibition mile. The heavily motored car negotiated the oval in 1:06 4-5. Oldfield handled the machine well despite the fact that he had had but a few preliminary trips by way of practice with it. Incidentally, Cooper now owns both of these cars, having purchased the interest of Henry Ford, designer and builder.

W. C. Baker turned a surprising trick in the two-mile electric race. He drove a Baker Stanhope and easily defeated Jackson Brady, who drove a Waverley. The first mile was comparatively slow, but Baker drove the second in 1:42. His total time was 4:14.

Alexander Winton ran the Bullet five miles in an attempt to break his own mile record of 1:02 1-4. He was unsuccessful, however, his best mile being done in 1:04 4-5. His time for the 5 miles was 5:28.

An obstacle race in which Mr. Baker, with his electric, was the only contestant able to safely navigate the sinuous course in and out of groups of barrels, closed the day's sports.

#### EVENTS ON SATURDAY.

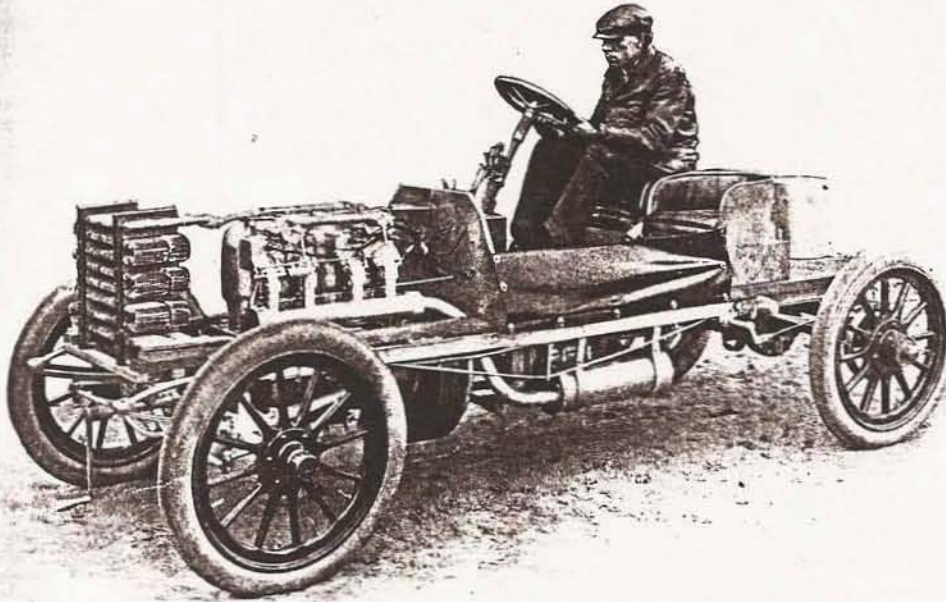
In the first race Saturday, a 5-mile gasoline event for vehicles queerly classified as 5 horse power or under, the two stripped Oldsmobiles driven by Wigle and Huss easily ran away from McNamara's Olds and the Elmores, driven by Messrs. Miller, Hines, Schneider and Rockerman, of Detroit. The cars strung out early with Wigle and Huss leading. At 3 miles they were 1-4 mile ahead and lapped Miller in the last mile. Wigle won from Huss by an open length, with McNamara 1-2 mile behind. The time was 7:50.

Rockerman, a long distance starter, with an Elmore, captured the exceedingly lively 5-mile handicap for Detroit private

owners. The starters were: Rockerman, Elmore, 4:15; Ferry, Winton, 2:45; Eddy, Winton, 2:00; Malcomson, Winton, 1:15; Rand, old Ford racer, scratch. Rockerman, Ferry and Eddy led consistently

Buckman, with the low, turtle-back Geneva racer, surprised White, Rimers and the crowd in the 3-mile steam open race by sailing far ahead and remaining there. He won by 1-4 mile over White, who had

drove the Winton "Pup" hard in the 10-mile open handicap and made a great Winton victory. Those in line were: Miller, Elmore, 5:00; Schneider, Elmore, 5:00; McNamara, Olds, 4:00; Fisher, Win-

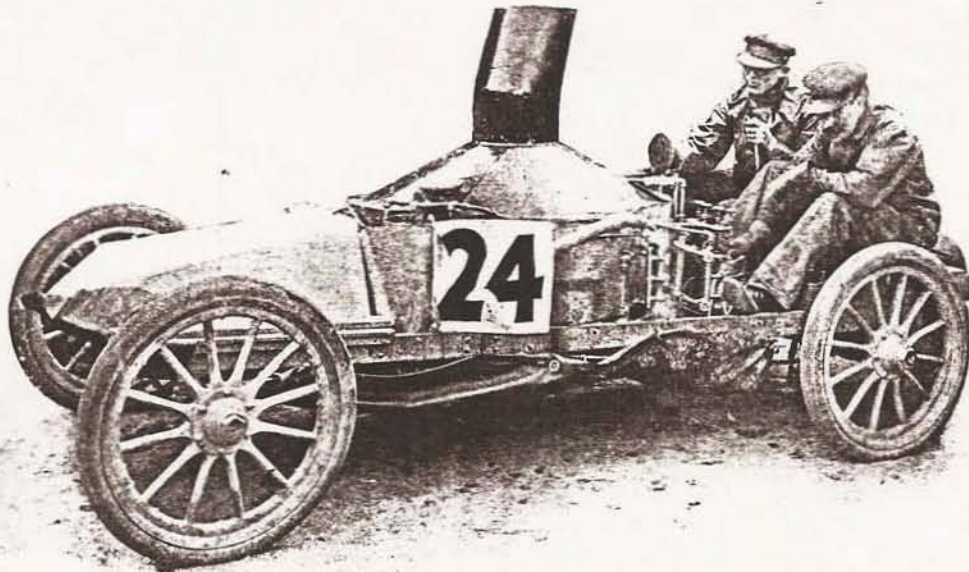


NEW PEERLESS 4-CYLINDER RACING CAR—DID NOT COMPETE IN RACES.

for the first two miles; then Ferry dropped out, leaving second position to Eddy, who, in the fourth mile, turned it over to the

passed the Loco in the last mile. The time was 4:07 2-5. The winner was received heartily by the spectators, as his defeat by

ton, 3:00; White, White, 2:30; Shanks, Winton "Pup," 2:00; Rand, Ford, 2:00; Harkness, Mercedes, 0:45. or virtual



NEW GENEVA STEAM RACING MACHINE AT THE DETROIT RACES.

bying scratch man. Malcomson also finished alone in that order. 8:32 2-5, and Rand's

White the day previous made his easy victory 10-day more prominent.

WINTON DID NOT DRIVE.

Winton being unable to start owing to an injured water radiator, Charlie Shanks

scratch man. Miller, Schneider and McNamara kept the first three positions, respectively, for 3 miles. In the fourth Shanks stole third from McNamara and in the fifth overhauled the other two and

gained the lead. Rand was a good second after the sixth mile until Harkness ran past him in the ninth. He was secure for third, however, in spite of a punctured tire caused by grazing the fence on the last turn and knocking three sections of it down. But for some inexplicable reason he stopped about 50 feet from the wire and ere he had heeded the strenuously given advice of the spectators to "go on." White slipped past and annexed third place. Shanks won in 13:34 2-5. The Mercedes covered the distance in 12:24 2-5.

W. C. Baker rode a ten mile exhibition in his electric Stanhope, covering the distance in 17:57. His time for 5 miles was 9:05 1-2, breaking the previous electric track record of 10:28 1-5.

#### MANUFACTURERS' CHALLENGE CUP.

The five mile race for the manufacturers' challenge cup, open to all classes but limited to members of the American Motor League, was the event of the day, of the meet and probably of the season—for it brought out prominently a new winner in the "unlimited" class. The much heralded Ford-Cooper racer, driven by Barney Oldfield, beat the Winton Bullet and in so doing exactly tied the latter's time of 5:28, made the day previous in an exhibition run.

The starters were Winton, Oldfield, Buckman and Shanks. The new racer got under way much faster than the Bullet and in the first mile opened a wide gap. Winton held the pace for a time, and it appeared that he might catch Oldfield. He began to lose in the third mile, however, and as the Bullet's motor missed fire repeatedly he quit at the end of the fourth mile.

In the meantime there was a superb race on between the Winton "Pup" and the Geneva steam racer. Shanks drew ahead in the last mile and Buckman was lapped by Oldfield. Then the Ford-Cooper machine literally tore down the stretch and nipped Shanks for a lap just as the wire was passed.

When Oldfield returned to the judges' stand the crowd awoke in pandemonium and over the fence went Detroiters in bunches to lift the new speed merchant from his seat with outstretched arms and an abundance of enthusiasm. Mr. Winton displayed his true sportsmanship in congratulating him upon his victory and complimenting him upon his splendid ride. The best mile was made in 1:04 1-5, the fastest time thus far officially made on the wind swept Grosse Point track.

#### THE TWENTY-MILE OPEN.

The meet's finale, a 20-mile open, brought out only the Winton Bullet and the Mercedes, the latter owing to illness of Mr. Harkness being handled by James Hedges. It took the lead easily and opened a space of 3-8 of a mile in 7 miles. Winton dropped out, and at the end of the ninth the Mercedes was called off, the track being shrouded in deepening dusk.

## Automobile Fashions for Women— Newest French and American

BY AN AUTHORITY

Evolution has been as much a factor in the wearing apparel of the woman mobilist as in the automobile itself. When it was first introduced women wore their everyday clothes, but they soon found these to be unsuitable from almost every point of view. Any wearable that could possibly be harmed by the dust, mud or weather conditions was assuredly spoiled if not altogether ruined.

Then it was that the costume designers and garment makers got together and sought to devise costumes that they believed would be suitable for the purpose. As frequently happens, however, when a reform is needed, they went too far in the other direction and produced costumes in which the most severe type of effects was emphasized. Rubber and heavy leather affairs were shown, and attained considerable popularity, too; many of which suggested the armor of the diver, so heavy and so dust proof were they made. It was not long before fashionable women began to see the fallacy of this mode of dressing. Uncomfortable in the extreme, it also presented an appearance that was positively hideous. The most beautiful woman could not look attractive in an ugly leather reefer, a German army cap, and a face mask that recalled a three-ring circus or Mardi Gras fête.

#### NEW STYLE OF COSTUMING.

Now a new style of costuming has been introduced that is at once effective and serviceable. The old styles continue to a certain extent in the very heavy garments and in the fur effects, but aside from this everything is new. Many of these new models are of French origin, or if not strictly French are adaptations from modes produced in that country, and they are in every way comfortable and serviceable.

One of the most popular modes of the moment is the plain Cravenette rain coat, in fact, many of our most fashionable women use this style of outer garment alone for automobiling. Besides being a perfect protection against dust and dirt, and cleaning off readily, it has the advantage of being very easy to slip on or off—something that cannot be said of the older armor-like forms. A garment of a very similar nature is one of the most popular effects in Paris to-day and is there known as the *chauffeur's parapluie*.

#### WINTER AUTOMOBILE COAT.

A very recent form of automobile coat, and one particularly adapted for heavy winter wear, is a thorough Paris model. In fact, it is one of the great favorites abroad at the present time. It is made of

a smooth-faced cloth of heavy texture, but usually in some light color, such as tan. Blacks, however, are also very popular. The garment is very loose with no pretense of fitting the body. It is cut double-breasted and is usually adorned by large metal buttons in antique design. The collar is of velvet in self color and where a very fancy touch is desired this is adorned with narrow bands of Russian or Persian embroidery.

One point about this garment that should commend itself most emphatically to the woman who knows what it is to be without is the double pocket effect, there being two breast slit pockets that are very large and commodious. The feature of the garment, however, is the very loose sleeve, something like that popularized by the old-fashioned mackintosh, but again favoring more of the kimono effect. In very cold weather the arms can be kept under the garment, as the sleeves are so large that the arms can be slipped in or out at will. These sleeves, by the way, as well as the bottom of the gown, are heavily stitched. Lined with a heavy woolen plaid, the coat is one that will serve in almost any weather and prove a splendid protection against rain or wind.

#### THREE-QUARTER-LENGTH COAT.

A coat that is much affected by fashionable women is a very simple effect; so simple is it, in fact, that it could be worn on the street without attracting attention. It is a three-quarter length effect and is usually shown in rough goods. Like the majority of automobile garments, it is not tight fitting, but falls full and loose from the shoulders to the knees. It is practically bare of ornamentation. The revers, though they are turned back the entire length, are of self material, stitched. The collar is a double cape effect, also of soft material, while the cuff is a turned-back idea, also stitched. This garment, too, shows that very important and interesting feature—the pocket—there being a slit pocket just below the waist line on either side, ornamented by fancy cut tabs of self material.

As a practical garment that could be worn for almost any purpose this one has no equal. The great feature about it is that a woman could step out of her automobile and spend an hour or so walking around in a shop without attracting undue attention—a feature that appeals to women who are not anxious to appear what for lack of a better term may be called "horsy."

Aside from these, there are a number of other forms of cloth garments in use for automobile purposes. The majority