April 19, 1927. 1,625,041

G. F. MARSHALL

MEANS FOR INVESTIGATING STREET OCCURRENCES

Filed March 2, 1926

Fig. 1.

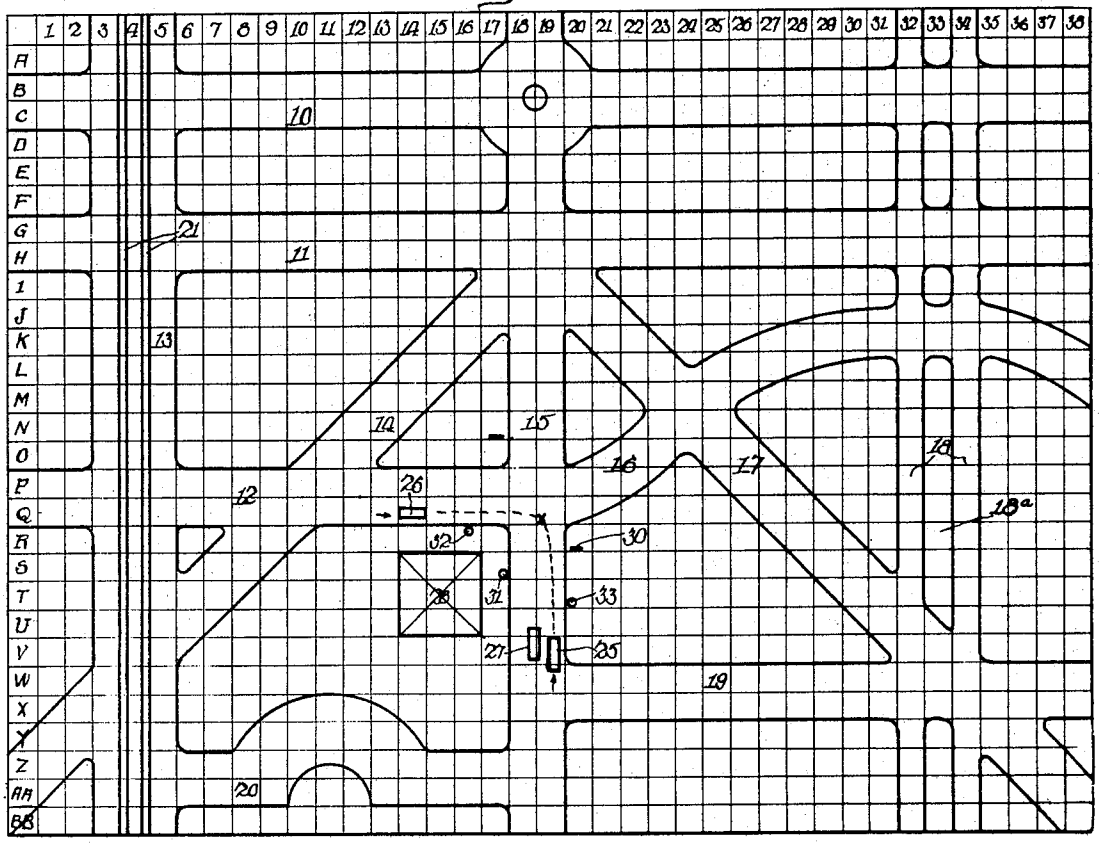


Fig. 13.

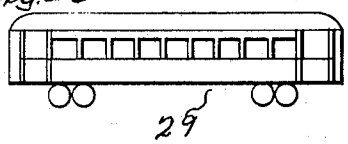


Fig. 2.

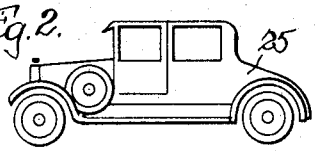


Fig. 3.



Fig. 4.

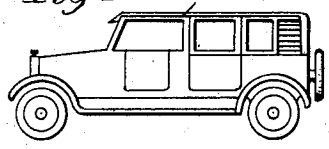


Fig. 5.

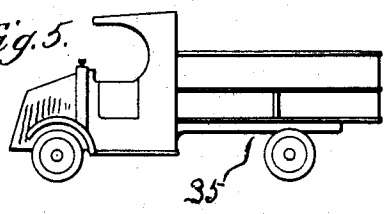


Fig. 6.



Fig. 7.

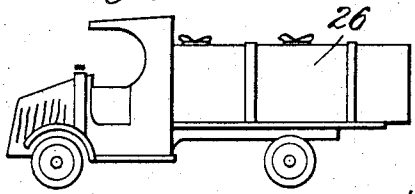


Fig. 8.

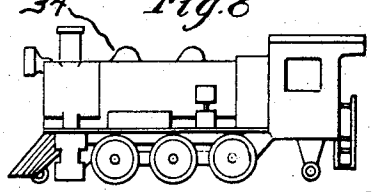
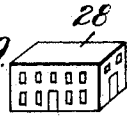


Fig. 9.



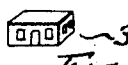
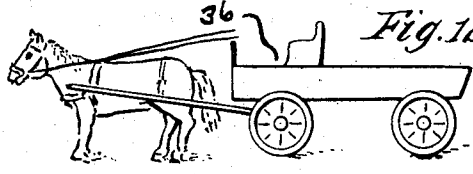


Fig. 10.

Fig. 11.



Fig. 12.



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Patented Apr. 19, 1927. 1,625,041

UNITED STATES PATENT OFFICE.

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MEANS FOR INVESTIGATING STREET OCCURRENCES.

Application filed March 2, 1926. Serial No. 91,824.

These improvements relate physically to charts and chart devices and in their essence to the art of making investigations, more particularly with respect to street occurrences, for instance accidents by automobiles.

The great prevalence of automobiles on streets, highways and similar passageways for vehicular traffic is constantly giving rise to a multitude of accidents which require investigation. The people concerned in such investigations are variously insurance companies, agents, and adjusters, taxi-cab and motor-bus companies, commercial and manufacturing concerns operating automobiles, railroad and street car companies having collisions or accidents on public highways or streets, coroners, police departments, courts, etc., etc.

It has been customary in the case of automobile accidents and other street occurrences to investigate the facts by interrogating available witnesses and by writing down and analyzing their statements. It has been found that according to that method it is only with great difficulty that the real truth of the situation can be ascertained, if at all. The witness's subsequent impressions of the location of the vehicles or other objects involved, even that of his own person, is likely to be much at fault. He attempts to describe the event from a mental picture which does not come out clearly for various reasons, including faultiness in the original observation, fading from lapse of time, and weakness in the faculty of visualization, present in many instances to a marked degree. It has been found that even the mind highly-trained in many other respects is likely to show a very limited ability to describe in words the essential details of such events. That no two persons describe an occurrence alike is a commonplace expression.

Such varying and conflicting verbal reports have furnished the data from which the truth of the matter has been sought to be ascertained, and in the many cases wherein a jury has finally been asked to solve the problem the evidence has been mostly such that the answer given is the sheerest guess.

The present invention has been evolved as a result of long experience in dealing with this problem, and has for its prime object the provision of a method and means for conducting an investigation of street occurrences whereby the truth, with a fair, reasonable, and in many instances a full, degree of accuracy may be ascertained.

It is a specific object to provide means whereby the witnesses may be shown, or may themselves illustrate, the substantially exact situation as to the relative position of objects involved, proceeding on the theory that, given suitable means, it is within the capacity of the witness to build up a visible expression of the scene which is substantially true and exact, taking appropriate physical objects piece by piece and locating them, rearranging them if necessary, and finally creating an optical expression patterned after that stamped upon his mind by the objects at and involved in the occurrence.

It is an object also to provide a device according to which substantially definite and exact information concerning a particular occurrence may be communicated to another or others, either present or at a great distance, in a very brief space of time. Thus, for distant communication, information may be given by telegraph or telephone as to where particular marker objects on a particular chart are to be located, so that the person at a distance may reproduce the scene upon a facsimile of the given chart, which feature is highly important in apprising persons at a distance promptly of the details of a given event, for instance an insurance company whose investigator is at a distant scene of an accident.

It is an object also to provide a simple device for such investigations, one which may readily and easily be used and understood by all persons of ordinary intelligence.

Another object is to provide a form of chart device and appropriate markers therefor according to which a substantially large variety of types of roadways and intersecting and abutting streets are shown, to the end that should the street occurrence or accident happen at any one of a large variety of typical street intersections or other street forms a suitable counterpart of that actual form is readily available for reproducing in miniature the original scene.

It is a specific object to provide means in association with such a chart device whereby the scene may readily be reproduced substantially to scale, thus making for accuracy in the results.

Other objects and advantages will readily appear from the description given.

In the drawings Figure 1 is a face view of a typical or characteristic chart device according to these improvements having certain marker objects applied thereto, and Figs. 2 to 13 inclusive are views of various marker objects respectively, on an enlarged scale.

Referring to Fig. 1 the chart device illustrated shows a plurality of roads or streets 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 and 20, some of which open into or intersect another or others thereof, and they exemplify a considerable number of different types of streets and street corners or intersections. On street 13 there is shown a pair of railroad or street car tracks 21. Street 18 has a parkway 18[a] in the middle thereof and streets 10 and 20 show a circular formation commonly found where there is a statue, fountain or the like in the street line.

While Fig. 1 does not show all of the well-known street forms it shows a sufficient number thereof to indicate a preferred form or type of chart device illustrating a considerable variety of types of streets, street abutments, jogs and intersections, and thus provides means for selecting a particular counterpart or substantially facsimile representation of the same at the time and for the purposes of a particular investigation.

The chart device is provided with scale indications whereby given relative distances thereon, and whereby distances thereon proportionate to those in the actual street or highway, may readily be ascertained. Such scale indications may be variously applied but are preferably in the form of abscissa and ordinate rulings which are individually marked. The numbers 1 to 38 inclusive across the top of Fig. 1 and the letters A to BB inclusive at the left-hand vertical margin associated with the cross rulings provide means for readily identifying particular locations on the chart device. These cross rulings identified by the abscissa and ordinate markings are equally spaced apart and provide means whereby any particular scale suitable in any given instance may be adopted. Thus, assuming that the streets 12 and 15 are twenty feet wide and an accident at the intersection thereof is under investigation, the scale of the chart device at that place and for that particular purpose becomes ten feet between the parallel scale markings. The streets in question might be forty, fifty or one hundred feet wide, in which event the scale for distances in the direction of the length of the streets would be proportionate to the width shown. Thus, if the width of the actual street represented by streets 12 and 15 were one hundred feet, each of the squares of the scale would represent fifty feet on a side.

The markers shown by Figs. 2 to 13 inclusive are preferably in the form of objects actually involved in these street occurrences, such as street cars, various types of automobiles, trees and shrubbery, stop signals, persons, horse-drawn vehicles and various types of buildings. These marker objects are small and approximately to the scale of that which would be determined for the chart by conventional street widths. In these figures are to be found a coupé 25, a tank truck 26, a sedan 27, a large house 28, a trolley car 29, a stop signal 30, a man 31, a tree 32, a small house 33, a locomotive 34, a dump truck 35, and a horse drawn vehicle 36. These figures are drawn to different scales for convenience in arranging upon the sheet.

With respect to the different types of automobiles, other vehicles, etc., it is quite an advantage to have them at least approximately in the form of the object actually involved, since the witness to the event is better able to reproduce his mental picture if he can use like objects and have the picture itself illustrate which object is a coupé or a sedan automobile, which a truck or tank-car, which a street car, etc. The marker objects representing houses are of several sizes, or in small sizes which may be built upon themselves, in order better to meet actual conditions, and by means of shrubbery, trees, stop signals, etc., the actual situation may be clearly expressed in pictured form.

Let us suppose, for illustration, that an automobile 25, being the coupé of Fig. 2, is traveling north on street 15 and a tank-car 26 represented by Fig. 7 is traveling east on street 12. Let us assume also that a sedan, as 27 of Fig. 4, is passing coupé 25 and also that a building as 28 is on the corner between cars 25 and 26. There is shown a stop signal 30 near the intersection. A particular witness 31 says he was standing on street 15 as shown by the chart. Another witness 32 says he was located on street 12 as shown. Still another witness 33 says he was on street 15 as shown. The cars 25 and 26 collide at X and the problem is to ascertain responsibility.

In using the present method, system or device, the witness is interrogated in connection with the device. The scale to be adopted is readily ascertained from the width of the street or streets. The cars involved are selected as to type and at first will be positioned roughly. Interrogation develops more accurately such details as the witness's conception of the distance of a given automobile from the intersection at a particular time and the speed at which it was traveling, and also the location of other objects. With the marker objects in position the witness finds that his first general impressions were erroneous in many respects, but with them and the scaled drawing he is able, step by step, to reproduce

his mental picture of the event. When he has redeveloped the scene optically it is a simple matter by means of the abscissa and ordinate scale markings and the indications therefor to reduce his statement to writing by reference to the markings on the chart device and at any subsequent time to reproduce the picture for the benefit of court or jury or any one else concerned.

The same procedure is followed with each of the witnesses, and, to the investigator according to the usual method, it is surprising how well the various descriptions of the event coincide where each is developed according to the present method of investigation.

I have found, too, that according to this method and device witnesses who are disposed insistently to describe the event erroneously, sometimes wilfully, can be made to admit their error. The statement of such a witness is usually first taken and he is then confronted with the present device and method of investigation, whereupon it frequently becomes obvious that the event could not possibly have taken place as recited.

It sometimes happens, too, that several or all of the witnesses will agree upon certain fundamental facts but will disagree as to others. When these witnesses are confronted by the chart device and with all of the marker objects applied according to the fundamental facts agreed to, the disagreement among them as to other facts disappears from the sheer necessities of the results following from the agreed-to facts.

No claim is made that by the use of the present device, method or system the absolute truth of a given street occurrence will necessarily be ascertained; but I have demonstrated that so close an approximation thereof will usually be had as to relieve the investigation of a large amount of labor and difficulty, and as will develop the truth sufficiently for practical purposes, and with much more accurate results than by any other method commonly used or of which I am aware. The greatest impediment to a satisfactory adjustment of such street accidents is the difference of opinion as to who should bear the blame. According to the present method and device the facts may in most instances be so satisfactorily ascertained that the adjustment may be made harmoniously, avoiding a reference to the court.

In practice I contemplate that several, say half a dozen chart devices, each say a foot and a half wide by two and one-half feet long, and showing substantially all of the actual street shapes, types of intersection, etc., likely to be found, cross-sections showing grades or surface conformation, together with other data relating to the distance traveled by an automobile in a given time at a certain rate of speed, and other information of like character, may be bound together or supplied in loose-leaf form as a book, and be sold commercially, whereby such interested concerns as insurance companies, etc., may have duplicate copies thereof in their various offices throughout the country or a given territory, and whereby information of a given occurrence may readily and easily be transmitted say to the home office by reference to a particular chart and be always available for reproduction in the form of a map or picture.

I contemplate as being included in these improvements such variations, changes and departures from what is herein specifically illustrated and described as come within the scope of the appended claims.

I claim:

1. A device for investigating roadway or street occurrences comprising a chart of the character described having indications thereon representing such passageways for vehicular traffic, scale markings associated with said passageways respectively whereby distances or locations on the chart device corresponding to given distances or locations on the actual passageways may be determined according to the scale markings of the chart device, and markers representing objects involved in the street occurrence and adapted to be positioned on the chart according to the scale indications thereon for showing the relative positions of the actual objects involved in a given occurrence at the time thereof.

2. A device for investigating roadway or street occurrences comprising a chart of the character described having indications thereon representing such passageways for vehicular traffic, ordinate and abscissa scale markings associated with said passageways respectively whereby distances or locations on the chart device corresponding to given distances or locations on the actual passageways may be determined according to the scale markings of the chart device, markings associated with the scale markings respectively for distinguishing them from each other, and markers representing objects involved in the street occurrence and adapted to be positioned on the chart according to the scale indications thereon for showing the relative positions of the actual objects involved in a given occurrence at the time thereof.

3. A device for investigating roadway or street occurrences comprising a chart of the character described having indications thereon representing passageways for vehicular traffic, some of said passageway indications crossing each other and representing various types of street or roadway intersections, ordinate and abscissa scale mark-

ings associated with said passageways respectively whereby distances or locations on the chart device corresponding to given distances or locations on the actual passageways may be determined according to the scale markings of the chart device, a different identifying character associated with the scale markings respectively, and markers in substantially the form of and representing objects involved in the street occurrence and adapted to be positioned on the chart according to the scale indications thereon for showing the relative positions of the actual objects involved in a given occurrence at the time thereof.

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