(*b*) Surface flows (crystalline lavas, felsitic, and slightly porphyritic in texture and showing flowage structure):
6. Rhyolite and rhyolite breccia.
7. Felsite and brecciated felsite.
8. Trachyte.
9. Andesites: Augite; Hornblende; Andesite breccia.
10. Basalt: Vitreous; Olivine; Chloritized.

(*c*) Intrusive masses (dikes, sills, etc.; strongly porphyritic or intimately interlocked in texture):
11. Granite porphry.
12. Syenite porphry.
13. Camptonite.
14. Diabase ("trap" of highest grade): Hypersthene; Uralitic; Olivine; Augite; Gabbro; Meta-diabase.
15. Diabase porphry.
16. Peridotite.
17. Pegmatite.

(*d*) Plutonic masses (deep-seated in origin; granitoid in texture and massive structure):
18. Granite: Hornblende; Porphyritic; Muscovite; Micro-granite; Gneissoid.
19. Syenite: Augite; Quartz.
20. Granodiorite.
21. Diorite: Quartz; Augite; Basic; Porphyritic.
22. Gabbro: Hornblende; Hypersthene; Uralitic.

In the above grouping, the field relations are indicated in the sub-headings, and under each the rock types of which the names have been found mentioned in road tests, or rock lists for such purpose, have been arranged approximately in order from the more acid to the more basic in composition.

II. Sedimentary (clastic) rocks and associated organic accumulations and aqueous precipitates, together with special modifications:

(*e*) Simple sediments (arranged from fine to coarse grain):
23. Shale: Clay; Ferruginous; Carbonaceous; Calcareous.
24. Sandstone: Argillaceous; Calcareous; Ferruginous; Chloritic; Feldspathic; Arkose; Kaolinized; Biotite; Indurated; Metamorphosed; Conglomeritic.
25. Conglomerate.

(*f*) Organic in origin, with or without sedimentary intermixture, and usually with some modification:
26. Limestone: Shell; Fossiliferous; Clay; Argillaceous; Bituminous; Siliceous; Nodular; Oolitic; Cherty; Dolomitic.
27. Dolomite: Argillaceous; Arenaceous; Siliceous.

(*g*) Precipitates:
28. Travertine (tufaceous limestone).
29. Gypsum.

(*h*) Special segregations, etc.:
30. Quartz.
31. Chert: Calcareous; Oolomitic.
32. Flint.
33. Nematite.
34. Phosphate rock.

III. Dynamic fragmental materials:

(*i*) 35. Breccia: Quartz; Quartzite; Brecciated felsite.

IV. Metamorphic rocks (that have been recrystallized and have lost most of their original structural habit and in part their mineralogic habit. As a rule they have a foliate structure and break much more readily in one direction than in others):

(*j*) Fine-grained types (with good rock cleavage):
36. Slate or argillite: Clay; Siliceous; Calcareous; Indurated slate.

(*k*) Medium grained (rather massive and comparatively little foliate habit):
37. Quartzite: Calcareous; Sericitic; Feldspathic; Chloritic; Pyroxene; Epidote; Hornblende; Micaceous.
38. Graywacke.

(*l*) Strongly foliated and usually of medium grain (commonly of abnormal composition; i.e., some mineral other than feldspar in excess):
39. Schist: Quartzite; Mica; Biotite; Quartz-mica; Hornblende; Mica-hornblende; Hornblende - mica; Chlorite; Hornblende - chlorite; Garnet - hornblende; Quartz - hornblende; Tremolite; Talc schist (soapstone).

(*m*) Foliated structure, medium to coarse grain, sometimes banded and of normal composition (i.e., the usual feldspathic mineral makeup):
40. Gneiss of unstated relations: Quartz; Sericite; Hornblende; Arkose; Chlorite; Muscovite; Biotite; Pyroxene.
41. Granite gneiss.
42. Syenite gneiss.
43. Diorite gneiss.
44. Gabbro gneiss.

(*n*) Massive types:
45. Marble: Dolomite marble.
46. Serpentine: Hornblende serpentine.
47. Amphibolite.
48. Eclogite: Mica eclogite.
49. Epidosite.

This list represents in reality a very wide range. It is certain that many of them are of very low efficiency, but in spite of that they have been found worthy of consideration and test. Nos. 10, 13, 14, 15 and 21 are the prominent "trap" representatives. Diabase, No. 14, is the type usually meant when the term is used in specifications. But it is not a closely defined petrographic term and is often more loosely used.

The fact that these rock names appear as having been considered worthy of attention for road-building purposes does not necessarily indicate special fitness of all these types. Many of them are doubtless very poor grade compared with trap, but they may in spite of that be superior to the only other materials warranting practical comparison in a given case. Furthermore, the fact that any one of these has been used successfully cannot be taken as evidence that every occurrence of the rock of the same petrographic classification would be acceptable, since so much depends on the physical condition, freedom from decay, texture and special structural factors of each occurrence—to say nothing of other factors of control lying outside of the present line of discussion—such as availability of other competing materials, transportation difficulties, allowable cost, uses to which the road is to be put, etc.

No doubt it would be a great convenience for highway engineers if a special classification, in which the pro-