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U. S. DEPARTMENT OF AGRICULTURE.

FOREST SERVICE.

GIFFORD PINCHOT, Forester.

USE OF THE NATIONAL FOREST RESERVES.

REGULATIONS AND INSTRUCTIONS.

Issued by the Secretary of Agriculture.

To take effect July 1, 1905.

U. S. DEPARTMENT OF AGRICULTURE,
FOREST SERVICE,

Washington, D. C., June 13, 1905.

SIR: I have the honor to present for your approval
a draft of regulations and instructions for the use of
forest reserves.

Very respectfully,

GIFFORD PINCHOT,
Forester.

HON. JAMES WILSON,
Secretary.

U. S. DEPARTMENT OF AGRICULTURE,
OFFICE OF THE SECRETARY,
Washington, D. C., June 14, 1905.

The accompanying regulations bearing date June 13,
1905, are, by the authority conferred by law upon the
Secretary of Agriculture, hereby approved, made, and
established to take effect July 1, 1905, and all previous
regulations in conflict with the same are hereby re-
pealed. The Forester is authorized to issue instruction
in conformity with these regulations and regulatio-
hereafter established.

JAMES WILSON,
Secretary.

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TO THE PUBLIC.

The timber, water, pasture, mineral, and other resources of the forest reserves are for the use of the people. They may be obtained under reasonable conditions, without delay. Legitimate improvements and business enterprises will be encouraged.

Forest reserves are open to all persons for all lawful purposes.

Persons who wish to make any use of the resources of a forest reserve for which a permit is required should consult the nearest forest officer.

No one but the Special Fiscal Agent, Forest Service, Washington, D. C., is authorized to receive payments for the use of the reserves.

Complaints should be made in writing both to the immediate superior of the officer complained against and to the Forester, at Washington.

Every user of a forest reserve will be held responsible for knowing the regulations and obeying them.

Throughout this book general information and directions are printed in this type.

Regulations are printed in this type.

Special instructions to forest officers are printed in this type.

THE USE OF THE NATIONAL FOREST RESERVES.

HISTORY AND OBJECTS OF FOREST RESERVES.

Forest reserves are for the purpose of preserving a perpetual supply of timber for home industries, preventing destruction of the forest cover which regulates the flow of streams, and protecting local residents from unfair competition in the use of forest and range. They are patrolled and protected, at Government expense, for the benefit of the community and the home builder.

We know that the welfare of every community is dependent upon a cheap and plentiful supply of timber; that a forest cover is the most effective means of maintaining a regular stream flow for irrigation and other useful purposes; and that the permanence of the livestock industry depends upon the conservative use of the range. The injury to all persons and industries which results from the destruction of forests by fire and careless use is a matter of history in older countries, and has long been the cause of anxiety and loss in the United States. The protection of the forest resources still existing is a matter of urgent local and national importance. This is shown by the exhaustion and removal of lumbering centers, often leaving behind desolation and depression in business; the vast pub-

lic and private losses through unnecessary forest fires; the increasing use of lumber per capita by a still more rapidly increasing population; the decrease in the summer flow of streams just as they become indispensable to manufacture or irrigation; and the serious decrease in the carrying capacity of the summer range. It can not be doubted that, as President Roosevelt has said, "the forest problem is, in many ways, the most vital internal problem of the United States."

As early as 1799 Congress provided for the purchase of timberlands to supply the needs of the Navy, and in 1817 further legislation directed the setting apart of public lands for the same purpose, and provided penalties for the unauthorized cutting of any public timber. Other acts, from time to time, made similar provisions for setting apart forest land for specific purposes, but the first attempt to secure a comprehensive administration of the forests on the public domain was in 1871, by a bill introduced in the Forty-second Congress, which failed of passage.

In 1876, \$2,000 was appropriated to employ a competent man to investigate timber conditions in the United States, and on June 30, 1886, an act was approved creating a Division of Forestry in the Department of Agriculture. On July 1, 1901, this Division became the Bureau of Forestry (now the Forest Service), employing practically all the trained foresters in the United States, and engaged in almost every branch of forest work in every State and Territory, except the actual administration of the Government forest lands. This remained in the Department of the Interior, which, although possessing complete machinery

for the disposal of lands, was provided with neither system nor trained men for conservative forest management.

In the meantime, with the increasing realization that the Nation's timber supply must be protected, and with the immense growth of irrigation interests in the West, the necessity for retaining permanent Federal control over selected forest areas was recognized by a brief section inserted in the act of March 3, 1891, which authorized the President to establish forest reserves. The first exercise of this power was in the creation of the Yellowstone Park Timber Land Reserve, proclaimed by President Harrison March 30, 1891.

The mere creation of forest reserves, however, without provision for their administration, was both ineffectual and annoying to local interests dependent upon their resources. Consequently the Secretary of the Interior, in 1896, requested the National Academy of Sciences to recommend a national forest policy. This resulted in the passage of the act of June 4, 1897, under which, with several subsequent amendments, forest reserves are now administered.

On the theory that the management of land, not of forests, was chiefly involved, this law gave the Secretary of the Interior authority over the reserves, and provided that their surveying, mapping, and general classification should be done by the United States Geological Survey, and the execution of administrative work by the General Land Office.

The result was not satisfactory. The technical and complex problems arising from the necessary use of forest and range soon demanded the introduction of

scientific methods and a technically trained force, which could not be provided under the existing system. The advice and services of the Bureau of Forestry were found necessary, but, under the law, could be but imperfectly utilized. The necessity of consolidating the various branches of Government forest work became apparent and was urged upon Congress by the President and all the executive officers concerned. Finally, the act of February 1, 1905, transferred to the Secretary of Agriculture entire jurisdiction over the forest reserves except in matters of surveying and passage of title.

The regulations and instructions for the use of the national forest reserves here published are in accordance with the act last mentioned and with that of March 3, 1905, making appropriations for the Department of Agriculture, which changed the Bureau of Forestry into the Forest Service. They are based upon the following general policy laid down for the Forest Service by the Secretary of Agriculture in his letter of February 1, 1905, to the Forester:

"In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people, and not for the temporary benefit of individuals or companies. All the resources of forest reserves are for *use*, and this use must be brought about in a thoroughly prompt and businesslike manner, under such restrictions only as will insure the permanence of these resources. The vital importance of forest reserves to the great industries of the Western States will be largely increased in the near future by the continued

steady advance in settlement and development. The permanence of the resources of the reserves is therefore indispensable to continued prosperity, and the policy of this Department for their protection and use will invariably be guided by this fact, always bearing in mind that the *conservative use* of these resources in no way conflicts with their permanent value.

"You will see to it that the water, wood, and forage of the reserves are conserved and wisely used for the benefit of the home builder first of all, upon whom depends the best permanent use of lands and resources alike. The continued prosperity of the agricultural, lumbering, mining, and live-stock interests is directly dependent upon a permanent and accessible supply of water, wood, and forage, as well as upon the present and future use of these resources under businesslike regulations, enforced with promptness, effectiveness, and common sense. In the management of each reserve local questions will be decided upon local grounds; the dominant industry will be considered first, but with as little restriction to minor industries as may be possible; sudden changes in industrial conditions will be avoided by gradual adjustment after due notice, and where conflicting interests must be reconciled the question will always be decided from the standpoint of the greatest good of the greatest number in the long run."

RELATION OF FOREST OFFICERS TO THE PUBLIC.

The administration of forest reserves is not for the benefit of the Government, but of the people. The revenue derived from them goes, not into the general fund of the United States, but toward maintaining upon the reserves a force of men organized to serve the public interests. This force has three chief duties: To protect the reserves against fire, to assist the people in their use, and to see that they are properly used.

Forest officers, therefore, are servants of the people. They must obey instructions and enforce the regulations for the protection of the reserves without fear or favor, and must not allow personal or temporary interests to weigh against the permanent good of the reserves; but it is no less their duty to encourage and assist legitimate enterprises. They must answer all inquiries concerning reserve methods fully and cheerfully, and be at least as prompt and courteous in the conduct of reserve business as they would in private business.

They must make every effort to prevent the misunderstanding and violation of reserve regulations by giving information fully and freely. The object should be to prevent mistakes rather than to have to punish them. Information should be given tactfully, by advice, and not by offensive warnings.

Forest officers will be required to be thoroughly familiar with every part of this book, and to instruct the public and assist in making applications for the use of the reserves.

PRIVATE AND STATE RIGHTS.

I.—IN GENERAL.

REG. 1. Persons having valid claims under the public land laws, or legal titles to land within forest reserves, are free to occupy and enjoy their holdings, but must not interfere with the purposes for which the reserves are created, and must not cut timber or make use of forest reserve land or rights thereon without a permit, except within the limits of their claims, and there not to the extent of committing trespass. (See p. 60.)

All questions involving titles to such claims are entirely within the jurisdiction of the Secretary of the Interior.

The Forest Service will do all in its power to protect such claimants and owners, and will grant preference in the use of privileges to actual residents in or near forest reserves. Forest officers will make special effort to discover and report fraudulent claims and to prevent the perfection of title to them, and will cooperate fully with the officers and agents of the Interior Department to that end. They will immediately inform the Forester of any action in these cases.

II.—MINING.

No land claims can be initiated in a forest reserve except mining claims, which may be sought for, located, developed, and patented in accordance with law and forest reserve regulations. (See Appendix, p. 102.)

III.—STATE LANDS.

Lands owned or claimed by the States or Territories within forest reserves are subject to the general rules given above. Indemnity selection may be made by

the States and Territories for school sections 16 and 36, when within a reserve, and thereupon these sections will become part of the forest reserve. (See Appendix, p. 129.)

IV.—LIEU SELECTION.

No right now exists to exchange private holdings within forest reserves for lands elsewhere, except where such right was established in the Interior Department before March 3, 1905 (Appendix, p. 103), and except the indemnity-selection right with regard to school sections 16 and 36, referred to above.

JURISDICTION.

The authority to grant special privileges and rights of way within forest reserves is divided as follows:

(A) Applications under any law of the United States providing for the granting of a permission to occupy or use lands, resources, or products in a forest reserve, which occupation or use is temporary in character, and which, if granted, will in no wise affect the fee or cloud the title of the United States, should the reserve be discontinued, are under the jurisdiction of the Secretary of Agriculture.

(B) All applications affecting lands within a forest reserve, the granting of which amounts to an easement running with the land, are within the jurisdiction of the Secretary of the Interior.

The following are the more usual rights and privileges under the first class (A), and must be applied for through the forest supervisors:

(a) Trails and roads to be used by settlers living in or near forest reserves.

(b) Schools and churches.

(c) Hotels, stores, mills, stage stations, apiaries, miners' camps, stables, summer residences, sanitariums, dairies, trappers' cabins, and the like.

(d) Grazing and restricted agricultural privileges together with such inclosures, etc., as may be necessary for the use of such privileges and not harmful to the forest reserves.

(e) Canals, ditches, flumes, pipe lines, tunnels, dams, tanks, and reservoirs, within forest reserves, when no easement in the land occupied is required.

(f) Steamboats and ferries operated within forest reserves.

(g) Aerial tramways and wire-rope conveyors, when no easement in the land occupied is required.

(h) Private railroads, tramroads, telegraph, telephone, or electric-power lines, and the plants or buildings necessary for their use, when no easement in the land occupied is required.

(i) Other similar privileges which do not amount to a disposal of the land.

Forest officers will inform persons inquiring that applications for rights of way under the jurisdiction of the Secretary of the Interior should be filed in the local land office. They must not receive or transmit or in anywise act upon applications of this character. All such applications when regularly received at the Interior Department, will, however, be referred to the Department of Agriculture for report as to whether granting them will injuriously affect forest reserve interests, and forest officers will make reports upon such applications when directed to do so by the Forester.

Regulations governing applications for the more important rights and privileges under the jurisdiction of the Secretary of Agriculture, and enumerated in the foregoing list, are prescribed below.

DURATION OF AND CHARGE FOR PERMITS.

REG. 2. Permits for the use of the forest reserves, unless otherwise prescribed, may be granted for any term consistent with the interests of the reserves. If land covered by any permit is excluded from a reserve, the permit then expires. A reasonable charge may be made for any permit, right, or privilege, so long as such charge is not inconsistent with the purposes for which the reserves were created.

REG. 3. Permits are not transferable, and abandonment in favor of another involves new application and permit in the discretion of the Forester. In case of abandonment and issue of a new permit, the first occupant may sell his improvements to his successor, provided no claim attaches to them by reason of his failure to comply with the terms of his permit.

FREE USE OF TIMBER AND STONE.

The law gives the Secretary of Agriculture discretion to allow or refuse the free use of forest reserve timber and stone, under such regulations as he may prescribe, by "bona fide settlers, miners, residents, and prospectors for minerals, for firewood, fencing, building, mining, prospecting, and other domestic purposes as may be needed by such persons for such purposes; such timber to be used within the State or Territory, respectively, where such reservations may

be located, and by the United States." (See Appendix, p. 102.)

REG. 4. The free use privilege may be granted to settlers, farmers, prospectors, or similar persons who may not reasonably be required to purchase, and who have not on their own lands or claims, or on lands controlled by them, a sufficient or practicably accessible supply of timber or stone for the purposes named in the law. It may also be granted to school and road districts, churches, or cooperative organizations of settlers desiring to construct roads, ditches, reservoirs, or similar improvements for mutual or public benefit. Free use of material to be employed in any business will be refused, as, for example, to sawmill proprietors, owners of large establishments or commercial enterprises, and companies and corporations. The free use privilege will not be given to any trespasser.

Whether an applicant is entitled to free use or not must be decided by the forest officer who receives the application. In all cases not clearly covered by the letter of the regulations he should be guided by their spirit, especially as expressed by the term "those who may not reasonably be required to purchase," and by the distinction between personal and commercial use. A member of a corporation is not necessarily debarred from free use of fuel for his own home, although his ability to secure it from another source should be considered if the reserve supply is limited and in demand by more needy applicants. On the other hand, although a settler may receive a liberal allowance for his own use, he is not entitled to free material for sale or profit. There is no more reason for giving a hotel keeper or a merchant timber without charge, solely to build or warm his hotel or store, than for giving him a stock of goods, yet it need not be refused the proprietor of a small establishment when it will be used chiefly by himself and his family. Prospectors should be assisted to develop their properties, but owners of revenue-producing mines should be required to buy.

REG. 5. Except in cases of great and unusual need, no applicant will be given more than two free use permits in one year, nor may the aggregate amount of material granted in the two permits exceed \$20 in value, except in the case of schools or road districts, churches, and noncommercial cooperative organizations, when the supervisor may, in his discretion, extend the amount to any value not exceeding \$100. The duration of any permit will be fixed by the issuing officer, and will not exceed six months. In cases of unusual emergency, however, it may be extended by the supervisor, or, if for \$20 or less, by a ranger authorized to grant free use.

REG. 6. All supervisors, all forest rangers and deputy forest rangers, and such other forest officers as the supervisor may designate, are authorized to grant or refuse free use permits up to \$20 in value under these regulations, and to make such restrictions as to quality, amount, location, and removal as they deem necessary to protect the reserves. It is their duty to furnish cheerful assistance to applicants, to act promptly upon all applications, and, in general, to follow as liberal a policy in the matter of free use as the interests of the reserves and the proper performance of their other work will allow.

The free use business of forest reserves may be conducted mainly by the rangers. Subject only to general restrictions, instructions, and supervision, they will decide the rights of applicants to the privilege, assign and direct the removal of material, and be responsible for results.

REG. 7. No free use material may be taken without a permit. Application for a permit may be made verbally or in writing to any officer authorized to grant it. If it receives his approval he will see that the applicant

understands the regulations governing the privilege, and will fix the amount, kind, and location of the material, and the terms under which it must be taken.

Both the forest officer and the applicant will sign an agreement to these conditions upon the prescribed form, which will be forwarded at once to the supervisor as a part of the records of his office. The permit will be filled out, signed, and delivered to the applicant by the forest officer, who will also record it upon the form in his notebook.

No map, estimate sheet, forest description, or report need be made unless desired by the forest officer for his own use. The agreement forwarded to the supervisor should contain sufficient information to enable the latter to record the case properly. Any additional facts may be stated in a letter. The forest officer issuing the permit, unless he should be the supervisor, who may instruct a ranger to do so, should designate the timber to be cut, by the most practicable means, not necessarily uniform in every case. Living timber must be marked. Dead timber may be marked or, if practicable, an area may be blazed or defined by natural boundaries, and the class of trees to be taken specified. The procedure should be made as simple and economical for both the user and the forest officer as is possible without danger to reserve interests.

Although simple methods and the exercise of judgment are encouraged, there should nevertheless be no tendency to underrate the importance of free use business or the necessity of considering the good of the reserve. The use of dead material should be encouraged, and the assignment of green timber, when really necessary, must be where it can best be spared. Low stumps and full use of all trees cut must be required, as well as careful disposal of refuse. Officers in charge of cutting will be held responsible if unnecessary damage is done to young growth or standing timber, or if the reproduction of the forest is not properly considered. The violation of any of the regulations governing free use or of the terms of permit constitutes trespass and should be dealt with accordingly; but there should be no failure on the part of the forest officer to make all points clear to the applicant before the permit is granted.

REG. 8. Timber granted under a free use permit may be cut by an agent or may be sawed by a local sawmill, but the work so done must not be paid for by a share of the material.

Moreover, the cutting, sawing, and hauling must be done as required by the forest officer, so that he may be assured the timber is used for the proper purpose.

GRAZING.

The Secretary of Agriculture has authority to permit, regulate, or prohibit grazing in the forest reserves. Under his direction the Forest Service will allow the use of the forage crop of the reserves as fully as the proper care and protection of the forests and the water supply permits. In new forest reserves where the live-stock industry is of special importance, full grazing privileges will be given at first, and if reduction in number is afterwards found necessary, stockmen will be given ample opportunity to adjust their business to the new conditions. Every effort will be made to assist the stock owners to a satisfactory distribution of stock on the range in order to secure greater harmony among citizens, to reduce the waste of forage by tramping in unnecessary movement of stock, and to obtain a more permanent, judicious, and profitable use of the range.

The leading objects of the grazing regulations are:

(a) The protection and conservative use of all forest reserve land adapted for grazing.

(b) The best permanent good of the live-stock industry through proper care and improvement of the grazing lands.

(c) The protection of the settler and home builder against unfair competition in the use of the range.

On the other hand, the Forest Service expects the full and earnest cooperation of the stock owners to carry out the regulations.

Permits will be issued to graze a certain number of live-stock in each reserve or part of a reserve, so long as no marked damage is done by such stock; but whenever a reserve is being injured by too much stock or the way it is being handled, the number will be reduced until the damage is stopped. In extreme cases, if necessary, all stock will be excluded.

Cattle and horses will usually be allowed to graze in all reserves. Sheep and goats will be allowed to graze in reserves or in parts of reserves where special conditions warrant such privileges, but will be restricted to the areas and grazing periods fixed by the forest officers.

Permits will usually be granted for one year, but where all controversies have been settled and only a proper number of stock are allowed, permits may be granted for more than one year, if conditions are favorable.

REG. 9. All persons must secure permits before grazing any stock in a forest reserve, except the few head in actual use by prospectors, campers, and travelers, and milch cows and work animals not exceeding a total of six head owned by bona fide settlers, which are excepted and require no permit. Any person responsible for grazing stock without a permit is liable to punishment for violation of the law.

REG. 10. The grazing privilege will be granted only to citizens of the United States.

REG. 11. The Secretary of Agriculture will determine the number of stock to be allowed in a reserve for any year. The period during which grazing will be allowed is determined by the Forester. The supervisor is authorized to issue grazing permits in accordance with the instructions of the Forester.

The grazing season for which permits are issued must not exceed the period authorized, and the total number of stock included in all permits issued must not exceed the number allowed by the Secretary's order.

Applicants for grazing permits will be given preference in the following order:

(a) Small near-by owners.

Persons living in or close to the reserve whose stock have regularly grazed upon the reserve range and who are dependent upon its use.

(b) All other regular occupants of the reserve range.

After class (a) applicants have been provided for, the larger near-by owners will be considered, but limited to a number which will not exclude regular occupants whose stock belong or are wintered at a greater distance from the reserve.

(c) Owners of transient stock.

The owners of stock which belong at a considerable distance from the reserve and have not regularly occupied the reserve range.

The applications of new settlers owning small bands of stock will be considered in all cases except where the range is fully occupied by small owners. Priority in the occupancy and use of the range will be considered, and preference will be given to those who have continuously used the range for the longest period.

The number of stock allowed an applicant will be determined upon the merits of each case. Whenever it is found necessary to reduce the number of stock allowed in any reserve or portion of a reserve, the small owners of stock are first provided for; the

reduction is then made on the number allowed the larger owners on the basis of a sliding scale suited to the conditions in each case. Class (c) stock will be excluded before the other classes are reduced.

The owners of stock which belong in the State or Territory in which a forest reserve is located will be given the preference, and resident owners will be considered first; but owners of stock coming from adjoining States or Territories will also be considered when circumstances warrant it.

REG. 12. The supervisor will set and give public notice of a date each year on or before which all applications for grazing permits must be presented to him. Permits will be refused to persons who do not file their applications within the required limit, unless satisfactory reasons are given.

Applications and permits will be divided into two classes, cattle and horses, and sheep and goats. Permits for each class will be numbered separately and consecutively, and a separate set of records will be kept for each. At the end of each month the supervisor will report the name and address of each person to whom he has issued a permit, the number and class of stock covered by it, and the district or portion of the reserve in which the stock are to be grazed.

Whenever there is dispute between applicants for the privilege of grazing stock on the same area or district, if the supervisor is unable otherwise to determine who is best entitled to a permit, he will notify the applicants to appear before him at a stated time and place, then and there to make a statement of their claims. After all evidence has been presented, the supervisor will decide who shall be granted permits, and his decision will be final unless written notice of appeal to the Forester is given him within ten days thereafter. Appeal will avail only in case of error.

Upon approval of a grazing application the supervisor will immediately notify the applicant.

Whenever a grazing application is disapproved or the number of stock applied for is reduced, the supervisor will at once notify the applicant to that effect.

Whenever the supervisor desires such information, he is authorized to require applicants to file a supplemental certificate setting forth the location and area of their ranches and also of the public lands used for grazing, the number and class of stock owned, and the length of time they have occupied the range.

APPLICATION FOR GRAZING PERMIT.

No. _____.

_____, 190—.

I, _____, of _____, being a citizen of the United States and a resident of the State of _____, do actually own and make application for the privilege of pasturing—

_____ head of cattle,

_____ head of horses,

_____ head of sheep,

branded, _____,

within the _____ Forest Reserve, from _____, 190—, to _____, 190—: *Provided*, That the animals shall not intrude upon any areas upon which grazing is prohibited.

It is my desire to graze said animals upon that part of the reserve described as follows:

This application is made for my own exclusive use and benefit, and not directly or indirectly for the use of any other person. If it is granted, I do hereby agree to pay the amount due for grazing fees promptly upon receipt of notice that it has been granted, and to comply fully with all forest-reserve rules and regulations now or hereafter adopted.

I also hereby bind myself and employees engaged in caring for the animals while on the reserve to extinguish all camp fires started by myself or any of my employees before leaving the vicinity thereof, and to aid in extinguishing all forest fires within the territory occupied by me or my employees.

I also agree to forfeit the permit for a violation of any of its terms or of the terms hereof, or whenever an injury is being done the reserve by reason of the presence of the animals therein.

(P. O. address) _____.

Approved for—

_____ cattle, _____ horses, _____ sheep.

REG. 13. Reserves in which grazing is allowed will be divided into districts approved by the Forester, and such range divisions made among applicants for the grazing privilege as appear most equitable and for the best interest of the reserve. When required for the protection of camping places, lakes and streams, roads and trails, etc., or of areas which are to be reforested, stock will be excluded from specified areas for such period of time as is necessary.

At the end of each season the supervisor will go over the grazing grounds without delay and examine the effect of grazing on the reserve. He will make a full report to the Forester, with recommendations as to the number of stock to be allowed the following year, the division of the range into districts, and the areas to be opened or closed to grazing.

REG. 14. Permits will be granted only to the actual owners of stock and for their exclusive use and benefit, and will be forfeited if sold or transferred in any manner or for any consideration without the written consent of the Forester.

Persons owning cattle and horses which regularly graze on ranges located along the boundary line and only partially included within a forest reserve may be granted permits for such portion of their stock as the circumstances appear to justify, but may be required to herd or so handle their stock as to prevent trespassing by that portion for which a permit is not granted.

REG. 15. Grazing applications must not cover more stock than the applicant owns and desires to graze in the reserve, and must show the marks and brands of the stock, the portion of the reserve or district in which pasture is desired, and the grazing period. Permits will be refused or canceled for false statement of the number of stock owned.

REG. 16. Persons who fail to use their grazing permits must notify the supervisor before the opening of the grazing season, or immediately thereafter, and give satisfactory reasons for not using the permit, or they may be denied the grazing privilege the following season.

REG. 17. When an owner who has a permit is ready to drive in his stock he must notify the supervisor, by mail or otherwise, stating the number, and if cattle or horses, giving the brands; he must also notify the supervisor when the stock is removed from the reserve. If called upon to do so, he must provide for having his stock counted before entering the reserve, or at any time afterwards when the number of stock appears to be greater than the number covered by permit. Whenever any stock is removed before the expiration of the permit, it can not be replaced by other stock to fill out the number covered by permit until such action has been approved by the supervisor.

REG. 18. Each person or group of persons granted grazing privileges will be required to repair all damage to roads or trails caused by the presence of their stock in any portion of a reserve, and to build any new roads or trails found necessary for the proper handling of the stock. They will also be required to fence any spring or seep which is being damaged by tramping, and, if necessary, pipe the water into troughs for stock-watering purposes. Such troughs must be open for public use.

REG. 19. All persons holding grazing permits will be required to salt their stock regularly and at such places as may be designated by the forest officers.

REG. 20. Sheep must not be bedded more than six nights in succession in the same place, except when bed-

ding bands of ewes during lambing season, and must not be bedded within 500 yards of any running stream or living spring.

REG. 21. All stock which is grazed under permit in any forest reserve will be required to conform to the quarantine regulations of the Bureau of Animal Industry and of the State or Territory in which the reserve is located.

Whenever the stock in any locality is known to be infected with a contagious disease, or notice to that effect has been given the Forester by the Bureau of Animal Industry, the owners of all stock to be grazed in forest reserves must, if required to do so, submit the stock to inspection, and, if found necessary, have such stock dipped or otherwise treated before they are allowed to enter. At any time during the period for which a grazing permit has been issued, if the stock are found to be infected with a contagious disease, they must be dipped or otherwise treated in accordance with the instructions of the inspectors, or the permit will be canceled and the stock removed from the reserve.

REG. 22. Persons who own, or who have leased from the owners, land within any reserve which they desire to use for grazing purposes, will be allowed to cross the reserve lands with their stock to reach such private holdings, but must make application to the supervisor for the privilege of crossing. The application must be accompanied by a certificate of title showing the description and ownership of the land, and, if leased from an owner, a certified copy of the lease, and must state the number of stock to be taken in, the length of time required to cross the reserve land, the route over which the stock is to be driven, the date of entering, and the time when the stock will start out again; also how much stock the owned or leased land will carry during the period it is

proposed to keep the stock upon it. When any such application is made to the supervisor he will examine it, and if he finds it reasonable and just and made in good faith for the purpose of utilizing such private holdings only, he will approve it and forward it to the Forester. After the Forester approves the application due notice will be given the applicant through the supervisor, and he may then take his stock in.

REG. 23. Persons wishing to drive stock across any part of a forest reserve must make application to the supervisor, either by letter or on the regular grazing application form, for the privilege of grazing the stock on the reserve en route, and must have a permit from the supervisor before entering the reserve. The application must state the number of stock to be driven across the reserve, the date of starting, and period required for passage. Grazing must be confined to the limits and along the route designated by the supervisor, and will only be allowed for the period actually necessary for stock to cross the reserve.

If occasion demands, forest rangers will be detailed by the supervisor to accompany the stock and see there is no delay or trespassing.

Whenever it appears necessary for stock to cross regularly any portion of a forest reserve in which grazing is prohibited, the supervisor will make a full report of the facts, with a description of the regular route traveled, the width of driveway necessary to allow the proper grazing of stock across the reserve, the number and class of stock which will probably cross, and the number of days allowed for crossing the portion of the reserve referred to. Upon receipt of such report by the Forester, if the circumstances warrant such action, a regular driveway will be established and the privileges to be granted will be defined.

REG. 24. The construction of corrals upon forest reserve lands covering an area of not more than one (1) acre, to be used in connection with the proper handling of live stock which are permitted to graze thereon, will be allowed whenever in the judgment of the forest officers such corrals are necessary and will not be detrimental to the proper care of the reserve. The construction of inclosures upon forest-reserve lands containing not more than three hundred and twenty (320) acres for pasturing saddle horses, beef steers, etc., will be allowed, when such inclosures are necessary for the proper handling of the stock allowed to graze upon the reserves, as a special privilege for which an annual rental of not less than four (4) cents per acre will be charged in addition to the regular grazing fee. The fencing up of watering places for the purpose of controlling adjoining range will not be allowed, and in fencing pastures provision must be made to allow free access to water by any stock grazing under permit. The application must state the exact location and area of the land to be inclosed, and must be accompanied by an agreement to pay the annual rental in advance and to comply with all forest reserve rules and regulations. The privileges granted by this regulation confer no property rights whatever, and all improvements will revert to the Government upon the expiration of the grazing permit, or of its renewal, unless the Forester allows other disposition.

Upon receipt of such application by the supervisor he will forward it to the Forester, with a recommendation for its approval or rejection. If approved by the Forester the applicant will be notified through the supervisor, and upon payment to the Special Fiscal Agent, Washington, D. C., of the rental for the year the construction or occupancy may begin.

The privileges granted under Regulation 24 confer no property rights whatever, and all such improvements will revert to the Government upon the expiration of the grazing permit, or of its renewal, unless the Forester allows other disposition.

REG. 25. On and after January 1, 1906, a reasonable fee will be charged for grazing all classes of live stock on forest reserves. In the beginning the minimum price charged will be as follows, depending upon the advantages and locality of the reserve: From twenty (20) to thirty-five (35) cents per head for cattle and horses for the regular summer grazing season, and from thirty-five (35) to fifty (50) cents per head for the entire year; from five (5) to eight (8) cents per head for sheep for the regular summer grazing season; and from eight (8) to ten (10) cents per head for goats for the regular summer grazing season. These prices will be gradually advanced when the market conditions, transportation facilities, and demand for reserve range warrant it, but the grazing fee charged will in all cases be reasonable and in accordance with the advantages of the locality. An extra charge of two (2) cents per head, on grown stock only, will be made for sheep and goats which are allowed to enter the forest reserves for the purpose of lambing and kidding. (See Appendix, p. 130.)

REG. 26. Breeding stock entering either before or after the breeding season will be counted on an average percentage basis, which will be fixed hereafter by the Forester to fit the conditions in each reserve. All stock 6 months old and over, at the time of entering, will be counted at the same rate as grown stock.

REG. 27. Any period in excess of the regular summer grazing season will be charged for at the rate for the en-

tire year, but no charge will be made for the crossing permits required by regulations 22 and 23.

REG. 28. All grazing fees are payable for each year strictly in advance. When an applicant for a grazing permit is notified by the supervisor that his application has been approved, he will remit the amount due for grazing fees to the Special Fiscal Agent, Washington, D. C., and upon return of the receipt to the supervisor a permit will be issued allowing the stock to enter the reserve and remain during the period specified.

WILD HAY.

REG. 29. Wild grass upon forest reserves may be cut for hay under permits issued by supervisors. A reasonable charge per acre may be made, to be fixed by the supervisor under general instructions from the Forester. Application should be made in writing to the supervisor, directly or through a ranger, stating the location and area of the tract desired and the price offered.

Applications or permits to cut hay need not be upon regular blanks. Supervisors anticipating business of this kind should report to the Forester and suggest a price per acre for his approval. Under instructions then received they will issue permits, retaining duplicates, agreed to and signed by the applicant, for office records. They will not permit cutting until the purchase price has been forwarded to the Special Fiscal Agent.

SALE OF TIMBER.

All timber on forest reserves which can be cut safely and for which there is actual need is for sale. Applications to purchase are invited. Green timber may be sold except where its removal makes a second crop doubtful, reduces the timber supply below the

point of safety, or injures the streams. All dead timber is for sale. (See Appendix, p. 101.)

The prime object of the forest reserves is use. While the forest and its dependent interests must be made permanent and safe by preventing overcutting or injury to young growth, every reasonable effort will be made to satisfy legitimate demands.

Timber cut from forest reserves may be handled and shipped like any other timber, except that it will not be sold for shipment from regions where local consumption requires the entire supply, or is certain to do so in the future. Also, the law prohibits export from the State of timber cut from any Idaho forest reserve or from the Black Hills Forest Reserve in South Dakota. (See Appendix, p. 108.)

Any one may purchase except trespassers against the law or the regulations governing the reserves. There is no limit, except the capacity of the forest, to the quantity which may be sold to one purchaser, but monopoly to the disadvantage of other deserving applicants will not be tolerated.

The time allowed for the removal of timber depends upon the amount purchased. It will always be sufficient for reasonably diligent work, but speculation by holding for rise in value will not be permitted.

In all cases the first step for the prospective purchaser is to consult the nearest forest officer. Inquiries or applications should never be sent to Washington direct. Remittances of money or complaints against the conduct of local officers are the only communications which applicants or purchasers should make to the Washington office during any stage of a sale.

There are three classes of sales:

(a) Of not over \$20 worth of dead timber.

These sales may be made by any forest ranger or deputy forest ranger, as well as by any supervisor, except in California. No delay is required. The applicant should consult in person with the nearest ranger, who will designate the timber, fix the terms of sale, and at once, upon assurance that full advance payment has been forwarded to the Special Fiscal Agent, permit cutting and removal.

(b) Of not over \$100 worth of dead or living timber.

Application may be made through any ranger, but the forest supervisor must approve the sale. Except in California, the only delay involved is the time required for an estimate and report to the supervisor. Upon the latter's approval and permission, after the forwarding of full or partial payment, cutting may begin. In California every sale of any class must be advertised for sixty days. (See Appendix, pp. 101, 105.)

(c) Of over \$100 worth of dead or living timber.

Sales involving more than \$100 must always be advertised and can, as a rule, be approved only by the Forester. The application and examining officer's report, if indorsed by the supervisor, are sent to Washington. Upon the Forester's approval an advertisement for bids is published in the local papers for thirty days (sixty days in California), after deposit to cover this expense has been sent by the applicant. If the applicant is the successful bidder, his approved application, the published notice, and his accepted bid form the agreement. His deposits apply upon the first payment, and the supervisor permits cutting at once.

If his bid is unsuccessful his deposits are returned. In sales exceeding \$100 purchasers may be required to give bond to comply with the terms of agreement.

KINDS AND METHODS OF SALES.

REG. 30. All forest rangers and deputy forest rangers are authorized, except in California, to sell dead timber in amounts not exceeding \$20 in value, and all forest supervisors to sell dead or living timber worth not more than \$100. The Forester is authorized to make timber sales for larger amounts, and to delegate this authority in special cases.

The kinds and methods of sales are as follows:

(A) BY FOREST RANGERS AND DEPUTY FOREST RANGERS (CALIFORNIA EXCEPTED).

Dead timber only, in amounts not over \$20 in value. Advertisement not required.

Request to purchase dead timber not over \$20 in value may be acted upon by any forest ranger or deputy forest ranger, as well as by any supervisor. The ranger makes an examination, fixes the terms of sale, and designates the timber to be cut. Formal application is made out in duplicate and signed by the purchaser, who also forwards payment in full to the Special Fiscal Agent, with a letter of transmittal given him by the ranger. Upon being shown the purchaser's receipt, if the payment is made by express or postal money order, or the draft itself, if by national bank draft on New York, as assurance that the payment has been forwarded, the ranger will approve both copies of the application, and at once permit cutting and removal of the dead timber. He will at once forward one copy to the supervisor, give the other copy to the purchaser, and record the terms of the sale for his own reference. He will notify the supervisor as soon as the timber is removed.

(B) BY FOREST SUPERVISORS.

Dead or living timber, in amounts not over \$100 in value. Advertisement not required, except in California.

An examination on the ground of the timber desired is made by the supervisor, or for him by a subordinate. The results are recorded and discussed with the applicant, and form the basis of his formal application, which is filled out in duplicate and signed by him. The application, with the report of the forest officer who made the examination, is then submitted to the supervisor for decision.

If this is favorable, the applicant, except in California, forwards first payment or full payment, as agreed upon, to the Special Fiscal Agent. Upon assurance that this has been done, the supervisor approves the application and permits cutting to begin. One copy of the approved application is retained by the supervisor, and one returned to the purchaser with a copy of the regulations and instructions for the use of the forest reserves.

In California, where all sales must be advertised, the steps are the same until the supervisor has received the formal application in duplicate, signed by the applicant. If he decides to allow it, the applicant then forwards to the Special Fiscal Agent a deposit of \$100 to cover publication of notice instead of the first payment, as in a nonadvertised sale. Upon assurance that this has been done the supervisor approves the application as before, but places one copy on file to await the outcome of the bids, and forwards the other to the Forester to serve as a basis of advertisement.

Upon receipt of the application and deposit by the Washington office the advertisement is forwarded to the supervisor for publication.

Prospective purchasers then submit their bids to the Forester, at the same time forwarding to the Special Fiscal Agent the deposits required by the advertisement.

Upon evidence that the necessary deposit in each case has been made, the bids are opened by the Forester, and the supervisor is notified of the successful bidder. If the original applicant is the successful bidder, his application, the published notice, and his approved bid form an agreement. The supervisor then delivers to the purchaser the approved application which he had re-

tained, keeping a copy for his own reference. If the successful bidder is another, the agreement is prepared in triplicate in the Washington office and sent to the supervisor, who has the three copies executed by the purchaser, approves all of them by signature, forwards one to the Washington office, places one on file, and delivers the third to the purchaser.

(c) SALES BY THE FORESTER.

All sales exceeding \$100 in value. Only after advertisement.

Upon assurance that the deposit (\$100 in California, \$50 elsewhere) to cover publication of notice has been forwarded to the Special Fiscal Agent, the steps up to this point being as in advertised sales previously described, the supervisor forwards both copies of the application to the Forester for approval, accompanied by the examining officer's report and his own definite recommendations. If he recommends approval of the application unmodified, he will also initial both copies.

If the application is approved by the Forester, the sale is advertised and awarded as described before.

If the original applicant is the successful bidder, one copy of the application is approved by the Forester, and returned to the purchaser through the supervisor. The duplicate is placed on file in the Washington office, and a third copy is made and sent to the supervisor for his information. If the successful bidder is not the applicant, a contract is prepared in triplicate in the Washington office, and sent to the supervisor, who retains one copy and has the purchaser execute two copies, which are returned to the Washington office for the approval of the Forester. When approved, one copy is placed on file in the Washington office and the other returned to the purchaser through the supervisor. Cutting of material covered by deposit may begin when the purchaser has signed the contract, and need not await final approval of the Forester.

PAYMENTS AND DEPOSITS.

REG. 31. All timber must be paid for, either in full or in installments, before it is cut. Should the purchaser fail to secure the estimated quantity upon which his ad-

vance payment was based, the excess will be returned if he has complied with the terms of the sale. In no case will the cutting of timber be allowed to exceed the amount actually paid for.

REG. 32. In any sale, unless otherwise ordered, payment for the timber may be made in one lump sum, or in two or more equal payments. In sales not exceeding \$100 in value the number of partial payments must not exceed three, and must be made at intervals of thirty days. In sales requiring advertising the deposit to cover the cost of advertising and the deposit required with the bid will be applied on the first payment.

REG. 33. All money, whether payments, deposits, or settlements, must be sent direct by the payer to the Special Fiscal Agent and not transmitted through a forest officer. Money must always be sent by postal money order, express money order, or national bank draft on New York. Other forms of drafts, cash, checks, or certified checks will not be accepted.

The payer will be furnished by the forest officer with a form letter of transmittal bearing the sale number. The forest officer conducting a sale may consider the exhibit by the payer of his receipt for a postal or express money order, or of the draft itself, if draft is sent, in either case payable to the Special Fiscal Agent only, as satisfactory assurance that the remittance has been made. He may allow cutting to proceed upon such evidence without waiting for notice that the money has been received, but will not allow removal except in sales not exceeding \$20.

CONDITIONS AND BONDS.

REG. 34. The period allowed for the removal of the timber, which in no case will exceed five years, must be fixed in the agreement. If at the expiration of this

period the purchaser has not removed all his timber, he forfeits all right to any timber not yet removed and to his purchase money; but in case failure to comply with this restriction was unavoidable, the Forester may, in his discretion, extend the limit to prevent hardship. The privilege of assigning any rights obtained under a sale may be granted only by the Forester, and only in cases of emergency and when the transaction is not for the purpose of speculation.

REG. 35. Timber cut from any forest reserve may be sold in any market anywhere, except from forest reserves in Idaho or from the Black Hills Forest Reserve in South Dakota.

REG. 36. In any sale involving more than \$100 the purchaser may be required to give bond to carry out his agreement. This bond, which will also cover the operation of a sawmill, if permit for one is given in connection with the sale, will be for such amount as the Forester may prescribe.

The responsibility of the sureties must be established by the supervisor.

REG. 37. Failure to observe any of the terms of the agreement constitutes breach of contract. Violation of the following four rules constitutes trespass:

- (a) No timber may be cut until it is paid for.
- (b) No timber may be removed until it has been measured by a forest officer.
- (c) Timber may be cut only on the area designated by the forest officer.
- (d) No unmarked living trees may be cut, if marking is required by the officer in charge or by the terms of the sale.

ADVERTISEMENTS AND BIDS.

In California no reserve timber may be sold without advertisement for competitive bids; elsewhere this is required only when the amount is appraised at more than \$100. Notice must be published for not less than thirty days (in California sixty days) in one or more newspapers of general circulation in the State or Territory (in California in the county and also in the capital).

REG. 38. Advertisements of sales must announce the time and place of filing bids and the approximate amount and location of the timber, and will refer intending purchasers to the forest supervisor for full information. Before any notice is published, the applicant is required to deposit with the Special Fiscal Agent of the Forest Service a sum sufficient to cover the cost of advertising. If the depositor be the successful bidder, this amount is credited on the purchase price of the timber; but if the timber is awarded to another, the deposit is returned. If the applicant should fail to bid during the time fixed for filing bids, the deposit may, at the discretion of the Forester, be retained to pay the cost of advertising. A reasonable cash deposit, to be specified in the published notice, must accompany each bid. The right is reserved to reject any or all bids. (See Appendix, pp. 101, 104.)

REG. 39. In sales above \$500, allotments, at the highest price offered, may be made to several bidders to prevent monopoly.

REG. 40. After timber has been duly advertised but not sold, all or any portion of it may be sold without further notice by publication, in the manner prescribed for sales without advertisement. (See Appendix, pp. 101, 104.)

ADVANCE CUTTING.

REG. 41. The Forester may, for good reasons, in his discretion, permit the cutting and removal of timber in advance of an advertised sale, when the applicant has made a deposit covering the value of the timber to be cut and removed, and has agreed to pay for such timber at the rate of the highest price bid. (See Appendix, p. 140.)

NUMBERING OF SALES.

All sales will be numbered in series maintained by each supervisor instead of in State series as heretofore. Every reserve, group of reserves, or division of a reserve which has a supervisor will have a series of approximately consecutive numbers, following that of the last pending sale, or, if none is in progress, beginning at No. 1 with the first application received after July 1, 1905. Each sale must be given its number as soon as the formal application has been favorably considered and before any payment or deposit has been forwarded, in order that the letter of transmittal may bear the number and thus enable the Special Fiscal Agent to give proper credit for the sum received. Since the procedure in sales of class (c) requires the forwarding of deposits before the application is approved by the Forester, it may happen that no sale is made. The number will have been used as a matter of record, however, and must not be applied again, although the result is a break in the consecutive numbering of actually consummated sales. When a ranger makes a sale of class (a) he must number the approved application and the purchaser's letter transmitting payment without duplicating a number used in the same series by another ranger or by the supervisor. In order to prevent duplication, each supervisor will number all application blanks he gives to rangers.

EXAMINATION OF TIMBER APPLIED FOR.

Unless full information is already at hand, the first step after the receipt of any preliminary application is to examine the timber. The most vital question concerning the removal of any liv-

ing timber is whether it can be spared. To decide this question the approving officer must know whether another growth of timber will replace the one removed or whether the land will become waste; whether the water supply will suffer; and whether the timber is more urgently needed for some other purpose. One of the foremost points to be studied is the reproduction of the forest under various conditions. The number of small trees, their kind, their vigor, the seed-bearing capacity of those which would be left after cutting, the possible destruction of the young growth by logging or fire, must all be considered fully. The growth on similar areas which have been burned or logged affords the best guide in this study.

If the timber may be cut safely, then the best method of cutting must be decided; whether all the trees below a certain diameter should be left to form the next crop, or only selected seed trees; whether the surrounding timber will furnish enough and the right kind of seed; whether the cutting may be unrestricted or confined to strips; or, in other words, what system will be surest to bring about satisfactory reproduction. All this, as well as to fix the quantity and location of material to be sold, requires an accurate knowledge of conditions on the ground sufficient not only to decide upon the original application, but to permit any change which may seem necessary. Therefore, except in small dead timber sales of class (a), or in free use cases, the examination of any tract from which timber is sought must provide for—

1. Mapping.
2. Estimate of timber.
3. Forest description.
4. Recommendations, and reasons for them.

MAPPING.

Every report upon a tract of timber recommended for sale must contain a map. Any scale may be used, but what it is must always be stated. The size and scale of maps will be fixed mainly by the size of areas covered by estimates and descriptions. The location of the entire proposed cutting area should be shown upon a single map. This may be as large as convenient to mail and handle, and, if the scale permits, all the other features may be

shown upon it also. In that case separate block or compartment maps are unnecessary, the blocks being indicated by dotted lines. Very large tracts require location maps on a small scale, showing only the outline of the proposed cutting, the section lines or other location points, perhaps the private lands, if any, and dotted lines to represent the accompanying block maps on a larger scale. The latter may then be as numerous and as large as necessary.

The proposed cutting, as recommended by the examining officer and described in his estimate and description, and not necessarily as suggested by the applicant, must always be clearly defined on the map; so must every part for which there is a separate estimate, description, or recommendation.

ESTIMATING.

Always estimate the timber upon the definite cutting area recommended and shown on the map. An average for any other area of which this tract forms a part is insufficient. The only exception to this rule is when the location of a definite cutting area is impracticable.

If uncertain conditions of sale or differences between the forest officer and the applicant make it likely that the area recommended may be extended or reduced, then estimates for both the larger and smaller area are required. Otherwise the cutting area should be fixed and estimated by itself, without reference to other lands, whether in the same section or quarter section or not. Show the location of survey lines on the map, but the estimate sent in need not cover any land not in the cutting area.

The estimate submitted with an application must be definitely located, so as to show differing local conditions. A large tract should be divided into compartments clearly marked by forest types or natural boundaries. Legal subdivisions are seldom useful. Compartments may be as small as changing conditions of forest or topography require, but should seldom be more than 160 acres in area. Large tracts will require separate estimates for each compartment. A tract of less than 160 acres will require but one estimate unless it contains more than one distinct forest type. Each estimate must refer by number to a compartment outlined and numbered on the map.

Estimates must be for the kinds and sizes of timber actually applied for. Estimates for other kinds or other sizes will not answer.

DESCRIPTION.

A forest description on the form prescribed must be made for each proposed cutting area or compartment. Other facts should be added if necessary. Whenever the forest on different compartments requires different treatment, each should be described separately, and the terms of sale should provide for the needs of each compartment.

RECOMMENDATIONS.

Among the points to be covered are: Effect upon waterflow, possible profit in holding the timber for a future higher price, the need for the timber, the possibility or difficulty of getting it elsewhere, the reliability of the applicant, and the price which should be obtained. The latter is of great importance, especially in sales not requiring advertising, and should be decided not by custom or habit, but by the actual value of the timber as determined by its character, ease of logging, and distance from market. Timber on a gentle slope and near a mill or drivable stream may be worth more than twice as much as less accessible timber. The forest officer should find out the cost of marketing all material and recommend prices which will make it all about equally desirable.

If the space for recommendations in the description blank is insufficient additional sheets may be used. The description of each one of several compartments on one tract must contain separate recommendations unless all compartments are to be handled alike.

PREPARATION OF FORMAL APPLICATION.

If the forest officer decides to recommend a sale he will explain to the applicant all the requirements of the regulations, and the special conditions for that particular sale. All points about the proposed cutting must be discussed fully before the application is made out. The following points must be considered, so far

as they apply, and the forest officer will add others when necessary:

1. To what minimum breasthigh diameter should cutting be allowed?
2. Should seed trees be left; and if so, how many to the acre?
3. To what diameter in the tops should trees be utilized?
4. Should the brush be piled, and in what manner?
5. Should the purchaser clean up down timber not cut by him, burn brush, burn tops and lops, etc.?
6. How low should the stumps be (usually not higher than the tree is thick)?
7. Should felling be done with saws?
8. Should hewing be allowed except at skidways and openings?
9. During what months should cutting be allowed? (This depends on the danger of destructive insects breeding in freshly cut timber.)
10. What material may be used for skidways, road material, and camps, and should it be paid for?
11. Where should applicant be allowed to locate camps, roads, dams, etc.?
12. Should cutting be restricted to the smallest area possible, or may it be scattered over a large tract?

In applications for dead timber the following points should also be considered:

1. Should all, or only standing, dead timber be taken?
2. Should all wood sound enough for fuel be taken?
3. Should all above a given size (what size?) be taken?

4. Should purchaser pile the unsound portions of down trees from which he uses the sound parts?

Dead timber includes only timber, standing or down, which is actually dead, and in no case trees which are apparently dying. All evergreen trees having any green leaves are classed as living timber. Since deciduous trees, such as tamarack, and most hardwoods, have no foliage in winter, special care is needed to decide when they are dead. Trees dead at the top and green below, generally called spike-topped trees, are classed as living, and must never be cut under dead-timber permits. The dead portion may, however, be scaled and charged for as dead timber.

Except when specially agreed, the purchaser will not be required to cut timber which may die after the date of sale, or to dispose of unsound material which was sound at that time, unless reasonable diligence on his part would have prevented the loss.

If the applicant agrees to the conditions as explained to him, a formal application is prepared according to the instructions given above for each class of sales. The quantity and location of timber described is based upon the forest officer's examination, and must agree with the map, estimate, and description. All conditions and restrictions to govern the cutting must also be included.

APPLICATION FOR SALE OF TIMBER.

Sale No. ———, ——— Forest Reserve.

— hereby apply to purchase — located —.

— have forwarded to the Special Fiscal Agent at Washington, D. C., \$——, to be applied —, and agree to pay, if this application is approved, —.

— further agree, should the sale be awarded —, to cut and remove said timber in strict accordance with the following (and all other) regulations governing timber sales, now or hereafter prescribed by the Department of Agriculture:

1. No timber will be removed until it has been measured by a forest officer.
2. No timber will be removed until it has been paid for.
3. Timber will be cut only on the area designated by the forest officer.
4. Double the contract price will be paid for any merchantable timber cut and left in the woods.
5. All merchantable timber used in buildings, skidways, bridges, road building, or other improvements, will be paid for at the contract price.
6. No unnecessary damage will be done to young growth, or to trees left standing.

— further agree to comply with the following special conditions:

1. No living trees less than — inches in diameter at a point — feet from the ground will be cut.
2. Stumps will not be cut higher than — inches.
3. All trees cut will be used to a diameter of — inches in the tops.
4. Tops will be lopped and piled compactly at a safe distance from living trees —.
5. All dead timber will be cut which is sound enough for —.
6. Unless extension of time is granted, all timber will be cut and removed within — year— from date of approval of sale.
7. —.
8. —.
9. —.

— further agree to furnish, if required, a satisfactory bond for faithful compliance with all of the above requirements.

Approved, and sale granted under the above conditions.

Date —, —.

MARKING AND CUTTING.

When the sale of any green timber is assured, the supervisor will order the marking of all trees to be cut. This is imperative. Where only dead timber is purchased, and there is no danger that living timber will be cut, the forest officer may, instead of marking every tree, blaze and mark the boundary of the cutting area and instruct the purchaser in the manner of cutting.

Standing timber must be marked with the "U. S." marking hammer near the ground, so that every stump will show the mark. Where snow may conceal the marking from the cutters, each tree must also be marked at a point several feet from the ground.

The officer in charge must see that the cutting is confined to the least possible area, and not scattered here and there over the entire tract. So far as practicable, all branches of the logging operations must keep pace with each other. Brush piling must never be allowed to fall behind the cutting and removal of logs, ties, and other material. The ground must be cleared as fast as the work proceeds.

The best way to pile brush and refuse is not always the same, but the object is always to insure easy and clean burning as soon as possible, with the least injury to standing timber and seedlings. The piles should be compact and large enough to kindle easily and burn clean without repiling. When possible, they should not be nearer than 15 feet from standing green trees or dead trees having many branches or a covering of moss which might be ignited. Where the density of the standing timber makes this impracticable, openings should be made by the cutting or, if this can not be done, the piling should be near the least valuable trees and where there is least danger of the fire spreading.

SCALING.

All timber must be scaled by a forest officer before it is removed from the tract or from the points where it is agreed that scaling shall be done. Each stick of saw logs, timbers, poles, and lagging must be scaled separately. Rough averaging of diameters or lengths is not allowed. The Scribner rules will be used in all cases.

Ties may be actually scaled, or reckoned as follows:

Eight-foot ties, standard face, 33½ feet B. M., each; 6-foot ties, standard face, 25 feet B. M., each.

Shake and shingle-bolt material is measured by the cord.

Squared timbers are scaled by their actual contents in board feet with no allowance for saw kerf. Thus, an 8 by 12 inch 16-foot stick contains 128 feet B. M.

Unsound or crooked logs will be scaled down to represent the actual contents of merchantable material. All partially unsound but merchantable stuff must be scaled, whether removed or not. In ground-rotten timber, butts which, though unsound at heart, contain good lumber toward the outside, are frequently left in the woods. Where such material will pay for sawing, the forest officer will scale it at what he considers its true value and include it in the amount purchased.

Logs which are not round will be scaled on the average diameter; flats and lagging on the widest diameter.

In the absence of a log rule, or where the position of logs in the pile makes its use difficult, the diameters and lengths may be tallied and the contents figured from a scale table later.

When possible, the purchaser will be required to mark top ends of logs to avoid question when they are scaled in the pile. The forest officer should insist on having one end of piles or skidways even, so that ends of logs may be easily reached. When the lengths of piled logs are hard to get, two men should work together.

When scaled, each stick of saw logs, timbers, ties, lagging, posts, poles, or piles must be stamped with the United States mark on at least one end, and on both when possible. Cord material, such as wood or bolts, must be stamped at both top and bottom of piles and at least 12 pieces in each cord must be stamped.

All scaling is inside of bark.

REPORTS OF TIMBER CUT.

Every forest officer who lays off a cutting area and marks or otherwise designates timber to be cut will notify the supervisor when he has done so and report the date when cutting actually begins. On the first and fifteenth of every month while cutting

is in progress he will report to the supervisor, upon the form provided, the amount of timber cut and the condition of the tract. These reports may be omitted when the work stops for some time, as in winter. They will be filed in the office of the supervisor. When the amount cut, as shown by them, reaches that covered by the first payment, whether a partial payment or in full, the supervisor will so notify the Forester upon the form provided. This statement will be independent of any possible further payment, even though a second deposit may be made before the timber covered by the first is cut. Every sale contract provides for a system of separate advance payments, either one or more. The Washington office wishes to know when the purchaser has received the amount of timber covered by each. When it is notified to this effect, and not before, the payment, which so far has been held as unofficial money, is covered into the Treasury. By this system the whole payment, if there is but one, and the one under which cutting is actually progressing, if there are more than one, is retained as unofficial money until the sale is complete, so that the purchaser may be reimbursed if he fails to secure the amount of timber paid for.

SPECIAL OCCUPANCY PRIVILEGES.

REG. 42. Hotels, stores, mills, summer residences, and similar establishments will be allowed upon reserve lands wherever the demand is legitimate and consistent with the best interests of the reserve.

The use of tracts of not to exceed 2 acres for schools and 1 acre for churches is specifically provided for by law, subject to regulation by the Department and any other disposition of the land by the Government. Timber for the construction of church and school buildings may be secured under the free use and sales regulations. (See Appendix, p. 103.)

REG. 43. Application for special occupancy privilege must be made to the supervisor, who will transmit it,

with report and recommendation, to the Forester. The Forester may approve the application, with such restrictions as to area, time, terms, and surety as he may deem best, and may extend or renew any permit in his discretion.

REG. 44. Any occupancy permit may be conditional, in the discretion of the Forester, upon the agreement of the applicant to pay a rental, not to exceed a stipulated amount, when called upon to do so.

REG. 45. Occupancy under permit secures no right or claim against the United States, either to the land or to compensation for any improvements upon it, beyond the privileges conferred by the permit.

REG. 46. Occupancy without a permit, or continued after violation of the terms of the permit, or after its expiration, constitutes trespass.

REG. 47. Permits to inclose and cultivate agricultural land within forest reserves may be granted by the Forester subject to the foregoing conditions, except that no single applicant will be permitted thus to occupy more than forty acres and that any permit may be revoked at any time.

Application for a special occupancy permit should be made about as follows:

I (or we), the undersigned, hereby apply for permission to occupy for a term of — years a tract of — acres situated (describe location), for the purpose of (state purpose), and to construct thereon (describe buildings and improvements necessary).

The tract desired is (open, burned, timbered. If the latter, describe growth). There will be required to build improvements (approximate quantity, board

measure) of (kind of timber; dead or living), to be taken from (if not from the tract, state from where).

This privilege is desired because (state any pertinent facts).

If this application is approved, I (or we) will execute an agreement to observe the regulations governing forest reserves and such special conditions as are required.

(Signed)

(Post-office address.)

Investigation will be made by a forest officer, who will fully explain to the applicant the regulations governing special occupancy privileges and make a written report covering the following points (Nos. 6, 7, 8, and 10 may be omitted in case of school and church applications):

1. Size and location of tract involved, describing fully by reference to known points if unsurveyed and by legal subdivision if surveyed.

2. Title of land. If under claim, how and by whom? Can permit properly be given by the United States?

3. Character of land; whether suitable for the purpose desired. If timbered, describe the stand and name the species.

4. Existing improvements, if any. By whom made and may applicant properly use them?

5. If any reserve timber will be required for improvements should it be allowed free or by sale? (If free use permit or sale is necessary, examining officer should see that proper application is made and should transmit it with this report.)

6. State whether the desired privilege will involve monopoly of a location specially desirable for any purpose, or otherwise enable the applicant to hinder others in the use and enjoyment of the reserve.

7. If the Department should allow occupancy under lease only, what annual rental should be charged?

8. What is the applicant's reputation and financial standing?

9. Recommendations of the examining officer, with any other information required.

10. If approval is recommended, whether bond should be required and in what sum.

11. If the application is for a sawmill the report must cover these additional special considerations:

- a. Kind and size of mill. Capacity and output.
- b. Kind of products to be manufactured.
- c. Source of timber to be sawed.
- d. Disposal of refuse.

This report will be submitted to the supervisor, who will see that it is complete and will then forward it, with the application and his own recommendations, to the Forester for action. If the Forester approves the application, an agreement will be prepared in triplicate in the Washington office and forwarded for execution, one copy to be retained by the applicant, one by the supervisor, and one to be returned to the Forester. If bond is required it will accompany the agreement for execution.

ROADS AND TRAILS.

REG. 48. Wagon roads and trails may be constructed, changed, widened, extended, or repaired upon forest-reserve lands when needed, but permit or right of way must first be secured. Permits will not give the right to exclusive use, or to charge toll, or against future disposal of the land by the United States. Applications must be made directly to the supervisor or through a ranger; never to the Washington office.

Investigation will be made and all points will be fully discussed with the applicant, who should accompany the forest officer over the ground if required.

An application upon the form prescribed, based upon the investigation and describing both the privilege sought and the conditions of its allowance, will then be filled out in duplicate by the forest officer and signed by the applicant. If a ranger is the examining officer, he will indorse both copies and forward them to the supervisor for action, together with a written report.

REG. 49. Road districts, counties, or persons and non-commercial corporations which are entitled to the free use privilege may, in the discretion of the supervisor, be granted, with a permit for road or trail construction, the right to use not over \$100 worth of timber free in such construction without prejudice to any application they may make in the same year for material for other purposes. If not more than \$100 worth is necessary, but the applicant is not entitled to the free use privilege, he must buy the timber required under the regulations governing timber sales.

REG. 50. All applications for road or trail construction involving the use of more than \$100 worth of reserve timber must be submitted to the Forester for approval, with report and recommendations. He will also decide whether the timber may be used free or must be purchased.

If not more than \$100 worth of timber is to be used free, the supervisor's approval of the application makes it a permit, one copy of which is returned to the applicant and one kept in the supervisor's office. If not more than \$100 worth of timber is to be sold for construction of the road, the sale is conducted by the supervisor, as usual.

If more than \$100 worth of timber is to be used, the supervisor will transmit both copies of the signed application to the Forester, accompanied by a report and his own recommendations. If the application is approved by the Forester, one copy signed by the applicant is retained in the Washington office, the other, which becomes a permit by the approval of the Forester, is returned to the applicant, and a third copy is made and sent to the supervisor. If the timber must be secured through purchase, a regular application must be sent to the Forester, together with the road application.

If a supervisor or the Forester receives a formal signed application which must be modified before being approved, he will prepare and approve revised copies and return them for signature by the applicant.

REG. 51. A county road established prior to the creation of the reserve may be changed, widened, or repaired by the county authorities without permit if the operations are within the right of way fixed for such roads by the State law.

Any attempt to abuse this privilege, such as the unnecessary use of material or the leaving of dangerous refuse, should be forbidden, and, if necessary, reported to the Forester for instructions.

REG. 52. The use of material from outside the right of way, or the construction of new road, by a county, require a permit exactly as in the case of private individuals. In emergencies, however, supervisors of road districts, or others, may make any necessary immediate repairs without permit, making informal report to the nearest forest officer at their earliest opportunity.

REG. 53. Roads for the benefit of mining claims, when outside their boundaries, are not considered as assessment work by the Department of the Interior, and can be built over reserve lands only under permit.

Action or report upon an application for road or trail permits should take account of:

1. Location and length, to be shown by map. In important cases accurate survey and map must be furnished by applicant.
2. Title of land to be traversed. Show on map any patents or claims.
3. Character of forest reserve land involved; timbered, burned, or open.
4. Width of road and width which should be allowed to be cleared. Quantity, kind, and value of forest reserve timber to be cut in clearing.
5. Quantity, kind, and value of forest reserve timber, other than that necessarily cut in clearing, to be used in construction.
6. Should this timber be allowed free or be sold? (If sale application is necessary, it should accompany report to avoid delay.)
7. Necessity for the road or trail.

8. Possible injury to reserve or private interests.
9. Possible complications on account of private lands or prior rights of way.
10. Desirability of fixing a standard of excellence for the proposed road or trail.
11. Disposition of refuse.

APPLICATION FOR RIGHT OF WAY PRIVILEGE.

No. ———, ——— Forest Reserve.

—, the undersigned, hereby apply for permission to use a right of way for a — (road, ditch, or other right of way, stating width and length. Reservoir or tank site, stating area), located as shown on the attached map and described as follows: — (Describe the terminal points, direction and lands traversed, if right of way; the tract to be occupied, if dam, tank, or reservoir site), and to construct and maintain thereon a — (describe proposed improvement) for the purpose of — (object to be served or demand to be supplied. Show clearly whether enterprise is personal or commercial). — hereby certify that — have secured permission from all owners or claimants of any private lands or claims to be occupied in connection with the privilege sought, and that, to the best of — knowledge and belief, the privilege will not in any way involve interference with any legal or just right of other persons.

— agree, should this application be approved, to comply with all regulations and instructions of the Department of Agriculture governing forest reserves, and with the following special conditions:

1. The forest reserve timber used in clearing for and establishing the — will be taken — (from right of way or elsewhere. State whether through purchase.)
2. Only timber will be cut, except under permit, and no unnecessary damage will be done to young growth and trees left standing.
3. All cutting and disposition of refuse will be done by — under the direction of the forest officers.
4. — will pay the United States for any damage sustained by reason of — use and occupation of the forest reserve, regardless of the cause and circumstances under which such damage may occur.

5. ——— (Any further conditions required in the case).

6. ———.

——— further agree, if required, to give satisfactory bond for faithful compliance with all of the above requirements.

(Signed) _____,

(Post-office address.) _____.

Dated at _____,
_____, 190—.

Approved and permit granted for
a period of _____.

_____, 190—.

CANALS, DITCHES, RESERVOIRS, ETC.

REG. 54. Permits for canals, ditches, flumes, pipe lines, tunnels, dams, tanks, and reservoirs, not for mining or municipal purposes, nor granting an easement, are under the jurisdiction of the Secretary of Agriculture and should be applied for to the supervisor, as in the case of roads and trails.

REG. 55. If the project is small and of a private and personal character—such as a reservoir, pipe line, or ditch to supply a few farms, or a tank to collect water for stock—and the supervisor is certain that there are no complications of title, nor prior and conflicting rights, he may approve the application. If any large or commercial enterprise is involved, or if there is any question of conflicting rights or of the jurisdiction of the United States over the land, or of conflict with Federal, State, or Territorial laws controlling use and appropriation of water, the supervisor must transmit the application to the Forester for approval, together with report and recommendation.

Permits granted under these regulations are only for the improvements necessary to store or conduct water and do not carry any right to the water itself, the appropriation of which is subject to Federal, State, or Territorial law.

Action upon applications to construct or change reservoirs, dams, tanks, canals, ditches, flumes, pipe lines, and similar improvements for purposes other than mining and municipal, is practically the same as prescribed for roads and trails. Preliminary statement by the applicant will be followed by examination and report upon all of the following points:

1. If the application is for a reservoir, dam, etc., the location and area; if for a ditch, flume, etc., the length and direction. This must be shown by map. In important cases, accurate map and survey must be furnished by applicant.
2. Title of land to be occupied or traversed. Show by map any patents or claims.
3. Character of forest reserve land involved; whether timbered, burned, or open.
4. Width of ditch, canal, etc., and width which should be allowed to be cleared. Quantity, kind, and value of forest-reserve timber to be cut in clearing.
5. Quantity, kind, and value of forest reserve timber, other than that necessarily cut in clearing, to be used in construction.
6. Should this timber be allowed free or through sale? (If free use or sale application is necessary, it should accompany report to avoid delay.)
7. Disposition of refuse from cutting.
8. Source of water supply.
9. Applicant's right to use this water. This point should be fully discussed in the report, because, while a permit for improvements carries no water right, it is undesirable to grant a useless privilege or one which may unjustly impose upon others the necessity of protecting their rights. If the applicant has not an established water right, it should be clearly stated whether the stream involved is adequate at all seasons to supply all existing rightful claimants; whether only flood waters, which would other-

wise be wasted, are to be used; whether in any way the desired privilege will be illegal or undesirable.

10. Necessity for the desired improvement.

11. Possible injury to reserve or private interests; as, for example, through damage to roads or trails, hindering the passage of stock, or discharging water where it will be a nuisance.

12. Possible complications on account of private lands or prior rights of way.

These points should be fully discussed with the applicant and others concerned. An application upon the form prescribed, based upon the investigation and describing the terms of the privilege, will then be filled out in duplicate and signed by the applicant, as in road and trail cases, and the procedure thereafter will be as prescribed in such cases, except in so far as the authority of the supervisor to approve the application is defined by Reg. 55.

PRIVATE RAILROADS, TELEPHONE LINES, ETC.

REG. 56. Permits for private railroads and tramroads and telegraph, telephone, and power lines may be granted only by the Forester. Applications may be made to the supervisor in the manner prescribed for road and trail applications. An accurate map of the proposed line must be supplied by the applicant.

After investigation a formal application upon the right of way privilege blank, together with report similar to that required for road or trail applications, will be transmitted to the Forester by the supervisor.

TRESPASS AND VIOLATIONS.

1.—CRIMINAL ACTION.

REG. 57. Under authority given to the Secretary of Agriculture regarding forest reserves "to regulate their occupancy and use and to preserve the forests thereon

from destruction," the following acts are hereby forbidden, and declared to constitute trespass punishable by fine and imprisonment: (See Appendix, p. 101.)

(a) Grazing upon or driving across a forest reserve any live stock without a permit, except as otherwise allowed by regulation.

(b) Placing any fence or inclosure upon a forest reserve without a permit, except upon land covered by a title or a valid claim.

(c) Making settlement or squatting upon land within a forest reserve.

(d) Building roads, trails, railways, or tramways, and constructing ditches, dams, canals, pipe lines, flumes, tunnels, or reservoirs without a permit, except upon land covered by a title or a valid claim.

(e) Erecting or conducting telephone, telegraph, or power lines, hotels, stores, sawmills, power plants, or other structures, or manufacturing or business enterprises, or carrying on any kind of work, except according to law and forest reserve regulations, unless performed on patented land or land held under valid claim.

(f) Willfully tearing down or defacing warning notices of the Forest Service.

(g) Willfully destroying or damaging any property belonging to or used by the United States for forest reserve purposes.

(h) Willfully setting on fire or causing to be set on fire any timber, brush, or grass within a forest reserve, or leaving or suffering fire to burn unattended near any timber or other inflammable material in a forest reserve.

The following trespasses are forbidden by specific acts of Congress and are punishable by fine and imprisonment:

1. Cutting, destroying, or removing timber or other forest products from land in a forest reserve without a permit, or without having a valid claim to the ground on which such timber or product grows, except the small quantities actually needed by transients while within forest reserves. (See Appendix, p. 117.)

2. Cutting, destroying, or removing more timber upon an unpatented claim within a forest reserve than is necessary for its proper working and actual development.

3. Cutting timber on one mining claim to be used in developing another, except when both belong to the same group and were located in good faith. (See Appendix, p. 129.)

All forest officers have power to arrest without warrant any person whom they discover in the act of violating the forest reserve laws and regulations, or to swear out a warrant before a United States commissioner of the district in which such violation has been committed and use it as the visible sign of the right to arrest; and also to arrest for any such violation on a warrant obtained from a United States commissioner by any competent person.

All forest officers are directed to be vigilant in discovering violations of forest reserve laws and regulations and diligent in arresting offenders, either on a warrant secured from a United States commissioner of the district or without such warrant when the offender is taken in the act of violating any forest reserve law or regulation.

Any forest officer making an arrest must as soon as practi-

cable take the offender before the nearest United States commissioner and thereafter stand ready to carry out any mandate of the commissioner relative to the custody of the prisoner. He will also at once inform the supervisor within whose jurisdiction the offense was committed. It shall be the duty of each supervisor promptly to inform the district attorney of any such arrest and to render him the fullest assistance in collecting evidence. Each supervisor will also keep the Forester fully informed of each arrest and of further steps in the prosecution.

When a forest officer makes an arrest he will be reimbursed for the necessary expense incident to such arrest. When such expenses are incurred by a forest ranger he will be reimbursed through the supervisor.

II.—CIVIL ACTION.

IN GENERAL.

The United States has all the civil rights and remedies for trespass possessed by private individuals.

If any forest officer discovers a trespass he will notify the trespasser, if possible, in the presence of a witness, to discontinue the same, taking care to note the hour, day, and place of notice. He will also report the facts immediately to the supervisor on the prescribed form, and when danger of removal or destruction is imminent will seize all material involved in the trespass and, if necessary, arrest the offender.

Supervisors will report all cases of trespass to the Forester, setting forth the damage done or threatened, including the actual expense incurred in investigating the trespass. If the offer of settlement is not accepted, and the damage seems sufficient to warrant a civil suit, the supervisor will be directed by the Forester to place the case in the hands of the United States district attorney. Thereafter the supervisor will do all in his power to collect evidence for and assist the district attorney in the prosecution of the suit. He will also promptly inform the Forester of each step in the case. Forest officers may administer oaths in securing testimony under this regulation.

INJUNCTION.

An injunction may be obtained to restrain trespass on forest reserves.

DAMAGES.

Civil actions may also be brought to recover damages caused by any trespass or breach of contract. Damages recovered in such actions are in addition to and exclusive of criminal penalties.

COMPROMISE.

The Secretary of Agriculture has no power to compromise criminal cases, and "a proposition of settlement submitted with the understanding that, if accepted, criminal proceedings for the trespass will be waived will be rejected."

SETTLEMENT.

The Secretary of Agriculture has power to settle with any trespasser for the actual civil damages of such trespass. The rule for measure of damages for timber cut without permit is as follows: When the trespass is willful, the value of the timber where found; when unintentional, the stumpage value only.

Forest officers will notify trespassers that they may make, upon the prescribed form, offers of settlement to accompany their reports, but no such offer will be considered unless the amount offered in settlement is remitted by postal or express money order or national bank draft on New York to the Special Fiscal Agent, Forest Service, Washington, D. C.

PUNITIVE DAMAGES.

When trespass can be shown to be of a malicious nature, or due to such negligence as implies malice "or a reckless indifference to the rights of the Government," especially when a person trespasses after his attention has been called to the nature of the trespass, punitive damages may be recovered "notwithstanding the act constitutes an offense punishable under the criminal statutes."

STRUCTURES WRONGFULLY PLACED ON FOREST RESERVES.

When any structure is erected upon forest reserve land without a permit, it becomes the property of the United States immediately upon its construction.

PROTECTION AGAINST FIRE.

Probably the greatest single benefit derived by the community and the nation from forest reserves is insurance against the destruction of property, timber resources, and water supply by fire. The direct annual loss from this source on unprotected lands reaches many millions of dollars; the indirect loss is beyond all estimate. The burden of adequate protection can not well be borne by the State or by its citizens, much as they have to gain, for it requires great outlay of money to support a trained and equipped force, as well as to provide a fund to meet emergencies. Only the Government can do it, and, since the law does not provide effective protection for the public domain,

only in forest reserves can the Government give the help so urgently needed.

Through its watchful fire patrol the Forest Service guards the property of the resident settler and miner, and preserves the timber and water supply upon which the prosperity of all industries depends. The help it can give to the development of the West may be greatly increased by the cooperation of citizens. Destructive forest fires are not often set wilfully, but far too commonly they result from failure to realize that carelessness will be followed by injury and distress to others. The resident or the traveler in forest regions who takes every precaution not to let fire escape, and who is active in extinguishing fires which he discovers, contributes directly to the development and wealth of the country and to the personal safety and profit of himself and his neighbors. He who does not, assumes a great responsibility by endangering not only his own welfare but that of countless others.

Citizens' fire brigades have been organized successfully on many reserves. Not only is the prevention of fire to the interest of all property owners, but men under obligation to fight fire because they hold permits will profit greatly by any means of reducing the work which they may be called upon to do. An organization which will put out a fire before it gathers headway may save them many days' hard work. A good leader should be chosen to direct the work and to communicate with the forest officers. The local ranger should keep this leader informed of his movements as far as practicable, so that no time need be lost.

Care with small fires is the best preventive of large

ones. The following simple regulations may easily be observed by all:

REG. 58. Camp fires must not be larger than necessary.

REG. 59. Fires must not be built in leaves, rotten wood, or other places where they are likely to spread.

REG. 60. Fires must not be built against large or hollow logs, where it is difficult to be sure when they are completely out.

REG. 61. In windy weather and in dangerous places, camp fires must be confined in holes, or by clearing all vegetable matter from the ground around them.

REG. 62. A fire must never be left, even for a short absence, before it is completely extinguished.

Officers of the Forest Service, especially forest rangers, have no duty more important than protecting the reserves from forest fires. During dry and dangerous periods all other work should be subordinate. Most careful attention should be given to the prevention of fires. Methods and equipment for fighting them should be brought to the highest efficiency. No opportunity should be lost to impress the fact that care with small fires is the best way to prevent large ones.

The reserves must be thoroughly posted with fire warnings. The fact that some of them are destroyed is no excuse for neglecting this important duty. Often the warning notices can be posted on or near signboards along trails, or notices of reserve boundaries, limits of districts, or excluded parts in grazing ranges, etc. The destruction of these notices is willful trespass, punishable by law.

Forest officers should cheerfully and politely tell hunters, campers, and others about the rules and regulations governing camp fires. An officer who loses his temper or uses improper language in talking with persons who are careless because they do not know about the rules, or have no experience in camping, fails in one of his principal duties. He should call their attention to the mistake and instruct them courteously in the proper way of building and handling fires.

REG. 63. Lumbermen and settlers within forest reserves are cautioned against making dangerous slashings, and must not fire them in very dry weather. If it is necessary to make slashings, or to burn them, ample notice must always be given the nearest forest officer before burning, so that he may take steps to reduce the danger to the minimum. If notice is not given, or if the ranger's instructions are not followed, the person responsible for the burning will be held strictly responsible for all damage to the reserve, and liable, in aggravated cases, to criminal prosecution.

There is no desire to hamper the work of settlers and lumbermen, nor to limit the rights of property holders, but it is not just that other forests and improvements, whether owned privately or by the Government, should be endangered by carelessness.

The utmost tact and vigilance should be exercised where settlers are accustomed to use fire in clearing land. Public sentiment is rightly in sympathy with home builders and the control of their operations should give the least possible cause for resentment and impatience with the reserve administration, but it should be exercised firmly none the less. Settlers should be shown the injury to their own interests, as well as to the public, which results from forest fires. Methods and times of burning should be discussed with them and, if possible, an amicable agreement secured to have no burning except when authorized by the forest officer and when he is present. But while the aim ought always to be toward co-operation and good will, it is equally important to have it well understood that reserve interests will be protected by every legal means. Where any tendency to ignore instructions is observed, notice must be given that action will be brought for any damage sustained by the United States and that willful negligence will be prosecuted criminally. If this is ignored and damage does result prosecution must be prompt and vigorous. Where there is sufficient reason to anticipate danger, as from a large slashing which it

is announced will be burned at a dangerous time, injunction may be secured.

Similar means should be employed where reserves are endangered by railroads or logging operations on private lands, and prompt report of such conditions should be made to the forester.

FIRE LAWS AND PENALTIES.

There is ample legal provision for the punishment of malice or carelessness with fires. The act of June 4, 1897, instructs the Secretary in charge of forest reserves to make provisions for their protection against fire, and provides for the punishment of any violation of his regulations. The act of May 5, 1900, prescribes a maximum fine of \$5,000, or two years' imprisonment, or both, for any person convicted of responsibility for the willful setting of a fire on the public domain, or for suffering a fire to burn unattended near any inflammable material. It prescribes a fine of \$1,000, or one year's imprisonment, or both, for building a fire and leaving it before it is totally extinguished. Any officer of the Forest Service may arrest violators of these laws.

The fire laws of any State or Territory are applicable to forest reserves within its boundaries, and the United States has recourse to them whenever necessary.

The United States may also bring civil action to recover damages caused by fire, no matter how it was set. It is not necessary to prove malice, or even carelessness, or that the fire was set upon Government land. Any person responsible in any way for injury to Government property is liable for the actual damage.

PATROL.

Each supervisor is responsible for the patrol of his reserve, and will devise systems best suited to the locality.

Every ranger or guard must go to and fight every fire he sees or hears of at once, unless he clearly can not reach it, or is already fighting another fire. If he can not put it out alone, he must get help. The fact that it may not be on his district has no bearing unless he is certain another ranger is there already.

Rangers on fire-patrol duty should avoid spending time and work in places or along routes where there is little danger or small outlook. Hours spent or miles ridden are in themselves small indications of efficient patrol. Often a short trip to a commanding point is better than a long ride through a wooded valley. During dry and dangerous periods the selection of headquarters, camping places, and routes should be made with the single object of preventing and discovering fires.

Fires caused by lightning are not rare, especially in dry mountain regions. After every electric storm a special effort is needed to locate and extinguish any such fires before they are well under way.

HOW TO FIGHT FIRE.

When once a fire has spread over an acre or more, especially where much dead and down material makes it very hot, it may be so far beyond the control of one man that it is best to leave it and get help. The character and condition of the woods, the weather, and even the time of day, have so much to do with such cases that general directions have little value and all depends upon the experience and good judgment of the ranger.

Generally, it may be said that the best tools for fighting fire are the shovel, mattock, and ax. The ranger should always carry at least shovel and ax during all the dangerous season.

In damp, heavy timber fire usually travels slowly, and a few men, if persistent, can keep it in check by trenching, even though they may not extinguish it, and must continue the watch until rain falls. In dry,

open woods fire travels faster, and it is often best to go some distance to the most open and clean ground, and back fire from there. In handling back fires great care is needed to avoid useless burning; therefore, they should never be set except by forest officers, unless in great emergencies.

The night or the early morning hours are the best time to work, whenever any choice of time exists, for nearly all forest fires die down more or less during the cool of the night and flare up again during the heat of the day.

Following are several general principles to be borne in mind:

(a) Protect the valuable timber rather than the brush or waste.

(b) Never leave a fire, unless driven away, until it is put out.

(c) Young saplings suffer more than old mature timber.

(d) A surface fire in open woods, though not dangerous to old timber, does great harm by killing seedlings.

(e) A fire rushes up hill, crosses a crest slowly, and is more or less checked in traveling down. Therefore, if possible, use the crest of the ridge and the bottom as lines of attack.

(f) A good trail, a road, a stream, an open park, check the fire. Use them whenever possible.

(g) Dry sand or earth thrown on a fire is usually as effective as water and easier to get.

(h) A little thinking often saves labor and makes work successful. Ill-planned efforts suggested by haste and excitement rarely lead to success.

ACTION AND REPORT.

Small fires, extinguished without difficulty by the officer who discovers them, may be reported at the end of the month. The supervisor should be notified at once of large ones which require help from residents or other rangers, purchase of supplies, or attendance for several days. But if help is needed, the forest officer on the ground should get it at once. He should hire men and messengers, if necessary, send for supplies, and notify the supervisor of the action taken. The supervisor will furnish any further help needed and telegraph the Forester if special authorization is required.

In reporting upon fires, three classes should be distinguished, as follows:

(a) Camp fires and other small fires covering not more than a few square rods.

(b) Small forest fires, extinguished without any extra help or expense and generally not covering over 5 acres.

(c) Large fires, requiring extra help and expense.

Those of the first two classes may be included in one report at the end of the month. Give the number and location of each, with such information as to course and damage as seems necessary or is required by general instructions from the supervisor. Fires of the last class should be reported on separately. Cover all of the following points:

1. Location.
2. Damage done.
 - (a) Number of acres burned over.
 - (b) Number of acres of merchantable timber burned.
 - (c) Number of feet B. M. of:
 - (1) Green timber destroyed.
 - (2) Dry timber destroyed.
 - (d) Value of all timber destroyed.
3. Probable cause.
4. By whom was fire discovered?
5. When was it discovered?
6. When was it brought to notice of forest officer?
7. When was the work of checking the fire begun?
8. When was the work finished?

9. How many extra men were employed?

10. Cost of fire:

- (a) For help (outside of rangers).
- (b) For material, tools, etc.
- (c) Total cost.

EXPENDITURES FOR FIGHTING FIRE.

Every forest supervisor is authorized, in person or through a subordinate, to hire temporary men, purchase material and supplies, and pay for their transportation from place to place to extinguish a fire; but when it is evident that the expense is liable to be over \$300, he must at once telegraph the Forester for instructions to incur the additional expense. No expense for fighting a fire outside a reserve must be incurred unless the fire threatens it.

Any person paid for services at a fire must sign a subvoucher for the amount received, to be transmitted with the supervisor's regular monthly account for the month in which the expense is incurred. Full directions for preparing accounts are printed on the back of all vouchers.

Government employees and persons having grazing or other permits within a forest reserve are not entitled to compensation for fighting fire.

While the Government is anxious to prevent and fight fires, only a limited amount of money can be devoted to this purpose. Experience has proved that usually a reasonable effort only is justified, and that a fire which can not be controlled by 20 to 40 men will run away from 100 or even more men, since heat and smoke in such cases make a direct fight impossible.

Extravagant expenditures will not be tolerated. Fires are sometimes started for the sake of a job. In and about every reserve it is possible to enlist the cooperation of the better citizens, so that in time of need enough men of the right kind will be on hand. A crowd of men hastily gathered about a town, without organization, interest, or experience, is valuable only as a last resort in extreme need.

PERMANENT IMPROVEMENTS.

The forest officers will devote all time that can be spared from other work to building and keeping open roads and trails, to making other permanent improvements, and to study and mapping of the forest.

Supervisors will use every opportunity to work on a permanent system of roads and trails in their reserves. Whenever they can be spared and the weather permits, rangers should be assigned to trail and cabin work. No work of importance should be done without careful previous location, approved by the supervisor, who is responsible not only for the work, but for economy in doing it.

Cabins and fenced pastures should be established wherever they are needed. Reasonable construction expenses will be allowed; but supervisors will be held strictly responsible for the selection of locations with the single object of improving the service. Abandoned settlers' improvements may often be used.

Progress reports upon all improvement work will be required by the supervisor, who will also from time to time inform the Forester of results. Before any expense beyond the labor of the reserve force is incurred, unless to meet an emergency, previous authority must be secured from the Forester. The need and cost of the proposed improvement and its exact location must always be stated.

MARKING RESERVE BOUNDARIES.

For the benefit of the public and of the reserves, forest officers will do their utmost to see that all boundaries are established and clearly marked.

All forest supervisors will be supplied with boundary posters, with stamps and ink for filling the spaces left on each poster for the name of the reserve and boundary on which the notice is posted. They will see that the reserve limits are kept amply marked, not only at the entrance of trails and roads, but at frequent intervals along the entire boundary where any entrance is probable. There should be at least one notice to each mile where grazing or timber trespass is likely to occur.

Every notice posted must bear the name of the reserve and the proper boundary. If it is desirable to indicate the latter otherwise than by "North," "South," "East," or "West," combinations of initials such as "NW." or "SE." may be made.

Where the forest officers can not locate the boundaries of their reserve with sufficient accuracy, or the lines of interior claims or holdings of any kind, the Forester should be informed, in order that proper surveys may be secured.

SPECIAL INVESTIGATIONS UPON FOREST RESERVES.

It is the policy of the Forest Service to conduct within forest reserves useful work and investigations outside the ordinary work of the reserve, such as the examination of lands proposed to be excluded from or taken into a reserve, the study of commercial trees, the preparation of maps and working plans for conservative lumbering, and the establishment of nurseries and planting of trees.

Such work will usually be done by or under the supervision of forest inspectors, but the local force will assist and cooperate with them as far as possible without interference with their regular duties.

FIELD AND OFFICE EQUIPMENT.

When they are needed for the good of the service, every supervisor will be furnished with the following articles for use by himself and distribution among his subordinates:

LIST A.**For supervisor's office:**

Desk.
Chairs.
Filing case.
Map case.

For supervisor's office—Cont'd.

Typewriter and stand.
Drawing instruments.
Compasses and tripods.
Surveyor's chains and pins.

List A—Continued.

For supervisor's office—Cont'd.	For supervisor's office—Cont'd.
Calipers.	Bark blazer.
Tally boards.	United States flag.
Magnifying glasses.	For rangers and guards:
Stationery and office supplies.	Marking hatchets.
Steel tape (50-foot).	Log rules.
Planimeter.	Tents (7 by 9).
Scribes.	Pocket compasses.
	Badges.
	Stationery.

List B.

For supervisor's office.	For general reserve work:
Ink and mucilage.	Axes, shovels, saws, hammers, drills, and other necessary tools. Lumber, glass, nails, bolts, powder, and other necessary construction materials.
Drafting board and trestle.	
Drawing paper and linen.	

Articles in List A will be shipped by the Washington office upon receipt and approval of requisition in proper form. Those in List B may be purchased by the supervisor from local dealers upon permission from the Forester in the form of definite instructions and authorization. There must be no requisitions or purchase of unnecessary supplies, and purchases must be at the lowest obtainable price.

Any equipment not mentioned in the above lists and which is necessary in the proper performance of their duty must be furnished by forest officers at their own expense.

SUPERVISORS' ACCOUNTS.

PAY VOUCHERS.

All pay vouchers of forest supervisors, rangers, and guards must be prepared, signed, and certified in duplicate upon Form No. 3. Supervisors will not certify their own pay vouchers, since they are certified in the office of the Forester. They will certify their subordinates' pay vouchers when the number of days for which payment is claimed is correct. When the number of days' service claimed is not correct, they will forward the pay vouchers uncertified and accompanied by a statement of the days for which salary is not due and the reasons for its disallowance.

The Fiscal Regulations of the Department of Agriculture provide that if pay be at an annual or monthly rate, Sundays and legal holidays (January 1, February 22, May 30, July 4, the first Monday of September, Thanksgiving Day, and December 25), will be included in the period of service. In accordance with this regulation no deductions in the pay of forest rangers or other officers of the Forest Service (on a monthly or annual rate of compensation) will be made merely on the ground that no work was performed on these days. If the best interests of the reserve will not suffer from the absence of a forest ranger from his district on any particular Sunday or holiday, he may be permitted to omit his regular duties or leave the reserve for that day if he so desires, and his pay vouchers may be certified without deduction. On the other hand, if the best interests of the reserve demand that he be in his district and on active duty on any particular Sunday or holiday, and if he refuses to work or leaves his district under these circumstances, certification should be withheld.

In filling in pay vouchers the space in the upper left-hand corner under the words "Appointment dated" should be left blank. After the words "For service rendered as," only the title of the forest officer, such as ranger or supervisor, should be inserted.

Officers allowed a per diem will enter as a separate item the dates for which it is due, but will not enter the amount.

The name entered at the top of a pay voucher must be identical with the signature.

PAYMENT OF TEMPORARY LABORERS.

Temporary "laborers" (see p. 91) who do not receive appointment from the Secretary of Agriculture will be paid direct by the office of the Forester, when the amount due is more than \$10, upon vouchers, Form A. If the amount due is \$10 or less, it must be paid by the supervisor and included in his monthly expense account, supported by subvoucher, Form No. 4b.

LEAVES OF ABSENCE.

WITH PAY.

The law allows the granting of leave with pay, not to exceed fifteen days in one calendar year, to all officers of the Forest Service on an annual rate of compensation and permanently stationed outside the District of Columbia. It can not be granted temporary laborers serving on a daily or monthly rate. (See Appendix, p. 108.)

Officers whose service is continuous may receive the full fifteen days' leave of absence at any time during the year, provided they have been in the service twelve months. At any time during their first twelve months' employment they are entitled only to the leave which has accrued, at the rate of one and one-fourth days a month.

Officers whose service is periodical, including forest guards and rangers employed only during the summer, are entitled at any time only to the leave which has accrued, at the rate of one and one-fourth days a month, during their service in the current year. Thus a guard appointed July 1 may receive one and one-fourth days at any time during August; or, if he has taken none, two and one-half days in September.

Sundays and legal holidays are not charged against annual leave when included in the period of absence from duty. Thus but two days' leave is required to cover Saturday, Sunday, and Monday.

When it will not be detrimental to the interests of their reserves, supervisors may grant their subordinates leave under the above regulations, in every case attaching a report thereof upon a separate sheet to the pay voucher of the officer for the month in which the

leave is taken. No subordinate officer may take leave without permission from the supervisor. No supervisor may take leave without instructions from the Forester.

WITHOUT PAY.

Supervisors may grant leave without pay when urgent private business, family sickness, or an absolute necessity requires a subordinate's absence from his field of duty; but only for as long as is necessary, and in no case for more than thirty days. Leave without pay may be granted without reference to the period of prior service, but report thereof must be attached to the pay voucher, as in the case of leave with pay.

ABSENCE CONNECTED WITH DUTY.

The absence of a forest officer from his district, or from the reserve, absolutely required to obtain supplies, horseshoeing, mail, or for other purposes necessary to the performance of his duty, may be considered actual service, and does not require leave. Such absence must not be longer than is actually necessary, and must not exceed four days in any one month. Where it is practicable for an officer to obtain all facilities within his district, he will be allowed no absence for this purpose. Supervisors are required to be familiar with the situation in each case and to approve only necessary absence.

EXPENDITURES.

The Fiscal Regulations of the Department of Agriculture must be followed literally in incurring expenses and preparing accounts, to secure their reimbursement.

No expenditure may be made without previous written authority, but by order of the Secretary of Agriculture the Forester will sign letters of authorization to forest officers when necessary. Such letters are drawn so as to facilitate the settlement of accounts for expenses incurred in the administration and protection of the forest reserves, *but the aggregate amount of expenses incurred thereunder must not exceed the amount allotted, and must be sanctioned by previous instructions issued by the Forester, except in emergencies, for which provision is made in the Fiscal Regulations.*

The terms and amount of a letter of authorization must cover every expense incurred, including the purchase of supplies, traveling expenses, whether on transportation request or actually paid, and the pay of any assistant not appointed by the Secretary of Agriculture.

The terms and the total amount which may be expended under a letter of authorization are subject to amendment when necessary. When an amendment is required, or if any doubt arises as to the propriety of incurring certain expenses under the letter of authorization, forest officers will communicate promptly with the Forester.

An account for reimbursement of expenses incurred for any purpose, under a letter of authorization, must be prepared in duplicate upon Form No. 4, in accordance with the Fiscal Regulations and with the printed instructions on the back of the vouchers.

In the use of subvouchers 4a, 4b, and 4c the detailed instructions of the Fiscal Regulations for the filling out and use of such subvouchers must be followed closely.

When authorized, railroad transportation may be paid for and entered in an expense account or, if continuous for 100 miles or more, secured through a Government transportation request. Applications for transportation requests should be made to the Forester by letter or, in an emergency, by telegram. The cost of tickets secured therewith is charged against the supervisor's letter of authorization, and must be reported upon Form 4c with his regular monthly account.

RECORDS, REPORTS, AND CORRESPONDENCE.

RANGERS' RECORDS AND REPORTS.

All rangers, in addition to recording the necessary information upon the regular blank forms for free use, timber sales, supervision of cutting, etc., are required:

1. To keep a diary in the notebook furnished for the purpose, in which each ranger will enter for each day of service his movements, the work performed, and the status of reserve work or reserve business upon which he has been engaged.

2. To make a report of service, for which a regular form is provided and for which the ranger's diary furnishes the basis, at the

end of each month to the supervisor. This report must show the ranger's movements and the work performed on each day.

SUPERVISORS' REPORT.

PERIODICAL REPORTS.

1. Monthly report of grazing permits issued.
2. Monthly report upon progress of timber sales.
3. Annual statement of free use business.
4. Annual report, at close of grazing season, upon grazing business and condition of the range.
5. Annual statement of cabin building, trail construction, and other miscellaneous work, due December 15.
6. Annual report upon fires, due December 15.

SPECIAL REPORTS.

7. Reports upon applications for any purpose, reports ordered by the Forester, and special reports required for the good of the reserve.

SUPERVISORS' RECORDS.

Every supervisor is required to record the condition and business of his reserve upon the prescribed forms and under the following heads. Every regular and special report of the supervisor or of his subordinates is summarized in these records:

1. Ranger service.
2. Free use of timber.
3. Sale of timber.
4. Forest mapping and estimating.
5. Grazing.
6. Claims and patents.
7. Special occupancy.
8. Rights of way.
9. Fires.
10. Trespass.
11. Miscellaneous work.
12. Accounts.

Every supervisor is required to keep a diary, in which he will

record for each day of service his work and movements and the progress and notable happenings of his reserve.

MAPS OF RESERVES.

Every supervisor must keep up at least two maps of his reserve on which important work and other information are noted for convenient reference. One map should show the location of administrative work, such as sale and free-use cuttings; special-privilege sites; road, trail, or ditch rights of way; trails and cabins built by rangers; ranger districts and grazing districts.

The other map illustrates private occupancy. It must show all patented lands and claims of every kind except individual mining claims too small to plat. Large groups of mining claims or largely located areas should be indicated, also towns, well-known ranch houses, and all human improvements independent of forest-reserve permits. The necessary information concerning patents and claims should be secured from the local land offices, and if necessary from offices of surveyors-general and county records, by the supervisor, or rangers detailed by him, at times when absence from the reserve is practicable. Authorization for the necessary traveling expenses will be furnished upon request to the Forester.

CORRESPONDENCE.

To facilitate filing, every letter or report from a forest officer should contain but one subject. Every application, sale, privilege, trespass, or other transaction identified by an individual name or number, must be treated separately.

Never write a letter of transmittal in forwarding any document, unless some special statement about it is needed. Indorse the document "Respectfully forwarded to (give name)," add your recommendation, if any is required, sign, and mail.

Use direct, clear-cut language. Avoid unwieldy words where shorter, simpler ones will express the idea equally well. Be concise. Avoid laborious statements, the essence of which might well be expressed in half the space. Never use the substance of the letter received as a preamble to the reply. Unless the incoming letter has already been acknowledged and further reference to

it is necessary, its contents should not be indicated in the initial sentence of the reply.

Except on printed forms, writing must be on one side of the sheet only.

All correspondence and reports must be in ink or indelible pencil.

Supervisors are expected to correspond with the Forester in typewriting, except when away from their offices. Machines will be furnished them upon requisition.

Letters and reports of subordinates transmitted by a supervisor to the Forester must be originals, not copies made by the supervisor. The latter will keep copies for his own records or, when necessary, request the return of the originals.

Rangers will report only to the supervisor or to officers to whom he delegates authority. They will correspond with the Forester only upon personal matters or to make complaints.

PROTECTION OF GAME.

REG. 64. All forest officers will cooperate with the game wardens of the State or Territory in which they serve, so far as they can without interference with their regular reserve work. When authorized to do so by the Forester and by the State Game Warden, they will act as wardens, with full power to enforce the local laws. If not so authorized they will inform the State officials of all violations discovered. (See Appendix, p. 107.)

Rangers will inform all hunters and travelers of the local game laws and endeavor to prevent their violation. This can best be done by courtesy and tact.

If actual violation of the law is discovered by a ranger, he will at once notify the nearest game warden, if practicable, and report this action to the supervisor. If unable to communicate with a game warden, or if no action follows, he will give the facts to the supervisor, who will transmit them to the proper State authority.

REG. 65. When any forest reserve or part of a reserve is made a game refuge by the President or by Congress, or when any Federal law or regulation affects the protection of game, the forest officers will arrest offenders as for violation of any other law or regulation governing reserves. (See Appendix, p. 122.)

REG. 66. Where trapping for fur on a reserve is legal, trappers must obey all regulations, and must get timber for cabins through free use permits. If over six months' occupancy is desired, a special occupancy permit must be secured.

THE FOREST SERVICE UPON FOREST RESERVES.

ORGANIZATION, DUTIES OF OFFICERS, AND METHOD OF APPOINTMENTS.

On December 17, 1904, the President signed the following order:

In the exercise of the power vested in the President by section 1753 of the Revised Statutes and acts amendatory thereof:

It is ordered, That all persons employed in the field and in the District of Columbia in the "protection and administration of forestry reserves in or under the General Land Office of the Interior Department" be classified and the civil-service act and rules applied thereto, and that no person be hereafter appointed, employed, promoted, or transferred in said service until he pass an examination in conformity therewith, unless specifically exempted thereunder. This order shall apply to all officers and employees, except persons employed merely as laborers, and persons whose appointments are confirmed by the Senate.

This order classified the whole forest-reserve service and placed it under the civil-service law. On February 1, 1905, by act of Congress, this service was transferred

from the Department of the Interior to the Department of Agriculture without modification of the above order except in the further restriction entailed by the following section of the act:

SEC. 3. That forest supervisors and rangers shall be selected, when practicable, from qualified citizens of the States or Territories in which the said reserves, respectively, are situated. (See Appendix, p. 105.)

By order of the Secretary of Agriculture dated February 1, 1905, the whole forest reserve service was placed in the Forest Service, under the direction and control of the Forester.

ORGANIZATION.

The permanent field force of the forest reserves now contains the grades of forest inspector, assistant forest inspector, forest supervisor, deputy forest supervisor, forest assistant, forest ranger, deputy forest ranger, assistant forest ranger, and forest guard.

The reorganization of the forest reserve service will take place as the necessary funds, and as men of the required training and experience, become available. Except in the cases of forest inspector, assistant forest inspector, and forest assistant, whose compensation will depend on varying circumstances, pay will be fixed as follows:

	Per year.
Forest supervisor	\$1,800 to \$2,500
Deputy forest supervisor	1,500 to 1,700
Forest ranger	1,200 to 1,400
Deputy forest ranger	1,000 to 1,100
Assistant forest ranger	800 to 900
Forest guard	Up to 720

EXAMINATIONS.

In accordance with the law requiring the selection of rangers and supervisors, when practicable, from the States in which they are to be employed, regular examinations for these positions are held as required in each State and Territory in which forest reserves are situated. These examinations are along practical lines, and include tests in the actual performance of field work. Only legal residents, between the ages of 21 and 40, are eligible for the ranger or supervisor examinations. Applicants are examined as to fitness for positions in the State or Territory of which they are legal residents. Only when examinations fail to secure thoroughly qualified men are vacancies filled by the examination of applicants from other States.

The restriction as to residence is not imposed upon applicants for the forest assistant examination, for which the age limit is 20 to 40 years.

Information as to the times and places at which examinations will be held and the steps necessary to secure admission may be obtained only from the United States Civil Service Commission, Washington, D. C.

GENERAL QUALIFICATIONS AND DUTIES.

FOREST INSPECTORS.

Forest inspectors are appointed only from those who by their qualifications, training, and experience have gained great familiarity with reserve problems and unusual efficiency in the conduct of reserve business.

The inspector advises with all forest officers and has

free access to all official books, reports, or other records. He may call upon any supervisor for all necessary assistance; but he has no authority to give orders to any supervisor or to any ranger, unless that ranger has been detailed by his superior to assist the inspector.

His duties are to inspect the reserves in his district, their condition, and the progress, condition, and execution of all work, and to report to the Forester all information necessary for the proper management of these reserves. He also assists the local officers, by suggestion and advice, in all technical and executive matters.

SUPERVISORS.

For the purpose of encouraging good men to enter the service and to do good work, as well as to utilize their experience, appointments to the position of forest supervisor are made by the promotion of competent forest rangers or forest assistants, when the latter can be found in the States or Territories in which the vacancies exist. Should there be no thoroughly satisfactory resident forest rangers or forest assistants, examinations of other applicants are held.

The qualifications for the position of supervisor include all those required of rangers, as hereafter outlined, with superior business and administrative ability. Applicants should not only be familiar with every detail of the work of the rangers and with the conditions of the forest region involved, but should be able to handle men, to deal with all classes of persons who do business with the forest-reserve management, and to conduct the transactions and correspondence of the office. Knowledge of technical forestry is

desirable but not essential. Candidates for the position of supervisor are required to furnish the most convincing proof of their moral and business responsibility.

While certain general qualifications are insisted upon in every case, special fitness for employment in a specified region is always considered. In many heavily forested regions, knowledge of timber and lumbering is more important than familiarity with the live-stock business, while the opposite is true in several interior reserves where grazing problems are numerous, and little, if any, timber is sold.

Supervisors must give their entire time to the service. They have full charge of their reserves, plan and direct all work, have entire disposition of rangers and other assistants, and are responsible for the efficiency of the local service. Under instructions from the Forester, supervisors deal with the public in all business connected with the sale of timber, the control of grazing, the issuing of permits, and the application of other regulations for the use and occupancy of forest reserves. They keep the records and accounts, and conduct the correspondence and general office business of their reserves, and make reports to the Forester on all matters under their jurisdiction.

Supervisors have authority to suspend or recommend the discharge of any subordinate employee, and also to recommend such changes in the field force as the good of the service may demand.

Each supervisor is required to keep, at his own expense, one or more saddle horses, to be used under saddle or to vehicle, for his transportation in the reserve; and is allowed actual and necessary traveling expenses

only when the urgency of the case requires some other means of transportation.

FOREST ASSISTANTS.

The position of forest assistant requires technical qualifications of high order, and entails an examination which no man may reasonably expect to pass unless he has been thoroughly trained in scientific forestry, dendrology, and lumbering. Forest assistants may be assigned to any part of the United States, and must be competent to handle technical lines of work, such as the preparation of working plans and planting plans, the investigation of the silvical characteristics and the uses of commercial trees, the study of problems in wood preservation, and to conduct many other investigations requiring a trained forester.

When assigned to a forest reserve, a forest assistant is placed directly under the supervisor, from whom he receives his orders and to whom he reports. If he has occasion to correspond with the Forester, he does so through the supervisor. He acts as technical assistant to the supervisor in all matters connected with the mapping, estimating, and disposal of timber, or other technical work. In addition to these matters, in which his services should always be required, he may be detailed by the supervisor to any general administrative business.

Forest assistants are required to own and keep horses when necessary.

Supervisors having forest assistants will avail themselves fully and freely of the technical information thus placed at their disposal and are held responsible

for so doing. They will assign to such assistants, as occasion requires, the authority over rangers required to enable them to carry out their work successfully.

RANGERS.

To be eligible as ranger of any grade the applicant must be, first of all, thoroughly sound and able-bodied, capable of enduring hardships and of performing severe labor under trying conditions. Invalids seeking light out-of-door employment need not apply. No one may expect to pass the examination who is not already able to take care of himself and his horses in regions remote from settlement and supplies. He must be able to build trails and cabins and to pack in provisions without assistance. He must know something of surveying, estimating, and scaling timber, lumbering, and the live-stock business. On some reserves the ranger must be a specialist in one or more of these lines of work. Thorough familiarity with the region in which he seeks employment, including its geography and its forest and industrial conditions, is usually demanded, although lack of this may be supplied by experience in other similar regions.

The examination of applicants is along the practical lines indicated above, and actual demonstration, by performance, is required. Experience, not book education, is sought, although ability to make simple maps and write intelligent reports upon ordinary reserve business is essential.

Where boats, saddle horses, or pack horses are necessary in the performance of their duty, rangers are required to own and maintain them.

The entire time of rangers must be given to the service. Engagement in any other occupation or employment is not permitted. Rangers execute the work of the forest reserves under the direction of the supervisor. Their duties include patrol to prevent fire and trespass, estimating, surveying, and marking timber, and the supervision of cuttings. They issue minor permits, build cabins and trails, enforce grazing restrictions, investigate claims, and arrest for violation of reserve laws.

Forest rangers may act as assistants to the supervisors. They have authority over deputy and assistant rangers and forest guards. They may be given charge of the field work of any portion of a reserve to which the supervisor is unable to give adequate personal supervision. When the absence of the supervisor requires some one in charge of his office, this duty falls on the forest ranger; although if there are more than one, or if there is a forest assistant attached to the reserve, the supervisor may detail whichever of these he thinks best, unless otherwise instructed by the Forester.

Deputy rangers have charge of definite districts, to which they are assigned by the supervisor. They supervise assistant rangers and forest guards stationed within their districts and may also be given temporary laborers when necessary.

Assistant rangers are usually employed in patrol or special work, under the direct supervision of a deputy ranger, although where this is impracticable they may have full charge of their districts. They may be given temporary laborers when necessary. No ranger is au-

thorized to hire assistance himself except in cases of fire.

Although initial appointment as ranger is usually to the lowest grade, in cases of merit service there may be only for a short probationary period. Increase of pay above the maximum for a forest ranger can be secured only through promotion to the position of deputy forest supervisor or forest supervisor when a vacancy occurs. It is the policy to fill such vacancies by the promotion of forest rangers or forest assistants, when competent men can be found, rather than by appointment of men without forest-reserve experience, although otherwise well fitted.

FOREST GUARDS.

In addition to the permanent classified force upon the reserves, forest guards receiving \$60 or less a month are employed under the following circumstances:

(a) When it is impossible to secure a permanent force of classified rangers for a reserve because there is no list, or an insufficient list, of eligibles qualified by examination and certification by the Civil Service Commission.

(b) When a reserve already has a permanent classified force, but requires the services for not over six months of additional men to perform the ordinary patrol and protective work of rangers.

Forest guards have the powers and functions of assistant forest rangers.

Where an eligible list exists of men who have successfully passed the examination for rangers, but have not been appointed because of lack of vacancies in

permanent positions, guards must if available be appointed from this list. Guards so appointed may be promoted to the position of ranger, should vacancies occur, at any time within one year from the date of their certification as eligible for the position.

Where no eligible list exists, forest guards may be appointed without examination and may serve until a list is established through examination. Application for the position should be made to the supervisor, who will require sobriety, industry, physical ability, and effectiveness, and will give preference to local residents of whose fitness he is satisfied. Guards so appointed may serve until there is a list of eligibles for the position of ranger. If they pass this examination, they may continue to serve as guards, or be appointed rangers; if not, their appointments will be terminated unless the eligible list is still insufficient to provide both rangers and guards.

Forest guards are required to own and keep horses when necessary.

In recommending the appointment of forest guards, supervisors will state the names of the men desired, the date at which they are to begin work, and the necessity for their services. They should fully inform all applicants of the conditions under which they will serve. Guards must not begin work until the supervisor has been instructed that they may do so.

TEMPORARY LABORERS.

If the best interests of a reserve require the temporary employment of men for work on forest fires, fire lines, roads, trails, cabin construction, and other work distinct from the ordinary patrol and protective duties of guards and rangers, such men may be employed by

the supervisor at not over \$60 a month (except in case of fire, when not to exceed \$2.50 a day may be paid) and for a period of not over six months. These men are designated "laborers" and, not being appointed by the Secretary of Agriculture, are not in the Forest Service, have not the power to arrest, and must not be given the full duties and authority of guards or rangers.

Before employing such laborers supervisors must inform the Forester of their names, the dates at which they are to begin work, and the necessity of their services. They must not begin work until the supervisor has been instructed that they may do so by the Forester; except that in an emergency, such as fire, they may be employed without such instructions, if immediate report of such action is made. Instructions concerning the payment of laborers are given under "Supervisor's accounts."

FOREST OFFICERS' RIGHT TO ENTER LAND.

Officers of the Forest Service are prohibited from entering, or becoming interested in, directly or indirectly, any of the public lands of the United States, with this exception: A forest officer may exercise his right under the homestead or desert land laws, if he intends to make the claim his actual and permanent home. By so doing he takes his own risk of being compelled to choose between the claim and his position, should his duties make it impossible for him to comply with the residence and improvement requirements.

SURVEYS WITHIN FOREST RESERVES.

The act of March 3, 1899, contains the following provision:

And provided further, That hereafter all standard, meander, township, and section lines of the public land surveys shall, as heretofore, be established under the direction and supervision of the Commissioner of the General Land Office, whether the lands to be surveyed are within or without reservations, except that

where the exterior boundaries of public forest reservations are required to be coincident with standard, township, or section lines. Such boundaries may, if not previously established in the ordinary course of the public land surveys, be established and marked under the supervision of the Director of the United States Geological Survey whenever necessary to complete the survey of such exterior boundaries.

This law, which was not affected by the transfer of the administration of the forest reserves to the Department of Agriculture, makes the surveying of forest-reserve lands identical, in all but the establishment of boundaries, with that of the public domain. Where survey to permit the patenting of valid claims is desired, application should be made to surveyors-general, and action thereon will be governed by the usual considerations.

(For special privileges allowed in the Black Hills Forest Reserve, S. Dak., see Appendix, p. 109.)

CREATION OF FOREST RESERVES—ADDITIONS AND ELIMINATIONS.

Section 24 of the act of March 3, 1891, provides:

That the President of the United States may, from time to time, set apart and reserve, in any State or Territory having public lands bearing forests, in any part of the public lands wholly or in part covered with timber or undergrowth, whether of commercial value or not, as public reservations, and the President shall, by public proclamation, declare the establishment of such reservations and the limits thereof.

In the act of June 4, 1897, it is provided that—

No public forest reservation shall be established, except to improve and protect the forest within the reservation, or for the purpose of securing favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of citizens.

of the United States; but it is not the purpose or intent of these provisions, or of the act providing for such reservations, to authorize the inclusion therein of lands more valuable for the mineral therein, or for agricultural purposes, than for forest purposes.

* * * * *

Upon the recommendation of the Secretary of the Interior, with the approval of the President, after sixty days' notice thereof, published in two papers of general circulation in the State or Territory wherein any forest reservation is situated, and near the said reservation, any public lands embraced within the limits of any forest reservation which, after due examination by personal inspection of a competent person appointed for that purpose by the Secretary of the Interior, shall be found better adapted for mining or for agricultural purposes than for forest usage, may be restored to the public domain.

The President is hereby authorized at any time to modify any Executive order that has been or may hereafter be made establishing any forest reserve, and by such modification may reduce the area or change the boundary lines of such reserve, or may vacate altogether any order creating such reserve.

It is usually by Executive order, thus authorized, that forest reserves are created, revoked, or modified in boundary; although, as a matter of course, Congress may take such action and has done so in a few cases. The power of the President under these acts is clearly described in the following decisions of the Department of the Interior:

A very large discretion is evidently lodged in the President by these statutory provisions. His judgment is to be guided and controlled only along general lines. In the said legislation of 1891 practically no limit is placed upon the exercise of his authority to establish forest reservations from time to time except that the lands reserved must be "public lands wholly or in part covered with timber or undergrowth." In the act of 1897 his authority is further limited only to the extent of the declaration therein of the purposes of such legislation, and that the inclusion in forest

reservations "of lands more valuable for the mineral therein, or for agricultural purposes, than for forest purposes" is not intended to be authorized thereby. Recognizing that lands "better adapted for mining or for agricultural purposes than for forest usage" had already been and might thereafter be included in such reservations, that act made provision for their elimination when ascertained as therein directed.

The language quoted in the two instances immediately preceding is worthy of particular notice. It is not simply lands that are merely agricultural in character that are not to be included in forest reservations, or, if included, may be restored to the public domain, but "lands more valuable * * * for agricultural purposes than for forest purposes," or "for forest usage." The language used, it is evident, was carefully and wisely chosen. In determining whether any particular tract or body of land ought to be included in a forest reservation, or, if included, ought to be eliminated therefrom, its value to the reservation for forest purposes or for purposes of a reservation generally, and the effect of its omission or elimination therefrom are to be weighed against its value for agricultural purposes. Its relative position in the proposed or existing reservation may be of much importance in such determination.

If immediately within the reservation boundary, for instance, its separation from the reservation might be a matter of small concern, but if at some distance within the reservation, and especially if many tracts be thus eliminated, the consequences thereof might, and probably would, be very injurious, affecting not only the integrity of the reservation but its maintenance and control, and perhaps eventually rendering abortive the purposes for which it was established. Considerations like these may render the nature of the soil of such tracts or bodies of land or their condition as to the growth of trees or other vegetation thereon of minor importance in the determination, and when the tract is small, consisting of but 40 acres, and far within the limits of the lands reserved, as in the present instance, the mere fact that it might be nearly or even entirely devoid of timber and distinctly agricultural land would not under ordinary circumstances, if otherwise subject to inclusion in a forest reservation, justify its exception or elimination therefrom. (E. S. Gosney, 30 L. D., 44.)

It was not intended by the act of June 4, 1897, to exclude from reservation small tracts, here and there, within the limits of a forest reservation, because of the fact that said tracts were not covered with timber. (Jared Woodbridge, 29 L. D., 531.)

While lands embraced within a forest reservation may be excluded, because shown to be more valuable for agricultural than for forest purposes, until formally restored to the public domain, such lands are not subject to general disposition, and no rights can be acquired by the attempted entry thereof. (Jared Woodbridge, 29 L. D., 531.)

The boundaries of the earlier reserves were not always carefully drawn. Reports and recommendations were submitted to the Secretary of the Interior, for recommendation to the President, by special commissions, municipal organizations, and officials of the General Land Office. They seldom resulted either in the inclusion of all suitable lands in a forest reserve or the exclusion of all lands unsuited for reserve purposes. Vigorous protests then arose from dissatisfied interests, and the original boundaries had to be changed, a process not yet complete.

In 1903 the need of better choice of reserve boundaries led to the establishment of a force of trained men devoted exclusively to this work, under a uniform and complete system of field study and report. The results were satisfactory, and the system remains in effect. Before any new forest reserve is created, or any change is made in the boundary of an existing reserve, a member of the Forest Service familiar with the work and with western conditions makes a careful investigation not only of the lands, but also of the interests involved. The claims of all industries and classes of residents are weighed, in order that no injustice may be done. The

region is carefully mapped and photographed, and the boundary of the reserve is drawn to include only suitable reserve land. Possible agricultural areas are always excluded unless they are small and isolated.

In some cases areas temporarily withdrawn from entry, pending examination, contain much unsuitable land, and their withdrawal is viewed with alarm by local residents. It should be remembered that such withdrawals are not final, and that unsuitable portions will be restored to the public domain.

All communications relative to the creation or modification of forest reserves should be addressed to the Forester, Forest Service, Washington, D. C.

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