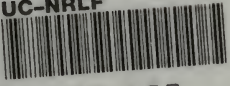


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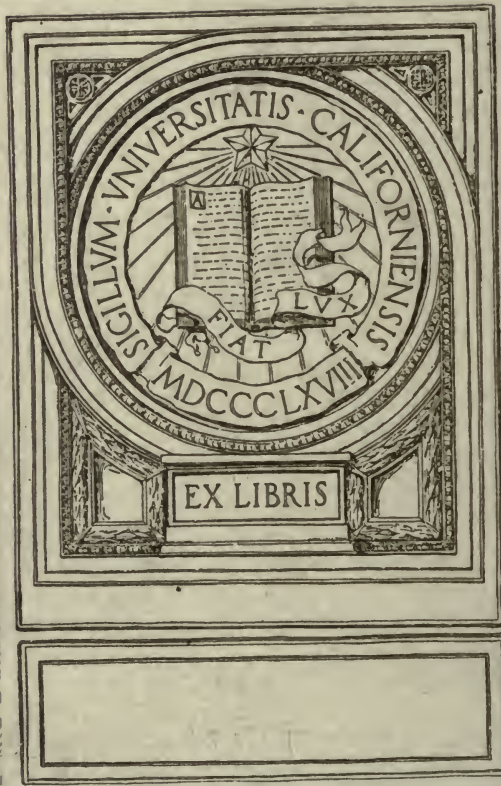
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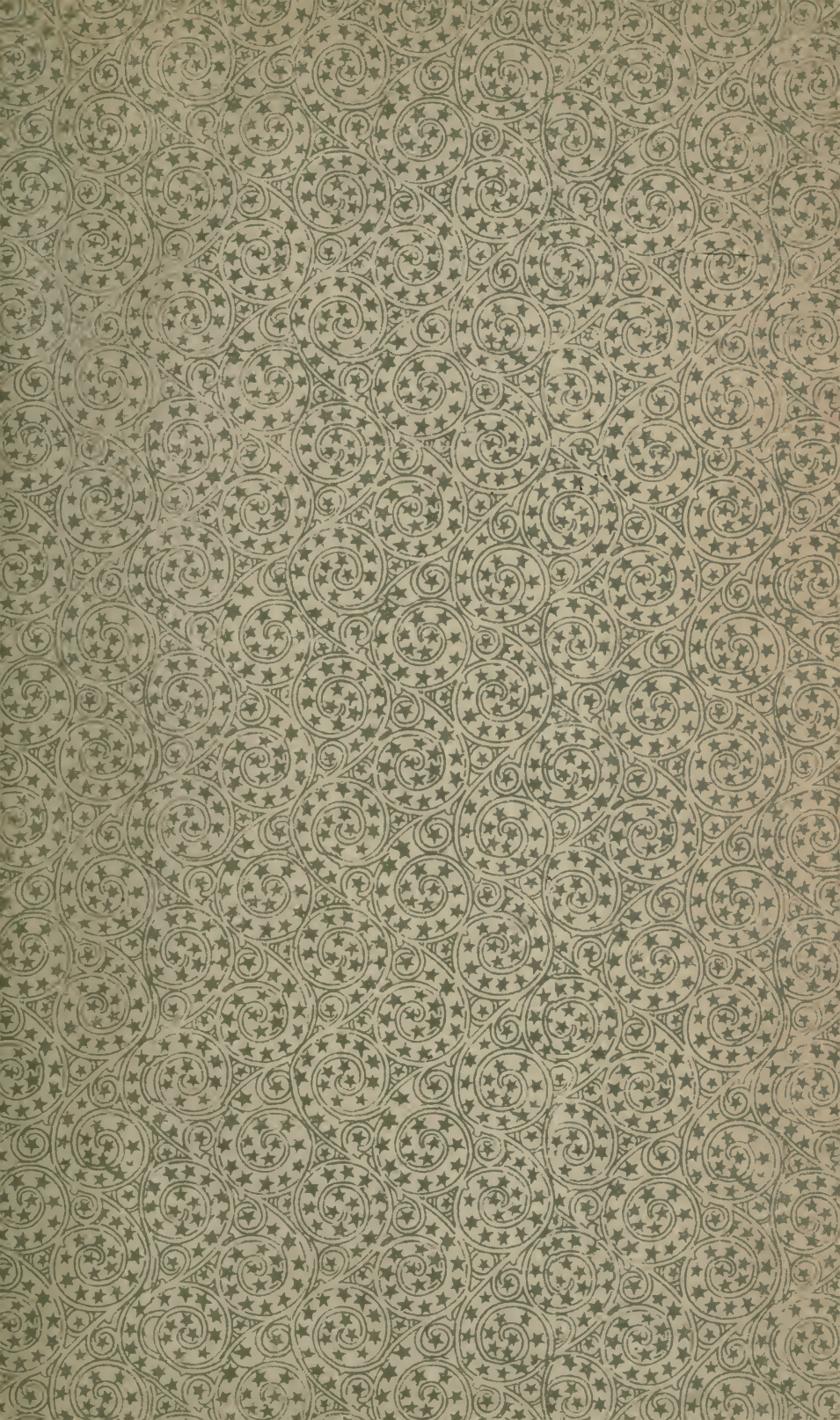
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AN EPITOME  
OF  
TRIPLER'S MANUAL,  
AND  
OTHER PUBLICATIONS  
ON THE  
EXAMINATION OF RECRUITS.

BY

CHAS. R. GREENLEAF,  
*Major and Surgeon, U. S. A.*



WASHINGTON, D. C. :  
WILLIAM BALLANTYNE & SONS.

1890.

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Entered according to Act of Congress in the year 1890, by  
CHARLES R. GREENLEAF.

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JUDD & DETWEILER,  
PRINTERS,  
WASHINGTON, D. C.

The following epitome of TRIPLER'S MANUAL is intended for the guidance and use of Recruiting Officers in the examination of applicants for enlistment into the United States Army.

The MANUAL, written principally for the use of Medical Officers, contains much that is useless or incomprehensible to the non-professional man by reason of its technicalities, and as Recruiting Officers are frequently required to examine applicants without the assistance of a medical officer, it is believed that a more useful guide can be made by eliminating this material, and omitting all reference to the subjects of malingering, discharges from service, etc.

Advantage has been taken of this opportunity to add such new instructions, as time and experience have shown to be necessary, since the original publication of the MANUAL.

COLUMBUS BARRACKS, OHIO, *June, 1884.*

HEADQUARTERS OF THE ARMY,  
ADJUTANT GENERAL'S OFFICE,  
WASHINGTON, *June 10, 1884.*

This epitome of TRIPLER'S MANUAL, prepared by Major CHARLES R. GREENLEAF, Surgeon, U. S. Army, is published for the information and guidance of recruiting officers in the examination of applicants for enlistment into the United States Army.

BY COMMAND OF LIEUT. GEN'L SHERIDAN:

R. C. DRUM,  
*Adjutant General.*





Since the publication of the epitome of TRIPLER'S MANUAL much has been written on the general subject of physical examinations, and many changes in the methods of examining recruits have been announced in orders from the War Department and the Headquarters of the Recruiting Service. In the following epitome this information is incorporated; the application of the vision test is explained; the instructions for chest measurements are revised; new material suggested by the experience of the past few years has been added, and errors, typographical and otherwise, have been corrected.

WASHINGTON, D. C., *April 10, 1890.*

WAR DEPARTMENT,  
ADJUTANT GENERAL'S OFFICE,  
WASHINGTON, *April 10, 1890.*

APPROVED :

By order of the Secretary of War.

J. C. KELTON,  
*Adjutant General.*





# THE PHYSICAL EXAMINATION OF RECRUITS.

## LEGAL REQUIREMENTS.

Any male person above the age of sixteen and under the age of thirty-five years, effective, able-bodied, and free from disease, of good character, who does not appear to be of intemperate habits, and who has a competent knowledge of the English language, may be enlisted, due attention being given to the restrictions in this article concerning minors. This regulation, in so far as it relates to age, shall not apply to soldiers who may re-enlist nor to those who have served honestly and faithfully a previous enlistment in the Army. Applicants for enlistment will be required to furnish such evidence of good character as they can obtain. With a view to determine their fitness and aptitude for the service and to give them an opportunity to secure testimonials, as well as for the inquiry and deliberation contemplated by the 2d Article of War, they may be retained and provided for at rendezvous, after having signed the declaration of intention to enlist and passed the medical examination, for not to exceed six days. Men so retained will be known as *recruits on probation*. The enlistment papers of any such recruit who may be unfit or undesirable for the service or who may not desire to remain in the service will not be completed. The enlistment papers of recruits who are accepted and duly sworn will bear the date on which the enlistment is *completed* by administering the oath. (A. R. Art. LXXI, 908.)

\* \* \* \* \* The Major General Commanding the Army is of opinion that if satisfactory evidence of good character, habits, and condition cannot be furnished by the recruit or be otherwise obtained, the presumption should be against him and he should *not* be accepted; and, further, that these views are concurred in by the Secretary of War





and should govern in all cases. (G. O. No. 1, Headquarters Recruiting Service, 1890.)

ART. 2. These rules and articles shall be read to every enlisted man at the time of or within six days after his enlistment, and he shall thereupon take an oath or affirmation in the following form: "I, A. B., do solemnly swear (or affirm) that I will bear true faith and allégiance to the United States of America; that I will serve them honestly and faithfully against all their enemies whomsoever, and that I will obey the orders of the President of the United States and the orders of the officers appointed over me, according to the rules and articles of war." This oath may be taken before any commissioned officer of the Army. (Article of War.)

ART. 3. Every officer who knowingly enlists or musters into the military service any minor over the age of sixteen years without the written consent of his parents or guardians or any minor under the age of sixteen, or any insane or intoxicated persons, or any deserter from the military or naval service of the United States, or any person who has been convicted of any infamous criminal offense shall, upon conviction, be dismissed from the service, or suffer such other punishment as a court martial may direct. (Article of War.)

The regulations above quoted sketch in outline the requirements for admission to the enlisted branch of the military service and the duties of officers in connection therewith. For the recruiting officer an essential to success is a knowledge of men and their character, and for the medical officer, a painstaking application of professional skill. The duty is a most important one, and in its faithful and thorough performance these officers share a grave responsibility. The influence of their judgment and discretion is felt throughout the entire military establishment, the efficiency of which depends in great measure upon the sound mental and physical condition and the intelligence of its enlisted force. From the varied classes and conditions of men presenting themselves for enlistment they are to eliminate not



only those who are defective physically and mentally but those who are 'defective morally, and if this duty be performed carelessly or indifferently, men will be admitted to the service with defects which will soon render them unfit for duty, or with moral obliquities that will induce malingering and desertion. Although the result of such perfunctory performance of duty may come to light during the probationary service of a recruit at a depot, it will certainly be shown in the company, from which his eventual discharge cannot fail to bring deserved censure upon the officers concerned in his enlistment.

The examination of men for enlistment may, in general terms, be divided into the **physical**, the **intellectual**, and the **moral**. In the emergencies which our troops are called upon to meet, where celerity of movement and ability to endure privations and hardships are indispensable to success, the necessity for able-bodied men is obvious, and a detailed description of the methods to be employed in their *physical* examination will be given further on. *Intellectually*, although no educational standard is officially established, a soldier should be able to read and write, and should also be quick and clear in his understanding. The advance in the science and art of war and the improvement in modern fire-arms calls for a higher degree of intelligence than was required of the soldier in the past. This is recognized by the Government by the establishment of schools and libraries, by providing reading-rooms that are liberally supplied with periodicals and newspapers, and by opening the way for promotion to all who avail themselves of these opportunities for advancement. The care and attention that the soldier is required to give to his weapon and ammunition, the drill which its use entails, and the skill which may be attained by the practice of rifle firing develop individuality, excite interest and ambition, and tend to make the profession attractive. It is therefore desirable that men should be selected who can appreciate this life and who have the mental

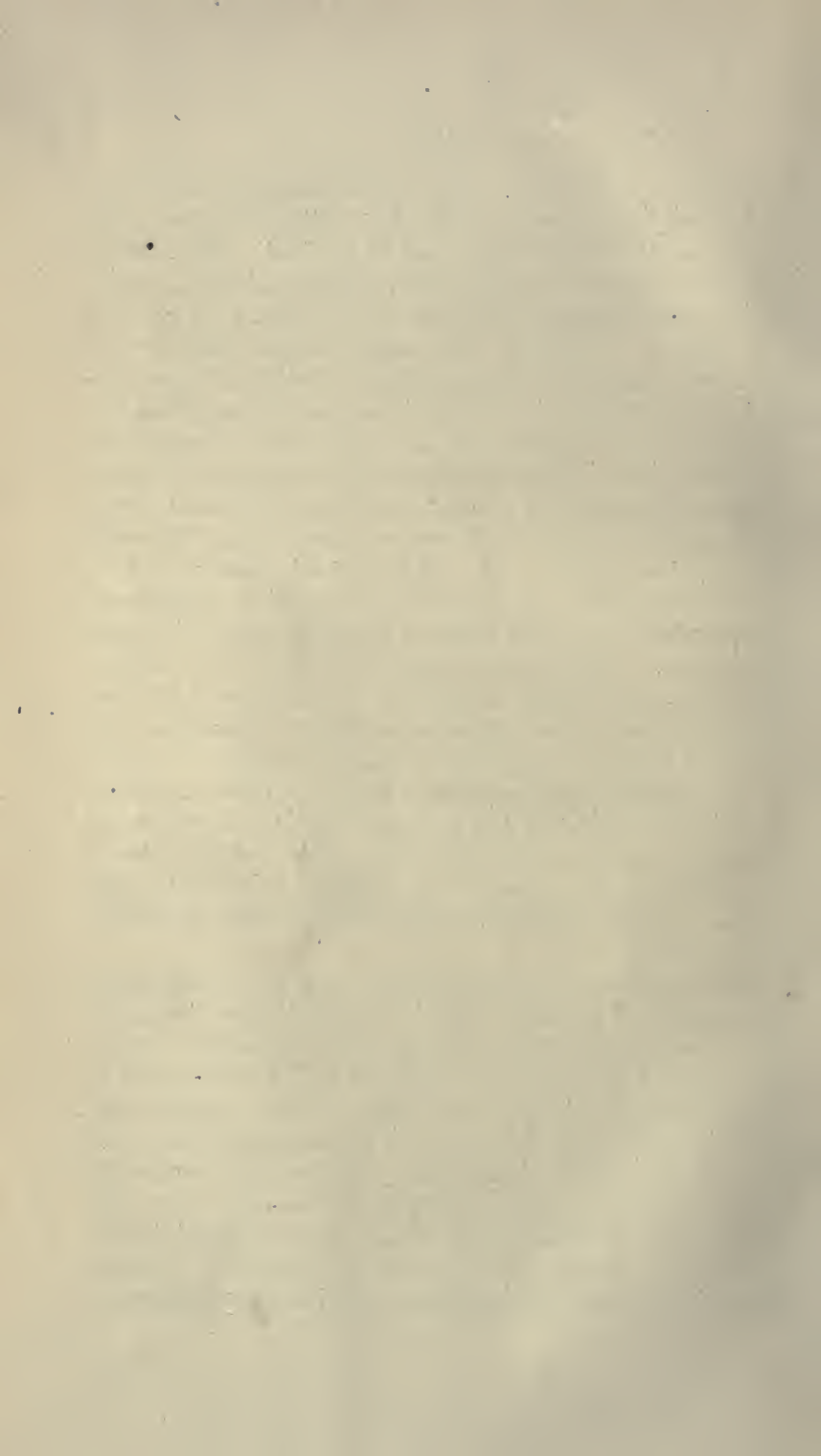




capacity to profit by it. The *moral* character should be scrutinized with care in order that enlistments from the vagrant and criminal classes may be avoided. The recruiting rendezvous is a favorite haunt for these men and a study of their personal characteristics will well repay the recruiting officer for his labor. The vagrant seeks admission to the Army, usually at the beginning of winter, for shelter, food, and clothing, without any intention of completing his enlistment or of performing any more service than he is compelled. The criminal seeks to bury his unsavory history under an assumed name, and, by service in distant stations, to escape the observation of those who know him. The evil influence in a company of even one of this class cannot be overestimated, and no degree of physical perfection or soldierly bearing should induce a recruiting officer to accept his service. Happily, as a rule, the evidence of a life of debauchery is so plainly marked in the features and in the person that an ordinary observer is able to estimate the true character of such an applicant without difficulty.

The **enlistment of recruits** is made upon the concurrent action of the recruiting and medical officer, the former being responsible for the general fitness, aptitude, and character of the applicant; the latter for his physical and mental condition. At this examination the recruiting officer is required to be present.

The exigencies of the service, however, render occasionally the presence of a medical officer at an enlistment impracticable. In that event, the recruiting officer is directed to "make the required examination," and the medical inspection is subsequently provided for at a depot, if the recruit is enlisted in the General Service, or at the nearest military post if he has been enlisted elsewhere. At the former station he is examined by the Depot Surgeon within two days after arrival, and if disqualifying defects are discovered is discharged the service on Certificate of Disability. Similar action is taken at military posts under like circumstances.



### THE GENERAL EXAMINATION.

The Army Regulations of 1881 directed that "in passing a recruit the examining officer is to examine him stripped; to see that he has the free use of his limbs; that his chest is ample; that his hearing, vision, and speech are perfect; that he has no tumors or ulcerated or extensively cicatrized legs; no rupture or chronic cutaneous affection; that he has not received any contusion or wound of the head, that may impair his faculties; that he is not a drunkard; is not subject to convulsions, and has no infectious or other disorder that may unfit him for military service;" also that the recruit must be effective, able-bodied, sober, free from disease, and of good character and habits.

The leading characteristics of a good constitution are thus enumerated by Tripler: "A tolerably just proportion between the different parts of the trunk and members; a well-shaped head, thick hair, a countenance expressive of health, with a lively eye, skin not too white, lips red, teeth white and in good condition, voice strong, skin firm, chest well formed, belly lank, parts of generation well developed, limbs muscular, feet arched and of a moderate length, hands large. The gait should be sprightly and springy, speech prompt and clear, and manner cheerful. All lank, slight, puny men, with contracted figures, whose development is, as it were, arrested, should be set aside. The reverse of the characteristics of a good constitution will indicate infirm health or a weakly habit of body; loose, flabby, white skin; long cylindrical neck; long, flat feet; very fair complexion, fine hair; wan, sallow countenance," etc.

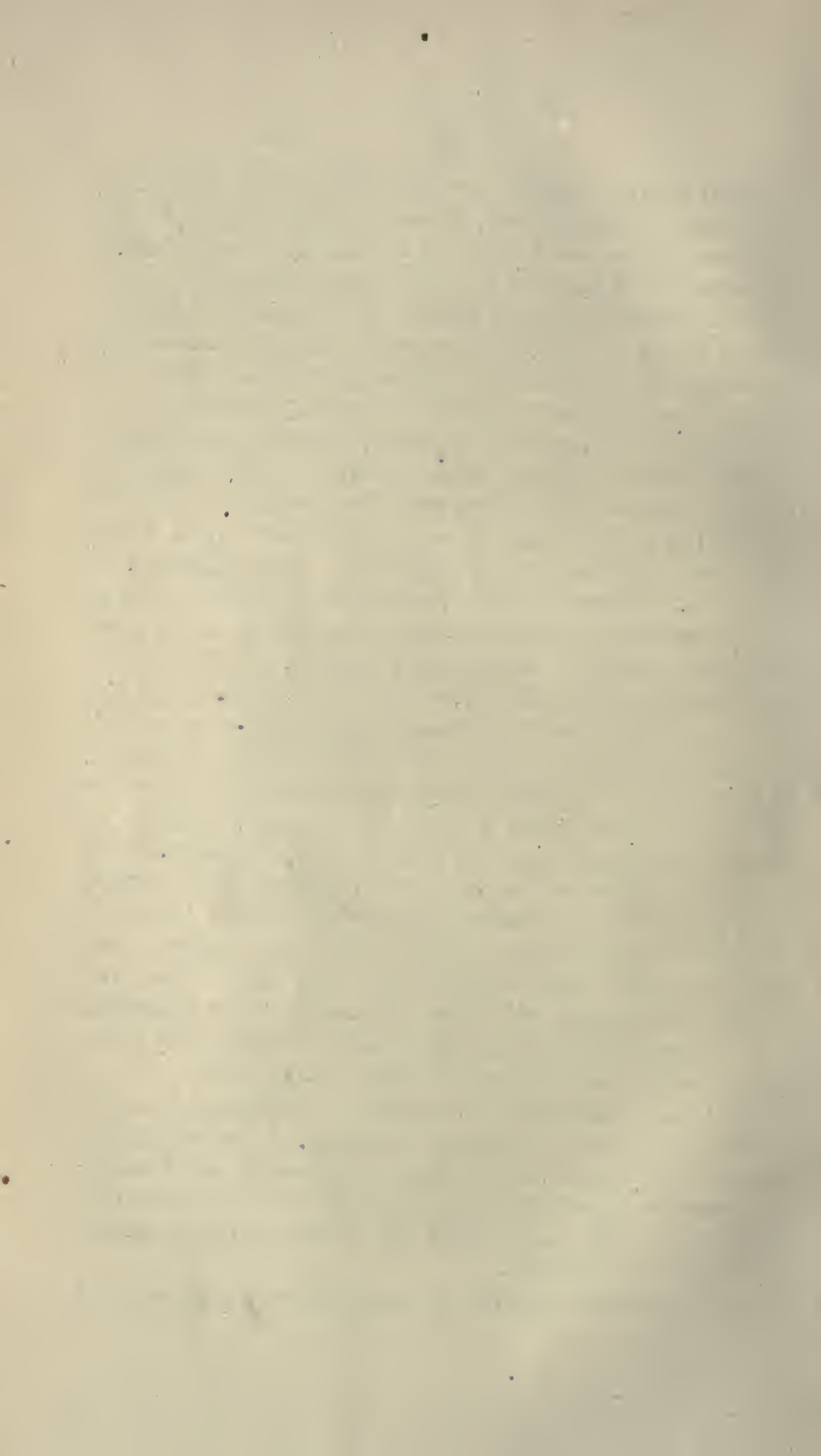
"The enlistment of \* \* intoxicated persons \* \* is forbidden" [A. R. 909]. This regulation is intended not only to prevent the admission to the service of men who at the time of enlistment are under the influence of stimulants or narcotics, but of those who are of intemperate habits.



Popular opinion regards the discipline of the Army as a wholesome restraint upon, if not a curative agent for, inebriates, and no small number of men are applicants for enlistment with that end in view. Some officers are inclined to look leniently upon a history of accidental departures from a life of sobriety, or to condone a debauch immediately preceding an application for enlistment. The evils of intemperance, however, particularly among soldiers, are so great that the interests of the service imperatively demand a rigid exclusion of men whose habits in this respect are under suspicion, and a recruiting officer would be perfectly justified in going even so far as to reject men upon whom the smell of liquor was perceptible. The suggestion of Tripler to "Suspend a final decision for a sufficient length of time to enable a man to recover from the effects of a mere temporary debauch" meets with no favor in the present day. A thorough inquiry should be made into the history of any case in which habits of intemperance are suspected, and although the examiner may meet with difficulty in forming a just opinion from such statements as the applicant may be willing to make about himself, the "long indulgence in habits of intemperance will almost surely be indicated by persistent redness of the eyes, tremulousness of the hands, attenuation of the muscles—particularly of the lower extremities—sluggishness of the intellect, an eruption upon the face, and purple blotches upon the legs. Close and skillful questioning will often develop the facts connected with the antecedents of the applicant, and materially assist the examiner in forming his opinion of the case."

The only disqualification incident to the *birthplace* of the recruit is the *want of competent knowledge of the English language*. "Competent knowledge" is defined by the War Department as the ability of the applicant to converse intelligently and fully understand the orders and instructions given in that language.

In a population having so considerable a percentage of





foreigners as is found in our country it is not surprising that many who are ignorant of the English language should apply for enlistment. Inexperienced recruiting officers, misled by the fine personal appearance of such men, or by testimonials as to their skill in various handicrafts, may be induced to enlist them, hoping that their defects will be overcome after association with English-speaking men. The results, however, seldom justify their expectations; the soldier soon becomes inefficient, and is finally discharged from the service because of his inability to understand his instructions.

Some relaxation of this rule may be made in the cases of skilled artisans, tailors and band musicians being particularly desirable.

**In time of war** familiarity with the language is not so necessary, as foreigners are more likely to be assigned to regiments made up of their own countrymen, with officers who speak their language. They can also be made useful in the administrative departments of the Army, taking the places of men better fitted for field service.

The recruiting officer will seldom err in these general matters if he decline to enlist any man whom he would not be willing to have as a member of his own company.

### RE-ENLISTMENTS.

The recruiting officer is permitted to accept men desiring to re-enlist and who present themselves for that purpose within the prescribed limit, "notwithstanding they may have some physical disqualification which would cause their rejection as recruits, *provided* they have no serious defect which would probably prevent the discharge of their duties as soldiers."

"In all such cases the defects and the fact that they existed prior to re-enlistment will be noted on the soldier's enlistment papers."



In modifying its requirements for enlistment in this particular, it is the intention of the War Department to provide for the continuance in service of such faithful soldiers as have incurred disabilities during prior enlistments, which either do not or probably will not unfit them for duty in the future, as, for example, hernia, which is kept in place by wearing a truss; piles; varicose veins; certain defects of vision, as near or far sight; the loss of certain fingers and toes; mutilations by gunshot or other wounds, etc.

“Serious defects” may be defined as those which cause either an incapacity for duty at present or are likely to do so in the future, such as total blindness of the right eye; amputation of an entire member, hand or foot, or any constitutional disease, as syphilis, etc.

#### **MODE OF EXAMINING A RECRUIT.**

The room in which the examination is conducted should be well lighted and large enough for the men to exercise in walking, running, and jumping, as every organ directly concerned in locomotion should be subjected to inspection. Only those persons who are absolutely required should be present at the examination.

The person of the recruit should be washed with soap and water before he is presented for inspection. “It is not, however, believed to be good policy to enlist men who, though able-bodied and intelligent, appear at recruiting rendezvous in ragged or filthy dress, as the chances are such men are tramps and vagabonds and will not make good soldiers. Men who, though attired in clean and respectable clothing, are found to be filthy in their persons should be promptly rejected for like reason.” (Cir. No. 19, Headquarters Recruiting Service, 1889.)

Thoroughness in the preliminary examination is assured by a methodical inquiry into the family and personal history of the applicant, whose replies should be recorded at the time.



For this purpose a printed Form is furnished by the Adjutant General of the Army, to be used by recruiting officers where there is no medical examiner. This also serves as evidence, should the recruit allege unfitness from a defect that is feigned, or be subsequently found unfitted for duty on account of one which has been concealed.

It should be understood that the questions in this Form are intended simply as the guide to a careful and searching examination into the physical history of the applicant for enlistment. If his replies suggest the existence of any infirmity or defect, special inquiry should be made concerning it in order that the most complete information may be elicited.

He who is satisfied with a simple negative or affirmative reply to the queries propounded in the Form will often fail to discharge efficiently the duty he is called upon to perform.

The questions, and any others necessary to develop his fitness for the duties of a soldier, should be asked and the man's answers recorded before he is stripped, after which the examination is proceeded with.

Applicants for enlistment who are unacceptable to the recruiting officer before being examined physically need not be accounted for on the Medical Forms, but a record must be made of the height, weight, and chest measures, the complexion, and the color of hair and eyes of every man whose physical examination has been commenced. This examination may stop at any time, where a positive disqualification is discovered, note being made on the Form of the fact and its cause. If insufficient chest capacity or lack of weight is suspected, that part of the examination may be conducted before questioning.

The second question on the Form relates particularly to the diseases of childhood, such as measles, scarlet fever, etc.

The degree of knowledge of the English language is to be recorded as "good," "fair," "limited," or otherwise, bearing in mind the definition of "competent knowledge" as given





herein, and the "figure and general appearance" is to be noted as "soldierly," "good," "poor," or otherwise.

Each peculiarity or particular deviation from the normal standard in a given region is to be noted. See "scars, marks, etc."

If a careful inspection is made and *a defect noted*, which upon due consideration is not considered by the officer making the examination to be disqualifying, he is relieved from responsibility; but if he passes a recruit who has a serious defect, which is discernible by an ordinary layman, and enlists the man *without noting the defect* upon the examination form and the enlistment papers it evidences neglect in the examination. (A. G., Oct. 26, 1886.)

Before recruits leave the rendezvous for the depot they should be carefully re-examined and a statement to that effect made on the form, with a note descriptive of any defect which may have been discovered or contracted since the enlistment.

The Form when filled up should be sent with the recruit to the depot when he is enlisted in the General Service, or be deposited with the regimental records when he is enlisted in a particular regiment, there to be retained six months, or as much longer as may be necessary to serve its purpose, when it is to be forwarded to the Surgeon General of the Army.



# FORM FOR THE PHYSICAL EXAMINATION OF A RECRUIT.

Ask these questions before stripping. Answers indicating infirmities to be followed up in detail.

Name \_\_\_\_\_ ; Age \_\_\_\_\_ ; Occupation \_\_\_\_\_ ;  
 Birthplace \_\_\_\_\_ ; Residence \_\_\_\_\_ ; Height \* \_\_\_\_\_ ;  
 Weight \_\_\_\_\_ ; Chest measurement \_\_\_\_\_ ; Expiration \_\_\_\_\_ ; Inspiration \_\_\_\_\_ ;  
 Nationality of father \_\_\_\_\_ ; Of mother \_\_\_\_\_ ;  
 Have you applied for enlistment at any other rendezvous; and if so,  
 where? \_\_\_\_\_  
 What sickness have you had, and at what age? \_\_\_\_\_  
 Are both parents living? \_\_\_\_\_  
 If either has died, state cause; \_\_\_\_\_  
 If brother or sister has died, state cause; \_\_\_\_\_  
 Have you given up any occupation on account of your health or habits?  
 \_\_\_\_\_  
 Are you subject to dizziness? \_\_\_\_\_ ; to severe headache? \_\_\_\_\_ :  
 to pain in the breast? \_\_\_\_\_ ; to fluttering of the heart? \_\_\_\_\_ ; to  
 shortness of breath? \_\_\_\_\_ ; to colds in the head? \_\_\_\_\_ ; to coughs?  
 \_\_\_\_\_ ; to diarrhoea? \_\_\_\_\_ ; to piles? \_\_\_\_\_ ; to rheumatism? \_\_\_\_\_  
 Do you believe you are sound and well now? \_\_\_\_\_  
 Have you had sore eyes? \_\_\_\_\_  
 Have you had running from either ear? \_\_\_\_\_  
 Have you had fits? If so, how frequently? \_\_\_\_\_  
 Do you have any difficulty in making or holding your water? \_\_\_\_\_  
 Have you had stricture? \_\_\_\_\_  
 Have you had gonorrhoea, and when? \_\_\_\_\_  
 Have you had a sore of any kind upon your penis, and when? \_\_\_\_\_  
 Have you had any swelling about or of your testicles? \_\_\_\_\_  
 Have you had a boil near the anus (fistula)? \_\_\_\_\_  
 Have you been ruptured? \_\_\_\_\_  
 Do you drink intoxicating liquors? If so, to what extent? \_\_\_\_\_  
 Have you had the "horrors," and when? \_\_\_\_\_  
 Have you been hurt upon the head? Answer fully \_\_\_\_\_  
 Have you had a sprain? \_\_\_\_\_ ; a stiff joint? \_\_\_\_\_ ; a bone or  
 joint out of place? \_\_\_\_\_ ; a bone broken? \_\_\_\_\_  
 Are you subject to sore feet? \_\_\_\_\_  
 Mention carefully any other injuries or any surgical operation you may  
 have had in any part of your body, especially burns, cuts, severe  
 bruises, &c \_\_\_\_\_  
 † Have you any one dependent upon you for support? \_\_\_\_\_  
 Have you ever been convicted of a felony, or been imprisoned in a jail or  
 penitentiary? \_\_\_\_\_

\* Note height and weight stripped, unless rejected for some absolute disqualification in preliminary examination.

† If answered in affirmative, recruiting officer before accepting applicant should endeavor to satisfy himself that there is no probability of application being made for the man's discharge on this account.



Describe in detail any deviation from the normal in the regions enumerated.

When stripped, examine carefully the head, ears, eyes (including color-blindness and astigmatism \*), nose, mouth (especially teeth, hard palate, and tonsils), neck (especially for enlarged glands); CHEST: shape (flat or pigeon-breasted), resonance,\* character of respiration;\* HEART: sounds,\* impulse\* (position and force), action\* (as to regularity); spine; abdomen (especially for hernia and enlarged glands in the groin); genito-urinary apparatus; anus (especially for fistula); upper extremities (especially for enlarged glands at the elbows); lower extremities; skin.

Knowledge of the English language -----  
 Previous service (U. S. or foreign) -----  
 Comparative intelligence -----  
 Figure and general appearance -----  
 Remarks -----

To be signed by the medical officer when one is present at the examination, otherwise by the recruiting officer.

I certify that I have asked the foregoing questions and have recorded the answers as given to me, and have personally examined the above-named recruit.

Place -----

Date -----

Examining Officer.

NOTE.—This paper, with defects discovered at depot, noted and signed by the medical officer, to accompany the proceedings of boards of inspection in the case of rejected recruits.

\* Especially for medical examiner.





[Indorsement on the back of the Form.]

Examination of

Recruit.....

enlisted at.....

BY

.....  
*Recruiting Officer.*

This recruit has been re-examined before leaving  
the rendezvous for the depot and found to be—

.....  
*Recruiting Officer.*

Date \*..... 18 .

REMARKS OF THE MEDICAL OFFICER AT THE DEPOT.

.....  
*Surgeon, U. S. A.*

Date..... 18 .



### ORDER OF EXAMINATION.

Let the recruit take the position of a soldier in the best lighted part of the room ; then examine him in the following order after the methods elsewhere set forth :

The duties of the inspecting officer will here be materially facilitated if he instruct the recruiting sergeant in the positions of the examination, as the recruit will usually find no difficulty in imitating the movements of the non-commissioned officer.

1. Inspect general physique, skin, scalp and cranium, ears, eyes, nose, mouth, face, neck, and chest, and take the chest measurements.

2. The arms should be extended above the head, the backs of the hands being together, and the applicant required to cough vigorously ; any form of rupture may now be discovered by the hand and eye.

3. The hands remaining extended above the head, the man should be required to take a long step forward with the right foot and bend the right knee ; the genital organs are conveniently exposed and varicocele or other defects in the scrotum may be recognized.

4. Arms down, and the man required to separate the buttocks with his hands, at the same time bending forward ; this exposes the anus.

5. Examine the heart and lungs.\*

6. The elbows should be brought firmly to the sides of the body and the fore arms extended to the front, palms of the hands uppermost ; extend and flex each finger separately ; bring the points of the thumbs to the base of the little fingers ; close the hands, with the thumb covering the fingers ; extend and flex the hands on the wrists ; rotate the hands so that the finger nails will first be up and then down ; move the hand

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\* Especially for Medical Examiner.



from side to side; extend the arms and fore arms fully to the front and rotate them at the shoulder; flex the fore arms on the arms *sharply*, striking the shoulders with the fists; extend the arms at right angles with the body, place the thumbs on the points of the shoulders, raise and lower the arms, bringing them sharply to the side at each motion;\* let the arms hang loosely by the side; swing the right arm in a circle rapidly from the shoulder, first to the front and then to the rear; swing the left arm in the same manner; extend the arms fully to the front, keeping the palms of the hands together and thumbs up; carry the arms quickly back as far as possible, keeping the thumbs up, and at the same time raise the body on the toes; extend the arms above the head, locking the thumbs, and bend over to touch the ground with the hands, keeping the knees straight.

7. Extend one leg, lifting the heel from the floor, and move all the toes freely; then move the foot up and down and from side to side, bending the ankle joint, the knee being kept rigid; bend the knee freely; kick forcibly backward and forward and then throw the leg out to the sides as far as possible, keeping the body squarely to the front; repeat these motions with the other foot and leg; strike the breast first with one knee and then with the other; stand upon the toes of both feet; squat sharply several times; kneel upon both knees at the same time (if the man comes down on one knee after the other there is reason to suspect infirmity). Take the position to "fire kneeling;" present the back to the examiner and then hold up to view the sole of each foot; leap directly up, striking the buttocks with the heels; hop the length of the room on the ball of first one foot and then the other; make a standing jump as far as possible and re-

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\* It may be here observed that in a few instances the recruit cannot touch his shoulders with his fingers, and still the most rigid examination could detect no imperfection in any of the joints of that extremity. When this difficulty is perceived, a more cautious inspection of all the joints of the limb must be instituted, as the probabilities are that some defect exists. The elbow or wrist will *generally* be found to be the failing joint.





peat it several times ; run the length of the room in double time several times.

8. Re-examine the heart and lungs.
9. Examine the hearing of each ear separately.
10. Examine the vision of each eye separately.
11. Test for color-blindness.

### AGE QUALIFICATIONS.

*The recruit must not be less than sixteen nor more than thirty-five years of age.*

The maximum age for cavalry recruits upon original enlistment is fixed at thirty years.

Certain well-known and clearly marked physical characteristics will enable the recruiting officer to determine at a glance whether or not an applicant for enlistment shall be placed in the broad mean as to age between the minimum and maximum fixed by law, although to determine in an individual either the age of "majority"—*i. e.*, 21 years—or the maximum age for enlistment is always difficult and often impossible.

The desire to enter the military service is sometimes, from varying causes, so strong as to prompt certain youths or middle-aged men to resort to any deceit for the purpose of concealing the truth. Boys will announce themselves as of age with unblushing effrontery, and men who are over the maximum will add to falsehood the most ingenious artifices to disguise the evidences of advancing age.

The development of the body does not by any means keep pace with its years of existence. Youths of 18 or 19 years occasionally present many physical characteristics of maturity, while some men pass the age of thirty-five without showing well-marked indications of it. Little importance need be attached to this latter condition, because the maximum limit does not apply to soldiers who re-enlist, and during peace but few civilians present themselves after that age.



The former condition is, however, an important one and demands close attention.

Aside from the obvious objection to a lad whose physique is yet undeveloped, the minor who enlists by deceit may, upon application of his parent or guardian, be discharged from the service by the civil courts. As in that case the Government sustains not only a pecuniary loss in the pay, clothing, food, etc., furnished him, but the more important loss of his services, and as A. R. 910 enjoins upon the recruiting officer to "be very particular to ascertain the true age of the recruit," it becomes necessary for him to familiarize himself with certain *evidences of maturity* which usually accompany the period of legal majority, viz:

**At twenty-one years of age** the wisdom-teeth are usually cut, and on each side of both jaws there should be found five grinders, viz., three large double or molar teeth and two smaller double or bicuspid teeth. In case of the loss of teeth the spaces originally occupied by them may be seen.

**Under twenty-one years of age** the wisdom-teeth are seldom to be found, and there will, therefore, be but four grinders on each side of both jaws, viz., two molars and two bicuspids.

**At maturity** there should be some beard upon the face, and hair under the arms, a full growth around and above the genital organs, and some scattered hairs in the neighborhood of the anus. The hair of the body is generally fine and silky.

**After maturity** the hair is thick and coarse in the various places mentioned.

**After maturity** the skin of the scrotum is somewhat darker in color than the surrounding parts, is opaque, and is marked in various directions by wrinkles or folds.

**Before maturity** this skin retains the soft, velvety condition of youth, its pink or fresh flesh color, and is more or less translucent, while the wrinkles or folds are not well pro-



nounced, or are entirely absent, particularly at the sides. *This condition of the scrotum is the most valuable of the signs of maturity.*

Should a minor offer the written consent of parent or guardian, the question then presents itself whether so young a person possesses the vigor and physical development necessary for the performance of *all* the duties of a soldier.

Youth, being the period of active growth for body and mind, should be passed under conditions that will secure to it the proper amount of food, exercise, and rest, in order that its growth may be healthy. These cannot always be obtained in the military service, the exigencies of which may be such as to test to the utmost the endurance of the soldier when subjected to the hardships of extreme exertion, inclement weather, loss of rest, and privation of food incident to many campaigns. Under such circumstances the *staying power* of the immature youth is found wanting. His undeveloped body yields to the strain, and a consequent permanent disability leads to his discharge from the Army. As all military experience confirms this, and as the opinion is almost universal that youths are not fit for the duty our soldiers are called upon to perform, their enlistment should be discouraged save in cases where their physical development is exceptionally good and they display a true aptitude for the military service.

Although immature men should never be accepted, it would be equally unfortunate to enlist men who are too old. On moral grounds young men, who learn better and more quickly, are desirable as soon as they are physically fit. The legal limit of 35 is the very extreme for recruits under ordinary circumstances, and the nearer common laborers approach that age the more unlikely are they to be acceptable. It has been observed that for acceptable colored recruits the age of 25 or 26 is practically the maximum, because after that they are liable to be physically stiffened and mentally dulled. Therefore, as the maximum age ap-





proaches, public interest leads to the over critical examination of those who appear to be getting into fixed physical grooves.

### HEIGHT, WEIGHT, AND CHEST MEASUREMENTS.

“The **minimum height** of a recruit is at present fixed at five feet four inches for all branches of the service, although recruiting officers are allowed to exercise their discretion as to the enlistment of desirable recruits (such as band musicians, school teachers, tailors, etc.) who may fall not more than one-fourth of an inch below the minimum standard of height; the *maximum* height for the cavalry service is five feet ten inches; that for infantry and artillery is governed by the maximum of weight, to which should be applied the rule for proportion in height.”

“The **minimum weight** for all recruits is 128 pounds, except for the cavalry, in which enlistments may be made without regard to a minimum of weight, provided the chest measurement and chest mobility are satisfactory. The *maximum* for infantry and artillery is 190 pounds; for cavalry and light artillery, 165 pounds.”

The standards of height and weight are, however, subject to change, instructions to that effect being issued from the Adjutant General's Office “from time to time as the requirements of the service may dictate.” (See A. R. 913.)

These standards are based upon results obtained by skilled observers who, after careful study and the examination of large numbers of men in civil and military life, have established the fact that there is an *average proportion* in healthy, fully developed men between the height, weight, chest measurement, and chest mobility which will admit of slight variations without indicating a departure from health. The rules of this proportion may be formulated as follows:

For each inch of height from 5 feet 4 inches to 5 feet 7 inches, inclusive, there should be calculated 2 pounds of



weight. When the height *exceeds* 5 feet 7 inches, calculate 2 pounds of weight for the *whole number* of inches of height; add to this product 5 pounds of weight for each inch of difference between 5 feet 7 inches and the actual height; the sum will be the normal weight in pounds.

The **chest measurement at expiration** in men from 5 feet 4 inches to 5 feet 7 inches in height should exceed the half height about  $\frac{1}{2}$  an inch; in those from 5 feet 8 inches to 5 feet 10 inches it should *equal* the half height, while in those from 5 feet 11 inches upward it should be slightly *less* than the half height.

The **chest mobility**—*i. e.*, the difference between the measurement at inspiration and expiration—should be *at least* 2 inches in men below 5 feet 7 inches in height, and  $2\frac{1}{2}$  inches in those above that height.

The following table shows this concisely :

| HEIGHT.                 | WEIGHT.<br>Allow for each inch of<br>height.  | CHEST<br>MEASUREMENT.              | CHEST.<br>MOBILITY.    |
|-------------------------|---|------------------------------------|------------------------|
| 5 ft. 4 to<br>5 ft. 7.  | 2 lbs.-----   | Half height plus half<br>inch.     | 2 inches.              |
| 5 ft. 8 to<br>5 ft. 10. | $\left\{ \begin{array}{l} 2 \text{ lbs., and } 5 \text{ lbs. ad-} \\ \text{ditional for each} \\ \text{inch over } 5 \text{ ft. } 7 \text{ in.} \end{array} \right\}$ | Half height-----                   | $2\frac{1}{2}$ inches. |
| 5 ft. 11 to<br>-----    |   | Slightly less than half<br>height. | $2\frac{1}{2}$ inches. |

For example, a man who measures 5 feet 4 inches should weigh 128 pounds—*i. e.*, 5 feet 4 inches = 64 inches;  $64 \times 2 = 128$ , the normal weight. He should have a chest measurement of  $32\frac{1}{2}$  inches at expiration, being half height; 32 inches plus  $\frac{1}{2}$  inch =  $32\frac{1}{2}$ ; the chest mobility should be about 2 inches.

A man who measures 5 feet 9 inches should weigh 148 pounds—*i. e.*, 5 feet 9 inches = 69 inches;  $69 \times 2 = 138$ ; difference between 5 feet 9 inches and five feet 7 inches is 2;  $2 \times 5 = 10$ ;  $138 + 10 = 148$ , the normal weight in pounds; he



should have a chest measurement of  $34\frac{1}{2}$  inches (his half height) and a chest mobility of at least  $2\frac{1}{2}$  inches.

It is not necessary that the applicant should conform *exactly* to the figures indicated in the rules, a variation of a few pounds from either side of the standard in the minimum, medium, and maximum weights and of a fraction of an inch in chest measures being permissible if the applicant is otherwise in good health and desirable as a recruit. The rules are given to show what is regarded as a fair proportion, *but the weight must be at least 125 pounds*, except when less is especially authorized by the superintendent or the Adjutant General.

In such cases the recruiting officer's reasons and the superintendent's order should be noted in full on the enlistment papers. Any *considerable* disproportion, however, of *height* over *weight* is cause for rejection; for a marked disproportion of *weight* over *height* do *not* reject unless the applicant is positively obese.

In order that an intelligent application of these rules and their variations may be made, the attention of recruiting officers is called to the manner in which a man's height is made up.

The chest, containing the heart and lungs, is the most important division of the body. It contains the vital machinery and represents the *staying power* of the man. It must, therefore, be ample. The function of the legs is to transport the body; they should be well formed and sufficient, but not unduly long, for length of limb at the expense of the chest is a disadvantage. A long-legged, long-necked man with a short chest is objectionable as a recruit.

The average height of a youth of 18 years of age, a "growing lad," is a little over 5 feet 4 inches, and increases gradually until he reaches the age of 25 years—the stage of physical maturity or manhood—when his average height is between 5 feet 7 inches and 5 feet 8 inches.

During the growing period the frame-work and vital

$$\begin{array}{r}
 159 \\
 153 \\
 157 \\
 149 \\
 141 \\
 143 \\
 \hline
 6 \overline{) 900} \\
 \underline{150}
 \end{array}$$

$$\begin{array}{r}
 70.4 \\
 69.8 \\
 69.5 \\
 69.0 \\
 68.7 \\
 68.4 \\
 \hline
 6 \overline{) 4108} \\
 \underline{68.4}
 \end{array}$$



organs receive their proper development, and considerable departures from the given average of proportionate height to weight indicate an impairment of these organs which may and probably will develop into positive disease after exposure to the hardships incident to the life of a soldier; hence they are of greater significance in men of these heights than in taller men, who are presumably of greater age and more mature growth.

After 25 years of age, the body being fully developed, the excess of nutritive material over and above that required for its maintenance in health is deposited in the tissues as fat, and it will be found that a disproportion of weight over height occurs usually in adults or men in middle life. It is rare to meet in the recruiting rendezvous with *very* fleshy young men.

The following table is given for convenience of reference :

*Table of Physical Proportions for Height, Weight, and Chest Measurement.*

| HEIGHT.           |         | WEIGHT.<br>Pounds. | CHEST MEASUREMENT.         |                       |
|-------------------|---------|--------------------|----------------------------|-----------------------|
| Feet.             | Inches. |                    | At Expiration :<br>Inches. | Mobility :<br>Inches. |
| 5 $\frac{4}{12}$  | 64      | 128                | 32 $\frac{1}{2}$           | 2                     |
| 5 $\frac{5}{12}$  | 65      | 130                | 33                         | 2                     |
| 5 $\frac{6}{12}$  | 66      | 132                | 33 $\frac{1}{2}$           | 2                     |
| 5 $\frac{7}{12}$  | 67      | 134                | 34                         | 2                     |
| 5 $\frac{8}{12}$  | 68      | 141                | 34                         | 2 $\frac{1}{2}$       |
| 5 $\frac{9}{12}$  | 69      | 148                | 34 $\frac{1}{2}$           | 2 $\frac{1}{2}$       |
| 5 $\frac{10}{12}$ | 70      | 155                | 35                         | 2 $\frac{1}{2}$       |
| 5 $\frac{11}{12}$ | 71      | 162                | 35 $\frac{1}{2}$           | 2 $\frac{1}{2}$       |
| 6                 | 72      | 169                | 35 $\frac{3}{4}$           | 2 $\frac{1}{2}$       |
| 6 $\frac{1}{12}$  | 73      | 176                | 36 $\frac{1}{2}$           | 2 $\frac{1}{2}$       |

A deviation from the rules of physical proportions may be made in the examination of candidates for admission to the U. S. Military Academy at West Point, and for members of the graduating class, whenever this is deemed necessary by the Medical Examining Board.



### THE SPECIAL EXAMINATIONS.

A careful examination of *the skin* should be made, first, to detect the presence of vermin; second, for physical markings, as scars, moles, tattooing, etc.; third, for any skin disease.

The favorite haunt for *vermin* is in the hair upon the head and about the genital organs; they are also to be found on other parts of the body. The "nits," or eggs, may be seen as little black bodies attached to the hair, generally near the skin.

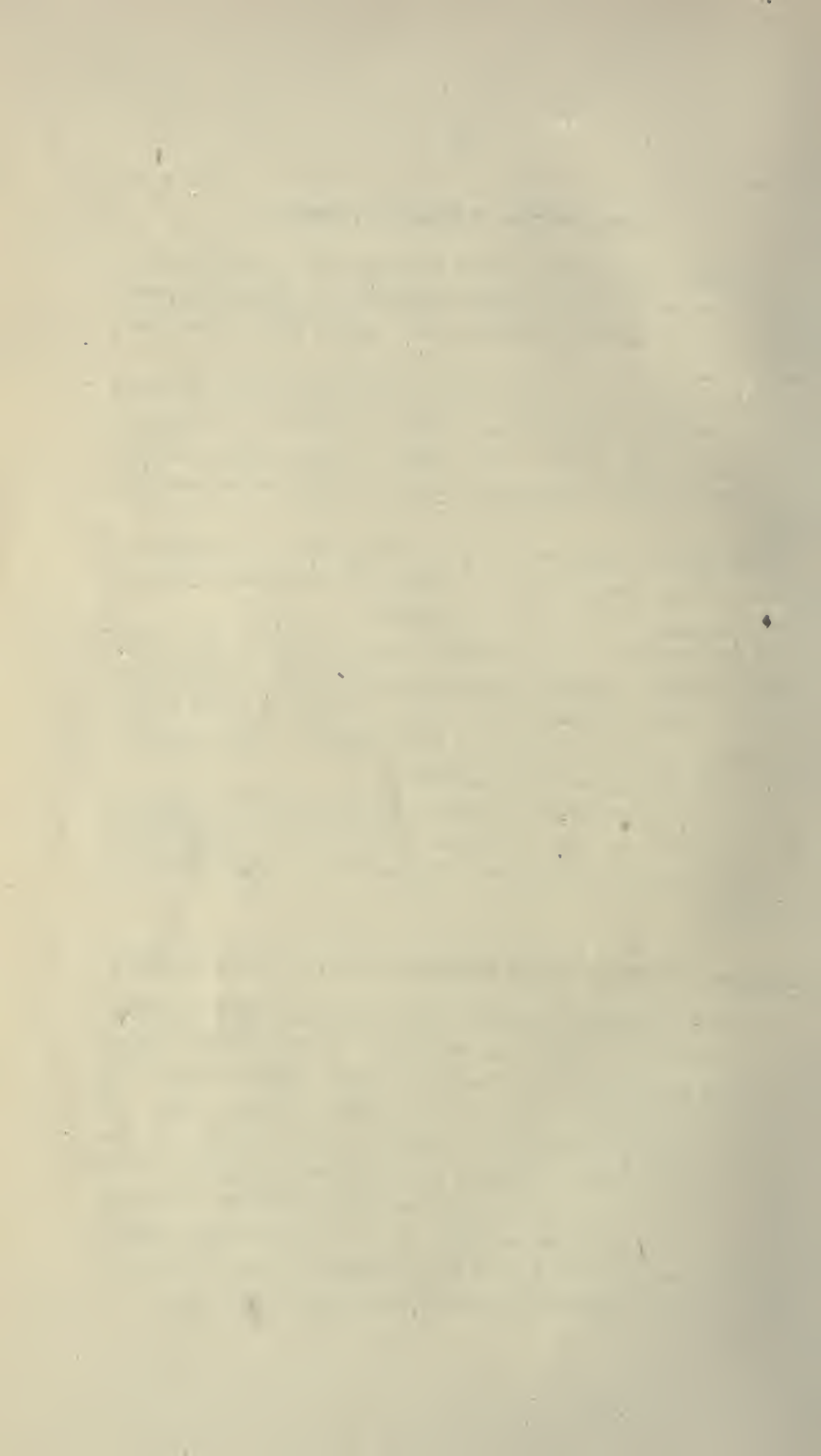
**Itch** may be suspected if the body presents evidences of having been constantly scratched, and the spaces between the fingers are the seat of an eruption.

These, together with any skin eruptions which are manifestly chronic or disgusting in appearance, are causes for rejection. Men infested with vermin should be given an opportunity to rid themselves of the parasites; if not successful in this they should be rejected.

A crop of pimples on the face, breast, and back, between the shoulders, is very common in young men and, being entirely innocent, should not disqualify a recruit otherwise desirable.

### MOLES, BIRTH STAINS, SCARS, AND TATTOO MARKS.

Any permanent marking on the body of a recruit is worthy of record as a means of personal identification; hence a careful and systematic search for such marks should be made, first of one-half the body and then of the other. If any are found a descriptive record is to be made on the figure card furnished for that purpose by the Adjutant General. This is to be done by the enlisting officer *only when the recruit will not subsequently be examined by a medical officer*, as in the enlistment of men for the Signal Corps, at arsenals where there is neither Post nor Attending Surgeon, etc.



**Moles** are abnormal thickenings or pigmentations of the skin, their usual seat being the face, the temple, or the ear, although they may be found on any portion of the body. They may have the natural coloring of the skin, or be red, brown or black, and may be either smooth or hairy.

**Birth Marks** are of irregular outline, not necessarily raised above the skin, and have the appearance of red, brown or "port wine" colored *splashes*. The smaller splashes are known as "strawberry marks," "cock's crests," etc.

**Scars** are either permanent or transient. For the purpose of future identification, the former alone have value; therefore the determination of their character before making the record is of primary importance.

**Tattoo Marks** have a certain value, but as they may be so easily altered in design it is not very great.

The descriptive record of a permanent mark should be very exact, its location fixed, *first*, on the right or left side, front or rear of the body; *next*, by its proximity to or distance in inches from some well-known point of the body; *next*, by its direction or inclination, either vertical, horizontal, or oblique; *next*, by its shape, either rectilinear, curved, oval, circular, undulating, or oblong; and if curved, which way its concavity faces; and, *last*, by its dimensions, when the mark is not too small for ordinary measurement or notice. In describing marks on the fingers and toes, it should be remembered that the phalanges and joints of both are counted from those nearest the hand or foot; thus the joint connecting the finger with the hand (the "knuckle") is known as the first joint, and the phalanx forming part of that joint is known as the *first phalanx*. When scars are quite small and numerous, any principal one may be described, and followed by the words "and many others," or the record may stand "numerous small scars." Tattooing should be particularly described as to design, etc. When the design is indecent or obscene it is a cause for rejection, but the applicant should be given an opportunity to alter the design, in which event





he may, if otherwise qualified, be accepted. "The importance of particular marks as an indication for identity is directly in proportion to the precision of their description," which should be made with the idea that a subsequent observer may, by reading it, be enabled to reproduce on himself a tracing identical with the original as to form, situation, etc. When the record of marks is completed, the color of eyes and hair should be taken, and as there is a wide diversity in the description of certain colors, a memorandum for their record is here given as a guide.

### COLOR OF HAIR.

Between the extremes of light flax-colored and raven black all shades of brown are found. The scale may be given as follows:

Flax-colored.  
Light brown.  
Dark brown.  
Black.

Of *red hair* as follows:

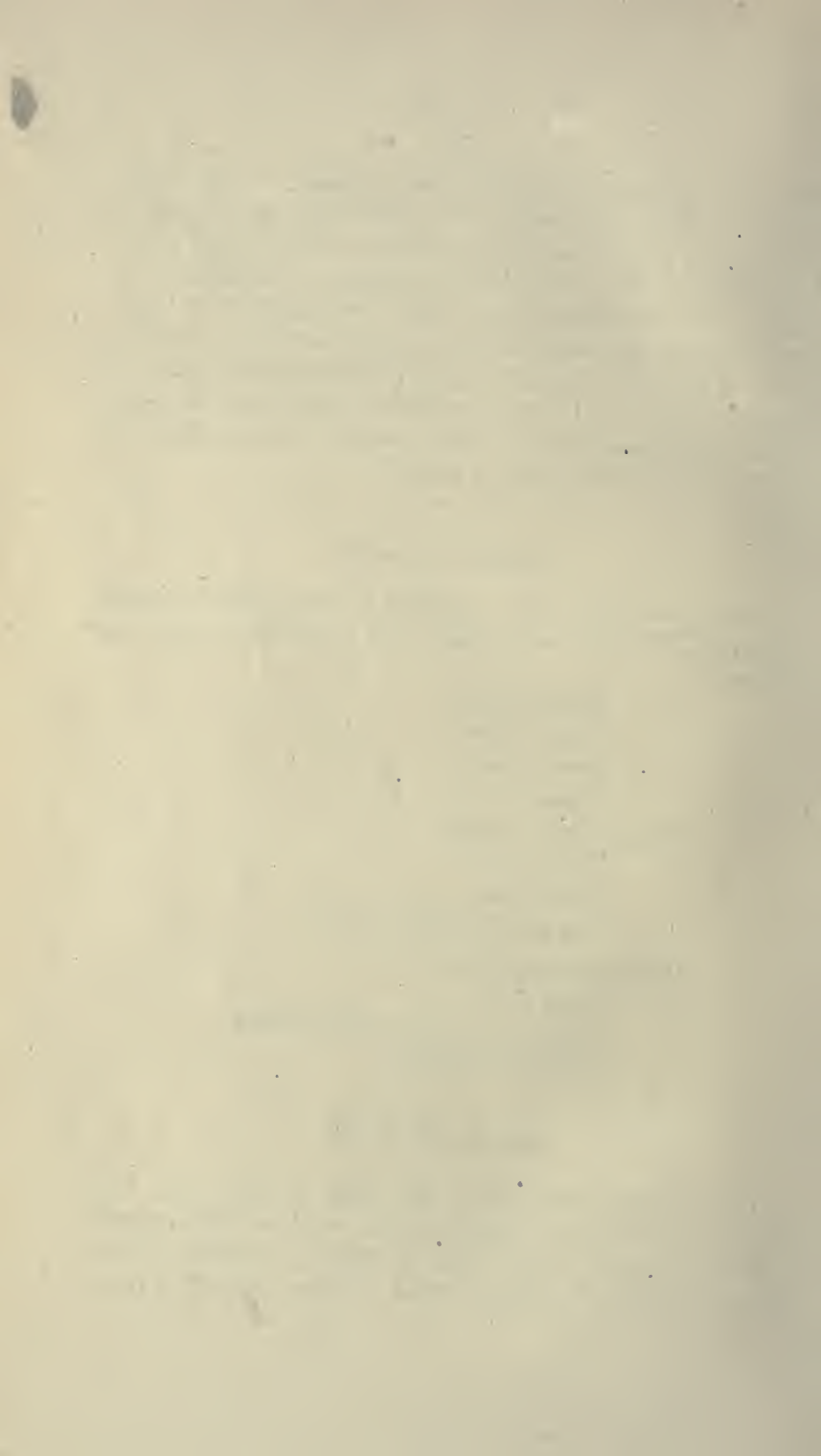
Brick red.  
Sandy red.  
Auburn (reddish brown).

Of *grey hair* as follows:

Dark grey.  
Light grey, approaching white.  
Iron grey (mixed).

### COLOR OF EYES.

Observe first if the color is the same in both eyes; then note any peculiarity of pigmentation, whether in the general color small black or red spots are found. Note also if there is any deviation from the normal circular form of the iris.



There are but three colors to be found in the human eye—viz., blue, brown, and black—all other shades being intermediate between these types.

Of *blue* there are—

Light or azure blue.

Dark blue.

Slate blue, erroneously called grey.

Of *brown* there are—

Light brown.

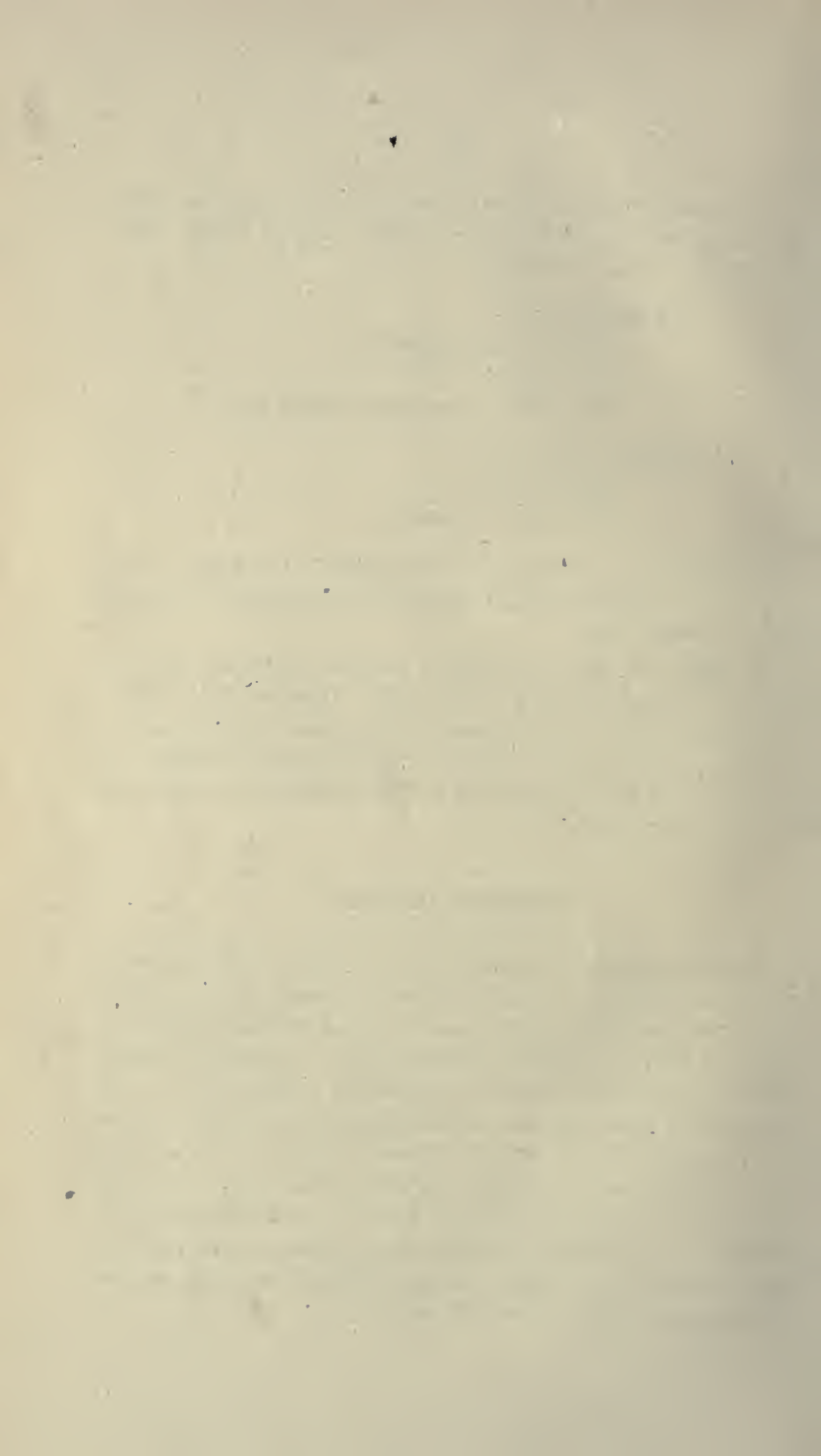
Dark brown (hazel).

The *black* eye is rarely found excepting in the negro. The *grey* eye is a misnomer and should be abandoned for "*slate blue*," the true color.

**In time of war** exemption should be given only on account of long-standing or incurable diseases of the skin; the milder forms, as also some of the parasitic diseases, including itch, may be treated with reasonable prospect of recovery in a short time, and the men should accordingly be held to service.

### CHRONIC ULCERS.

Men whose constitutions have been broken down by poverty or vice are often the subjects of ulcerations of the legs, where the slight injuries to which so exposed a part is liable have failed to heal, or if healed present large irregularly shaped scars, more or less discolored or adherent to the bone. These scars, being unhealthy, are liable upon slight irritation to be destroyed and the ulcer reproduced. Such men are unfitted for soldiers and should be rejected. Scars non-adherent, white and smooth, or even red, where recent, if apparently painless on manipulation, resulting from an incised or lacerated wound or a burn, not involving lesion of the subjacent organs, are *not* causes for rejection.



**In time of war** conscripts may, with a design of evading service, purposely induce and keep open ulcers. Suspicion will naturally be aroused where a man, otherwise healthy, claims exemption from service on account of an ulcer of long standing, as this lesion is seldom seen except in persons of broken-down constitution and generally in middle or advanced age. The appearance of the ulcer and the tissues surrounding it will furnish some evidence as to its age, active inflammation pointing to voluntary irritation and a recent lesion, while an old ulcer presents characteristics the reverse of this. Such cases should be placed under close observation in hospital and every means taken to prevent the patient from keeping up any irritation of the parts, bearing in mind the fact that an almost endless variety of foreign substances are used for this purpose, and that the finger-nails are especially convenient for such use. It may become necessary to place the patient in confinement before a correct opinion can be formed.

### CONSTITUTIONAL SYPHILIS.

It will be most convenient, while making the general examination of the surface of the body, to search for evidence of constitutional syphilis, in the detection of which *no single sign* will suffice, although the presence of *two or more* should determine the matter, especially if the man admits having had a sore on any part of his penis or a chancre on any other part of his body. It matters not how small the sore may have been nor how remote the time at which it made its appearance. One of the earliest and most important signs is an **enlargement of the glands** (1) at the back of the neck, (2) on the inside of the arm just above the elbow, and (3) in the groins. The first may be found by grasping firmly, between the thumb and forefinger, the back of the neck just below the hair, and sliding the hand from thence to the base of the neck; if the glands are enlarged they will be felt





under the fingers as hard bodies, slippery and movable, and shaped like an ordinary almond. (2) Bend the forearm at right angles with the arm and grasp the latter from behind, between the thumb and forefinger, just above the elbow, keeping the thumb on the *outside*, the right hand being used for the examination of the left arm and *vice versa*; by pressing deeply with the fingers, and, so to speak, *rolling* the flesh of the arm under them, the gland, if enlarged, will be plainly felt, as in the neck. (3) Rub the fingers, with a considerable pressure, over and in the crease between the abdomen and the thigh (groin); the glands, if enlarged, will be felt as in the preceding instances; but moderately enlarged glands in the groin are not uncommon and by themselves do not indicate syphilitic or other generic disease.

Syphilitic eruptions exist on any part of the skin, are of a yellowish-brown or copper color, generally circular, looking like stains, and are *without any pain, itching*, or surrounding redness; they should be looked for particularly on the forehead and chest. Scaly eruptions upon the palms of the hands are also indicative of this disease.

The **hair** thins out, or may fall off in patches—(alopecia).

The **nose** and **mouth**, especially the latter, are the seat of peculiar ulcerations. In the nose they appear about the inside of the nostrils; in the mouth, on its roof, the side of the cheek, or on the tonsils and the sides of the palate; the tongue also is often ulcerated and deeply cracked.

An opening through the hard palate into the floor of the nose is occasionally made by ulceration and may be suspected when the applicant "talks through his nose." When the head is thrown well back and the mouth widely opened this defect, otherwise concealed by the front teeth, may be seen.

The bones forming the bridge of the nose are often flattened or sunken as a result of ulcerations of the softer parts underneath.



The **shin bones** are the seat of lumps (nodes), easily felt by running the fingers along the edge of the bone. These lumps are generally on both shins and are apt to be painful at night. When there is any suspicious sign elsewhere the shins should be carefully examined by the touch.

Warts and excrescences about **the anus** between the buttocks or on the scrotum (mucous tubercles and vegetations) will be seen at once by separating the buttocks while the man bends forward. "They appear as flat, slightly-elevated papules about half an inch in diameter and covered with a slimy, fetid exudation." They are often ulcerated and may run together.

Scars from buboes are not signs of constitutional syphilis.

It should be borne in mind that *symmetry* in the appearance of the external signs of syphilis is peculiar to the disease; thus, one tonsil being sore, the other will probably be sore also—a blotch on the skin of one side of the body will probably have its fellow on the other side.

**In time of war** syphilis in any of its forms is cause for rejection.

## THE HEAD.

The **scalp** should be examined very carefully, by running the fingers through the hair, for depressions in the skull. If any are found that are deep and abrupt in character, especially if covered by a scar, the applicant should be rejected.

**Monstrosity** in the size of the head and deformity, the consequence of fracture, should also reject.

**Baldness** (Alopecia). If the loss of hair is total, or if but a few tufts remain about the back of the head and the neighborhood of the ears, or if the scalp shows evidence of pre-existing disease, the applicant should be rejected. Considerable loss of the hair, either over the crown or above the forehead, is cause for rejection.



The military head coverings are not of themselves sufficient protection against heat or cold ; there should be enough natural covering to the hairy scalp to provide against suffering or disease from extremes of temperature.

**In time of war** baldness is not cause for rejection.

### THE EARS.

**Tumors or growths** in the passage to the internal ear may be at once discovered and are causes for rejection.

**The discharge of "matter"** from the ear is generally an evidence of a diseased condition of the parts within, which is very likely to lead to permanent deafness, and is therefore a cause for rejection.

**Deafness of either ear** constitutes an absolute cause of rejection.

As the distance at which the natural tone of voice may be heard in a closed room, when both ears are normal, is about 50 feet, the distance at which the applicant is to stand from the examiner must be as great as the apartments will allow, not to exceed 50 feet.

The applicant will stand with his back to the examiner, who is to address him in a natural tone of voice. When the distance is less than 40 feet, it should be specified on the examination form, and the tone of voice will be lowered. Failure of the applicant to respond to the address of the examiner will demonstrate a defect.

The personal attention of the recruiting officer or sergeant must be given to closing the entrance to each ear separately, by pressing with the thumb the small lobe (tragus) situated in front of the opening to the inner ear.

Advantage should be taken of the absence of other sounds to make the examination. Recruiting officers should remember that a man may be totally deaf in one ear, and yet may hear all ordinary conversation perfectly if the sound ear is not completely stopped. Deafness of one ear is a bar





to enlistment, but in ordinary occupations it might not be observed.

Deafness may be caused by an accumulation of hardened wax; therefore an otherwise desirable recruit should have his ears well cleansed before final action is taken in his case.

All men enlisted for the artillery arm of the service at a military post or assigned to that arm from a depot shall, before such enlistment or assignment, besides undergoing the ordinary examination, be examined especially with a view to establishing the fact of the patency of the Eustachian tubes and the integrity of the tympanic membranes, in default of which the men are unfit for that arm.

**In time of war** deafness of one ear is not cause for rejection. It should be borne in mind that defects in hearing are easily feigned; therefore, when they are alleged by conscripts, the examination should be made by a medical officer. Genuine deafness cannot be concealed.

### THE FACE.

**Great deformities of the face**—large, livid, hairy, unsightly spots, loss of substance of the cheeks—are so many reasons for rejection, as they are calculated to excite aversion and disgust in others; they may prove prejudicial to the service by provoking discontent in the quarters and by exposing the sufferer to cruel and irritating sarcasms and jests that too often end in fatal quarrels.

### THE EYES.

The following are causes for absolute rejection:

#### **Loss of either eye.**

**Chronic inflammation of the lids**, when they are red and swollen, with collections of more or less dried matter on the edges between and around the lashes; the ball of the eye will also be "bloodshot."



**Myopia** (near-sightedness).

**Hypermetropia** (over-sightedness), except when moderate and free from organic disease.

**Astigmatism.**

**Inability to read or describe with facility the types or characters on the test cards.** This examination requires the greatest care and patience on the part of the recruiting officer; it is made with cards bearing the twenty-foot test-types and test-characters.

To use the cards, measure off a distance of twenty feet in a straight line; place the applicant with his back to the light at one end of the line, while the examiner stands at the other and holds the card exhibiting the test types or characters in full view of the applicant and so that a good light falls on the card. Each eye should be examined separately, one being covered with a card (not with the hand) by an assistant, who, standing behind the applicant, directs him to read the types on the card held by the examiner; if he cannot read, the card bearing the characters is presented to him, which he is directed to describe. The types should be read first from left to right and then from right to left; the characters should be described as to the number of arms seen on each and the direction in which they are pointed, whether upward or downward, to the right or left.

If the applicant should be unable to read the test-types or describe the test-characters correctly with either eye, he must be rejected.

This standard for vision may be departed from in the examination of candidates for appointment into the Medical Corps of the Army and in the enlistment of members of the Hospital Corps, and applicants accepted who are the subjects of refractive errors, viz., myopia, hypermetropia, presbyopia, and astigmatism, provided these errors are not excessive, may be entirely corrected by glasses, and are not progressive or accompanied by ocular disease.

The object of this test is to exclude from the service men



whose visual defects are such as to prevent them from becoming marksmen. Successful use by the soldier of long-range fire-arms demands that his vision shall be normal or so nearly normal that there need be no question of his ability to see the target at all ordinary ranges.

A large percentage of men are the subjects of slight visual defects, not to such an extent as to disqualify them for military duty, but sufficient to cause a little blurring or indistinctness in some of the letters of the required test, which may be increased by the nervous apprehension of failure. Ignorance, stupidity, or fear on the part of an applicant are factors to be considered in making this examination, and unless the recruiting officer exercises sound judgment he will probably reject men whose vision is in reality good; hence plenty of time should be taken and slight errors, such as misreading a P or T for an F, provided the majority of the letters or test characters are read with facility, need not be regarded as a failure of the test.

**Prominence of the eyeballs** to such an extent as to prevent the lids from closing—(exophthalmos);

**Drooping of the upper lids** over the eyeballs, with inability to raise them—(ptosis);

**Adhesion of the lids** to the eyeballs;

**Scalding of the cheeks** from tears, indicating closure of the tear-duct;

**Cross-eye** or squint of the right eye, if permanent or well marked (strabismus), are all subjects for disqualification.

**Double vision**, or that condition of sight in which two images instead of one are seen when the applicant is required to look steadily at an object—(diplopia).

The following defects, if discovered, should be noted on the enlistment papers of the recruit by the recruiting officer, and the question of rejection left to the decision of the surgeon at the depot:

**A film across the white of the eye**, pyramidal in shape, the apex resting on or near the "sight" (pterygium).





**Milky opacities** on the cornea (leucoma).

**Wavering and divergence**, generally outward, of one or both eyes when the applicant is required to look steadily at an object, say the hand or fingers, held at a distance of six or eight inches from the face (asthenopia).

A rotary or oscillating movement of one or both eyes when looking at an object at the ordinary visual distance (nystagmus); both eyes are generally affected, and the nervous character of the disease is shown by the increased motion during the examination.

**In time of war** none of the defects mentioned above as disqualifying in time of peace should exempt conscripts from service, save those caused by extreme refractive errors or organic diseases; and as defects of vision are easily feigned, the examination of the vision in doubtful cases should be made by a medical officer.

## THE NOSE.

**Loss of the nose** disqualifies the recruit, not only because it may be the indication of a constitutional disease but because the consequent modification of voice renders speech unintelligible.

**Ill-smelling discharge** from the nose, either through the nostril or the mouth, or very offensive breath, which is indicative of a chronic disease called "ozæna," demands the rejection of the subject. Chronic catarrh of the nose which may temporarily occlude the nostrils, or permanent closure of the nostril from any cause, and tumors inside the nose (polypi) are causes for rejection. The examining officer must, however, be careful not to mistake slight irregularities in the septum (which are not uncommon) for a polypus.

**In time of war** loss or unsightly deformities of the nose and ozæna are causes for rejection.



## THE MOUTH.

The following defects of these parts are disqualifications :

**Hare lip**—simple, compound, or complicated.

**Loss of the whole or part of either lip.**

**Unsightly mutilation of the lips from wounds, burns, or disease.**

**Loss of the whole or part of either jaw-bone.**

**Deformities of either jaw-bone interfering with mastication or speech.**

**Inability to open the jaws widely.**

**Enlargement or shrinkage of the tongue.**

**Mutilation or the partial or total loss of the tongue.**

**Growth of the tongue to the sides of the mouth.**

**Stammering or stuttering, if at all considerable.**

**A growth of the cheeks to the sides of the jaws, impeding their free motion.**

**Fissures of the hard palate.**

**Perforation of the hard palate**, an occasional sequel of syphilis, is objectionable on account of the modification produced by it in the voice and the fact that through the perforation, fluids are allowed to pass into the nose from the mouth.

**Chronic enlargement of the tonsils sufficient to impede swallowing or speech.**—To obtain a good view of the tonsils and back parts of the mouth and throat the recruit should open his mouth as widely as possible and pronounce the word "Ah! h-h" in a prolonged breath. The arches of the palate and the soft palate will by this manœuvre be raised and an unobstructed view of the parts obtained.

**Loss of voice, or a manifest alteration of it.**

**An inability to pucker the mouth** as in whistling is an indication of paralysis of the face, which should reject.

**Loss of teeth.**—The condition of the teeth is to be con-



sidered solely with reference to the proper mastication of food. If there are not enough in the mouth for this purpose food is swallowed without the necessary preparation, and indigestion with imperfect nutrition and its consequent evils are the result. If several of the teeth are decayed, especially about the crown, it is probable that before the expiration of an enlistment they will be so far destroyed as to render mastication imperfect; hence men who have lost the front teeth from decay and have many unsound back teeth should be rejected. The loss of the front teeth through accident is not cause for rejection, provided a sufficient number of the back teeth are sound.

Unless an applicant has at least four sound double teeth, one above and one below on each side of the mouth, and so opposed as to serve the purpose of mastication, he should be rejected. Exception may be made by the Adjutant General in the case of a soldier who desires to re-enlist, if a report is made showing his age, physical condition as to nutrition, and the number and location of the sound teeth.

If the front teeth remain and the double teeth are gone rejection is demanded.

If the loss of the natural teeth is supplied by artificial ones the fact should be noted on the enlistment papers, but the artificial substitutes cannot be considered as equivalent in value to the natural teeth or as removing the disability on this account for military service.

**In time of war** simple hare lip, scars, enlarged tonsils, and loss of teeth are not causes for rejection.

### THE NECK.

**Goitre**, a tumor situated at the base of and across the neck, just below "Adam's apple," if large enough to interfere with breathing or the hooking of the collar of the coat, or if recent or growing.





**The violet-colored adherent scars of scrofulous ulcerations** in this region are causes for rejection.

**Openings in the wind-pipe**, or "Adam's apple," should also reject.

**In time of war** goitre, unless excessive, is not cause for rejection.

### THE CHEST.

#### **The chest should be ample.**

The circumference of the chest is measured by passing the tape around it immediately at the point of the shoulder blade, the arms hanging down. Generally the tape will then be found to fall below the nipple.

In taking this measure contortions of the body, such as bending backward to "throw out" the chest or bending forward to "draw it in," should be avoided.

The applicant should stand erect without muscular strain or rigidity. After the tape is placed in position and lies snugly and evenly upon the skin and while the loose ends are held between the fingers of the examiner so that when the chest is expanded the tape will run readily through them, the applicant should be directed to *draw in slowly and steadily a long breath* until his chest is inflated to its utmost capacity, when the record of *chest circumference at inspiration* should be read from the tape. He is then to expel the air by counting slowly and steadily from one onward until he can no longer resist the urgent demand for inspiration, when the record of *chest circumference at expiration* should be read. This should be repeated several times to insure accuracy. Many men are extremely awkward in developing their chest capacity on demand and great care and patience are necessary in getting the true measurements.

A man whose chest *measures less than 32 inches in circumference at expiration* should be rejected, unless he be considered specially desirable, when the case may be reported to higher authority.



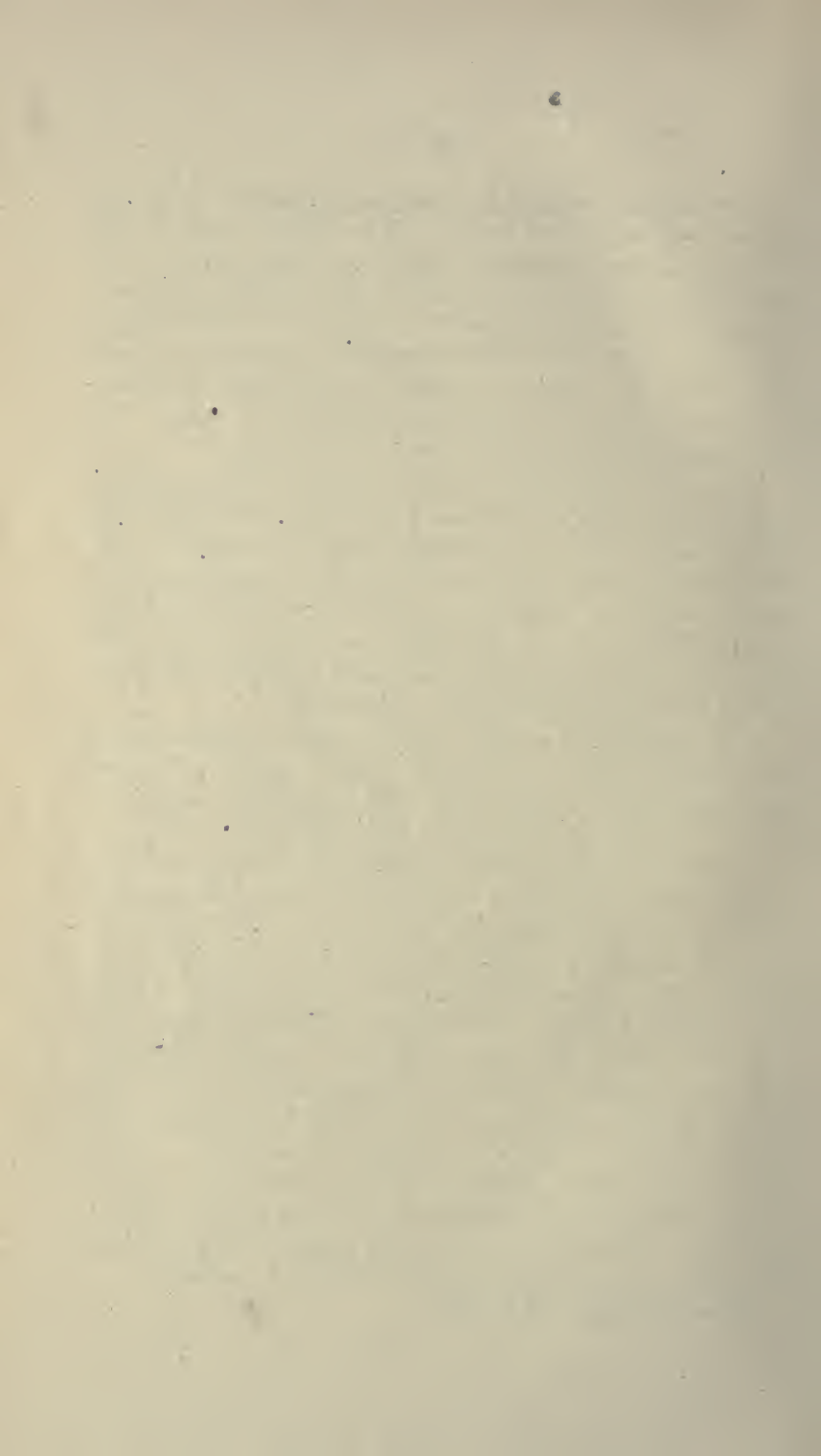
The applicant should be carefully questioned as to his history and that of his family. If he admits having had severe and long-continued cough and night sweats and states that he has lost any members of his family from consumption, he should be rejected. So if he is under weight, with a flat chest, or is "chicken-breasted," because in these latter cases the chest is "seldom strong enough or roomy enough to permit the lungs to have free play in them." In both examples the risk of acceptance is too great.

When the chest is narrow and elongated, the countenance pale, or with merely a brilliant point upon the cheeks, the voice husky, or articulation short, quick, interrupted almost every moment for want of breath, the skin presenting a fineness of texture, a whiteness or straw-colored tint, with abnormal dryness—when the limbs, more or less long, are thin, furnished with soft and emaciated muscles—the individual is absolutely unfit for a soldier's life.

It is sufficient to require rejection that the chest should be ill-formed; that its structure should appear to be too weak, and that the other parts of the organism should be stamped with signs "of debility and suffering."

It is true we run the risk of rejecting men who may afterwards become very robust and who, by a long and successful life, may contradict the opinion we may have pronounced in their cases; but the Army is not a public sanitarium, and "one will be astonished at the number of men who, received because no determinaté lesion of the chest was recognized when they were inspected, succumb afterward with consumption, or whom it was necessary to send back to their families with broken health after their strength had been exhausted. This is the plague of the army. I have already said that a feeble man left at home may become strong; but send him into the ranks and he perishes almost certainly. Betwixt these two rocks neither the physician, the officer, nor the magistrate can hesitate an instant."

### **Bleeding from the lungs;**



**Badly united fractures of the ribs, leaving a sharp angle at the point of injury ;**

**“Wheezy” breathing (asthma)** are all causes for rejection.

### THE HEART.

The only lesion of this organ discoverable by a non-professional man is enlargement (hypertrophy), which may be suspected by a *marked deviation* of the “apex beat” of the heart from its proper place, about two inches below the left nipple and about one inch to its right, between the fifth and sixth ribs.

It is not always easy to *see* the impulse of the heart against the chest walls, and the recruiting officer must therefore *feel* for it. By placing the ends of two fingers in the interspace of the ribs just below the nipple and pressing backward with some force it can be felt, even in very fat men or in those whose lung tissue may accidentally cover it thickly.

The deviation in enlargement is generally downward and to the left, and when to the extent of about two inches from the normal point, if accompanied by powerful action, disease may be suspected and the applicant rejected.

There are two conditions likely to mislead, viz., extreme “nervousness” from fright or embarrassment and an irregular action caused by the excessive use of tobacco or coffee, or both. The hurried, sharply accentuated action of the heart in the former and its irregular action in the latter case can hardly, with the exercise of due care, be mistaken for the powerful rythmical action in enlargement, in which condition the blood vessels of the head and neck will often be found distended and beating with considerable violence. The pulse at the wrist should also be felt, and any intermission or dropping of beats should lead to rejection.

**In time of war** all organic diseases of the heart or lungs are causes for rejection.





## THE ABDOMEN.

There are three easily recognized forms of **rupture** (hernia), viz., *inguinal, scrotal, and umbilical*, any of which is a cause for rejection. They may be discovered by requiring the applicant to extend his arms above his head and to cough. If there is a rupture at any of these points the bowel will protrude through the opening and present to the view of the observer a "bunch" or tumor. If the hand is now placed on this tumor and the applicant again required to cough, a distinct shock or impulse will be felt in the tumor, which will appear to swell and become tense. Steady pressure will in most cases cause the bowel to recede into the abdomen with a peculiar slip or gurgle, which is characteristic. This can be recognized more easily when the man is made to lie down.

The seat of an inguinal hernia is in or above the crease between the abdomen and the thigh; of a scrotal hernia, in the scrotum above the testicle; of an umbilical hernia, at the "navel." This latter must not be confounded with a simple "pouting navel," from which it may be distinguished by its doughy, inelastic consistence and by the absence of an impulse on coughing.

There may be found in some men a condition of the parts through which the bowel would pass in the formation of a hernia that is known as "relaxed abdominal rings," and is considered by some surgeons as indicating a "tendency to hernia." There is, however, no special evidence to show that hernia follows this condition with greater frequency than it does when the parts are normal. To exclude this class of cases would cause the loss to the service of many excellent men, and it should not, therefore, be considered a cause for rejection; but in cases of suspected hernia or "incomplete hernia" the recruiting officer should reject an applicant, unless



a Medical Officer pronounces the man to be free from the defect.

**Fistula in Ano and Hemorrhoids** (piles) may be discovered by requiring the applicant to turn his back to the light, stoop well forward, and with both hands separate the buttocks widely. This exposes the anus. A *fistula* may be suspected if at the verge of the anus, or at any point within a radius of an inch thereof, a pimple is seen, in the centre of which is "*proud flesh*;" and suspicion becomes almost certainty if the man admits having had at any time a "boil" in that locality. Under these circumstances he should be rejected.

**Hemorrhoids** (piles) are of two kinds, internal or bleeding and external. The recruiting officer cannot discover the former, but may suspect their existence if there is a discharge of matter or blood from the anus. If the applicant admits that he is the subject of this form of the disease he should be rejected.

**External piles** appear as tumors or loose flabby folds of skin about the verge of the anus, and may be *recent* or *old*. If *recent* they will appear about the size of a buck-shot, of a bluish color, hard and tense to the feel, and their covering will look thin. If *old* they will probably be as large as a marble, of a brawny feel, reddish-brown color, and have a thick covering. If *recent*, as above described, they are *not* cause for rejection, *neither are they if old and single* and the applicant asserts that they have never been painful or troublesome; but if there should be *more than one old pile* and they are larger than described, or if a *single old pile* is ulcerated or inflamed, or if there is a small pile *associated with varicose veins of the legs*, the applicant should be rejected. The flabby folds of skin are not cause for rejection unless very large.

If the applicant is accepted any blemish, no matter how slight, about this region should be noted on his enlistment papers.



**In time of war** hemorrhoids, external or internal, unless excessive, and herniæ, unless they cannot be retained in place by a truss, are not causes for rejection. Other defects which disqualify in peace do so also in war.

### THE GENITAL AND URINARY ORGANS.

**Any acute and all venereal diseases of these organs are causes for rejection.**

A sore upon the head of the penis, in the furrow immediately behind it, or on the foreskin is in the vast majority of instances venereal; and while it is well known that there are two kinds of venereal sores, one (chancroid) innocent, so far as its effects upon the general system are concerned, and the other (chancre) virulent, infective of the system, it is equally well known that it is not always possible to distinguish the one from the other; hence one may find that a so-called "innocent" sore is followed in due time by constitutional symptoms, or a supposed virulent sore is free from such results. This being the fact, the Government is entitled to the benefit of the doubt, and these cases should be rejected. The same remarks apply to gonorrhœa. No physician can say positively that an attack of this disease, however mild, will not be followed by a stricture of the urethra. It is the experience of the writer that stricture is far more frequently a sequence of gonorrhœa than even professional men generally admit, for which reason all cases of this disease should be rejected. Other acute diseases, such as swelled testicle, simple inflammation of the foreskin and head of penis (balanitis), etc., may or may not be of venereal origin; but it is safer to reject the man than to accept him and afterwards have him rejected at the second examination or discharged the service at a subsequent date.

**Loss of the penis** is a cause of rejection.

**Phimosis**, "an elongation of the foreskin, with contraction of its orifice or adhesion of the foreskin to the glands,





preventing the foreskin from being drawn back so as to expose the head of the penis," is cause for rejection.

This condition, although apparently trivial, is occasionally the cause of serious disorder of the nervous system, as epilepsy, paralysis, etc. It interferes with the free discharge of urine and prevents a thorough cleansing of the parts from the natural secretions, which when retained act as an irritant, setting up inflammation and unfitting the soldier for the performance of duty.

**Warts** are not unfrequently found upon the penis. Their location is generally in the furrow, although they may be situated anywhere about the head and foreskin. As a rule they are innocent in character, are produced by uncleanness, and are *not* a cause for rejection.

**Epi- and Hypospadia.**—The urethra occasionally terminates by an opening in the course of the penis either on the upper (epispadia) or under (hypospadia) surface. When this opening is further from the free end of the penis than one-fourth the length of the organ, *reject*.

**Stricture of the urethra** can be detected only from the confession of the man himself. If upon being questioned he admits an attack of gonorrhœa, and that he passes a stream of water which is crooked or twisted, or if at the close of the act the water dribbles from him, falling between his feet, or if the stream is small and passed with difficulty, there is good reason to suspect a stricture, and the applicant should be rejected.

**Loss of both testicles** by extirpation or disease or marked dwindling (atrophy) of both or special sensitiveness of either rejects.

The absence of both testicles from their natural situation does not necessarily imply the *loss* of them from either of these causes, for they *may never have descended into the scrotum*. If the organs have been extirpated by accident or design the scar of the wound will reveal the fact; if they have disappeared from *atrophy* some rudiment will still remain to show



that they have descended. If neither of these signs be present and the testicles are not in the scrotum they are either still in the abdomen or are arrested in the groin, where they may be felt and possibly seen as tumors or lumps and may be distinguished by the peculiarly sickening pain felt when they are vigorously squeezed between the fingers. If they occupy any portion of the groin they incapacitate the man from their liability to be followed by rupture, and particularly from their exposure to painful injury and to strangulation; but if they are within the abdomen and the man appears vigorous otherwise the condition may be disregarded. These remarks are also applicable to those cases in which only one testicle is present in the scrotum.

If *three* testicles are supposed to be in the scrotum the applicant may be accepted, and the fact noted on his enlistment paper, the case being left to the decision of the surgeon at the depot whether the extra body is a testicle or not.

Any great **enlargement of the testicle**, especially if the organ is very hard and insensitive, is indicative of serious disease, and should be cause for rejection.

Caution is necessary in examining the testicle that the "epididymis" is not confused with some morbid growth. This body lies upon the upper and back part of the testicle and may occasionally feel hard or swollen, as a result of some former inflammation. Indeed it may, under some circumstances, be taken for a varicocele. There is no disease to which it is subject, discoverable by a non-professional man, that would be cause for rejection.

**Accumulation of fluid in the scrotum** (hydrocele) may be discovered by the distention of the parts and by the sensation of fluctuation given to the fingers by the contained fluid. It sometimes simulates the appearance of a scrotal hernia. It is a cause for rejection.

There may also be an accumulation of fluid in the *sper-*



*matic cord* (hydrocele of the cord), giving rise to a tumor situated *above* the testicle, between it and the groin, into which it often extends. This is cause for rejection.

**Varicocele** is an enlargement of the veins leading from the testicle, which have "a peculiar knotted and convoluted feel, and the sensation conveyed to the hand is often compared to that which would be given by a bunch of earth-worms."

When slight this is not a cause for rejection; but it is presented to the examiner in so many degrees of development—from an almost imperceptible enlargement of a few of the veins to a condition in which all of them are swollen as large as goose quills and completely fill, by their mass, the scrotum—that the determination of the cases would be most perplexing, even to a medical expert, but for the rule formulated by Tripler, which, if strictly followed, will exclude from the service men thus physically unfitted.

This rule is as follows: "If the testicle upon that side is atrophied (shrunken), whatever may be the volume of the cirsocele (varicocele), or if the volume of the latter exceeds that of the former, the recruit should be rejected"—that is, the varicocele should not be greater in bulk than the sound testicle.

A good position in which to obtain the best view of the scrotum is to require the applicant to advance one leg, carry the other as far back as possible, and then bend the advanced leg at the knee. The presence of varicocele can, however, be determined *only by handling the parts*.

**Incontinence of urine** may be suspected if the person or clothing of the applicant exhales a urinous odor or his clothing gives other evidence of having been saturated with urine, and is cause for rejection.

**In time of war** none of the above-mentioned defects are causes for rejection, unless they are of sufficient extent to interfere with locomotion. Acute venereal diseases may be treated in hospital.





## THE BACK.

**Curvature of the spine**, with round shoulders. To detect curvature of the spine draw an imaginary line from the centre of the base of the skull to the end of the spine. If it passes *one inch* either side of the spinal prominences reject. (Parker.)

**Arching of the back**, with flattening of the front part of the chest, are disqualifications when they exist to such a degree as to impede respiration or to interfere with the action of the heart, as also is *wry-neck*, an affection in which the head, twisted to one side, cannot be brought back to its natural position.

The recruiting officer cannot, of course, discover whether these blemishes interfere with the functions of the lungs or heart, but he can see if they are very much pronounced and reject; or if he is in doubt note the facts on the enlistment papers and let the surgeon at the depot decide the question.

Men frequently present themselves for inspection with shoulders of unequal height. This is generally the result of habit and of no consequence, unless connected with true curvature of the spine. The degree of this curvature, where it exists, will determine the eligibility of the recruit; but, particularly in peace, recruits with rounded or unsymmetrical shoulders are not desirable, although they may be accepted. Whenever shoulders of unequal height are seen attention should, of course, be directed to the spinal column.

## AFFECTIONS OF THE EXTREMITIES.

It is a matter of primary importance that the soldier should have the perfect use of all his limbs, and that the completeness and integrity of these organs should be in no wise impaired. Careful inspection of the limbs, even to the most minute detail, will therefore not be neglected by the



officer who feels a proper interest in the good of the service or in his own reputation.

Many of the lesions and deformities of the limbs that disqualify a recruit are *common* to both the upper and lower extremities. Others are peculiar to the one or the other.

The COMMON LESIONS are **chronic rheumatism**, with swelling and stiffness of the joints or the neighboring tissues, causing any impediment to the performance of the normal motions ;

**Wasting of a limb from any cause ;**

**Old dislocations**, if attended by any impairment of motion or distortion of the joint.

The shoulder, elbow, and wrist joints are the most common sites for these injuries.

The applicant for enlistment will, of course, put the best face on the results of these cases and stoutly assert that the joint is as good as ever ; but he should in all cases be tried with a rifle, to see if he can perform quickly and easily the various motions required in the manual of arms and in the "set-up" drill. Even if motion is perfect it is doubtful policy to enlist a man who has any amount of distortion from a dislocated joint, because he has enough of a visible defect upon which at any time to hang an excuse for a discharge if from any cause the service becomes irksome to him. Fortunately badly damaged joints are easily discovered, and the safest plan in such cases is to reject, even if the distortion or loss of motion be ever so slight.

The same general remarks will apply to *important fractures*, especially if they have been in the neighborhood of joints. If followed by wasting of the limb or paralysis there can be no doubt about the necessity for rejection.

**Severe sprains ;**

**Voluntary or involuntary dislocation of joints ;**

**Defective or excessive curvature of the limbs ;**

**Complete or partial stiffness of any joint ;**



**Extensive, deep, or adherent scars, where they interfere with the motion of a limb ;**

**Loss of a limb, or an essential part thereof ;**

**Contractions or permanent flexions of a limb or a portion thereof** are all causes for rejection.

**In time of war** the defects above mentioned are, with the exception of sprains, causes for rejection, but many of them are so easily feigned that when alleged by a recruit or conscript the examination should be made by a medical officer.

#### **SPECIAL LESIONS OF THE UPPER EXTREMITIES.**

**Fractures of the collar-bone** where there is much deformity or if the seat of the fracture is near the outer extremity of the bone.

**The fingers adherent or united.**

**Permanent flexion or extension of one or more fingers, as well as irremediable loss of motion of these parts.**

**Total loss of either thumb.**

**Mutilation of either thumb** to such an extent as to produce material loss of flexion or strength of the member. The common distortion of the extremity due to contusion or felon need not disqualify.

Special care should be used in the examination of the thumbs with a view to the ability of the applicant to use them in cocking the rifle, for which purpose a rifle should be kept at the rendezvous.

**Total loss of the index finger of the right hand.**

**Loss of the second and third joints of all of the fingers of the right hand.**

The joints of fingers and toes are counted from those nearest the hand or foot.

**Total loss of any two fingers of the same hand.**

**Mutilation of the last joints of all the fingers of either hand.**





All these defects constitute absolute causes for exclusion from the military service.

We frequently meet with permanent partial flexion of the *little finger* of one or both hands, due to the effect of some particular varieties of labor. These flexions do not disqualify, as they in nowise interfere with the prompt and effective handling of arms. The permanent flexion of any other finger does, and should exclude from service.

Redundant fingers are not always objections to a recruit. If the redundant finger is upon the outer border of the hand it is not usually in the way, and particularly if it be the left hand. We think, unless this appendage were more developed than we have ever seen it, we should not regard it in the inspection of a recruit.

**In time of war** the loss of the right thumb; loss of any two fingers of the same hand; loss of the second and third phalanges of the fingers on the right hand; permanent flexion or extension of two fingers of the right hand, or all the fingers united (webbed), are causes for exemption.

#### SPECIAL LESIONS OF THE INFERIOR EXTREMITIES.

##### **Varicose veins—i. e., swollen or enlarged veins.**

In young men, the development of varicose veins to a degree of prominence that would warrant especial attention is rarely met with; it is more commonly found in men of thirty years and upward, particularly in those of intemperate habits or of feeble constitution. Mechanical obstruction to the flow of blood through the veins may also be the cause. *Moderate* prominence of the veins in men who are otherwise healthy, and who are temperate, need not disqualify.

But it must be borne in mind that the tendency of this affection is to become aggravated, particularly in tall men, and upon long marches with knapsacks and arms.



The character, then, of the veins should be well noted. Sometimes the minute superficial branches only are enlarged. This is particularly the case in the space behind the knee and on the inside of the thigh and is in itself of no consequence, but when clusters of knots are seen, or one or more single knots, large and with thin walls, or a net-work of enlarged branches are found about the ankle, the back of the foot, the calf of the leg, the ham or thigh, or distinctly enlarged veins exist, that are not necessarily knotted, especially if extending above the knee, the man should be rejected. In *all* cases when there is chronic tumefaction, dropsy of the limbs, or marks of ulceration, rejection is demanded.

A soft swelling, having the appearance of a varicose vein, is frequently found on the outside of the leg, caused by a lack of development in the covering of the muscles (fascia), allowing a small portion to protrude; this is harmless and should not be mistaken for a varicose vein.

**Lameness**, perceptible limping, to whatever cause it may be due, demands the rejection of a recruit.

### **Knock-knees.**

This deformity sometimes, though rarely, exists to such a degree as to unfit a man for military service. When disqualifying it is impossible for the man to take the position of a soldier and he is mechanically disabled from performing a long march. We would say, *generally*, that if a recruit cannot bring the inner borders of the feet, from the heel to the ball of the great toe, within *one inch* of each other without passing the inner surface of the knees respectively in front of and behind each other he is unfit for service.

Loose cartilages in the knee-joint are liable to slip from their ordinary situation when sudden and violent exertion is made and to be caught and pinched between the bones forming the joint; motion is impossible; the most exquisite pain is produced and the sufferer will probably faint. The



presence of these bodies cannot be determined by any physical examination, but applicants should be questioned as to the matter and rejected if there is reason to believe them the subjects of this defect.

**Club-feet** are always positive disqualifications.

**Splay-feet.**

The foot that renders a man unfit for service is that in which the arch is so far effaced that the entire inner border of the foot rests upon the ground; the inner ankle is very prominent, as is also the bone of the foot articulating with it, and the axis of the leg does not fall upon the centre of the foot—giving the effect that the ankle-joint has been dislocated and the foot crushed down and outward. This extreme degree of splay or flat foot is not often seen; a broad and flat sole is common to the laboring classes and particularly so among negroes, but, unless an ill-fitting shoe is worn, this shape of the foot is not more likely to induce disability in long marches than is the arched foot of a more shapely mould.

**All the toes joined together.**

The great toe crossing the other toes, with great prominence of the second joint of the great toe (*bunion*).

**Over-riding or super-position of any or all the toes** to a degree that renders the wearing of a shoe painful; the ordinary overlap of the fleshy part of the second toe upon the great and third toes is not a cause for rejection.

**Loss of a great toe.**

**Loss of any two toes from the same foot.**

**Permanent flexion of the last joint of one of the toes** (*hammer toe*) so that the free border of the nail bears upon the ground, or flexions at a right angle of the last joint of a toe (usually the second toe) upon the second, with stiffness of the joint.

**Ingrowing nail of the great toe**, usually upon the outer side, if deep and accompanied with signs of inflammation or ulceration.





**Corns on the sole of the foot**, especially if situated on the under side of the "ball" or base of the great toe.

**Stinking feet.**

These are all causes for the rejection of a recruit and are too frequently neglected.

They invariably cause lameness upon a march and often disqualify a man from undergoing the drills necessary for his instruction.

When a man walks upon the nail of the toe, "hammer toe," as it is termed, during a march, sand and other foreign bodies find their way between the nail and the skin, producing severe pain and irritation, and even if this is escaped the constant pressure upon the free border of the nail is felt throughout its whole surface of adhesion, and develops there, and sometimes in the root of the nail, insupportable pain and inflammation. In the case of stiff joints the constant friction of the shoe upon a march soon obliges the man to give up and take to the wagons. Men with such infirmities are of no use whatever as soldiers.

For the benefit of Medical Officers the following table of disqualifications for service in the Army of the United States is given :

**MENTAL INFIRMITIES.**

Insanity, Idiocy, Imbecility, Dementia.

**MORAL INFIRMITIES.**

Intemperance in the use of Stimulants or Narcotics, Conviction of Felony, Masturbation, Sodomy.

**CEREBRO-SPINAL SYSTEM.**

Epilepsy, Chorea, all forms of Paralysis, Tabes Dorsalis, Neuralgia, Stuttering.

**GENERAL DISQUALIFICATIONS.**

Feebleness of Constitution (poor physique), Scrofulous Diathesis, Cancerous Diathesis, Syphilis.



## SPECIAL DISQUALIFICATIONS.

The Skin.—All chronic, contagious, and parasitic diseases of the skin; nævi; extensive, deep, and adherent cicatrices; chronic ulcers, vermin.

The Head.—Abnormally large head; considerable deformities, the consequence of fractures; serious lesions of the skull, the consequence of complicated wounds or the operation of trephining; caries and exfoliation of the bone, injuries of cranial nerves, tinea capitis, alopecia.

The Spine.—Caries, spina bifida, lateral curvature of the cervical, dorsal, or lumbar regions; lumbar abscess, rickets, fracture and dislocation of the vertebræ, angular curvatures, including gibbosity of the anterior and posterior parts of the thorax.

The Ears.—Deafness of one or both ears, all catarrhal and purulent forms of acute and chronic otitis media, polypi and other growths or diseases of the tympanum, labyrinth, or mastoid cells; perforation of the tympanum; closure of the auditory canal, partial or complete, except from acute abscess or furuncle; malformation or loss of the external ear and all diseases thereof, except those which are slight and non-progressive.

The Eyes.—Loss of an eye, total loss of sight of either eye; conjunctival affections, including trachoma, entropion; opacities of the cornea, if covering part of a moderately dilated pupil; pterygium, if extensive; strabismus, hydrophthalmia, exophthalmia, conical cornea, cataract, loss of crystalline lens, diseases of the lachrymal apparatus, ectropion, ptosis, incessant spasmodic motion of the lids, adhesion of the lids, large encysted tumors, abscess of the orbits, muscular asthenopia, nystagmus.

Any affection of the globe of the eye or its contents; defective vision, including anomalies of accommodation and refraction; myopia; hypermetropia, if accompanied by asthenopia; presbyopia, astigmatism, amblyopia, glaucoma, diplopia, color-blindness (for the Signal Service only).

The Face.—Nævi, unsightly hairy spots, extensive cicatrices on the face.

The Mouth and Fauces.—Hare-lip, simple, double, or complicated; loss of the whole or a considerable part of either lip; unsightly mutilation of the lips from wounds, burns, or disease; loss of the whole or part of either maxilla, ununited fractures, ankylosis, deformities of either jaw interfering with mastication or speech, loss of certain teeth, cancerous or erectile tumors, hypertrophy or atrophy of the tongue, mutilation of the tongue, adhesion of the tongue to any parts, preventing its free motion; malignant diseases of the tongue, chronic ulcerations, fissures or perforations of the hard palate, salivary or bucco-nasal fistulæ, hypertrophy of the tonsils sufficient to interfere with respiration or phonation.

The Neck.—Goitre, ulcerations of the cervical glands, cicatrices of scrofulous ulcerations, tracheal openings, wry-neck, chronic laryngitis, any or other disease of the larynx which would produce aphonia, stricture of the œsophagus.



The Chest.—Malformation of the chest, or badly united fractures of ribs or sternum sufficient to interfere with respiration; caries or necrosis of ribs, deficient expansive mobility, evident predisposition to phthisis, phthisis pulmonalis, chronic pneumonia, emphysema, chronic pleurisy, pleural effusions, chronic bronchitis, asthma, organic disease of the heart or large arteries, serious and protracted functional derangement of the heart, dropsy dependent upon a disease of the heart.

The Abdomen.—All chronic inflammations of the gastro-intestinal tract, including diarrhœa and dysentery; diseases of the liver or spleen, including those caused by malarial poisoning; ascites, obesity, dyspepsia, if confirmed; hæmorrhoids, prolapsus ani, fistula in ano, considerable fissures of the anus, hernia in all situations.

The Genito-Urinary Organs.—Any acute affection of the genital organs, including gonorrhœa and venereal sores; loss of the penis, phimosis, stricture of the urethra, loss of both testicles, permanent retraction of one or both testicles within the external ring, any chronic disease of the testicle, hydrocele of the tunic and cord, atrophy of the testicle, varicocele, malformations of the genitalia, incontinence of urine, urinary fistulæ, enlargement of the prostate, stone in the bladder, chronic cystitis, all diseases of the kidney.

Affections Common to both Upper and Lower Extremities.—Chronic rheumatism, chronic diseases of joints, old or irreducible dislocations or false joints, severe sprains, relaxation of the ligaments or capsules of joints, dislocations, fistulæ connected with joints, or any part of bones; dropsy of joints, badly united fractures, defective or excessive curvature of long bones, rickets, caries, necrosis, exostosis, atrophy or paralysis of a limb; extensive, deep, or adherent cicatrices; contraction or permanent retraction of a limb or portion thereof, loss of a limb or portion thereof.

The Superior Extremities.—Fracture of the clavicle, fracture of the radius and ulna, webbed fingers, permanent flexion or extension of one or more fingers, as well as irremediable loss of motion of these parts; total loss of either thumb, mutilation of either thumb, total loss of the index-finger of the right hand, loss of the second and third phalanges of all the fingers of either hand, total loss of any two fingers of the same hand.

The Lower Extremities.—Varicose veins, knock-knees, club-feet, splay or flat feet, webbed toes, the toes double or branching, the great toe crossing the other toes, bunions, corns, overriding or superposition of any of the toes to an extreme degree, loss of a great toe, loss of any two toes of the same foot, permanent retraction of the last phalanx of any of the toes, or flexion at a right angle of the first phalanx of a toe upon the second, with ankylosis of the articulation; ingrowing of the nail of the great toe, stinking feet.





# INDEX.

## A.

|  | Page. |
|--|-------|
| Abdomen, the .....   | 46    |
| Abdominal rings, relaxed .....   | 46    |
| Adam's apple, openings into .....  | 43    |
| Age qualifications .....   | 22-25 |
| limit .....  | 7     |
| previous service as affecting .....                                      | 7     |
| Alopecia, <i>see</i> Baldness.   |       |
| Anus, examination of .....   | 20    |
| in syphilis .....  | 35    |
| Apex beat of the heart .....   | 45    |
| Artificial teeth .....   | 42    |
| Artillery, height and weight for .....                                   | 25    |
| Artillery men, special examination of hearing of .....                   | 37    |
| Artisans, skilled, need not have knowledge of the English language ..... | 13    |
| may be under height .....  | 25    |
| Asthma .....   | 45    |
| Astigmatism .....  | 38    |

## B.

|   |        |
|---|--------|
| Back, the .....                             | 52     |
| arching of the .....                        | 52     |
| Balanitis .....                             | 48     |
| Baldness (alopecia) .....                   | 35     |
| Band musicians need not speak English ..... | 13     |
| may be under height .....                   | 25     |
| Beard, growth of, in minors .....           | 23     |
| Birth-marks .....                           | 29, 30 |
| Bubo, significance of .....                 | 35     |
| Bunions .....                               | 57     |

## C.

|   |    |
|---|----|
| Cadets, military, West Point, rule of physical proportions for .....  | 23 |
| Candidates for admission to the hospital corps, vision test for ..... | 38 |
| medical corps, vision test for .....                                  | 38 |



|  | Page.  |
|--|--------|
| Cartilages, loose, of the knee-joint.....            | 56     |
| Catarrh, chronic nasal.....                          | 40     |
| Cavalry, age limit.....                              | 22     |
| height and weight for.....                           | 25     |
| Chancre.....   | 48     |
| Chancroid.....                                       | 48     |
| Characteristics, physical, of recruit.....           | 11     |
| Character, evidence of, required.....                | 7      |
| Cheeks.....  | 41     |
| Chest, defects in.....                               | 44, 45 |
| measurements, the.....                               | 26     |
| how to take them.....                                | 43     |
| measure, mobility, &c., rule of proportions for..... | 26, 27 |
| table of proportions for.....                        | 28     |
| methods of examining the.....                        | 43-45  |
| mobility.....  | 26     |
| Chicken-breasted.....                                | 44     |
| Chronic enlargement of the tonsils.....              | 41     |
| nasal catarrh.....                                   | 40     |
| rheumatism.....                                      | 53     |
| ulcers.....  | 32     |
| Cleanliness, reasons for.....                        | 14     |
| Club feet.....                                       | 57     |
| Collar bone, fracture of.....                        | 54     |
| Color of eyes.....                                   | 31, 32 |
| hair.....  | 31     |
| "Competent knowledge" of the English language.....   | 12     |
| Completion of enlistment papers.....                 | 7      |
| Constitutional syphilis.....                         | 33     |
| Consumption, indications of.....                     | 44     |
| Cord, spermatic, fluid in.....                       | 51     |
| Cornea, opacity of.....                              | 40     |
| Corns.....   | 58     |
| Corps, hospital, vision test for members of the..... | 38     |
| medical, vision test for candidates for the.....     | 38     |
| Criminals, enlistment of, prohibited.....            | 8      |
| Cross-eyes.....                                      | 39     |
| Curvature of the spine.....                          | 52     |

### D.

|   |        |
|---|--------|
| Deafness.....                           | 36, 37 |
| Debility.....                           | 11, 44 |
| Defects of all degrees to be noted..... | 16     |



|   | Page. |
|---|-------|
| Degree of knowledge of English, how recorded----- | 15    |
| Deserter, enlistment of, prohibited-----          | 8     |
| Discharge from ears-----                          | 36    |
| nose-----   | 40    |
| Dislocations-----                                 | 53    |
| Disposition of examination form-----              | 16    |
| Disqualifications, table of-----                  | 58-60 |
| Drunkards, physical characteristics of-----       | 12    |

### E.

|  |        |
|--|--------|
| Ears-----  | 36, 37 |
| tumors of-----                                   | 36     |
| discharge from-----                              | 36     |
| deafness-----                                    | 36     |
| English language, competent knowledge of-----    | 12     |
| degree of knowledge of, how recorded-----        | 15     |
| skilled artisans need not have knowledge of----- | 13     |
| Enlargement of the glands (syphilitic)-----      | 33     |
| tonsils-----                                     | 41     |
| Enlistment, general requirements for-----        | 8-10   |
| oath of (Art. of War 2)-----                     | 8      |
| of recruits, responsibility for-----             | 10     |
| papers, completion of-----                       | 7      |
| prohibitions to (Art. of War 3)-----             | 8      |
| Epididymis, the-----                             | 50     |
| Epispadia-----                                   | 49     |
| Eruptions, syphilitic-----                       | 34     |
| Evidence of character required-----              | 7      |
| Evidences of maturity-----                       | 23, 24 |
| Examination, form for-----                       | 17-19  |
| how disposed of-----                             | 16     |
| the general-----                                 | 11-13  |
| order of-----                                    | 20-22  |
| special-----                                     | 29     |
| Examining a recruit, mode of-----                | 14     |
| Extremities, affections of-----                  | 52-54  |
| Eyeball, prominence of-----                      | 39     |
| Eyelids, adherent-----                           | 39     |
| drooping-----                                    | 39     |
| inflammation of-----                             | 37     |
| Eye, loss of either-----                         | 37     |
| Eyes, color of-----                              | 31, 32 |
| the-----   | 37-40  |





## F.

|   | Page.  |
|---|--------|
| Face, deformities of.....                     | 37     |
| Far-sight (hypermetropia).....                | 38     |
| Feebleness, general.....                      | 11, 44 |
| Feet, club.....                               | 57     |
| offensive.....                                | 58     |
| splay.....                                    | 57     |
| Felons, enlistment of, prohibited.....        | 8      |
| Figure and general appearance, how noted..... | 16     |
| Fingers, defects of the.....                  | 54, 55 |
| Fistula in ano.....                           | 47     |
| Form for examination.....                     | 17-19  |
| disposition of.....                           | 16     |
| uses for.....                                 | 15     |
| Fractures.....                                | 53     |
| of the collar bone.....                       | 54     |
| of the ribs.....                              | 45     |

## G.

|  |       |
|--|-------|
| General examination.....                       | 11-13 |
| requirements for enlistment.....               | 8-10  |
| Genital and urinary organs.....                | 48-51 |
| Gland <sup>s</sup> , enlarged in syphilis..... | 33    |
| Gleet.....                                     | 49    |
| Goitre.....                                    | 42    |
| Gonorrhœa.....                                 | 48    |

## H.

|  |        |
|--|--------|
| Habits of intemperance, indications of.....    | 12     |
| Hair, color of.....                            | 31     |
| in syphilis.....                               | 34     |
| growth of, in minors.....                      | 23     |
| Hammer toe.....                                | 58     |
| Harelip.....                                   | 41     |
| Head, the defects of.....                      | 35, 36 |
| Hearing, defects in, <i>see</i> Deafness.      |        |
| of artillery men to be specially examined..... | 37     |
| Heart, apex beat of.....                       | 45     |
| hypertrophy of.....                            | 45     |
| the.....                                       | 45     |
| Height, weight, and chest measurements.....    | 25-28  |
| rule of proportions for.....                   | 26     |
| special exceptions in.....                     | 25     |
| table of proportions for.....                  | 28     |



|  | Page. |
|--|-------|
| Hemorrhoids (piles) -----                        | 47    |
| external -----                                   | 47    |
| internal -----                                   | 47    |
| Hernia, incomplete -----                         | 46    |
| inguinal -----                                   | 46    |
| scrotal -----                                    | 46    |
| tendency to -----                                | 46    |
| umbilical -----                                  | 46    |
| Hospital corps, vision test for members of ----- | 38    |
| Hydrocele -----                                  | 50    |
| of the cord -----                                | 51    |
| Hypospadias -----                                | 49    |

**I.**

|   |        |
|---|--------|
| Incontinence of urine -----                         | 51     |
| Infantry, height and weight for -----               | 25     |
| Inferior extremities, special lesions of -----      | 55, 58 |
| Ingrowing toe nail -----                            | 57     |
| Insane, enlistment of, prohibited -----             | 8      |
| Intemperance, indications of habits of -----        | 12     |
| Intellectual requirements -----                     | 9      |
| Intoxicated person, enlistment of, prohibited ----- | 8, 11  |
| Itch -----  | 29     |

**J.**

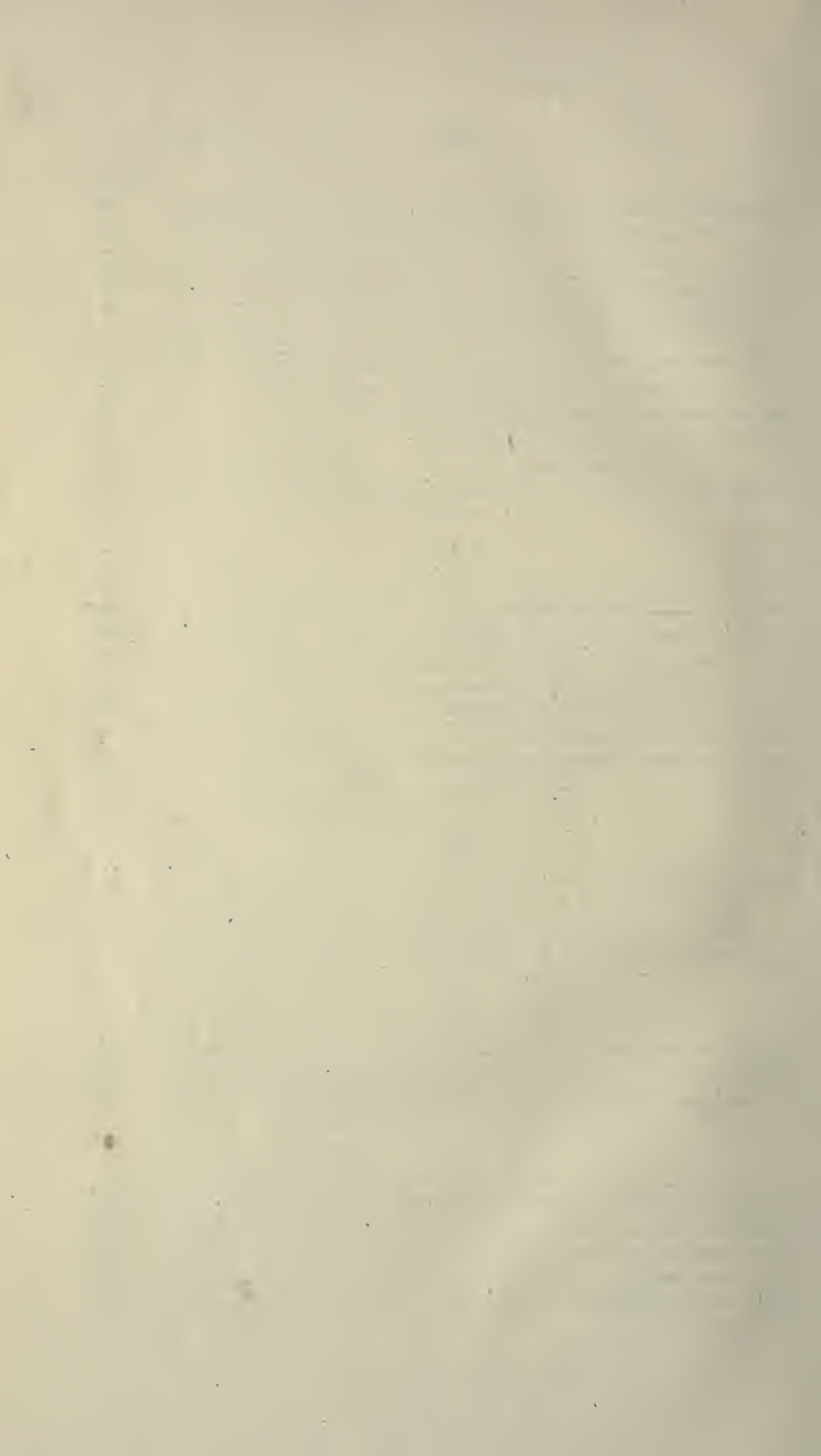
|                            |    |
|----------------------------|----|
| Jaw, deformities of -----  | 41 |
| loss of -----              | 41 |
| stiffness of -----         | 41 |
| Joints, stiffness of ----- | 58 |

**K.**

|   |    |
|---|----|
| Knee-joint, loose cartilage in -----                | 56 |
| Knock knees -----                                   | 56 |
| Knowledge, competent, of the English language ----- | 12 |

**L.**

|   |      |
|---|------|
| Language, English, competent knowledge of ----- | 12   |
| Lameness -----                                  | 56   |
| Legal requirements, the -----                   | 7-10 |
| Legs, cicatrices on -----                       | 54   |
| Light artillery, maximum weight for -----       | 25   |



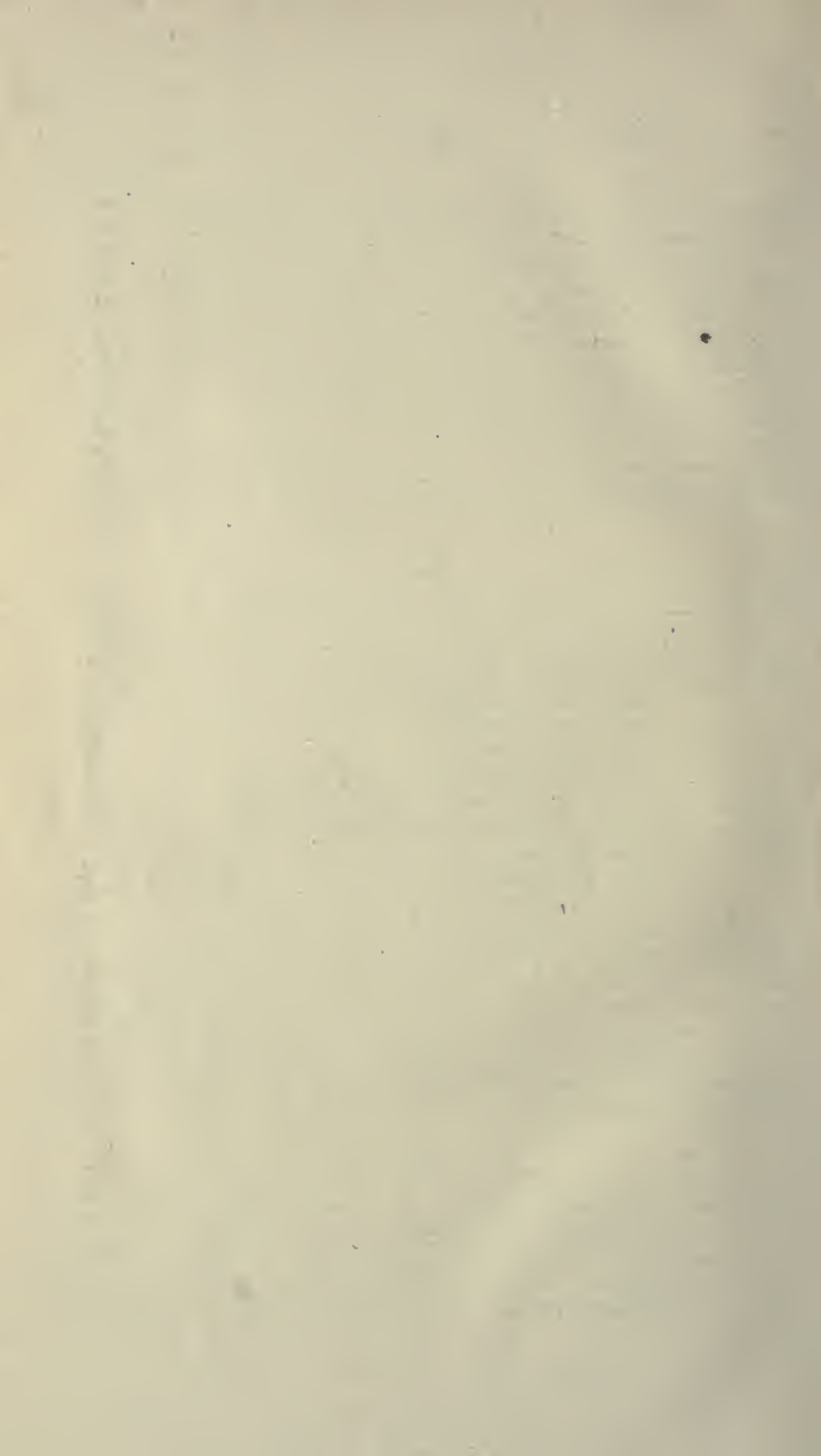
|   | Page.  |
|---|--------|
| Limbs, loss of.....                     | 54     |
| permanent flexions of.....              | 54     |
| to be mobile.....                       | 52     |
| shape of, changed.....                  | 53     |
| wasting of.....                         | 53     |
| Limit of age.....                       | 7      |
| Lip, hare.....                          | 41     |
| mutilation of.....                      | 41     |
| Loose cartilages of the knee-joint..... | 56     |
| Loss of teeth.....                      | 41, 42 |
| Loss of voice.....                      | 41     |
| Lungs, bleeding from.....               | 44     |

### M.

|   |        |
|---|--------|
| Marks, birth.....   | 30     |
| tattoo.....   | 30     |
| Maturity, evidences of.....   | 23, 24 |
| Measurements, chest, how to make them.....                          | 43     |
| height, weight, and chest.....                                      | 25-28  |
| rule of proportions for.....  | 26     |
| special exceptions in.....  | 25     |
| table of proportions for.....                                       | 28     |
| Medical corps, vision test for candidates for admission to the..... | 38     |
| Military cadets, West Point, rule of physical proportions for.....  | 28     |
| Minors, consent required for.....                                   | 8      |
| enlistment of, prohibited.....                                      | 8      |
| physical development of.....  | 27, 28 |
| Mobility of chest.....  | 26     |
| Mode of examining a recruit.....                                    | 14     |
| Moles.....  | 29, 30 |
| Moral requirements.....   | 10     |
| Mouth, the.....   | 41, 42 |
| in syphilis.....  | 34     |
| Musicians, band, need not speak English.....                        | 13     |
| Myopia, <i>see</i> Near-sight.                                      |        |

### N.

|                                |    |
|--------------------------------|----|
| Nail, toe, walking on the..... | 58 |
| ingrowing.....                 | 57 |
| Nasal catarrh, chronic.....    | 40 |
| polypus.....                   | 40 |
| Near-sightedness (myopia)..... | 38 |





|                      | Page.         |
|----------------------|---------------|
| Neck, the -----      | 42, 43        |
| scars of -----       | <del>43</del> |
| Nose, the -----      | 40            |
| discharge from ----- | 40            |
| loss of -----        | 40            |
| in syphilis -----    | 34            |

### O.

|  |       |
|--|-------|
| Oath of enlistment (Art. of War 2) ----- | 8     |
| Opacity of cornea -----                  | 40    |
| Order of examination -----               | 20-22 |
| Ozæna -----                              | 40    |

### P.

|  |        |
|--|--------|
| Palate, hard, fissure of -----           | 41     |
| perforation of -----                     | 34, 41 |
| Penis, affections of -----               | 48, 49 |
| loss of -----                            | 48     |
| Phimosi -----                            | 48     |
| Physical proportions, rule of -----      | 25     |
| for military cadets, West Point -----    | 28     |
| table of -----                           | 28     |
| Piles, <i>see</i> Hemorrhoids.           |        |
| Pimples -----                            | 29     |
| Polypus, nasal -----                     | 40     |
| Previous service, as affecting age ----- | 7      |
| Probation, recruits on -----             | 7      |
| Proportions, physical, rule of -----     | 25     |
| for military cadets -----                | 28     |
| table of -----                           | 28     |
| Pterygium -----                          | 39     |
| Ptoſis -----                             | 39     |

### Q.

|                           |       |
|---------------------------|-------|
| Qualifications, age ----- | 22-25 |
|---------------------------|-------|

### R.

|  |    |
|--|----|
| Recruit, mode of examining -----       | 14 |
| on probation -----                     | 7  |
| responsibility for enlistment of ----- | 10 |



|   | Page.  |
|---|--------|
| Re-enlistments, age in .....                              | 7      |
| physical requirements for .....                           | 13, 14 |
| Re-examination at rendezvous .....                        | 16     |
| Relaxed abdominal rings .....                             | 46     |
| Requirements for enlistment, general .....                | 8-10   |
| the legal .....   | 7-10   |
| Responsibility for enlistment of recruits .....           | 10     |
| Rheumatism, chronic .....                                 | 53     |
| Ribs, badly united fractures of .....                     | 45     |
| Rule of physical proportions for height, weight, &c. .... | 25     |
| for military cadets .....                                 | 28     |
| Rupture .....   | 46     |

## S.

|   |            |
|---|------------|
| Scalp, the .....                          | 35         |
| Scars .....                               | 29, 30, 43 |
| non-adherent .....                        | 32         |
| and marks, description of .....           | 30, 31     |
| School teachers may be under height ..... | 25         |
| Scrotum, fluid in .....                   | 50         |
| skin of, in minors .....                  | 23         |
| Service, previous, as affecting age ..... | 7          |
| Skin, the .....                           | 29         |
| eruptions .....                           | 29         |
| of the scrotum in minors .....            | 23         |
| Shins, the, in syphilis .....             | 35         |
| Skull, depressions in .....               | 35         |
| Special examinations .....                | 29         |
| Spine, curvature of the .....             | 52         |
| Splay feet .....                          | 57         |
| Sprains .....                             | 53         |
| Squint .....                              | 39         |
| Stammering .....                          | 41         |
| Strabismus .....                          | 39         |
| Stricture of urethra .....                | 49         |
| Syphilis, constitutional, signs of .....  | 33         |

## T.

|   |        |
|---|--------|
| Table of disqualifications .....                  | 58-60  |
| physical proportions for height, weight, &c. .... | 28     |
| Tailors need not speak English .....              | 13     |
| may be under height .....                         | 25     |
| Tattoo marks .....                                | 29, 30 |



|                                      | Page.  |
|--------------------------------------|--------|
| Teeth, artificial.....               | 42     |
| development of, in minors .....      | 28     |
| loss of.....                         | 41, 42 |
| Test of vision.....                  | 38     |
| Testicles, affections of.....        | 49, 50 |
| atrophy of.....                      | 49     |
| enlargement of.....                  | 50     |
| loss of.....                         | 49     |
| supernumerary.....                   | 50     |
| undescended.....                     | 49     |
| Thorax, <i>see</i> Chest.            |        |
| Thumbs, defects of.....              | 54     |
| Toes, defects of the.....            | 57     |
| hammer.....                          | 58     |
| ingrowing nail of the.....           | 57     |
| walking on the nail of the.....      | 58     |
| Tongue, alterations in.....          | 41     |
| Tonsils, chronic enlargement of..... | 41     |
| Tubercles, mucous (syphilitic).....  | 35     |

### U.

|   |        |
|---|--------|
| Ulcers, chronic.....                      | 32     |
| Upper extremities, affections of the..... | 54, 55 |
| Urethra, abnormal openings in.....        | 49     |
| stricture of.....                         | 49     |
| Urinary and genital organs.....           | 48-51  |
| Urine, incontinence of.....               | 51     |
| Uses for examination form.....            | 15     |

### V.

|  |        |
|--|--------|
| Varicocele.....  | 51     |
| Varicose veins.....                                    | 55, 56 |
| Vegetations, syphilitic.....                           | 35     |
| Venereal diseases.....                                 | 48     |
| Vermin, personal.....                                  | 29     |
| Vision, double.....                                    | 39     |
| test.....  | 38     |
| object of.....   | 39     |
| for candidates for admission to the medical corps..... | 38     |
| for members of the hospital corps.....                 | 38     |
| Voice, alteration of.....                              | 41     |
| loss of.....   | 41     |





## W.

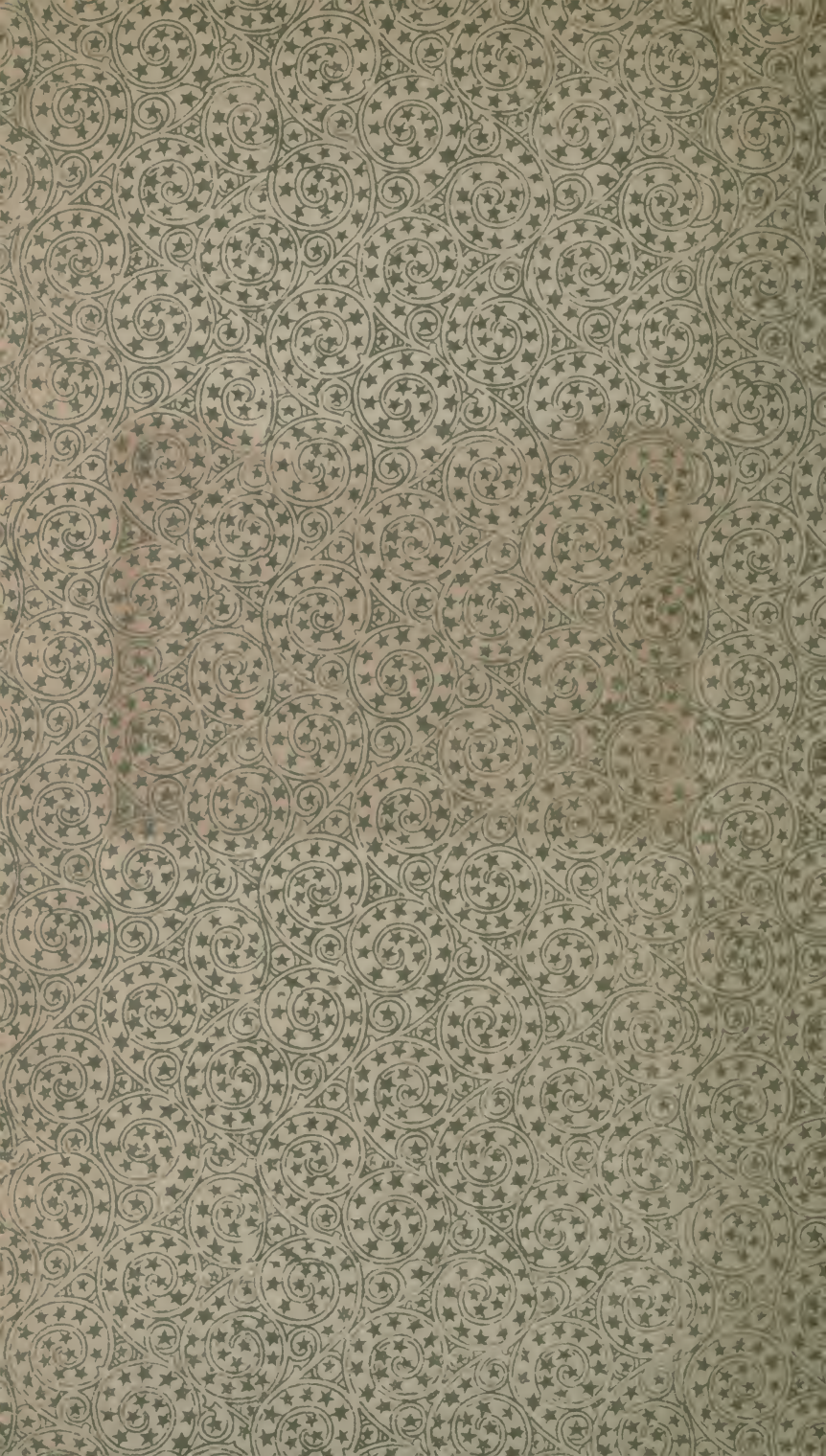
|  | Page. |
|--|-------|
| Warts, syphilitic.....   | 35    |
| venereal, but not syphilitic.....                                    | 49    |
| Weight, height, and chest measurement, the.....                      | 25-28 |
| rule of proportions for.....   | 26    |
| special exceptions in.....   | 25    |
| table of proportions for.....  | 28    |
| West Point, rule of physical proportions for military cadets at..... | 28    |
| Wheezing (asthma).....   | 45    |
| Windpipe, openings into.....   | 43    |
| Wisdom teeth, as evidence of maturity.....                           | 23    |













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