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SCHOOL BUILDINGS



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ISSUED BY
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To the Superintendents, Teachers and School Directors of Colorado:

The issuance of this bulletin was suggested to me while on trips throughout the state, attending teachers' institutes and visiting schools, during the summer and fall of the past year.

It is surprising how many unsightly, ill-adapted school buildings exist, which, if the money expended in their construction had been used to the best advantage, would be both sanitary and convenient. This bulletin has been prepared with special reference to the needs of schools located in rural districts and small towns, since the larger cities have, as a rule, sufficient funds at their disposal to employ competent architects to make plans for suitable buildings in which to school our children.

Whether a school building contains one, ten or twenty rooms, it should be so arranged as to secure not only the greatest convenience in school work, ready means of exit in emergencies (and other conditions necessary in all public buildings), but particularly good heating and ventilating systems and lighting facilities. Unfortunately, it is rarely the case that we find school buildings satisfactory in all these features. It is especially deplorable to see new buildings being erected, sometimes at great cost, in which as little attention is paid to these important matters as was done in the old buildings.

It also happens frequently that where ventilating and heating systems have been installed, the teachers and janitors, through unfamiliarity with their operation, fail to obtain the best results.

Surely every child is entitled to comfortable and sanitary conditions in the school room, where he spends from five to six hours every school day, and no district should be placed in the position of forcing pupils into buildings, or surrounding them by conditions which are injurious to their physical welfare.

The school is not worth more than the district pays for it, and if school premises are unattractive or repulsive, work with real spirit in it is not likely to be accomplished.

It is remarkable what a great change may be brought about in the appearance of the school buildings by a little inexpensive but artistic decoration. A regrettable fact is that many of our school houses may be recognized by their interior, as well as exterior, barrenness. There is no reason why our school buildings should not be as attractive as the average homes of the pupils.

The site of the building should be so selected as to provide for ample play grounds and, when possible, school gardens. The problem of adequate play grounds is just as important in the rural

districts and small towns as it is in large cities. Particular attention should be given to this selection, and schools should be located where water is available, either in ditches or from wells supplied with wind mills.

It is hoped that this bulletin will call your attention to the importance of the subjects discussed herein; if it serves to bring about better physical conditions for our Colorado boys and girls, it will have accomplished its mission.

I wish to acknowledge the valuable assistance of Mr. R. Ernesti, who prepared the article on "School Decoration." Also of Mr. W. B. Mooney, of the State Normal School, not alone for the articles contributed, but especially for suggestions and encouragement in its compilation, without which it would not have been possible in its present completeness.

Cordially yours,

KATHERINE M. COOK.

THE BUILDING SITE.

Concerning the selection of grounds for a school building experience has taught, and authorities urge us to consider, the following:

First. The grounds should be of sufficient size to give at least thirty square feet of space to each child in the school.

Second. Whenever possible a site slightly elevated above the surrounding ground should be selected.

Third. A school should not be located near other buildings, nor should trees be planted too close to school buildings.

Fourth. A school should not be located in an unsightly place or on unproductive soil.

Space does not permit an extensive discussion of the above statements, but a few remarks may not be amiss. It is indeed difficult to prescribe a limit to the school grounds of a growing American community, whether this be a city, or a village, or a rural district. That which is ample space when the first building is put up becomes cramped and meager when the community grows and additions must be made to the first building. The experience of practically every American town and city should teach us to provide ample room for further growth. Perhaps another consideration should enter into this matter of the size of our school grounds. If we think of a school as being a place for the child to do all his learning while sitting at his desk, a very small amount of ground is sufficient. But if we think of a school in the more modern sense, as being a place where the child learns not only when he sits at his desk, but, also, when he digs in the soil for the purpose of planting seed and cultivating growing plants, it is difficult to prescribe limits to the grounds where such activities may go on unhampered for room. Similar to the direction of Mrs. Means to her husband in "The Hoosier School Master" should be the urgent demand of every community to its board of education when it is considering the size of the school grounds: "Git a plenty while you are gettin'."

The danger of having trouble with the foundation owing to the presence of "ground water" is sufficient to cause boards of education to exercise much care relative to the advantage of the site. Slightly elevated ground, as a rule, not only secures good drainage, but gives advantage to the architect, and to the landscape gardener, in their efforts to make the building and grounds artistic and beautiful.

It is difficult to properly light and ventilate a building where obstructions to light or air are too near it. One writer says that *neighboring buildings should be distant not less than twice their height from a school building*. Occupied buildings near a school building prove a nuisance during the study, as well as the play periods of the school.

Too often rural communities select a poor or worn out piece of ground upon which to build the school house. On such soil it is impossible to make the surroundings attractive. It should be the aim of every rural community to show less fortunate fellow citizens of the city how attractive a school ground can be. Though there be but a one-room building, the school grounds can and should be made the civic center of every rural community.

SCHOOL BUILDINGS.

A few important principles should be constantly before those who have upon them the great responsibility of building a school house, whether it be a large or a small one.

First. The building should be adequately or properly lighted, heated and ventilated.

Second. The rooms should be as nearly square as possible, and of sufficient size to accommodate from thirty to forty pupils.

Third. Class rooms, where children remain all day, should never be placed below the level of the ground.

Fourth. Well lighted and ventilated wardrobes should be provided. Whenever the main halls are used as wardrobes, neat racks, rubber cases and umbrella racks should be provided.

Fifth. To guard against the evil effects of "ground air" the walls and floors of the basement should be cemented.

Sixth. The rooms should be finished so as to provide the least possible amount of dust-resting places.

Seventh. Adequate toilet rooms should be provided, and whether placed inside or outside the main building, they should be absolutely separate for the two sexes.

If a school building is so constructed that it could be said that its builder had given adequate attention to the essentials noted above, it ought to grade high on a percentage basis. There ought to be such a basis for grading our school buildings, as well as our school equipment and grounds.

There are, however, other much-to-be-desired features of the modern school which we may enumerate, though space forbids discussion. Schools should have:

First. A play room in the basement, well lighted and ventilated.

Second. A lunch room equipped with small folding tables.

Third. A general work room, provided with materials to weigh, measure, count, etc., placed in strong cases and bins.

Note—(One room properly constructed could serve all three of the above purposes.)

Fourth. A reading and library room.

Fifth. A work shop for boys.

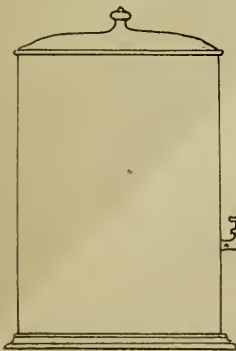
Sixth. A model kitchen for girls.

Seventh. An assembly room.

The modern school building which has been built with an eye single, not to its cost, but to its efficiency, has all, and more than all, of the appointments which have been mentioned. It is recognized that school buildings must be kept within reasonable bounds as to cost, but the most essential things demand not so much a lavish as an intelligent expenditure of money.

SANITATION.

In addition to what has been said about ventilation as a sanitary measure, we should mention:



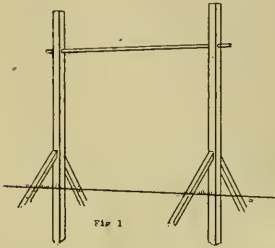
The drinking cup. Perhaps no surer means of conveying such diseases as tuberculosis, diphtheria, scarlet fever, etc., exists than the common drinking cup. Each school should be provided with a tank to which is attached a faucet, and each child required to furnish his own drinking cup.

Wet clothing. Wraps should be dried as soon as practicable after children arrive. No child should be allowed to sit with damp clothing or damp feet. Children should not be allowed to wear rubbers or overshoes in the school room. While damp clothing is being dried, as much fresh air should be admitted to the room as can be, without lowering the temperature too much.

Flics. Screens should be used on every school building where flies prove troublesome during the fall months.

THE EQUIPMENT OF A PLAY GROUND.

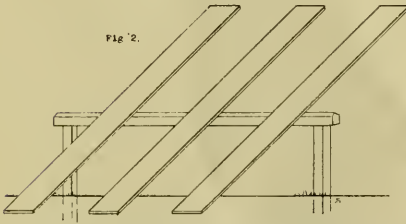
The equipment of a country or village school ground or house for the playing of healthful and attractive games is a much neglected matter. A few suggestions along that line may be of value.



A turning pole for boys may be made by setting two posts in the ground, six or eight feet apart, and running an inch or inch and a quarter gas pipe through holes bored in the tops of the posts, as shown in Figure 1. The cost of such a piece of apparatus should be as follows, assuming that the necessary work will be done by the teachers and boys:

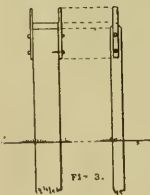
2 posts, 4"x"4, 8 ft. long, 50 cents.

1 piece gas pipe, 8 ft. long, 15 cents.



Teeter boards may be made by planting posts ten or twelve feet apart, and placing a pole or a rounded six by six on top of them, and then placing boards, upon which the children may teeter, as shown in figure 2.

Individual teeter boards may be made by placing a two by eight board in the ground, and fastening the teeter board to it by means of iron braces placed on each side of the upright piece, as shown in Figure 3. The cost of the above apparatus would be, for several teeters:



2 upright posts, 6"x6", 5 ft. long, 93 cents.

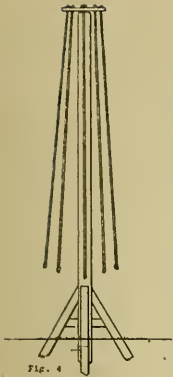
1 piece, 6"x6", 12 ft. long, \$1.22.

4 teeter boards, 2"x8", 14 ft. long, \$2.05.

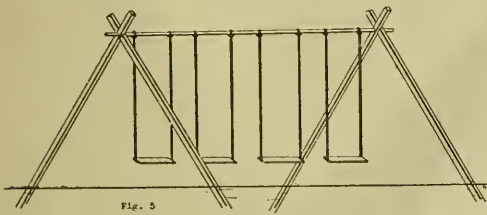
For individual teeter:

1 piece, 2"x8", 16 ft. long, 56 cents—to make upright piece 4 ft. long and teeter board 12 ft. long.

2 iron braces and 4 large screws, 25 cents.



A very attractive and desirable piece of apparatus may be made as follows: Secure a pole about ten or fifteen feet long. To the small end attach by the use of bolts one end of a wagon axle, spindle up. Upon the spindle place a wagon wheel, and to the wheel attach ropes, about as long as the pole. Place the big end of the pole in the ground, three or four feet, and brace it from the four points of the compass. The ropes will then hang down from the wheel in such a way that the children may take hold of them, swing, jump and run around the pole. The one described was rather inexpensive. A telephone company donated a discarded pole, a farmer a discarded wagon wheel and axle. The only expense was that of paying a blacksmith for attaching the wheel to the pole and the cost of the ropes. As I remember, the cost was about \$2.00. It furnished one of the most attractive pieces of apparatus on the play ground. A sketch of the apparatus is shown in Figure 4.



An inexpensive swing may be constructed by placing four 4x4's in the ground in a slanting position, two being opposite each other and meeting at the top in such a way as to form a fork. The pairs may be ten or twelve feet apart, and a pole or heavy galvanized pipe, to which swings may be attached, wired, nailed or bolted to the crotches formed by the pieces placed in the ground. The cost of this apparatus will be:

4 pieces, 4"x4", 14 ft. long, \$1.25.

1 piece galvanized pipe, 3", 12 ft. long, \$2.50.

A good four-ball set of croquet can be purchased for one dollar. Each school, however small, ought to have one or more sets. Boards of education could well afford to purchase one or more basket balls, and a few base balls and bats for the boys. These things more than pay for themselves in the added interest which boys and girls, who have them, take in their school work. For much of the apparatus suggested above the wide-awake board of education and teacher will see opportunities to use material less expensive than that suggested. And to such persons many pieces of apparatus not mentioned here, will suggest themselves to fit particular needs and opportunities.

HEATING AND VENTILATING OF SCHOOL BUILDINGS.

WAYNE B. PATTERSON, ARCHITECT, GREELEY, COLO.

It is not the intention to deal in an exhaustive treatise on this subject, but to give a comprehensive and brief statement of a subject, the importance of which is almost entirely overlooked in the planning and building of the smaller school houses.

The importance of an adequate system of heating and ventilation for school buildings can not be overemphasized; in fact, the legislatures in some states are recognizing this fact, and are enacting laws to compel school boards to provide some means of supplying fresh air to the pupils.

The laws of Pennsylvania require that school houses costing more than a stipulated amount, \$2,000, shall have in each class room at least 15 square feet of floor space and not less than 200 cubic feet of air space per pupil, and shall provide for an approved system of heating and ventilating, by means of which each class room shall be supplied with fresh air at the rate of not less than 30 cubic feet to each pupil, and warmed to maintain an average temperature of 70 degrees in the coldest weather.

The methods of heating and ventilating may be briefly stated as follows:

1. By stoves. Stoves should never be used, as they give absolutely no ventilation.

2. By furnaces. For buildings of six rooms or less furnaces can be used to good advantage, are cheap and give fairly good ventilation *if care is taken in proportioning the inlet and supply pipes, and also providing some means of exhausting the foul air.*

3. By direct steam or hot water. While this method is a dependable means of heating it does not give a supply of fresh air, and for that reason its use is *not* recommended.

4. By indirect steam or hot water or a combination of direct and indirect methods. In this system the cold air is passed over radiators into the room to be heated, and the foul air taken out by means of aspirating coils in the walls; this method or some variation of the same is recommended for buildings of from 6 to 12 rooms.

5. Blower or fan system. In larger buildings than those mentioned above a mechanical system should be provided. In this method the air is controlled by means of fans or blowers, and the foul air discharged into vent flues provided for this purpose.

There are probably as many as fifteen different systems of heating and ventilating in use at the present time, but it will be

found that they are all a variation in some form of the above noted systems.

In conclusion it is suggested that an expert should always be drawn into counsel—whether the contemplated school building be large or small—and that an adequate system of fresh air supply be provided.

HEATING AND VENTILATING OF SCHOOL BUILDINGS.

The heating and ventilating of schools are so closely related that it is impossible to really separate one from the other, and no system of heating should be considered for a school house that does not contemplate some sort of ventilation.

There are practically only two systems of heating for school buildings. The use of stoves should not be considered at all, even in the smaller school houses, as no ventilation can be obtained with stoves, the heat being unequally distributed. And it is a crime to shut children up in a school room heated by stoves, with no ventilation, having the children breathe over and over again the same air.

Hot water should not be used in the ordinary school, as it is necessary with this system of heating to keep up the fire continuously in order to prevent the pipes from freezing when the school is not in session.

There remain, therefore, two systems of heating, that of hot-air furnaces, or by steam. Of these two systems steam is by far the best. Good results may be obtained from furnaces when there is no wind blowing and when every condition is favorable. It is hard to carry the heat from a furnace against the wind, as the heat will follow the lines of the least resistance, making one side of the building warm and the exposed side cold. Furnace heating is not advisable in more than three, or, at the most, four rooms. The use of steam for heating is the best; though the cost of installation is more than that of the furnace, the cost of running it is less, and it has this advantage: the heat can be placed where it is wanted, and a steam plant properly installed will last as long as the building.

Steam for heating can be used in one of three ways: By direct radiation, where the radiators are placed in the rooms. This system, unless provided with ventilation, is not any better than stoves.

The direct—indirect system—in which the air is brought through an opening in the wall and up through the radiator.

The third system of heating by steam is the indirect, where the heating coils are placed in the basement, connected up with ample fresh air ducts, and the air warmed by passing through the coils is carried up separately to the school rooms. In this system each individual room has its own separate heating coil and is not connected with any other room, thus insuring each room its own required amount of warm air. The warm air should be brought into the school room eight feet above the floor.

This system of indirect heating, there being no radiators placed in the school rooms, used in connection with a gravity method of ventilation, is the best for school buildings of ten rooms or less, where the janitor is not a skilled engineer, as in this arrangement there is no machinery to look after; it runs itself.

The openings into vent shafts should be at the floor level. All vents should be large enough to change the air in the room without creating a draft. Thirty cubic feet of air per minute for each pupil is the accepted standard of air supply. This means a large volume of warm air coming in and the same amount going out every hour. The vent shafts should run straight up through the building, without any crooks or angles, and carried well up above the roof. The vents must be heated, in order to create an upward draft, either by the use of coils of pipe of ample size or by placing them next to the warm air flue, with metal partition between. The vent stacks should be built of brick or metal, and should be provided with dampers, to open and close. Dampers should be closed after school hours and opened an hour before school begins in the morning. The warm air flues should have dampers that admit either warm air through the steam coils or cold air from the fresh air ducts. The dampers to be so installed that the air supply can not be shut off; that there will be either warm air or cold air entering the rooms during the sessions of the school.

The main air supplies are provided with windows, to open and close.

Great progress has been made in our state in the last few years in the matter of school building, but there is room for a greater improvement in our smaller buildings in the matter of ventilation, and every school built should contain a system of heating and ventilating, even if it does add to the first cost of the building.

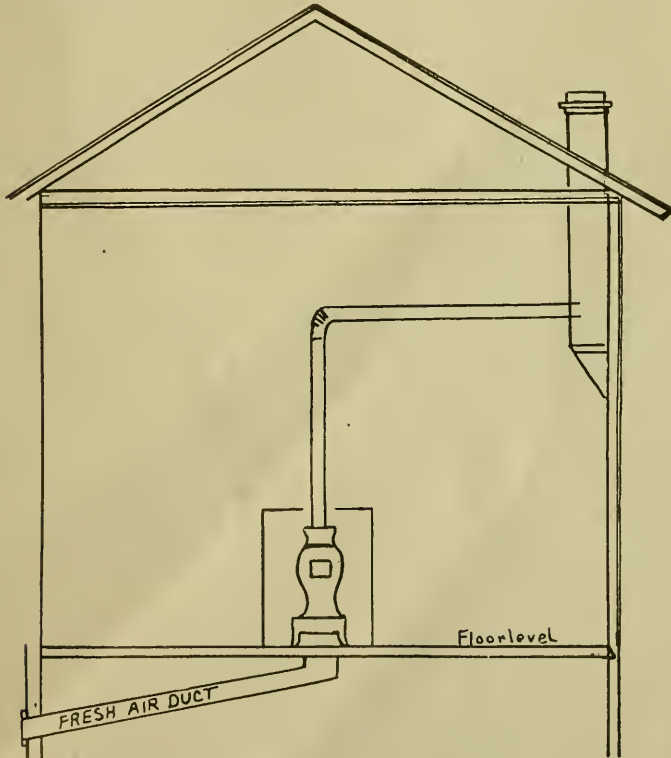
THOS. P. BARBER,
Architect.

Colorado Springs, Colo.

HEATING AND VENTILATING.

It is not the purpose of this pamphlet to give a treatise on the subject of heating and ventilating school rooms and buildings, but to give a few suggestions to school teachers and officers which may aid them when they have to deal with these important matters.

Most village and country schools are heated by means of stoves. In most of such cases there is no provision for admitting fresh air into the room, except by doors and windows. In figure 7 is shown a simple and inexpensive device which may be installed in any one, two, or even eight, room school building where stoves are used.



When such an arrangement is provided, air comes in from the outside, is heated as it passes around the stove, and is then sent into the room in better condition for the children to breathe than if admitted directly through doors or windows, especially on cold days. The cold, or fresh air, duct should have in it a damper or other means of regulating the amount of air ad-

mitted. The duct may be made of wood or tin. Means for cleaning the air duct should be provided.

An ordinary hot air furnace is probably the best means that can be devised for heating a small school building. It performs the function of heating and ventilating at the same time; it is not expensive to install it; it does not require an expert to run it, and while it may cost more in the way of fuel, the system has advantages which probably justify this additional cost.

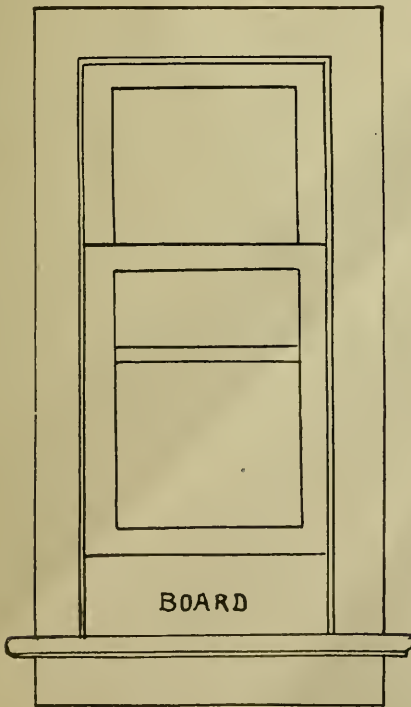
Small buildings may be heated by steam. This method of heating has some advantage over the hot-air furnace plan. Heat can be sent to every part of the building regardless of outside weather conditions; and the fuel cost is less. It has, however, some drawbacks which should be considered. It costs more to install than the hot-air system; it is not a ventilator and heating system combined, and it requires an expert to run it, otherwise it is dangerous. For large buildings steam heat is the only practicable system for heating and most people who have given the matter attention agree that the so-called fan system is the only successful system of ventilation for large school buildings. There are, however, differences of opinion relative to the merits of the fan system of ventilation, but since it is not a practicable system for any but very large buildings, its merits and demerits need not be discussed here.

While windows and doors should not be depended upon too much for ventilating purposes, they, nevertheless, afford the means of ventilation for the great majority of school rooms and buildings. While we may regret that such is the case, we must keep the fact clearly before us that we, as teachers and the children as pupils, *must* have fresh air in order that the best results from school-room efforts may be obtained. How to get this air in a way that will prevent colds is a never ending tax on the teacher's time and energy, because the scheme which worked yesterday is, owing to changed weather conditions outside, of no use to-day; as a consequence, we should seek some kind of a scheme that will, as far as conditions will permit, be self-regulating in its operation. The scheme suggested above, where stoves are being used, has been found very satisfactory, inexpensive and easily installed in buildings already erected. A good many buildings originally heated by stoves have been equipped with a hot air furnace, which has proved satisfactory, though somewhat more expensive than to make a fresh air duct which leads into the room under the stove.

Ventilation by means of windows must have constant attention. Transoms placed above the windows, which cause the air to take an upward direction as it enters the room, is the most

desirable form of window ventilation. The objection to transoms is that they obstruct the best light which enters the room—that from the top of the windows. The next best form of window ventilation is to lower the window from the top. The most dangerous of window ventilation is to raise the window from the bottom; this allows the cold air to strike the pupils directly, and is almost sure to result in colds, sore throats, etc. Never, except on *very* warm days, should windows be opened from the bottom while the children are sitting at their desks. They should, however, unless the weather is too severe outside, be so opened when the children are taking physical exercises in the room, and during the recess period when the children should be out of the room. To keep a child in during the recess period for punishment, which usually necessitates keeping the doors and windows closed, is to punish, not only the offender, but all the rest of the school, including the teacher, by not giving the room the airing it needs during that period.

Perhaps attention should be called to a plan of window ventilation used by many successful teachers when the day is very cold. A board is made to fit the window in such a way that



when the window is raised from the bottom the board is placed in it and the lower sash pulled down until it rests firmly on the board, holding it firmly in place. This leaves an opening between the upper and lower sash, the lower sash causing the air to take an upward direction as it enters the room.

One is often ignorant of the condition of the air in the room, but many schemes have been suggested for the detection of vitiated air. None of them is simple enough to be of use to the busy teacher. When proper hygiene lessons are being given, the teacher can get the children to aid her in her efforts to keep the air in the room entirely pure. When children leave the room, and

on their return, they detect the odor of vitiated air, they should feel at liberty to inform the teacher quietly as a matter of mu-

tual protection. Any one will know that when a room of children is closed for any appreciable time the air will become impure very quickly. Watching out for the ventilation of the school room is one of those things the teacher must reduce to the spinal cord, to the reflex centers. It is so easy to become absorbed in the routine of the school room, or in the enthusiasm of the recitation, that even experienced teachers forget, and allow their rooms to become foul with breathed and re-breathed air.

One caution—children should be taught, through the hygiene work, to aid the teacher in keeping the air as pure as possible in the room; but they should not be allowed to raise or lower windows, except on request. To avoid misunderstanding between teacher and pupils, and between pupils themselves, it is usually best for the teacher to do this work herself.

Every room should be provided with a thermometer. A school room should be kept as near 70 degrees Fahrenheit as possible.

LIGHTING.

A great many observations and experiments have been made relative to the lighting of school rooms. These experiments and observations have fully demonstrated:

(1) That for every six square feet of floor space there must be at least one square foot of window glass.

(2) That a room is best lighted when the light enters it from the left and rear. It is next best lighted when the light enters it from the right and rear.

(3) That the best light enters the room from the top of the window. For this reason the tops of windows should never be oval in form and should be not more than six inches from the ceiling. For the same reason window shades should not be allowed to obstruct the light from the top of the window.

(4) That objects which cast shadows in the room, causing what is known as "cross lights," should be avoided. These may be caused by posts placed within the room as supports for the ceiling, by window mullions, and by the child's own body. Too much care can not be taken by the architect and builder in this matter. It is believed that these "cross lights" produce the most serious eye strain.

(5) That no child should sit facing a window.

(6) That many of the headaches and much of the nervousness, too common among our school children, is due to eye strain.

- (7) That the greatest injury to eye sight comes from:
- (a) Looking at a book or surface, a part of which is not so well lighted as the rest, i. e., upon which "cross lights" are falling.
 - (b) By trying to read in a dim light.
 - (c) By reading in a light that is very bright.
- (8) That light colored shades, which when down will shut out direct rays of the sun, but which will allow sufficient light to pass into the room, are best for the school room.
- (9) That attention to the color of the ceiling and walls is of consequence in the lighting of any school room. Tints of blue, green or brown are recommended.

Since modern life demands such a constant use of the eyes, it is of much consequence to the present and future happiness of our boys and girls whether we give or do not give proper attention to the lighting of buildings in which they are compelled to work.

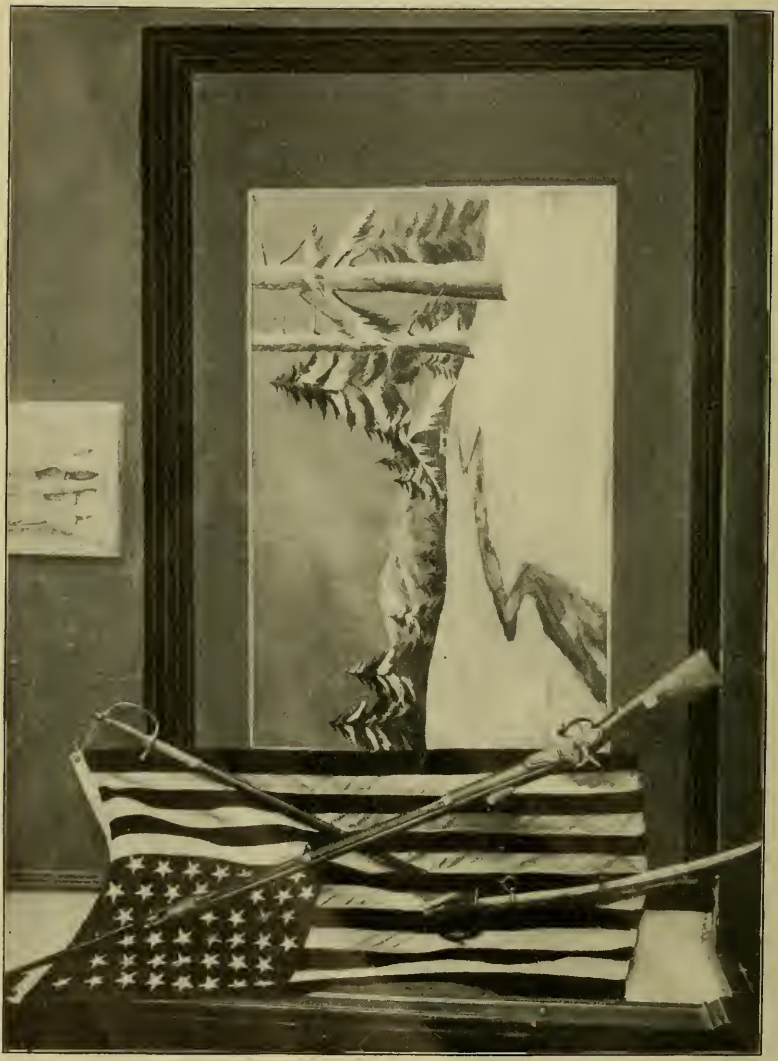
SCHOOL ROOM DECORATION.

The first thing we need for proper school room decoration is a clean and properly tinted wall, and, to preserve this, well-fitted fly screens on the windows and doors. To teach the child to properly open, enter and close a screen door is a lesson in ethics.

Cleanliness must always come first; it is the most important key note to refinement of any kind; it is the basis of order; it makes for constructive preservation, and is the very thing to shame the vandal.

Do not have too many pictures, at any time, no matter what their quality. Consider the experience of the average mortal who visits the picture gallery or museum. The eye needs change and rest and diversity. The interest of the child, of the grade age, can not be too long held, and pictures that hang on a wall, day in and day out, lose interest to them. It is poor art psychology to let one picture hang all year upon a wall—let us say upon one spot. The Japanese understand this better. They take out one picture at a time, hang or place it for a certain location or association, enjoy it, and then return it to its receptacle or closet.

In selecting the kind of picture to be provided the first dictate is to follow considerations of environment, for instance: For the country school near to a large manufacturing city, such as Pueblo, Colorado. I would recommend such a picture as Menzel's "Ironmoulder," because the children will be drawn to these industries, and there is an ethical value in the ennobling of labor, as pictured in the heroic figures of Menzel. If the school is



in a country surrounded entirely by agricultural districts, I believe in reproductions, as good as obtainable, by Rosa Bonheur, Dupre, Troyan, Millet, and any masters, old or modern, who deal in nature or country life. These effects and relations the alert teacher will grasp and adjust.

We can not have too high a standard, but we have too high a standard in art for our children. We should consider art in school room decoration from the standpoint of the children, and not arrange, select and hang decorative subjects according to our own judgment, losing sight of the children's attitude.

The a priori considerations should be: first, what does the child want; second, what is good for the child in sequence; third, how can we promote growth and appreciation. The child always likes to see the teacher do something—read, recite, draw pictures—and this will always inspire, no matter if not done in the most perfect manner to begin with. Teacher and child will get what is good for them; they will draw and grow together; the child is inspired to imitate by what the teacher does. All teachers can make themselves competent to do something in this line if they only will.

Sketches made by the teacher (for instance, one or two simple landscapes on paper with charcoal) may be used for decoration to begin with. Have a changeable frame made, into which you can place these sketches for a few days, never longer than a week. Place the frame on a narrow shelf, in a good light, on a level with your eyes; the shelf long enough and wide enough to place beside your framed picture a piece of pottery or a bunch of flowers in tune with your picture. Do not go out and gather any and every flower within reach. Get flowers, if possible, which are in harmony with the day's picture, for example: get blue flowers to-day, if they harmonize with your sketch; gather yellow flowers to-morrow; the yellow might do with some kind of sunset, the pink with the sunrise picture, the blue with the mid-day picture, having lots of blue sky or water. If a fall scene has been drawn, or some kind of a sunset, select an appropriate bunch of fall foliage in season. A small bunch of pine, cedar or spruce, with a cone or two, will make a fine accompaniment to a picture of a few pine trees done in charcoal or colored crayons.

May I remind you that anticipation and recollection excel realization. Let your children anticipate what shall be the next scheme in decoration, and let them speak in recollection of this or that beautiful effect produced by them and you. The world is so full of beauty, the range of selection so far and wide, that the intelligent mind need never be at a loss for selection or diversity. Even beautiful stones, gathered on the shelf for a few days, serve as a lesson in beauty and color.

Almost every family has some little treasure—perhaps a sword, or a flag, or a gun with a history, a rug of interest. These may frequently be borrowed for an educational decoration in your school room for a short time.

Everything of form and color has interest for children, and gradually they will grow, through these efforts, to learn to appreciate the Parthenon, Apollo and the master painters.

THE TEACHERS' RELATION TO THE COMMUNITY.

An important duty of the school is to adjust the children to their environment, and an important phase of the teacher's work is her relation to the community. This relation is especially significant in rural and village schools, where community interests are narrower, and there is less opportunity for wholesome and cultivated amusements in the social life. The teacher should, by all means, be in the closest possible touch with the community and its homes. Without co-operation of the home and school, of the parents and teachers, success in any school becomes very difficult; with it, the teacher's accomplishments are much greater and her work less. If possible, the teacher should spend some time in the community before school begins, getting acquainted with the homes and the children. She should, by all means, live in the community and take an active interest in its affairs—not merely *stay* there. Make an effort to have the school a real center of the community interests for all educational purposes, both for young and old. A school house is public property, and there is no good reason why it should be closed for everything but the regularly accepted school uses, when the needs of the district demand that it be kept open, under proper regulations, for general educational purposes.

Nearly all the studies in the curriculum, particularly geography, nature study and English, can be taught best with reference to and in consideration of the environment of the school. In the decoration of the room, this consideration is especially valuable, and helps much to make the people feel the interest of the teacher and the school in the community and its work.

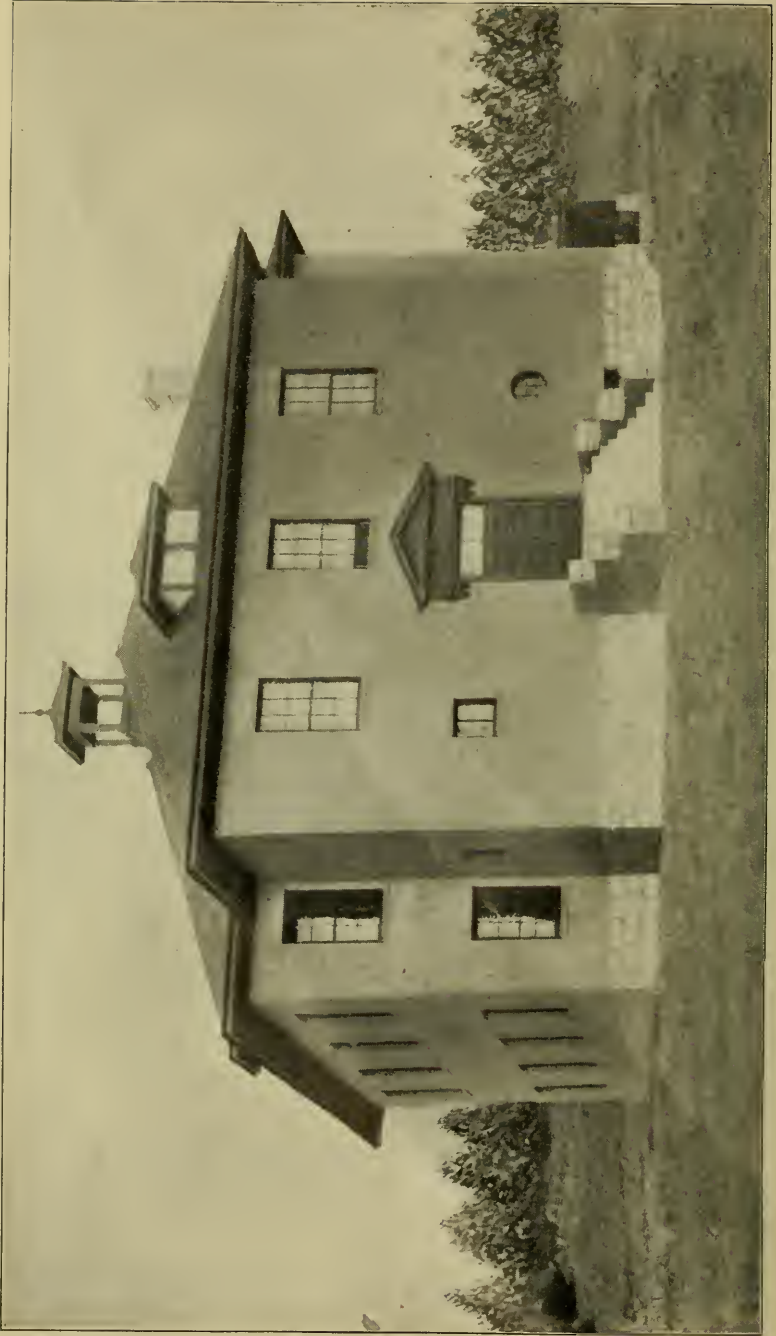
"A serious criticism of American teachers is that they acquire the teacher's attitude out of school toward the pupils and the work." It is to obviate this difficulty, and to bring closer together the citizen and his school, that mothers' clubs, parents' associations, etc., have been, and are being, formed and successfully conducted. The country or village teacher should not feel that her opportunities in this direction are, in any sense, less than those of the city teacher. The possibilities, outside of mere

numbers, in mothers' clubs, school entertainments, reading circles, library improvements, etc., are very much greater in the country than in the city, because of the fact that the people have fewer diverting interests and fewer amusements of the best class.

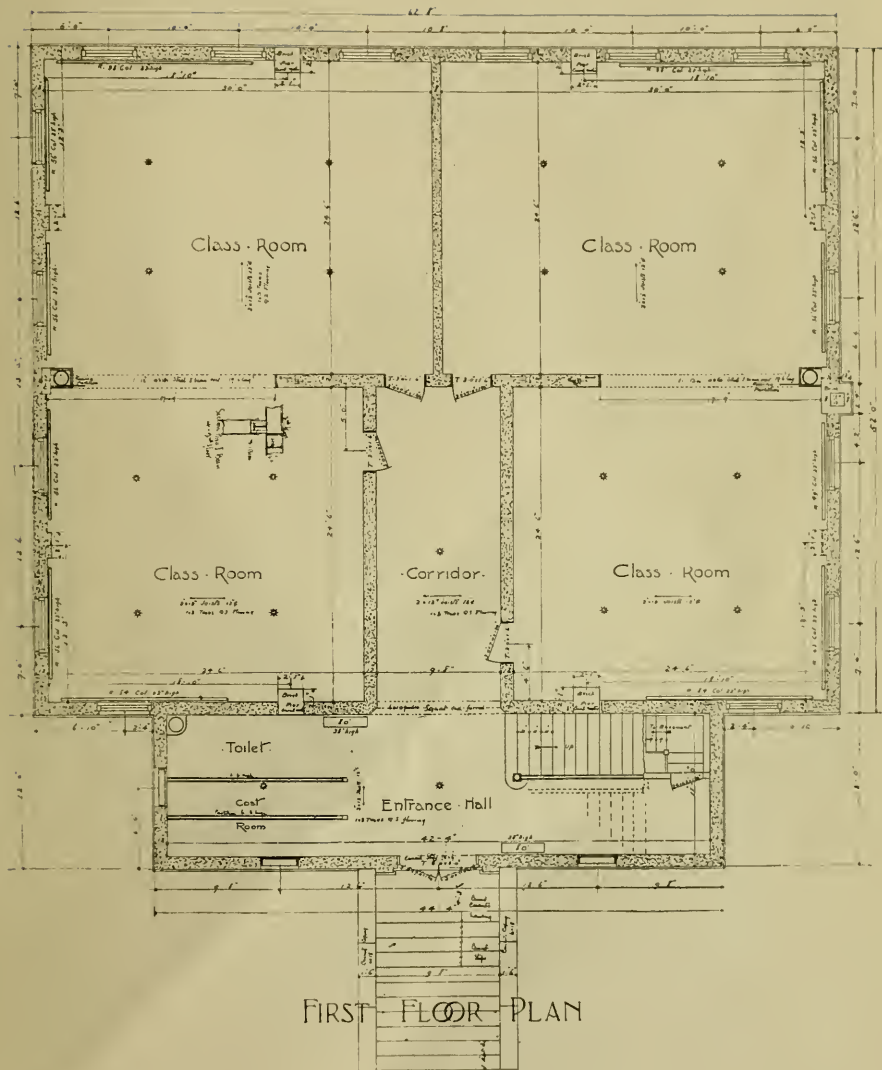
The last report from Winnebago county, Illinois, describes a patrons' league, in one of the rural districts, in which parents and patrons bind themselves together for the purpose of co-operating with the teacher for the physical and intellectual welfare of the children of the district, and each member agrees to spend at least one hour each term in beautifying the school house and grounds.

It should be remembered that we have changed rapidly from a nation of farmers to a nation of dwellers in cities, and modern improved conditions, both of living and of making a living, have deprived our boys and girls of many of the advantages and opportunities of home work, with the corresponding discipline and responsibility which that life afforded. The school should recognize its responsibility, and should compensate, in as great a measure as possible, for what modern conditions lack.

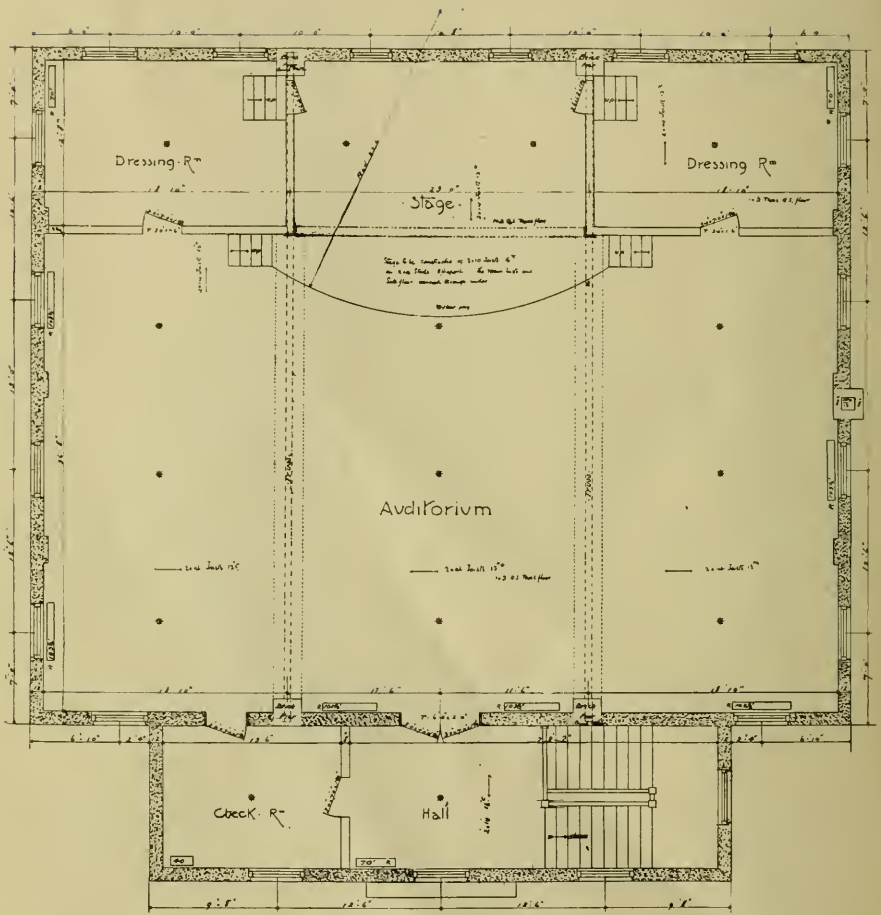
If school buildings were less unsightly—made beautiful and happy places, with play grounds, gymnasiums, libraries, proper play things and proper work things—it would be less difficult to keep children there and to make them love school. The teachers can do much toward fostering the sympathetic co-operation which is necessary to secure a highly developed and successful school system, and to create a *demand* for the best in educational equipment, as well as the *sentiment* which furnishes the material to supply it, and to make the community and the homes feel that individual responsibility without which our children can never be really educated.



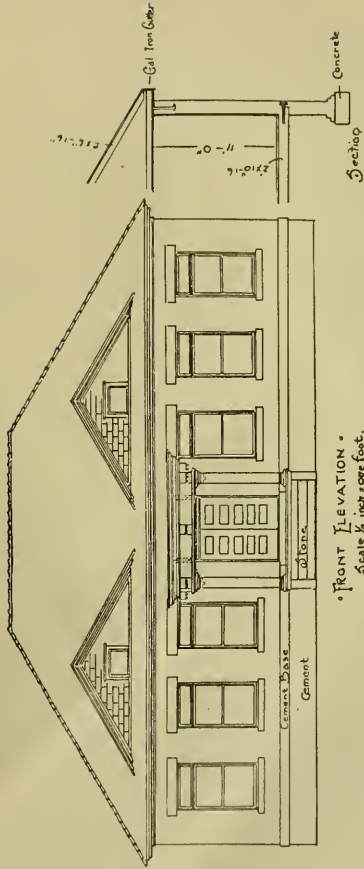
COKEDALE SCHOOL, NEAR TRINIDAD, COLO.



FIRST FLOOR PLAN

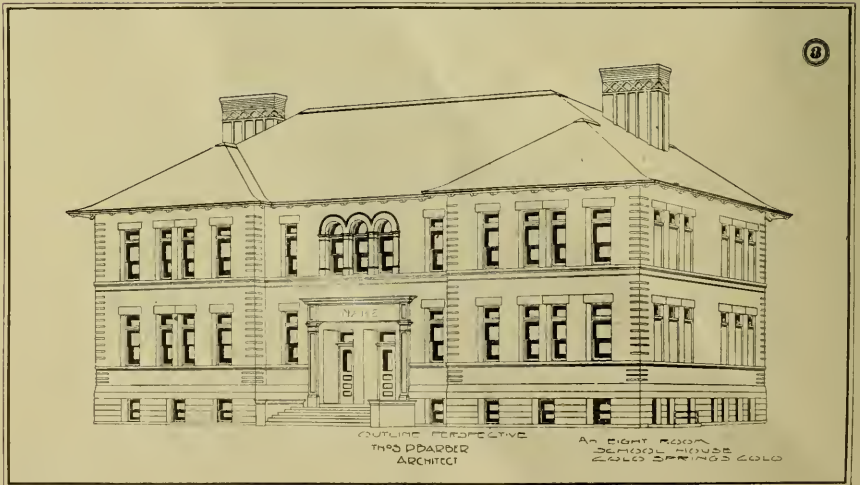
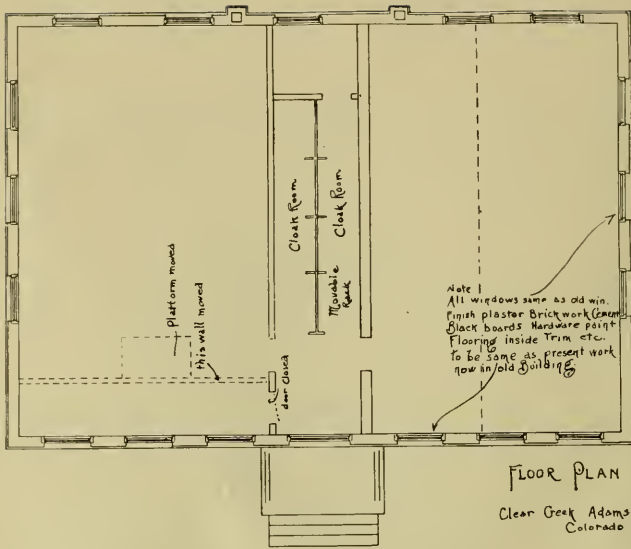


SECOND FLOOR PLAN



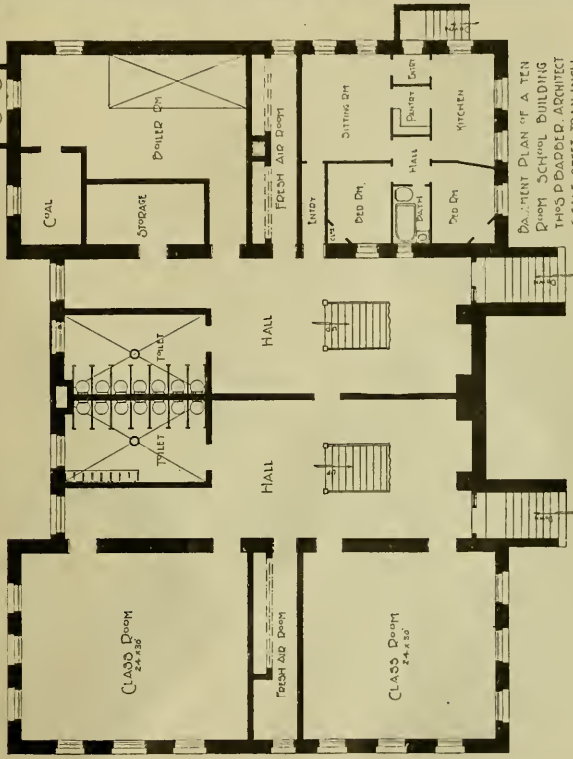
• FRONT ELEVATION •
 Scale $\frac{1}{4}$ inch = one foot.

TWO-ROOM SCHOOL HOUSE IN ADAMS COUNTY, COLO.

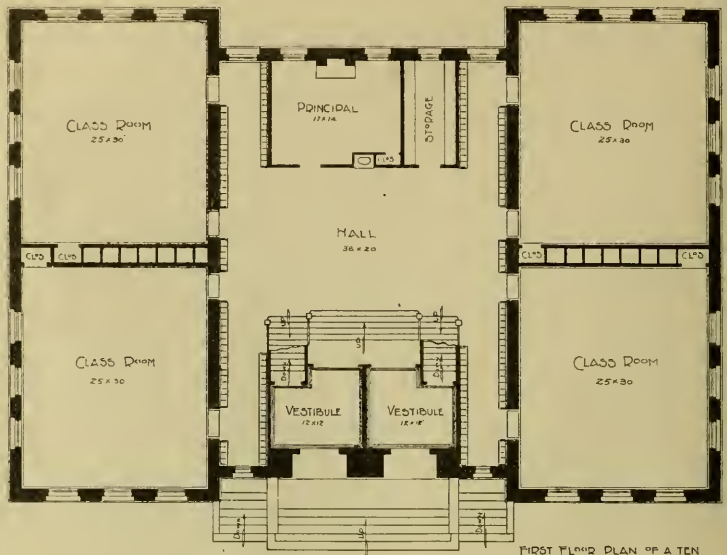


MODEL TEN-ROOM SCHOOL HOUSE.

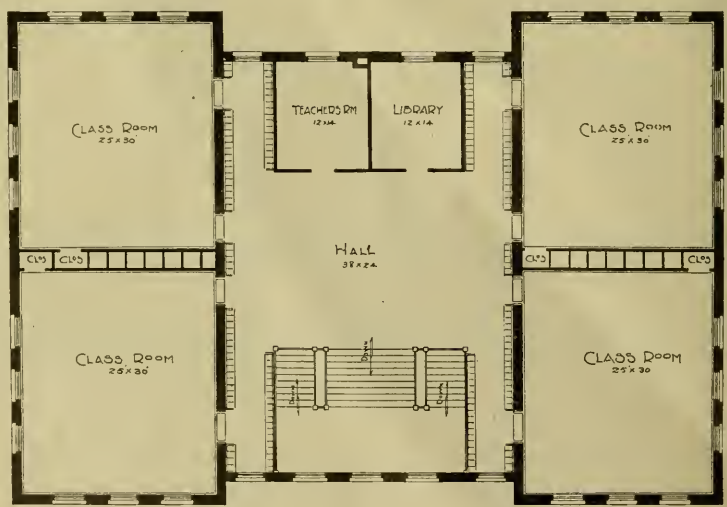
3



PLAN OF A TENEMENT BUILDING
DESIGNED BY THE ARCHITECT
THEO. P. DADD, ARCHITECT
SCALE: 1/8" = 1'-0"



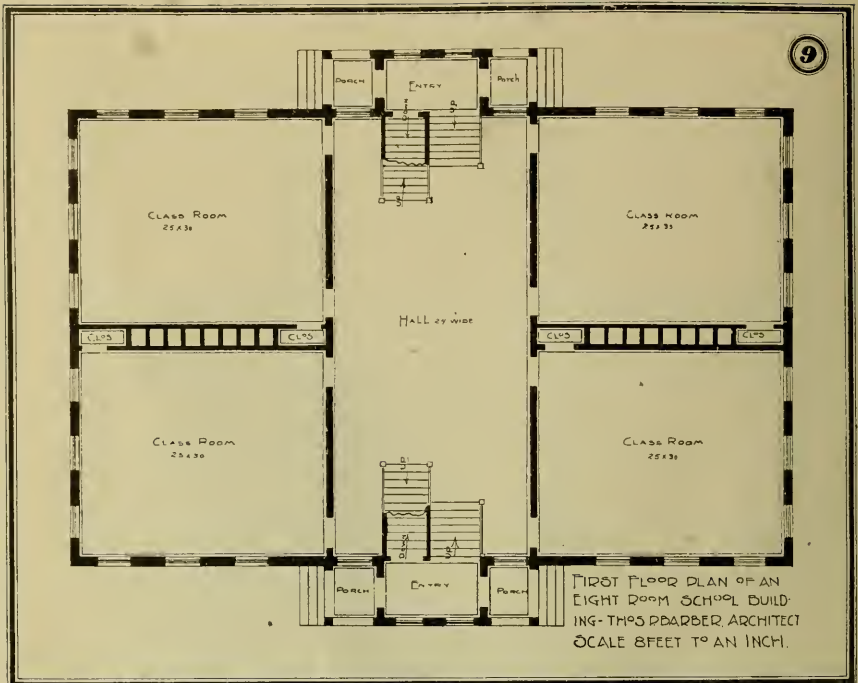
FIRST FLOOR PLAN OF A TEN ROOM SCHOOL BUILDING THOS PARDNER ARCHITECT SCALE 8 FEET TO AN INCH.



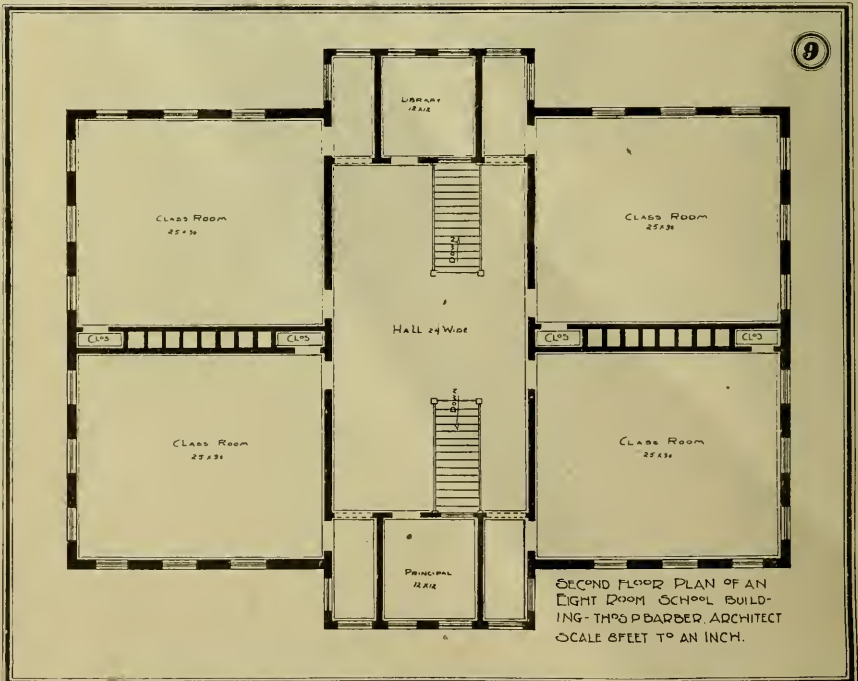
SECOND FLOOR PLAN OF A TEN ROOM SCHOOL BUILDING THOS PARDNER ARCHITECT CORRAD ODDINGS COLO- SCALE 8 FT TO AN INCH



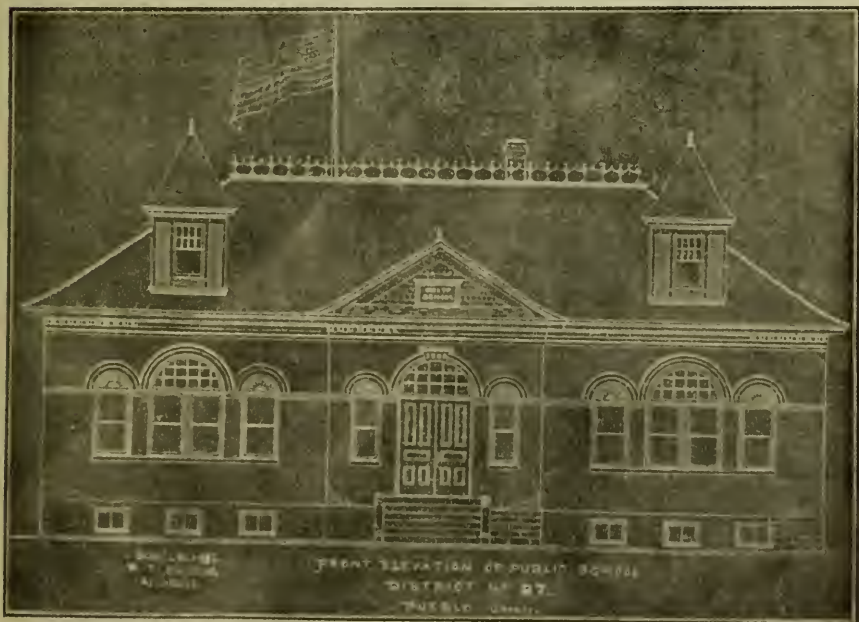
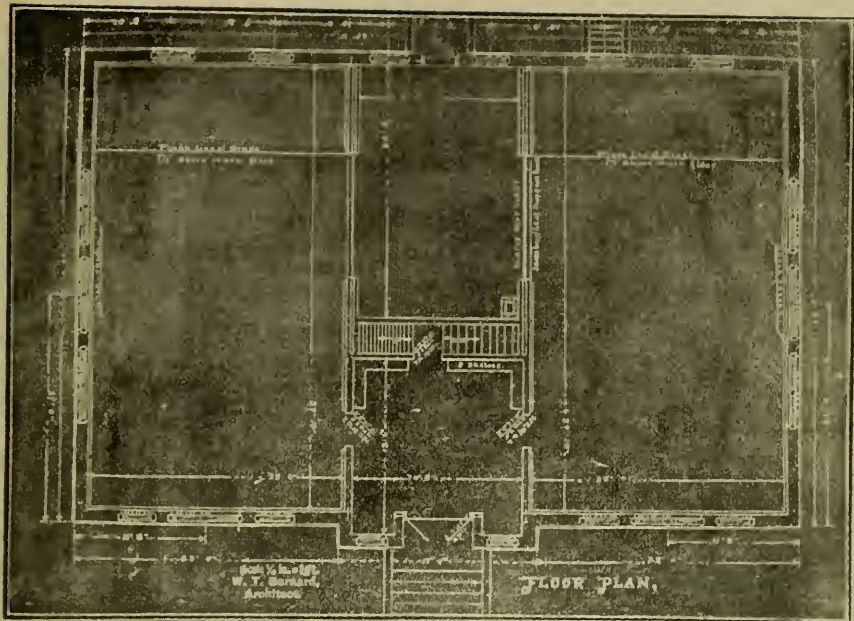
FOUR-ROOM SCHOOL HOUSE, ADAMS COUNTY, COLO.



FLOOR PLAN OF BUILDING ON PRECEDING PAGE, IN DISTRICT NO. 14.



SECOND FLOOR SAME, IF USED, IN TWO-STORY BUILDING.



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