

Recent study and development of steel scaffolding has made it possible for all industrial plants to avail themselves of superior maintenance equipment. Steel scaffolding is better than the old type wood scaffold for several reasons:

- (1) Elimination of fire hazard.
- (2) Safer construction.
- (3) More economical in maintenance.
- (4) Greater flexibility.

With wood scaffolding there is the ever present hazard of fire. Although the fire hazard is not entirely eliminated in the steel stage—because wood planks must be used for the working platform—yet it is possible to obtain fireproof planks and thus erect a scaffold which entirely eliminates the fire hazard.

In the steel scaffold one need have no fear of snapping a member. There are no imperfections in steel comparable to the knots and cross grain in lumber. These hazards are eliminated.

We are all interested in keeping down costs. One element in operating economically is equipment that will stand up under service and will require little maintenance. Steel scaffolding is so durable that it is almost indestructible and can be used for many years without replacements, particularly when the components are galvanized. Lumber breaks up and cracks and is easily destroyed, requiring frequent replacements.

Steel scaffolding is more flexible than wood. It can be used in places and under conditions and in a manner to which wood would not adapt itself. Because it is less bulky than wood, steel scaffolding takes up less room when erected, is less unsightly and gives a greater feeling of security. Steel components are uniform in size and thus require a minimum of storage space.

Steel scaffolding is of the tubular type, consisting of a base plate, tubular members of various lengths with interlocking fittings at either end of the tubes and a coupler which connects the tubular members. There is nothing intricate about it.

Discussion following the address was based on these points:

1. Should ladders ever be painted?
- No. Paint would hide any defects that might be present or develop. If it is

The regular maintenance crew about the plant can very readily erect it. Steel scaffolding can be used and adapted to meet the most unusual conditions and because of the smaller size of its components as compared to wood, obstruction of light is reduced to a minimum.

Probably every industrial plant has had at some time a block and fall swinging scaffold. Some may still employ this in their maintenance work, whereas others have discarded it for the more up to date and safer piece of equipment known as a cable type safety swinging scaffold.

This may be a recent development to some. A machine and wire rope take the place of the block and fall. It does away with the hazard of acid-eaten and dry-rot ropes, which have been the cause of so many fatal accidents. Both the block and fall and the cable swinging scaffolds are sometimes referred to as single point suspension scaffolds.

The latest and newest development in suspended swinging scaffolds is the two-point suspension scaffold. In referring to these scaffolds, as "single" and "two-point," I am considering suspension at one end of the swinging scaffold only, there being in reality two and four points of suspension respectively in each scaffold.

This two-point suspension scaffold was designed to give a more stable scaffold and to permit more freedom for workmen and less obstruction. It consists of two drums with channel and angle iron connections which support the platform. To each of these drums is attached a cable, one leading to a point directly above and the other passing down and around the under side of the platform and then upward to a point directly above the inside edge of the platform. The machine is operated by a single ratchet mechanism to which are attached two driving pawls. Locking pawls are provided to hold the scaffold in the required position. This type scaffold requires as part of its installation an outrigger to which the cables are attached.

necessary to protect ladders from the weather, they may be treated with linseed oil and given a coat of white shellac.

2. What should be done with ladders in need of repair?

They should never be patched haphazardly and turned back into service. Ladders needing repair should be tagged and turned over to the foreman, who should determine whether they can be repaired. If he decides that repair is possible, he should turn the ladder over to the maintenance department.

3. What should be the angle of a ladder leaning against the wall?

In general practice the ladder should stand one-quarter of its own length away from the wall.

4. Is it possible to use steel scaffolding for temporary work?

Yes. This type of scaffolding is easily

erected and can be placed on rollers and easily moved about.

5. In purchasing a ladder how can it be determined whether the tenons project far enough into the side rails to give a firm footing?

There is no type of inspection that will determine this. The only way one can be sure the tenons are firmly imbedded is to purchase a quality ladder.

6. Is the airplane cable or the solid steel bar the best form of re-enforcement in a ladder?

The solid steel bar. It gives the firmest and most dependable support. Cable re-enforcement is now practically obsolete.

Unusual Developments in Leg Protection

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In times of serious illness one always obtains the services of the best doctor available, buys the best medicine procurable, from a reliable source. Is there any reason why protective apparel should be regarded differently? Is not the preventive as important as the cure?

Part of the time almost any kind of protective apparel is good enough, but when the emergency arises, when real protection is needed, then is the time your men should be provided with the best protection obtainable. If protective apparel does not protect against the extreme hazard, it is absolutely worthless. Your men may complain that certain apparel is a bit cumbersome, a bit uncomfortable, but an accident is a thousand times more uncomfortable, and usually results in loss of time plus untold suffering. To be safe it must be sturdily made, though it may not be 100 per cent comfortable; but complete working comfort without maximum protection is a compromise that does not make for safety.

There is now available standard leg protection that will safely meet every normal hazard in industry, and furthermore, it is possible to have made special products for specific hazards of almost any nature.

Possibly because of the fact that the

greatest number of them have been used in recent years, the most unusual and varied development in leg protection has been centered on what are commonly called "foundry leggings."

The first leggings I know anything about consisted of bag-like tubes that hung from the waist or from the knee and were made from anything that wouldn't explode upon coming in contact with molten metal. Early it was discovered that chrome leather was a good heat resister and gradually asbestos cloth was woven into a more useable, pliable fabric, with fire-proofed duck used in some instances. These three materials are still chiefly used, with chrome leather leading.

With more or less stabilization of basic materials, improvement in design came in for prompt attention. Leggings with snap buttons and straps were put on the market, and arctic buckles were also used as a means of fastening. The knee length legging rapidly became the most popular style. It is a prime requisite that such a legging shall be so constructed that it will afford protection from the knee down to, and including, the foot. Its design should be comfortable, but comfort should not be sacrificed for safety. It should be fully and quickly adjustable and instantly removable.