Despite their demonstrated ability to improve quality and production, the expanded use of automatic tools faces many obstacles

In 1973 . . . a banner year . . . U.S. manufacturers shipped some fifteen billion square feet of gypsum wallboard. That amounts to about 535 square miles of surface which was then hauled, handled and applied. Most of it was taped, finished and decorated.

The miles and miles of paper tape and the long trainloads of joint and finish compounds used in this work can be calculated in different ways. However it is estimated, the resulting numbers boggle the mind.

Almost certainly, the members of the international association of Wall & Ceiling Contractors/Gypsum Drywall Contractors International did most of this work, as part of their overall operations.

Such construction and materials are used increasingly in most of the developed nations, but probably more than 90% of all the gypsum wallboard in the world is made and used in the United States.

One of the most time-consuming parts of this wallboard process—and the most difficult to control—has been the taping and finishing phase. This is the point where finished appearance first becomes an essential consideration in the daily result turned in by each workman. Some raw muscle-power plus a certain level of developed skill is necessary, and this may be difficult to achieve where, when, and as needed.

Uniformity of finished result must be produced, despite the varying skill and motivation of thousands of workmen.

Any way it is done, finishing is work for willing, husky young men. At first, it was done with existing tools from other trades, but men skilled with a trowel tended to overwork the joint compounds. The broadest “hand-blade” generally available was a four-inch putty knife. It was slow and inexact. Finished appearance varied markedly, even within a single room.

In time, special tools were made up such as the mudpan, the six-inch “broad-knife” and others. Finished appearance slowly improved and the work went somewhat more smoothly, but further advancement obviously was in order.

In California, the brothers Robert and Stanley Ames, painting contractors, had been studying this problem for years. Shortly after World War II, they introduced the first truly automatic taping tools. The tools were revolutionary, but except in the immediate geographic area, their impact was practically unrecognized in the industry for quite a while.

Not ‘Machines’

The tools are sometimes mistakenly called “machines”, which they definitely are not. Motive power is still the workman’s muscles. Nor does he necessarily move any faster or more evenly than before. The significance lies in the equipment which, like a lawn seeder, precisely meters the rate of flow of the compound and tape with the speed at which the workman moves, and almost regardless of anything else he does.

Further, the tools also control the disposition of the material over the joint, laying it out in exactly the right width and with the proper “crown” down the middle.
In addition, various length handles on the tools make it possible for the vast majority of work to be done from the floor, reaching up to ceilings as much as ten feet high. It is no longer necessary for skilled workmen, drawing premium rates of pay, to spend time struggling with boxes and planks or scaffold or other staging. They need work no harder or faster, but where paid by piecework rates, they generally earn more money. For the contractor, the job goes more evenly and faster.

It is difficult to define and measure the benefits, but consider the following example. Imagine ten men, thoroughly trained and experienced in taping and finishing by hand, lined up facing a wall which is ready to receive such treatment. Each man has a mudpan and his own broadknife or trowel, and tapes and fills the joint in front of him. When finished, every one of these joints should be completely acceptable, but no two of them will be exactly alike in width, feather and crown, and probably no uniform finish will "hide" each of them exactly alike.

Now, before an identical wall, line up ten men who have never done any taping or finishing work. Hand the first one an automatic finishing box, properly adjusted and filled. Tell him to do the joint before him and pass the tool along to the other men in turn.

It may take a while, and much of the compound may end up on the floor, but when the duffers have finished, each of the joints should be done perfectly, and more importantly, alike in every physical way. Whatever decorative finish is then applied will cover each one of them in the same way and degree.

If the duffers continue to use the automatic tools, they will soon develop "feel" and will be turning out professional quality work of more dependable uniformity than the experienced, hand-skill group.

**Great Advantage**

This can be a tremendous advantage, both for the workmen and for their employers. As just one example, if the automatic tool is correctly set, the duffer's work will have practically no excess material, and very little finish-sanding will be necessary. The joints by the first group, done by hand, necessarily will vary and this variance . . . however slight . . . represents excess material which must be removed by sanding, with resulting higher dust levels in the air.

Who cares if there is a little more airborne dust on a construction job? A horde of Federal inspectors administering the Occupational Safety & Health Act, that's who. They care very much and are prepared to express their concern very forcibly indeed.

Such concern was given fresh impetus recently when a group at Mt. Sinai Hospital examined 59 professional tapers in New York and found consistently high asbestos fiber counts in their lungs. One long-time veteran of the group showed recognizable signs of lung fibrosis.

This led to field studies by other groups in various parts of the country. Job results analyzed in Florida with very low "dusting" levels and fiber counts were attributed to the use of automatic taping tools and the minimal sanding necessary—rather than the hand application (Continued on Page 23)
TAPING TOOLS

(Continued from Page 21)

which is universally prevalent in
New York and some other places.

Many confirming tests have been
made; more in New York as a kind
of baseline, plus additional ones in
Texas, Michigan and Minnesota.
Other factors enter into it; of
course, but one consistent thread
that seems to run through the re-
ports so far is that prohibitively
high dust levels are usually on,
hand-applied jobs, and that low
permissable levels generally are on
jobs done with automatic taping
tools.

In this and in many other ways,
the use of automatic taping tools
makes such good sense that they
are now used by many thousands of
contractors, and the benefits are
known in most markets around the
world where wallboard is used in
sufficient quantity.

The tools are sturdy and rela-
tively simple; they rent for just
ten pennies per day, and they make
much more efficient use of semi-
skilled labor. In markets where
labor is the major item of construc-
tion cost (just about every de-
volved nation) they are time-
savers and money-makers for the
workmen as well as the builders
and investors.

Tools Not Used

In the largest single construction
market in the world—metropolitan
New York City—automatic taping
tools are not used. In other large
parts of the U.S., such tools are
rarely found, and many square
miles of wallboard are still taped
and finished laboriously, foot-by-
foot with only the most elementary
tools. Skilled workmen still drag
around boxes and planks, wrestle
staging into place, and climb up and
down ladders much of their work-
ing day.

Some of the reasons are under-
standable at least, and not without
a certain virtue. Other reasons,
from one point of view or another,
are somewhat less than virtuous.

Even in such a relatively new in-
dustry, there is in some quarters an

(Continued on Page 24)
admirable old-world pride of hand-craftsmanship which leads many to disdain and resist “gadgets in place of honest work and real skill.”

First Try Fails

Another factor is that some contractors think they have given automatic taping tools a true test that failed when the failure actually could be traced to workmen of insufficient skill with specific tools.

Even automatic taping tools require learning. And it is possible to turn out shoddy work with any kind of tool, just as there are people who can get hurt peeling a banana.

Then, too, some projects require specific planning for automatic operations of any kind. Four houses side by side might be taped out easily in one day with automatic tools. But to do the same four houses, scattered all over town, means a different approach, specifically planned.

The most widespread and effective deterrent to the use of automatic tools of many kinds appears to be restrictions imposed by some union locals, who apparently tend to view such equipment as “speed-up” devices, designed to blot up all the available work with fewer bodies. Such union leadership sees its interests best served by keeping as many men as possible working, thus spreading and stretching the available work over thinner.

In a way this appears as a commendable objective, but as a method, if carried too far, can be destructive to the ultimate base of available work itself, even when no actual wage increases are involved.

Sometimes restrictions are maintained openly and frankly, while in other cases a certain amount of subterfuge is used. The latter case occurs when, for various tactical purposes, there is reluctance to admit that it is a local’s official policy to prohibit the “use of machines, automatic tools and similar devices not specifically approved . . .”

Whether openly or not, some locals enforce such prohibitions continuously and unremittingly—with harmful economic consequences to the local construction market.

Regardless of the kind of restrictions on expanded use of automatic tools they represent a mutual problem which has grown up as part of a rapidly developing new industry. Everyone shares the need and responsibility for resolving these challenges as constructively and as effectively as possible.