

THE RAILWAY & SHIPPING WORLD,

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The Official Organ of
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The Canadian Roadmasters' Association,
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RAILWAY BLACKSMITHING.

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which method has its friends and advocates.
But without question the one first described is
the most economical, and gives just as good
results as any.

Truss rods for cars and bridges, which re-
quire to be made larger, where screwed on
ends, in order to give as large a body of iron
at the base of the thread as in the body of the
rod, were formerly made by having iron of

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the larger diameter welded on to the body of
the rod. This is now accomplished in a much
more satisfactory and economical manner, by
being upset or enlarged in a machine special-
ly for that purpose. The iron being heated
to the proper length of the bar, to provide the
necessary amount of material for the enlarge-
ment, is removed from the furnace and quick-
ly placed in the upsetting machine, where in a
few seconds it is formed to the desired larger
diameter, with a nicely rounded end to facili-
tate the screwing. This it will readily be seen
is a great improvement on the old method of
welding, which was not always certain of
perfectly standing the strains upon it, occa-
sionally giving way at the weld.

Arch bars for the common diamond freight
car truck, which are almost universally used
to-day, were formerly made by hand, requir-
ing a skilled mechanic to give his immediate
supervision to the work, in order that the bars
might be bent at the proper angles, and all
be, as far as possible with handwork, made
uniform. This method gave place at a later
date to that of bending the bars (on forms
built up for that purpose) with a series of
levers and rollers, but this was still too slow
and not always accurate. The up-to-date
method takes the bars, which are furnished
from the rolling mills cut to the proper length,
and places a number of them in the furnace,
which heats them from end to end very rapid-
ly. Again the forming machine, called bull-
dozer, is called into service, having been pre-
pared with dies of the proper form while the
bars are being heated. The heated bars are