track held by that user program, assigning a quarter-track to
held use if there is no more space available on the user program's
currently held quarter-track(s).

There are two formats for data storage on the drum: the block
and the item. A user program can write a fixed length of infor-
mation, called a block, which consists of precisely 50 words and
is stored in one drum sector. An item is variable length and
offers a more flexible means for storing information on the
drum. Its format in core is as shown in Fig. 5, with the "word
count" equal to the number of words in the item. On the drum,
the formats are allocated as shown in Fig. 6.

To prevent certain time-sharing problems and to protect the drum
from accidental changing (rewriting) or expunging, two mechanisms
have been included: the rewrite number and the own-word. The
rewrite number follows the word count in each item (as is illus-
trated in the preceeding diagram). This number is incremented by
one each time an item is rewritten (written addressed). When
rewriting or expunging an item, the I-O Processor compares the
rewrite number of the item in core with the corresponding number
on the drum. If they are the same (i.e., no one else has re-
written this item since the current user program read it), the
rewrite number is incremented by one and the item is rewritten.
If the rewrite numbers are not the same (i.e., someone else has
rewritten this item since the current user program read it), no
writing takes place, and a "rewrite error" message is transmitted
back to the user program. Thus the rewrite-number concept permits
simultaneous updating of a file by two or more user programs,
while preventing the overlapped updating of a particular item
in the file.