

facility and certainty in operation, only 95 per cent of the weight is carried on the compressed air, and 5 per cent is carried on a dydraulic auxiliary system which levels, actuates and controls the locks, absorbs the unequal pressures due to wind and wave action and removes all the detrimental features incident to a purely pneumatic system; and adds the good qualities peculiar to hydraulic power. This combination avoids the objectionable features inevitably to be encountered were either hydraulics or pneumatics made the sole reliance.

#### THE GATES.

The type of gate proposed to be used is a modification of the familiar pontoon gate, used in dry docks. It is built of steel, very simple in construction and is operated by a pinion and wheel, as draw bridges are operated. All the gates are duplicates, and while so simple and strong as to be practically safe from damage, an injured gate can be removed and replaced in a very few minutes.

#### OPERATION OF THE LOCKS.

The depressed lock contains the stated depth (say 22 feet) of water, and the hydraulic and pneumatic connections are closed; the elevated lock contains a maximum depth (say 23 feet) of water and is consequently (say) 4 per cent heavier, and its pneumatic connection is open and its hydraulic connection is shut.

The depressed lock merely floats, like a pontoon. The elevated lock is supported partly by the air pressure and rigidly by the hydraulic auxiliary. If now the lock gates be closed and the valves operated, the heavier elevated lock will descend and elevate the lighter depressed lock, reversing their relative positions—the principle being that of weighing in a scale.

Attention is especially called to the reduced necessity for re-handling and the consequent saving in commissions, terminal charges, etc., which will be effected by this project.

Commodities will be delivered to the consumer with the least

pos  
cen

A  
at M  
Lav  
read  
Bro  
port  
Yor  
age  
will  
Rive  
ever

If  
thro  
ware  
and  
peak  
more  
south  
Sour  
water  
direc  
consi  
must  
of th  
excep  
and  
seem  
and l

Th  
of ag  
for th  
\$266