A Motor. This plan is based on the use of 1 RPM motor (Window Display Co's can usually supply these), which gives the best motion. A faster motor can be used, but the variety of motion will be decreased with resulting loss of realism.

B Motor shaft to which the drive shaft is attached. It should be firmly fixed-soldered if possible-so that there is no slippage.

C Drive cam. This is the principal and most important part of this animation. It is from this that the desired variety of swinging motion is obtained. Some experimentation with the depth and height of the cuts may be needed to get the best results. It is very important however, that the dimension C2 always is equidistant between Cl and C3 for it is at this point that the performer is balancing upright on the wire. Cl is the limit of the swing in one direction and C3 the limit of the swing in the other direction. For the smoothest operation the difference between the dimensions Cl and C3 should be kept as small as possible. A larger drive cam can be used and might make for smoother operation but it should not be smaller. If it is made larger the number of notches or cuts should remain the same. That is the angle of the arc between one peak and the next should remain the same. D- This part should be soldered to the drive arm E. It is this piece that rides on the drive cam and transmits the action to the drive arm. It should ride freely and be kept well greased at all times.

E This is the main drive arm. The distance E should be twice the distance El to obtain the best motion. The greater the length of E2 to El the greater will be the swing of the performer on the wire.

F This is the axis or pivot of the main drive arm. It must be firmly fixed but allow the main drive arm to move freely.

G Hole into which the action arm K is connected to the main drive arm.

H Hole to which is attached a light spring or weight.

I Light spring or weight the purpose of which is to keep the drive arm E at D in contact with the drive cam at all times. The tension will have to be adjusted to do this without impeding the rotation of the drive cam.

K This is the action arm which transmits the action directly to the tight wire and performer. It fits snugly but freely into hole G and L.

L This a bearing hole at the end of the tight wire M into which the action arm fits.

M End of tight wire. This must be at right angles to the sag in the tight wire on which the performer stands. The action arm must be adjusted so that it holds this end of the tight wire parallel to the table top when part D is resting on one of the C5 sections of the drive cam. This is most important to the proper operation of the animation.

N Hole through which the tight wire Q passes in the platform O. It must be large enough to permit the tight wire to move freely but not loosely.

O Platform soldered to jacks P.

P Jacks which support the tight wire.

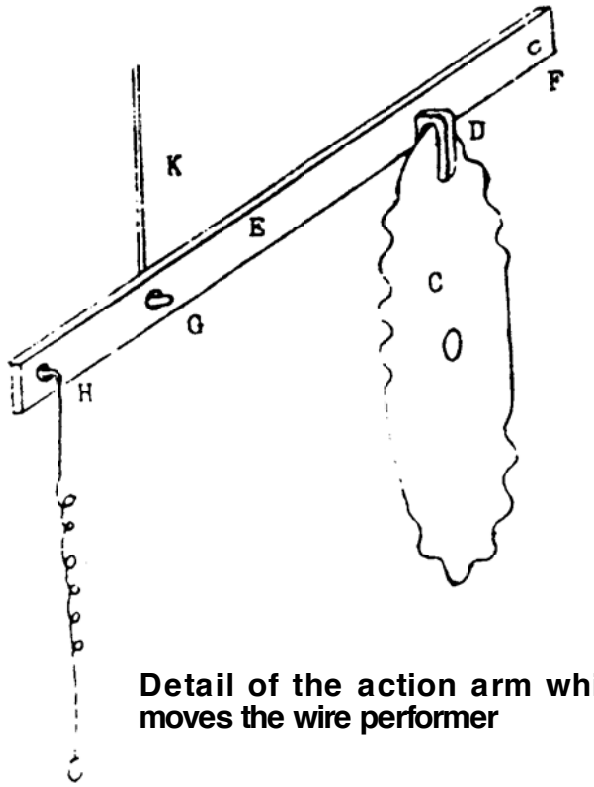
Q Tight wire. The sag in the wire is necessary to give motion to the performer.

R Guy ropes and simulated pulleys. This wire which is soldered around pole T and to platform O and thence to stake S to which it also should be soldered. This is a rigid assembly as the jacks must not actually "stretch" the tight wire as it does in the prototype.

S Stake. This should be hammered into the table before the guy line is soldered to it.

T This pole has no utility in the animation and is only for the use of the performer.

U Hole in the table top through which the action arm passes. It must be large enough to give the action arm full freedom of movement without binding.



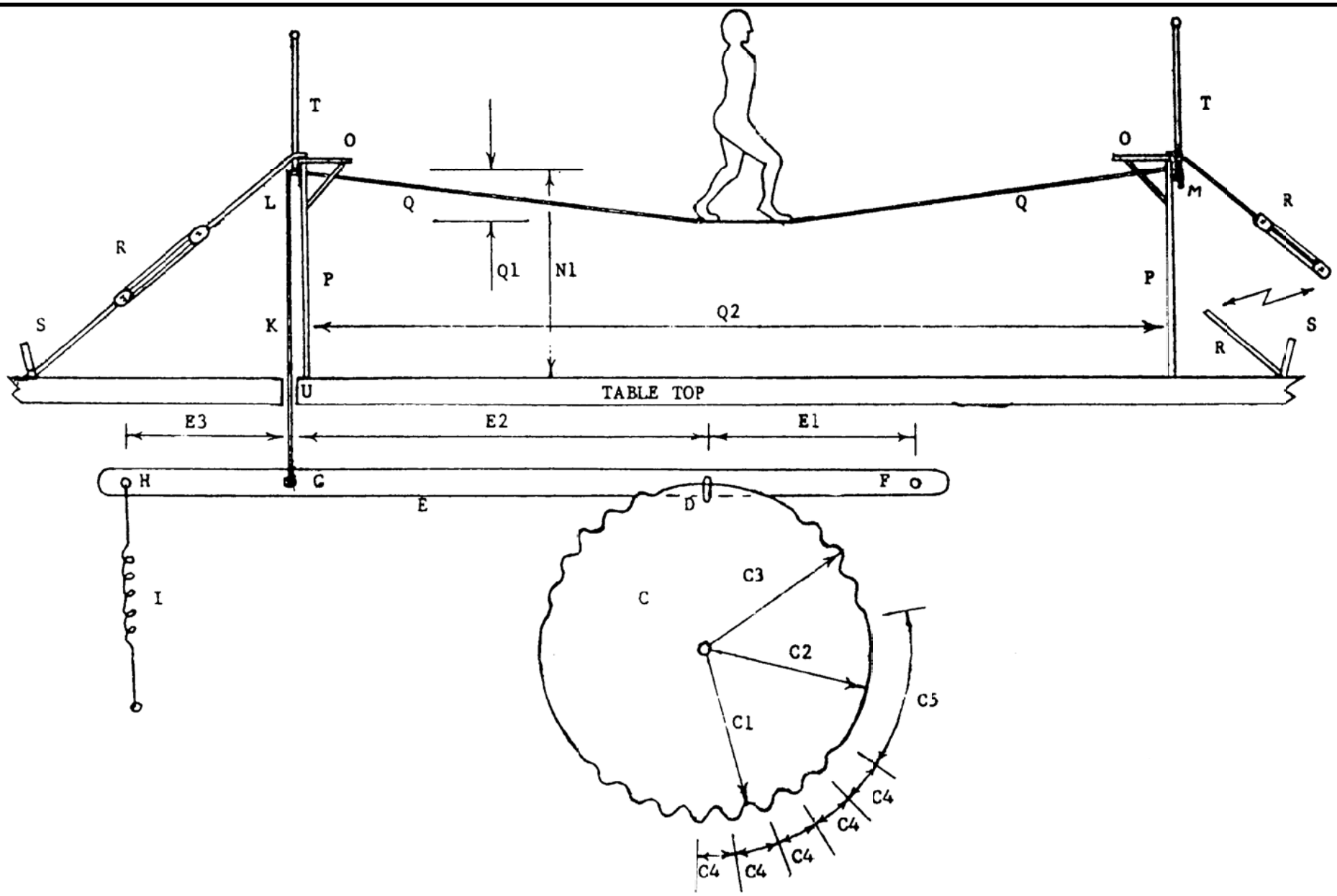
Detail of the action arm which moves the wire performer

Making An Animated Tight Wire Act

DATE: None	SCALE: 3/8" = 1'	SCANNED & REVISED: 02/18/03	Pg 1 of 4

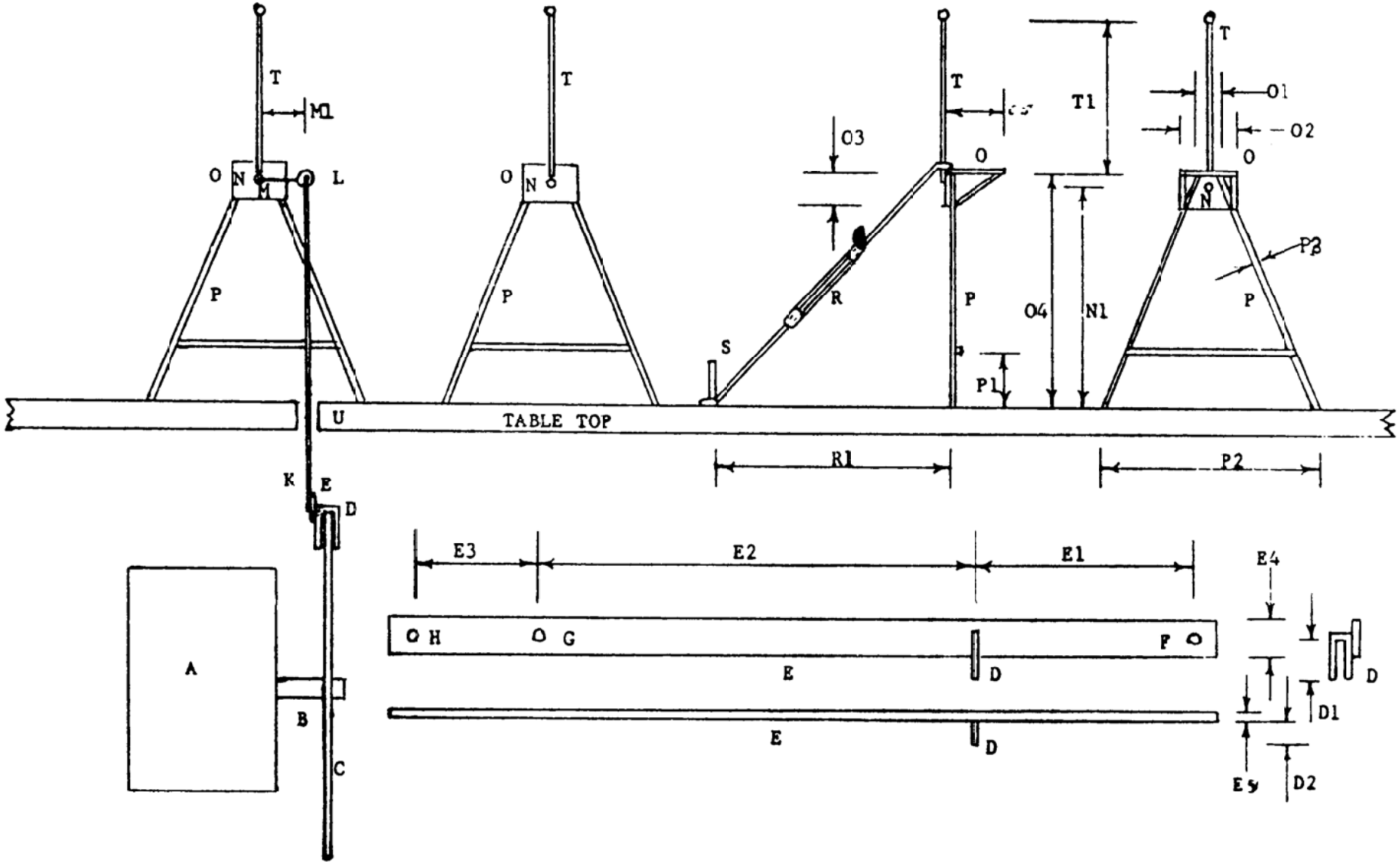
Circus Model Builders

Drawn By	DRAWING NUMBER
Gordon Carver	#0317



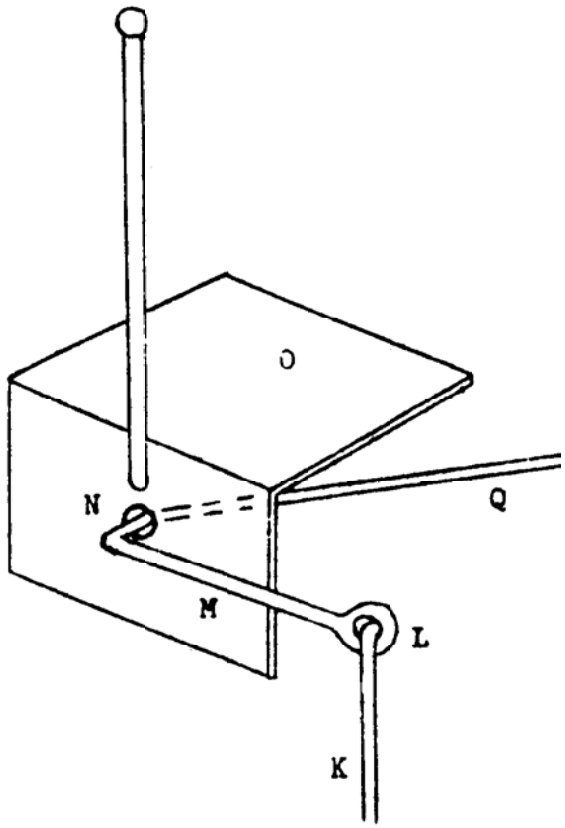
Making An Animated Tight Wire Act

Pg 2 of 4	SCALE: 3/8" = 1'	SCANNED & REVISED: 02/18/03	DRAWING NUMBER #0317



Making An Animated Tight Wire Act

Pg 3 of4	SCALE: 3/8" = 1'	SCANNED & REVISED: 02/18/03	DRAWING NUMBER #0317



Detail of the platform which shows wire passing through and attaching to the action arm.

Dimensions For Animated Tight Wire Act

The dimensions for this plan are shown in two ways. Those for the mechanism are given in actual measurements, but while the plan of the model is actually drawn in 3/8" scale the dimensions are given in feet and inches so that they can be converted to any scale.

MECHANISMS DIMENSIONS - ACTUAL INCHES

C1 - 1 1/8"	D1 - 1/4"	E1 - 1 1/2"	M1 - 5/16"	D - wire gauge 18
C2 - 1 3/16"	D2 - 3/16"	E2 - 3"		K - wire gauge 18
C3 - 1 1/4"		E3 - 7/8"		Q - wire gauge 20
C4 - 1/4"		E4 - 1/4"		
C5 - 1"		E5 - 1/16"		

MODEL DIMENSIONS IN PROTOTYPE FEET AND INCHES

N1 - 4’ 0"	O1 - 0‘ 6"	P1 - 1’ 0"	R1 - 4‘ 4"	Q1 - 1’ 0"
	O2 - 1‘ 0"	P2 - 4’ 0"		Q2 - 16‘ 6"
	O3 - 0’ 8"	P3 - 0‘ 2"		
	O4 - 4’ 2"			
	O5 - 1‘ 2"			