

PENDULUM CANNONZ

MANNOCK BILLIARDS EXPOUNDED (1904)

..... The 'pendulum' cannon, which Reece showed the other week at the Grand Hall, I first saw exploited by Lovejoy. It was just after his initial 'cradle' cannon, when i visited him to learn more about the stroke and its possibilities. Lovejoy said, **'I have another stroke up my sleeve that i am going to make use of some day or another !'** He then placed a red and white ball side by side, both touching, or within the least possible distance of an end cushion. He set up the cue-ball just wide of them and very little more than two to two-and-a-half inches from the cushion rail. **'This is the stroke !'** he said, and played a cannon by sending the cue-ball very gently across the face of the two cushioned ball. Then he went to the other side of the table and repeated the process. Backwards and forwards Lovejoy gently sent his ball to make hair cannons every time. Pausing in his work, he said, **'i call this the pendulum cannon, and i expect to do something big with it one of these days.'** Since then, as i say, Reece, playing against the Australian, Weiss, scored forty-six successive cannons by this particular stroke

RISO LEVI STROKES OF THE GAME

Riso sez that **Tom Reece** made the record run of **40** pendulum cannonz (**80** points) in **1907** (soundz like he should hav sed **46**.) Levi'z Diagram **756**, showz the red & white about **5/8ths** of a ball apart, & the qball just outside the ballz. (A separation of **5/8ths** of a ball must be about the limit i would think.) Levi'z Diagram **757** sez that the pendulum cannon iz possible with the red & white almost **two** ballz apart. (He must hav been kidding.)

RICHARD HOLT THE BILLIARD PLAYER (FEB 51)

..... N^o ** is the "true" pendulum cannon, object balls rebounding from the cushion (just over an inch away, balls about 3½ inches apart) -- Reece made 42 such cannons.

But, in the Nov 1953 edition, Richard haz a different story, he sez.....

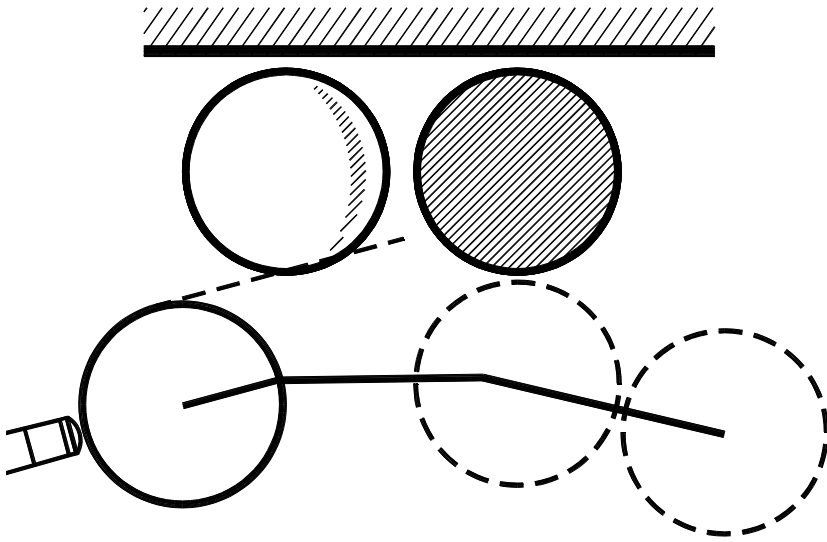
..... Reece had once made a sequence of 42 cannons with it, with the two object balls about 1/16th of an inch away from the cushion, and about 3 to 4 inches from each other -- one of the most skilful sequences of all his cannonic feats !

HMMMMMM So, this got me to hav another look -- anyhow, same thing -- az i sed earlyr, a 1" clearance from the cushion don't work. But its almost viable with the ballz a quarter-ball off the cushion, especially if they are less than one ball apart. Theoretically, u ken hav a repeating two-shot sequence, where Shots 1 & 2 are identical (ideally). Shot 1 iz a quarter-ball (uzually) off yellow, with running-side (uzually) to keep the yellow from rebounding too far. The qball landz a quarter-ball on red. Red&yellow both rebound to the same pozz, xcept that they slowly drift apart. That's the theory. What happenz iz that sooner or sooner u land too thickish on the second ball, & so u don't get a friendly angle for the next shot, & it's all over. Riso & Richard got it wrongish somehowish. Ahhhhhh -- Eureka, i hav it. In 1951, Holt's.... **an inch away** & hiz.... **3½ inchez apart** were to the center of each ball. Likewize, Riso'z..... **red & white almost two ballz apart.**

PENDULUM

PENDULUM 1

Here iz the classic pendulum-cannon pozy. Theoretically the leev ken be identical for each shot, except that the qball changez sidez. The red&yellow rebound to the same pozy each shot, ie 2mm to 3mm off the cushion, except that they gradually get further apart. Az they get further apart the margin-for-error decreasez rapidly. With skill u might keep the run going until the red&yellow are almost one ball apart, but then the end will be rapid, & u will havta break away from cannonz entirely.



NATURAL

The main beauty of this pozy, iz that it iz a natural. The red&yellow ken hardly be prevented from taking up a 2 to 3mm gap from the cushion. If u place the ballz in slightly different pozyz, on an angle, or further or closer to the cushion, they will eventually end up az shown, given half a chance. And it iz eezy to judge the contact & pace of the shot. There iz no double-kiss involved (unless u looz pozy). And there iz little risk of touching-ballz, & little risk of some sort of foul-shot. The fifth beauty of this pozy, iz that the red&yellow are in no hurry to part company. The contact on the first ball iz thickish -- the contact on the second ball iz thinnish -- these contacts probably help to keep the ballz closer longer. If u somehow start with the red&yellow touching, i reckon uken get your limit of 75 cannonz.

BROKEN BALLZ

The qball should not stop between the red & yellow, but not too far past either either. Somewhere between the broken ballz iz ok on the red'z side etc.

WALK

For accuracy, u would probably prefer to walk around & play each cannon reeching over the side-cushion (like Lovejoy). If the ballz are in the middle of the top-cushion this will be no problem at all. But it iz very slow work compared to other nursez.

HOLE

I daresay, if one of the ballz findz a 'hole', u could uze this to extend ya run. The ball would still be hit onto the cushion, but the hole would stop the ball'z westerly migration.

1MM

If a ball stops 1mm from the cushion, ya holiday iz over, & u will havta start work. Now u don't know if u will get a double-kiss, or whether it will be a full kiss or a small kiss. U ken practise double-kissez, to learn the kiss-off-anglez, with the ball touching the cushion, or a hair off, or 1mm off.

ERR

I reckon that it iz probably best to err by hitting the first ball too thickly, ie to underestimate the double-kiss. Although this ken leed to a missed cannon. But if u miss, what haz ya opponent got ?? A tricky masse'. Allowing for a kiss that duznt happen meenz that u will hit the second ball in the guts, & it's the beginning of the end. This feelz worse, when the pozy had so much promise. It's like cutting the wrong foot off.

BLACK BALLZ ON A BLACK CLOTH IN A DARK AGE

Anyhow, **1mm** iz a problem. U had better hav a real good look to check the gap, each shot. But i am only kidding. Koz this carnt be done. Stick ya eyez down real close. No, still carnt see. Too dark. Carnt see a damned thing, xcept a **black** bit of ball merged with a **black** bit of cushion on a **black** cloth, all in **black shadow**.

So much for table lighting in the new millennium. Theze are the **dark agez**. The best u ken do, iz to move ya eyez very low & well left, to look at the back of the right-most ball (or vice versa), & with a bit of **luck** u might be able to see a thin crack of lighted cloth in the far background, which showz u the size of the gap. Or if there iz no crack of light, uken bet that the ball iz frozen.

But this darkness iz ya own fault. There iz nothing in the rulez to stop u bringing a **torch** into the game. I recommend a **miner'z helmet**. Perhaps Mr Hartley sellz miner'z helmets along with hiz stupid light&shade. My personal preference iz to uze a short **candle**, & melt it onto the cushion between the red&yellow.

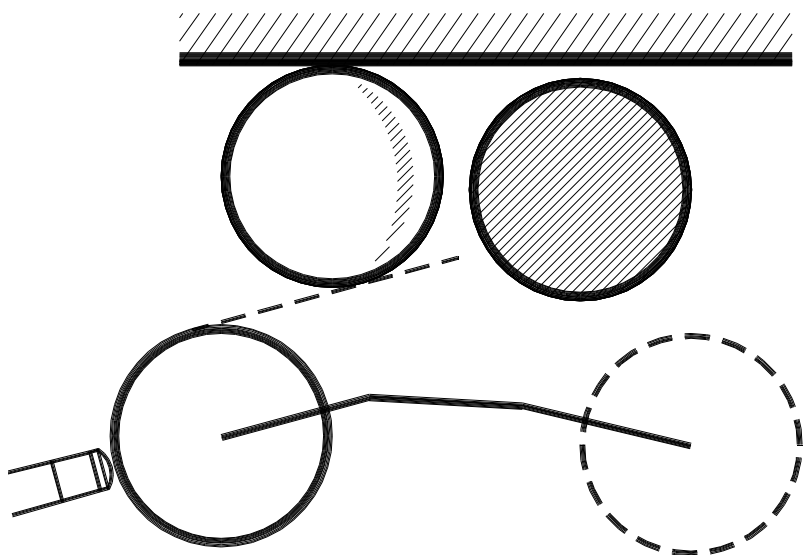
Melbourne clubz luv this Hartley sort of lighting -- Sydney clubz mostly go for large **fluorescents**, better, but still uzually only on a central line. Theze Hartley style shadez uzually hold two incandescent globez, that sit centrally above the centerline of the table. This iz not good enuff. Some hold 3 globez, not much better.

The more globez the better. But, even if u had 4 globez, on the centerline of the table, the lighting would be crappy. Koz, if the lanternz are all on the centerline, then in most pozzyz the ball haz a **dark** side & a **light** side, which makes it difficult to find the **center**, for central accurate hitting. And, when the red iz near a cushion, **spectatorz** on that side see a **black ball**. Not that we are worryd about the spectatorz, it's the poor playerz who suffer, mostly not knowing what iz biting them.

Nursery cannonz are mostly along the top-cushion, where the **shadowz** are worst. In some pozzyz, when u havta reech outnback, the 3 ballz are in **ya own shadow**. What u really need iz a large number of globez spread out over the whole area. I hav recently installed **6** globez on my new old table, in **two** linez of **3**. And i find that **6** iz not goodnuff, i really need **8**.

TRICKS ETC

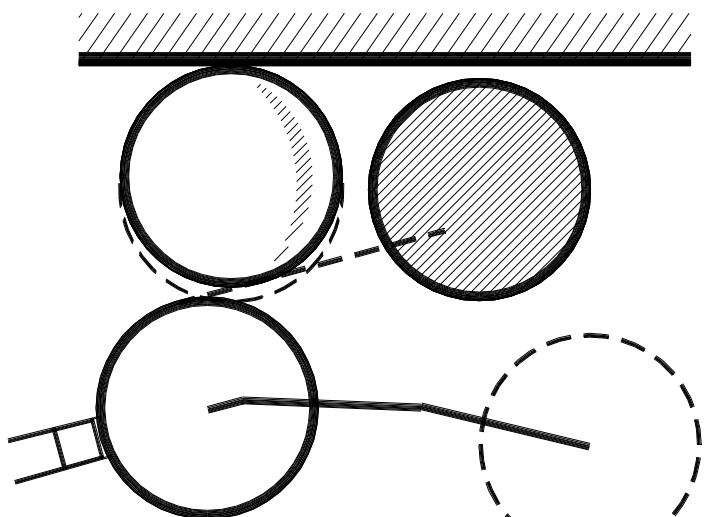
In the following pagez we show some tricks for keeping good pendulum-cannon pozzyz, & tricks for regaining pozzyz when u stuff-up. Even if u do do well, u will eventually reech the end of the workable range for the separation between red&yellow, so we also show ya howta regain the original ideal pozzyz. In a game, this sort of pendulum-cannon pozzyz kumz up a lot, by accident rather than dezin. If you hav practised the pendulum u might hav the confidence to milk the pozzyz. Other playerz will take the uzual action. They will play a couple of unavoidable cannonz, while trying to get the hell out of there.



DOUBLE KISS

PENDULUM 2

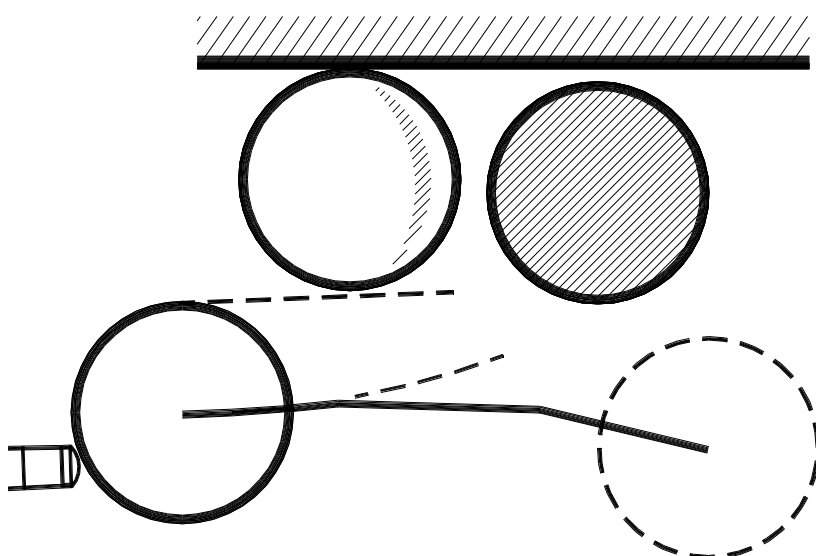
If the yellow is **frozen** to the cushion, u ken expect a **double-kiss**, which ken kiss the qball wide of the red. So, u havta contact the yellow **very thin**. And a good contact on red will be due to luck more than skill. The main problem iz the **nap**. It will often make the qball drift down-grain, & get a thickish contact, & hence u miss the cannon. So, u havta **aim thinner**, perhaps at the edge of yellow, az shown. The other **bad newz** iz that double-kisseez are unlikely to unfreeze the yellow. And it iz likely to stay frozen until u do something special. Not good.



SCREW

PENDULUM 3

Uzually, the yellow iz on the cushion koz u had hit it too softly, in which case the qball iz also likely to be close to the yellow, az shown. This makes it better. Koz now uken play a thin hard **stun** on the **rear** of the yellow. The thin hard shot, the stun & hitting the rear, all help to **erode** some of the double-kiss. Now the yellow **kumz out** a bit (az shown). The main difficulty will be to **maximize** the stun but not let the qball run away too far. It's eezy if u practice. And don't overdo the **screw**. Too much might rezult in no cannon.

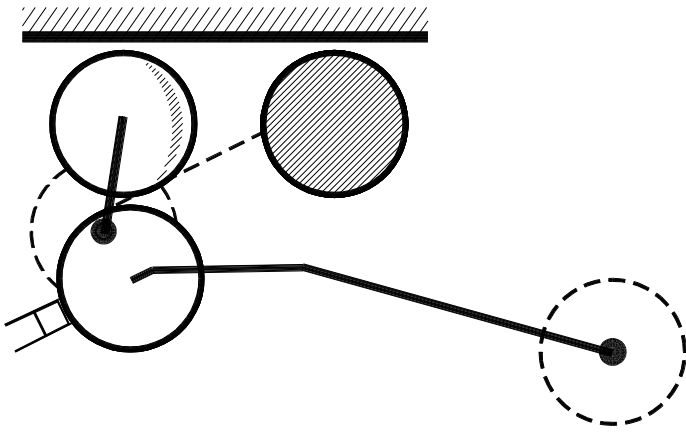


COVER

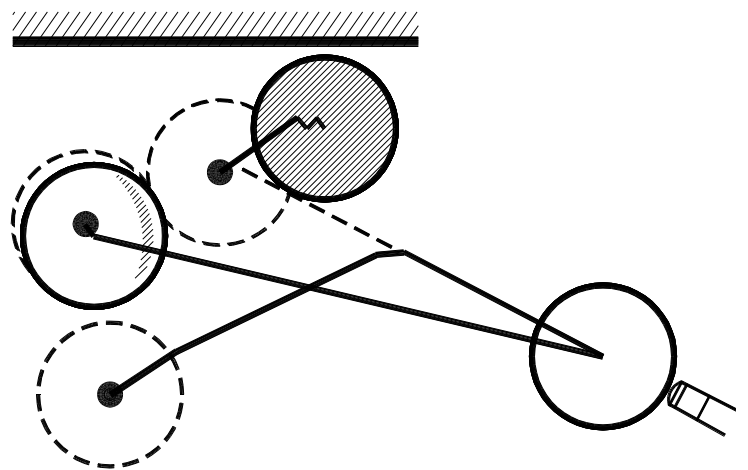
PENDULUM 4

Here the yellow iz **frozen** to the top-cushion koz we hit it too thin. So we hav a **cover**. We ken get a pique-cannon, but the leev will be very iffy. The **smart** thing to do iz to uze the **nap-effect** to our advantage. We aim just outside the yellow, with a touch of running-side. The qball will curve & contact the **rear** of the yellow, which will **minimize** the double-kiss, & we get our cannon.

RESCUE MISSION

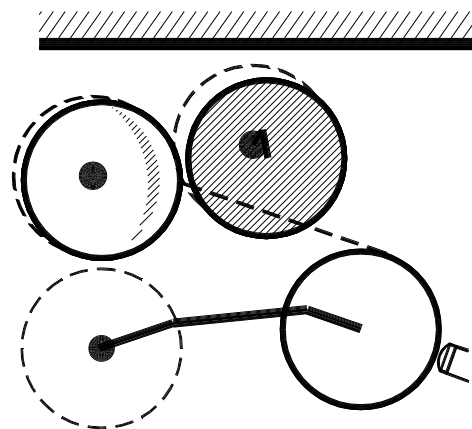
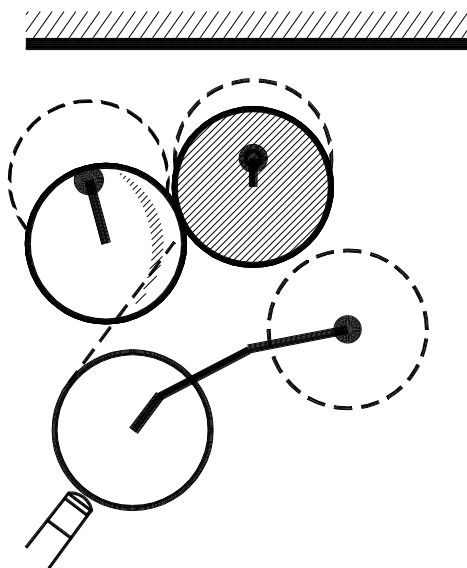


PENDULUM 5A Once the red&yellow get a half-ball apart, it iz time to kum to the rescue. If we hold the qball in close to yellow (az in 5A) it will giv us a good angle to play our standard thin hard stun, to leev 5B. A 5A leev will uzually turn up on its own, & when it duz u take the

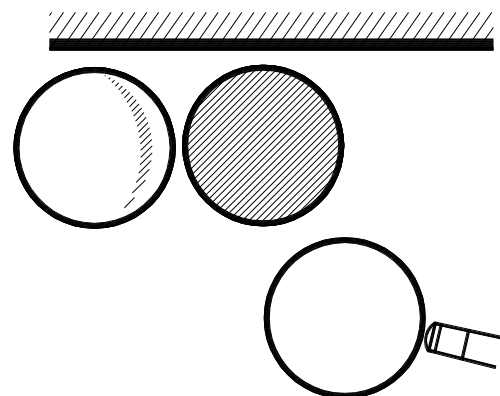
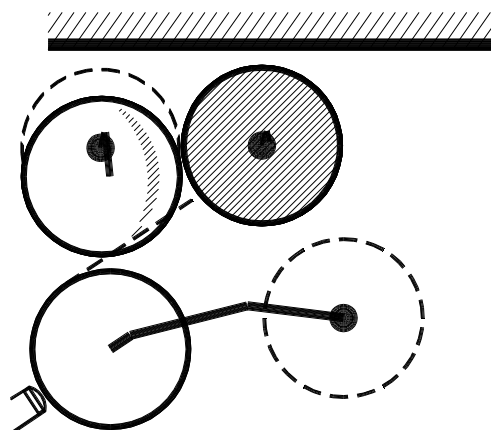


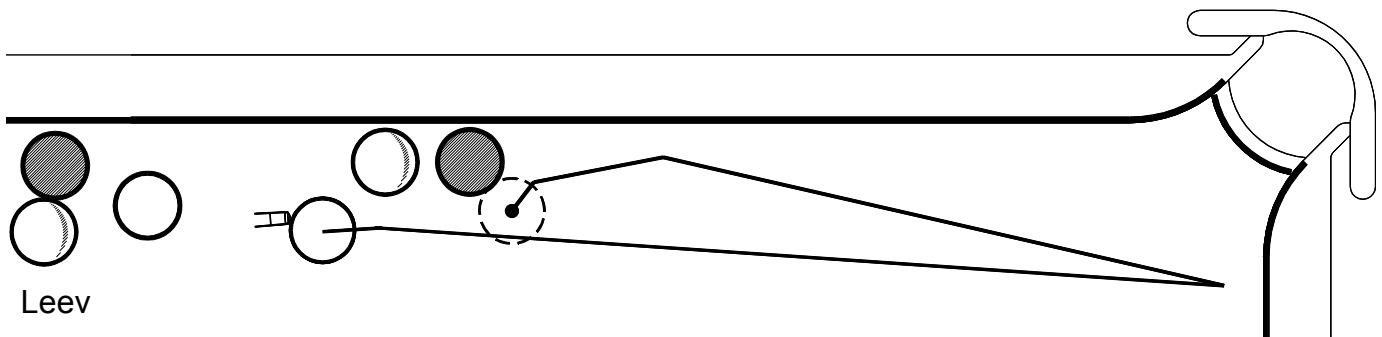
opportunity straight away.

PENDULUM 5B We play a softish gather, half-ball on red, to leev 5C. We could hav carryd out this whole manoeuvre (5A & 5B) the other way around, ie on the red, if the ballz fell that way.



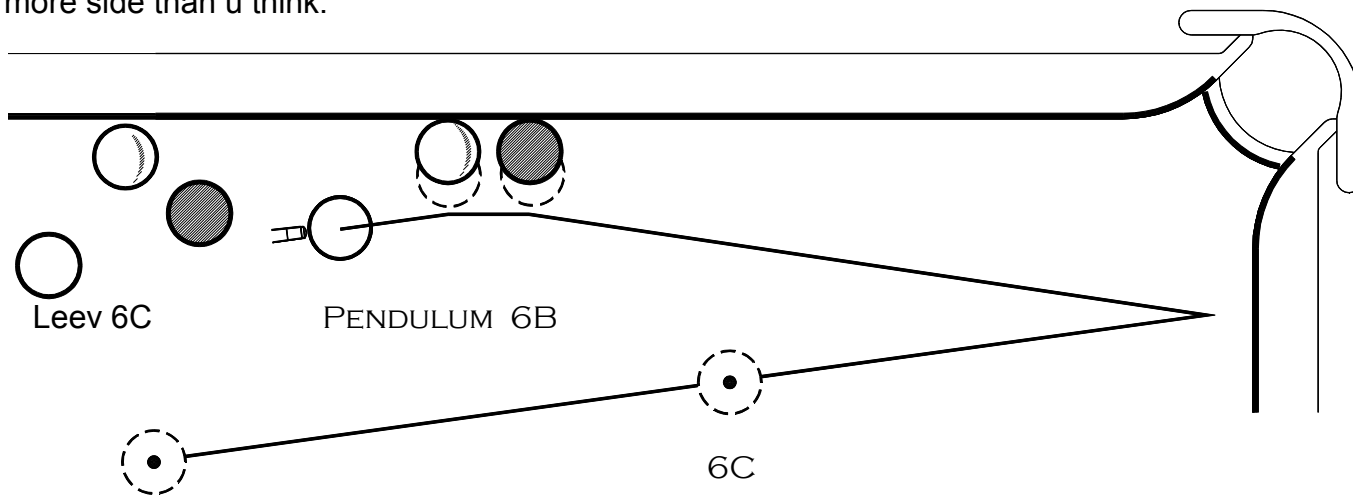
PENDULUM 5A TO 5F We herd the ballz back to the cushion, & in 5F we hav regained pozzz. C & D & E show some hefty nudgez, but we don't havta break any recordz to gettum back. There iz no law against making az many thin grazing cannonz az we ken U might be able to get ten cannonz along the way, instead of three.





Leev

PENDULUM 6A Here we hav stuffed-up, a direct thin-thin cannon iz impossible or too risky. Chancez are that u carnt even get a thin in-off. The obvious shot iz a masse'. However, with practice, uken play a nice gather uzing the side cushion az shown. Hit yellow thinner than u think. Uze more side than u think.

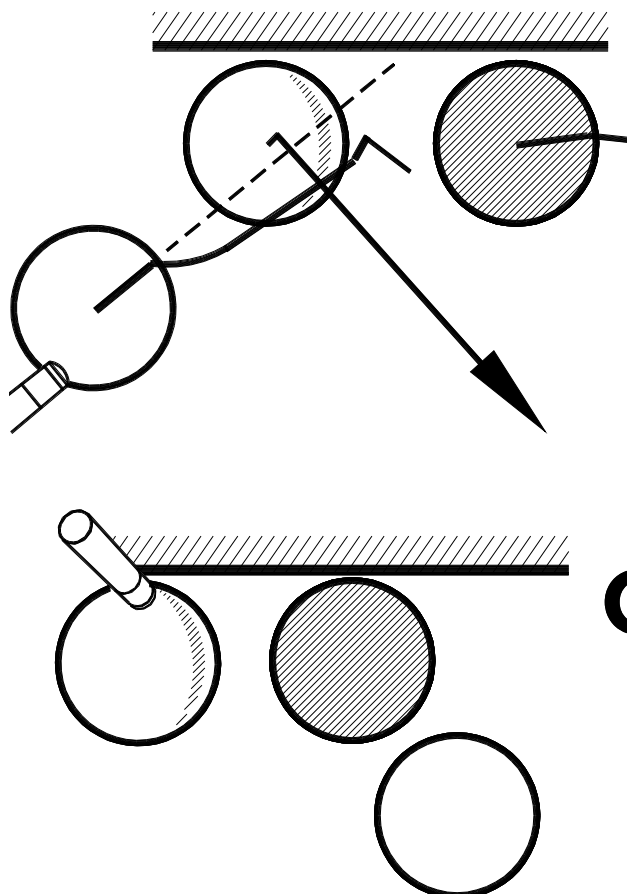


Leev 6C

PENDULUM 6B

6C

PENDULUM 6B In 6B a cannon iz on -- but the qball iz far away & a slow shot iz risky. We play hardish to bring yellow & red out -- az shown weken leev the qball east or west. East (6C) kengivus a nice gather for a right-hand (west-to-east) nursery after the next shot (see 6C). A lefty might opt for west.



COVER PENDULUM 7

If u leev a cover, u might be able to get a run-throo cannon, az shown (if u don't like the look of a thin yellow-cushion-red cannon per 6A or 6B). Here the red & yellow need to be at least a half-ball apart to allow the yellow to get out. But, if the yellow were frozen on the cushion a gap of a bit over a quarter-ball would hav been ok. Here we aim just right of center on yellow, with top & running-side (az shown). U either hit hard, to promote the red -- or soft, to hold the yellow within say 500mm to giv a chance of a gather next stroke (not shown).

OPPONENT PENDULUM 8

Here u hav somhow missed an eezy pendulum cannon, & hav left ya opponent (the yellow) this eezyish mini-masse'. Actually, a thick run-throo would be eezyr for her here (not shown). It iz unmissaball, & leevz fair pozzy. But a good masse' would leev perfikt pozzy.

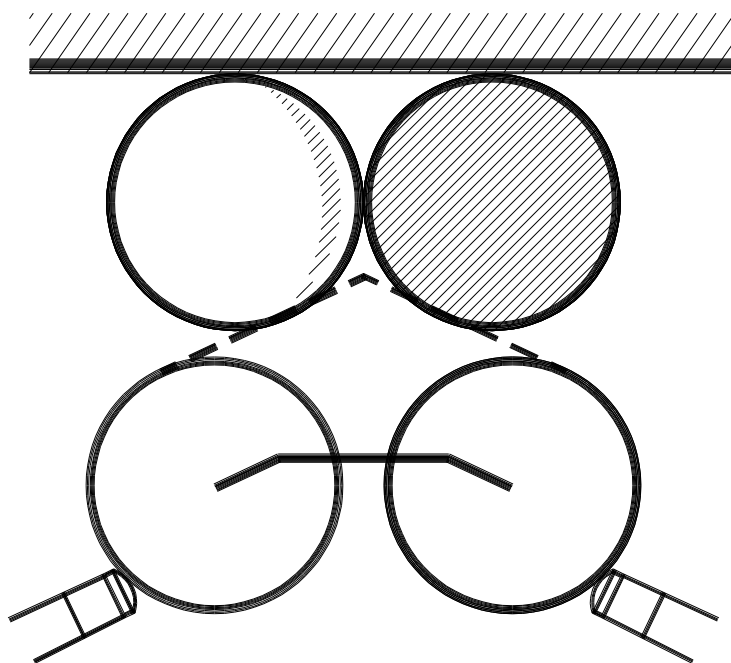
RUDOLPHE'S NURSE

MAURICE DALY DALY'S BILLIARD BOOK (1914)

..... John A. Thatcher, in 'BILLIARDS OLD AND NEW,' holds that a nurse played by A P Rudolphe may be considered the germ of the idea (of the 'rail nurse'.)

..... Rudolph, with the balls 'frozen' close together on the rail, as shown in Plate No 1, would often make quite a run, say, from a dozen points to twenty, before breaking them.

Daly's Plate No 1 showz the red & white touching each other & the rail. And it showz that the qball travelled back & forth from well outside both ballz, which of course would not be a good way of maximizing the run with the ballz frozen to the cushion. A short-range tickle iz the way to go.



PENDULUM 9

I reckon that this iz the best pozzey for Rudolphe's Nurse. The qball iz **close** in. This iz the **safest** way to play this sequence. Koz the qball double-kisseez off the **rear** of the first object-ball -- a double-kiss off the rear iz eezily judged -- u ken hit the first ball thickish. **Running-side** helps. It **minimizez** the kiss on the first ball -- ie u ken hit yellow **thicker**. And it **minimizez** the kiss on the second ball -- ie it iz more forgiving for an **error** in contact -- ie it duznt scatter the ballz az much. For a long run, u need a **thickish** contact on the **first** ball, & a **thinnish** contact on the **second**.

If the qball **carnt see** az much of the second ball, u havta hit the first ball nearer center (u know what i meen) -- & u will havta hit the first ball **very very thin**. Either that or u ken lessen the risk of a miss by hitting the qball thicker but faster -- but then your next shot will be worse, ie long-range. It's hard to see how u ken set up this ideal pozzey -- but if u do somehow start with the red&yellow touching, i reckon uken get your limit of **75** cannonz. The red&yellow **part** company sooner or later -- & u then take the run to **75** with the **standard** pendulum-cannon. That's the theory. If the yellow (or red) findz a **'hole'**, u could uze this to extend yor run. The hole would stop the ballz westerly (or easterly) migration.

MIKE SHAMOS mentionz this az a **STATIONARY NURSE**.

Mightbe so, with the **large & heavy** American Ballz ($2\frac{3}{8}$ th inch in Rudolphe's time) -- the English Ballz are only $2\frac{1}{16}$ inch (52.5mm). Also, i suspect that, on a 9 foot or 10 foot table, when near a cushion, the ballz more often than not sit in a **hole** -- koz in them'there dayz **masse'z** were in plague numberz -- not so much in English billiardz.

