

# PENDULUM CANNONS

## 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 cannons (**80** points) in **1907** (sounds like he should hav sed **46.**) Levi's Diagram **756**, shows the red & white about **5/8ths** of a ball apart, & the qball just outside the balls. A separation of **5/8ths** of a ball must be about the limit i would think. Levi's Diagram **757** sez that the pendulum cannon iz possible with the red & white almost **two** balls apart. (He must hav been kidding.)

## RICHARD HOLT THE BILLIARD PLAYER (FEB 51)

No \*\* 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. ...

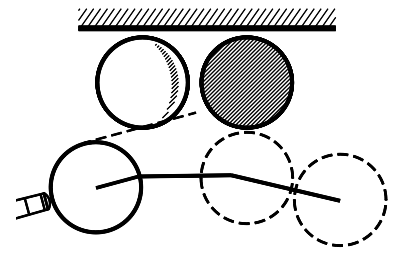
But, in the Nov 1953 edition, Richard haz a different story, he sez.....

Reece had once made a sequence of 42 cannons with it, with the two object balls about 1/16<sup>th</sup> 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!

A 1" clearance from the cushion duznt work. A ¼ ball off the cushion iz okish if the balls are less than one ball apart. Theoretically, u kan hav a repeating two-shot sequence, where Shots 1 & 2 are identical (ideally). Shot 1 iz a quarter-ball (uzually) on yellow with running-side (uzually) to keep the yellow from rebounding too far. The qball lands a quarter-ball on red. Red & yellow both rebound to the same pozy, xcept that they slowly drift apart. That's the theory. What happens 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 wrong. Eureka, i hav it. In 1951, Holt's.... **an inch away** & hiz.... **3½ inches apart** .... were to the center of each ball. Likewise, Riso's.... **red & white almost two balls apart.**

## PENDULUM

**PENDULUM 1** Here iz the classic pozzzy. The leev iz identical for each cannon (albeit with the qball changing sides), except that the red & yellow gradually get further apart. On some tables the red & yellow rebound to 2mm off the cushion each cannon. Az they get further apart the margin-



for-error decreases. U might keep the run going until the red & yellow are almost one ball apart, but then the end will be rapid. **NATURAL** This pozzzy iz a natural. If u place the balls on an angle or further or closer to the cushion, they will eventually end up az shown. And it iz eezy to judge the contact & pace of the shot. There iz no double-kiss involved. And there iz little risk of touching-balls & some sort of foul. 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, theze contacts probly help to keep the balls closer longer. If u somehow start with the red & yellow touching, i reckon u can get your limit of 75 cannons. **BROKEN BALLS** The qball should not stop between the red & yellow, but not too far past either. Somewhere between the 2 broken balls iz ok.

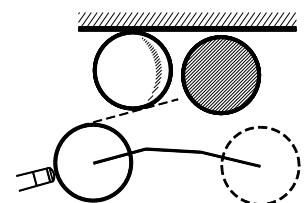
**WALK** For accuracy, u should walk around & play each cannon reeching over the side-cushions (like Lovejoy). If the balls are in the middle of the top-cushion this will be no problem (but elsewhere u might need to play **LEFTHANDED**). This iz very

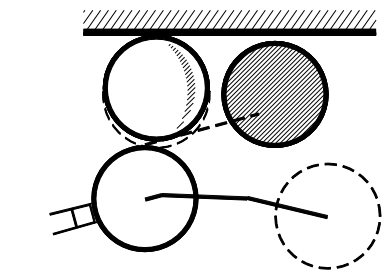
**SLOW** work compared to other nurses. **PIT** If one of the balls finds a pit, this could extend yor run. The ball would still be hit onto the cushion, but the pit would stop the ball's westerly or easterly migration. **1MM** If a ball iz 1mm from the cushion u will not know whether u will get a full **DOUBLE-KISS**, or a partial double-kiss, or no double-kiss. U kan practise these angles with the ball touching the cushion, or a hair off, or 1mm off. **ERR** I reckon that it iz probly best to err by hitting the first ball too thickly, ie to **UNDERESTIMATE** the double-kiss. Although this can leed to a missed cannon. But if u miss what haz yor opponent got? (a tricky massé?). Hitting the first ball too thinly (eg allowing for a kiss that duznt happen) means that u will hit the second ball in the guts, & it's the beginning of the end.

**BLACK BALLS ON A BLACK CLOTH IN A DARK AGE**

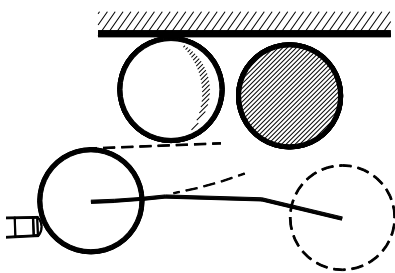
Anyhow, 1mm off the cushion iz a problem. U need to check the gap each shot. Impossible unless your tables hav good lighting. If yor club haz Hartley shades with a few lanterns u karnt see a damned thing, xcept a black bit of ball merged with a black bit of cushion on a black cloth, all in black shadow. The best u can do iz to get very low & u might be able to see a thin crack of lighted cloth in the far back-ground, which shows u the size of the gap to the cushion. Or if there iz no crack of light then praps the ball iz touching the cush. Nursery cannons are mostly along the top-cushion, where the shadows are worst. In some pozzys, when u hav to reech out & back, the 3 balls are in yor own shadow.

**PENDULUM 2 DOUBLE KISS** If the yellow iz on the cush u kan expect a double-kiss which kan 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 qball often drifts down-nap, & get a thickish contact & miss the cannon. So u havta aim thinner praps at the edge of yellow az shown. Double-kisses are unlikely to unfreeze the yellow.





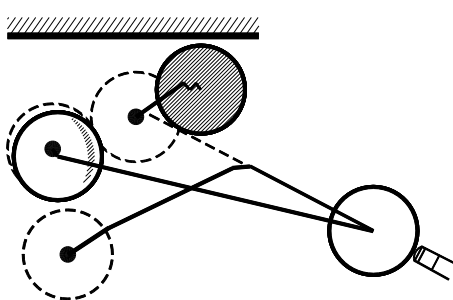
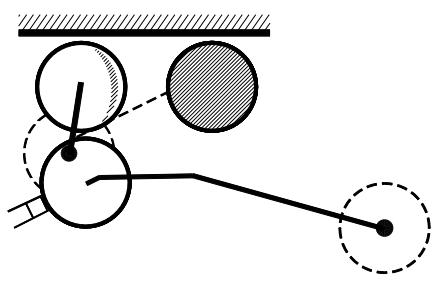
And it is likely to stay frozen until you do something special. Not good. **PENDULUM 3 SCREW** Usually the yellow is on the cushion because you had hit it too softly, in which case the cue ball is also likely to be close to the yellow as shown. Actually this makes things better. Because now you can play a thin screw on the rear of the yellow. This prevents the double-kiss, and now the yellow comes out a bit as shown. Screw softly else the cue ball runs away too far.



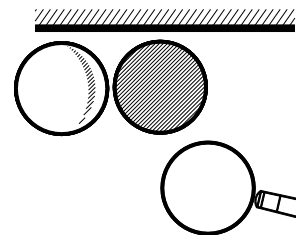
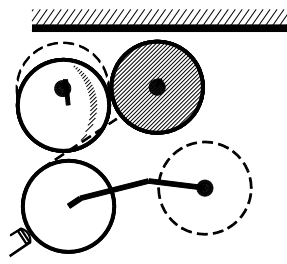
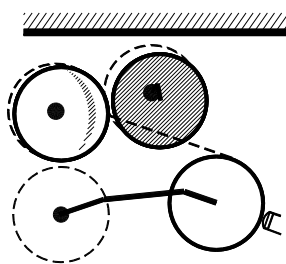
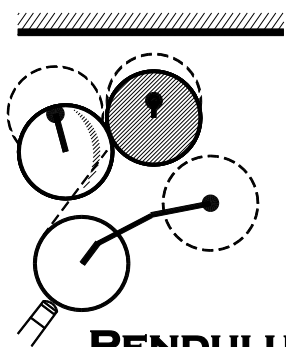
**PENDULUM 4 COVER** Here the yellow is on the top-cushion because you hit it too thin. And so you have a cover. You can get a piqué cannon, but the leev will be iffy. The smart thing to do is to use the nap-effect. Aim just outside the yellow, with a touch of running-side. The cue ball will curve and contact the rear of the yellow, which will minimize the double-kiss, and you get your cannon.

### RESCUE MISSION

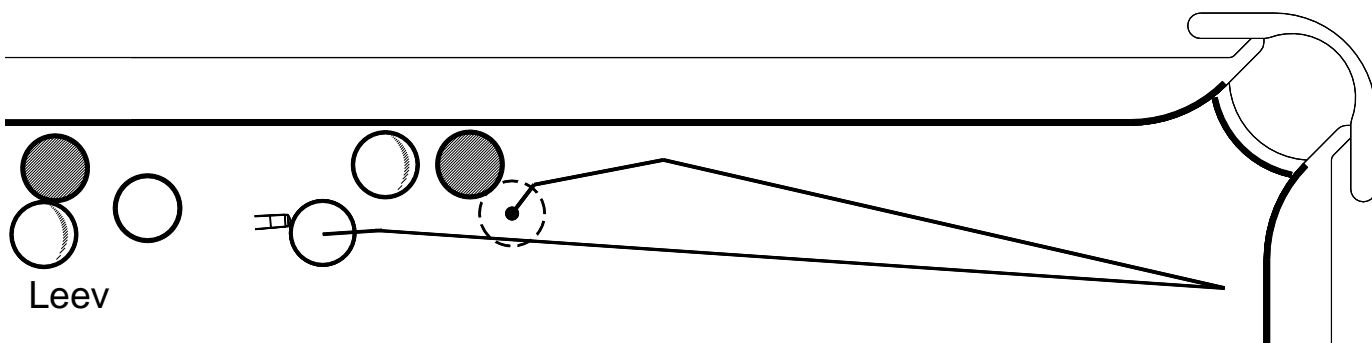
**PENDULUM 5A** Once the red and yellow get a half-ball apart, it is time to come to the rescue. If we hold the cue ball in close to yellow (as in 5A) it will give us a good angle to play our standard thin hard stun, to leev



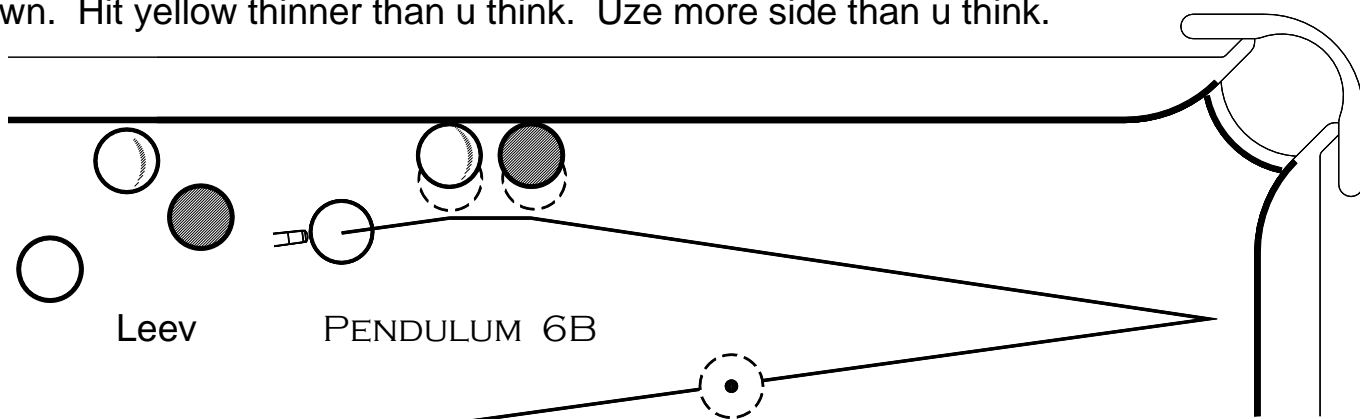
5B. A 5A leev will usually turn up on its own, and when it does you take the opportunity straight away. **PENDULUM 5B** We play a softish gather, half-ball on red, to leev 5C. We could have carried out this whole manoeuvre (5A & 5B) the other way around (ie mirror image)(ie on the red), if the balls were that way.



**PENDULUM 5CDEF** After 5B you herd the balls back to the cushion, and in 5F you have regained good pozzie. 5C & 5D & 5E show some hefty nudges, but if you like you can play lots of grazing cannons.



**PENDULUM 6A** A direct thin-thin cannon iz impossible or risky. The obvious shot iz a massé. However, u kan play a nice gather cannon uzing the side cushion az shown. Hit yellow thinner than u think. Uze more side than u think.



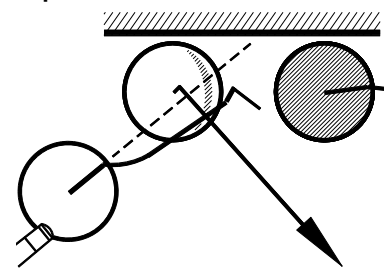
Leev

PENDULUM 6B

**PENDULUM 6B** A slow cannon iz risky at long range. U play hardish to bring yellow & red out. U kan leev the qb ball east or west. East kan giv u a nice gather for a right-hand (west-to-east) nursery after the next shot (see Leev). A lefty might opt for west.

### PENDULUM 7 A COVER

Play a run-throo cannon. The red & yellow need to hav a ½ ball gap to allow the yellow out (a bit over a 1/4 ball iz ok if the yellow iz frozen). U aim just right of center on yellow, with top & running-side (az shown). Hit hard to promote the red, or soft to hold the yellow within say 500mm.



## RUDOLPHE'S NURSE

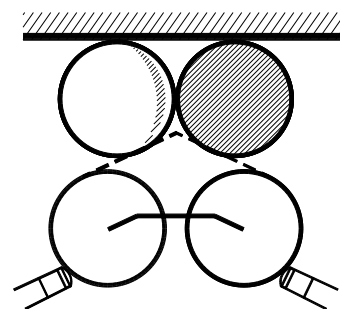
MAURICE DALY DALY'S BILLIARD BOOK (1914)

*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'.)..... Rudolphe, 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 shows the red & white touching each other & the rail. And it shows that the qb travelled back & forth from well outside both balls, which of course would not be a good way of maximizing the run with the balls frozen to the cushion. A short-range tickle iz the way to go.

### PENDULUM 8

I reckon that this iz the best pozzy for Rudolphe's Nurse. The qb iz close in. This iz the safest way to play this sequence. Koz the qb ball double-kisses off the rear of the first object-ball, a double-kiss off the rear iz eezyly judged, u kan hit the first ball thickish. Running-side helps. It minimizes the kiss on the first ball, ie u kan hit yellow thicker. And it minimizes the kiss on the second ball, ie it iz more forgiving for an error in contact, ie it duznt scatter the balls az much. For a long run, u need a thickish



contact on the first ball, & a thinnish contact on the second. If the qball karnt 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 thin. Either that or u kan 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 kan set up this ideal pozzy, but if u do somehow start with the red & yellow touching, i reckon u kan get your limit of 75 cannons. 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) finds a pit u could uze this to extend yor run. The pit would stop the ball's westerly (or easterly) migration.

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

Mightbe so, with the large & heavy American Balls ( $2\frac{3}{8}$ <sup>th</sup> inch in Rudolphe's time), the English Balls 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 balls more often than not sit in a pit, koz in them'there days massés were in plague numbers, not so much in English billiards.