Note: the three figures are at the end of the document.

NOTES ON MUSICAL CLOCK

BY

KENNETH G, PARROT

Many of the early Turret Clocks were of very primitive design and had the appearance of being the work of the local blacksmith as in fact., they were in some cases. One such was in the Church at Willoughby near Rugby. The times at which the airs are played by a musical Turret clock varies with the district. Generally it is at three, six, nine, and twelve o'clock. The tunes at Willoughby, abovementioned, were played at twelve, four and eight o'clock. There were in this case six tunes namely "Cannon", "Suffolk", "New Court", "Belle Isle March", "Captain Thornton's March", and a French air. Only one tune, of course, was played at the time stated.

Earlier this year after having given a talk mechanical instruments to the Willoughby Society, I mentioned Clark's reference to their church and was invited to visit the church and have a look at it. Emerging from the spiral stairway through a little door half way up the tower I entered the clock chamber. High on the wall above was the modern mechanism which now indicates the time to all within sight or sound of the church but at floor level the chamber seemed full of machinery. In one corner was the mechanism of a turret clock in the opposite corner a wooden frame held another set of gears and between them stood a large wooden "barre1"

The weight driven turret clock movement is shown in figure 1 The going side is on the right the strike on the left. The hour was struck in conventional manner using one of the peal of six bells by William Chapman of London (1781) in the belfry above. This was the only way in which the clock indicated the time there being no clock face for visual indication. In addition to the usual notches on the outer edge of the count wheel (Fig. 1, centre) Three pegs were set on one side of it. One can be seen in the bottom position, one a little above the horizontal on the near side and the third at the top of the wheel. It was those three peg. Which in turn triggered the tune playing mechanism into action at the appropriate times. As the count wheel rotated one of the pegs engaged with the far end of the lever pivoted on the wooden post just in front of the clock, slowly raising it. This in turn forced down the near end of the lever to which was attached a wire running overhead to raise a weighted arm on the tune playing mechanism. With further rotation of the count wheel the peg slipped past the end of the lever allowing it to return to its original position under the action the weight pulling on the wire,

The weighted arm can be seen resting horizontally above the wooden

frame in the upper part of Fig. 2. In the foreground are part of the music "barrel" and, the rope drum. The rope rises vertically from the drum and then passes over pulleys to the adjacent corner of the tower where the heavy driving weight was hung.

The illustration shows the arm-in its "neutral" position, resting on a "flat" leaf spring on the top of the wooden frame. Having been lifted and released as described above it over shot the neutral position and in so doing forced down a vertical rod (immediately in front of the timber upright) which in turn acted on the stop lever extending to the left just above the barrel. The right-angled end of this lever normally engaged in a slot on the side of the star wheel one arm of which can be seen on the extreme edge of the picture. The dropping of the weighted arm thus disengaged the stop lever from the stop wheel leaving it free to rotate under pressure of a peg set in one end of the wooden barrel which engaged in turn, once per revolution of the barrel with each of the five arms of the star wheel.

Once the star wheel had been released, allowing the barrel to rotate, the speed of the barrel was controlled by a large fly, similar to those used in turret clocks, driven by the Train of gears in the centre of the picture. The barrel continued to rotate under the action of its driving weight for five revolution, that is for one full revolution of the star wheel

so playing the set tune five times. By this time the weighted arm had been returned to its neutral position by the pressure of its spring and so the out of balance stop lever was free to drop into the slot in the side of the star wheel once more bringing the whole of. the tune mechanism to a halt.

The 32" diameter X 38¾ long barrel and the keys which it played are shown in Fig. 3. As can be seen, the barrel is of robust wooden construction and the tunes are "pinned" out with stout iron pegs. The keys are shown in their playing position, their disorderly positions being accounted for by broken and maladjusted bell hammers. Although there are only six bells, there are twelve keys - two per bell - presumably for the same reason that one may have two teeth tuned to the same note in a musical box, i.e. to enable more rapid repetition of the same note To prevent the bells from being played the pivoted bar seen leaning against the wall in the background could be brought down over rear (left hand) end of the keys to force them down and hence out of contact with the pegs in the barrel.

At this point. I must record a disagreement with John Clark, for he credits the Willoughby clock with playing six tunes whereas it appears to play only five, neither do the tunes he lists agree with those given ,on the card pinned up in the clock chamber; namely:-

1. We love the place, O God.

2, Rousseau's Dream

3. Lead Kindly Light

4. Rock of Ages .

5. Drink to me only...

I can offer no explanation for this discrepancy, merely record the facts I do agree that the tunes would be played at four, eight, and twelve O'clock though whether the villagers were treated to five verses of "Drink to me only" at midnight I do not know. Since the keys could only be "raised" or. "lowered" in the chamber it- would be necessary for someone to ascend the tower twice daily to silence the bells during the night and allow them to play during the day in any case one daily visit was necessary to wind the mechanism.

One member-of the society who heard my talk had tended the clock in years past but it has not been, in use now for upwards of twenty years, At the present time some of the weights are missing as are the pendulum, some of the bell hammers and one or two other small pieces - but otherwise it could be said to be in good order.

Consideration has been given to restoration of the mechanism but as with all things, of this nature it is a question of time or money - or both, Whether or not it will ever play again remains to be seen but in any case it is an interesting relic of an earlier age of mechanical music.

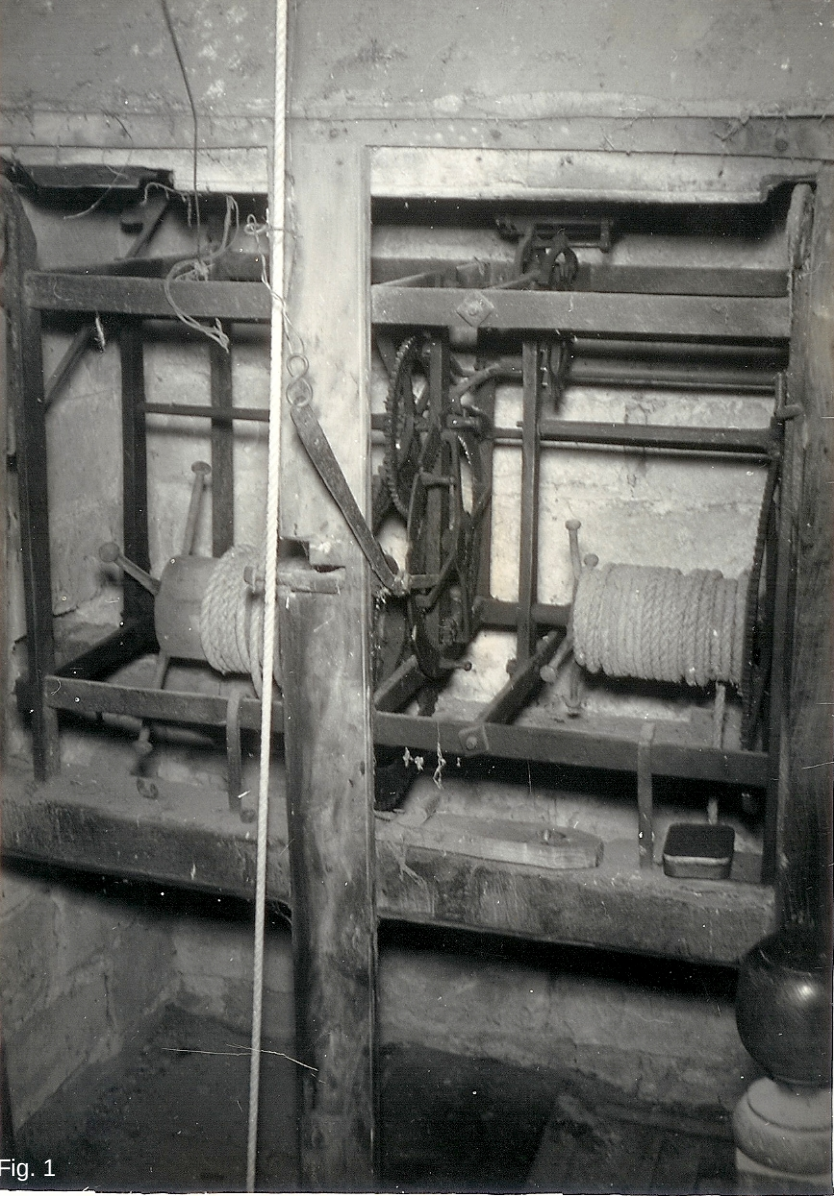

Fig. 1

Fig. 2

Fig. 3