CONSTRUCTING *TZUROT HAPETACH*

Rabbi Haim Jachter | Eruvin Daf 11

In this chapter, we will address several issues that arise during the physical construction of an *eruv*. Before beginning to build an *eruv*, it must be determined if the area is a *reshut harabim* or merely a *karmelit*. If the area is a *karmelit*, surrounding it with *tzurot hapetach* suffices, whereas a *reshut harabim* must be enclosed by a wall or, at least, by doors (*Shulchan Aruch*, O.C. 364:2, and *Mishnah Berurah* 364:8).

Constructing Tzurot Hapetach

Constructing a *tzurat hapetach*, literally "the shape of a doorframe," seems to be a simple and straightforward process. The Talmud (Eruvin 11b) states that a *tzurat hapetach* consists of two vertical poles with a horizontal pole directly on top of them (*kaneh mikan vekaneh mikan vekaneh al gabeihen*). However, the laws of *tzurot hapetach* are actually quite complex, particularly when constructing a community *eruv*. Community *eruvin* in North America often use pre-existing structures, which can significantly reduce the costs of building and maintaining an *eruv*. These structures, such as telephone poles, were not built for use in *eruvin* and often introduce halachic complexities.[1]

[1] For an explanation of how such structures may be used as *tzurot hapetach* despite the fact that they were not constructed for this purpose, see *Chazon Ish*, O.C. 111:5. See *Mishnah Berurah* (362:64) for more sources on this issue.

Must the Vertical Poles Extend All the Way to the Horizontal One?

The Talmud (Eruvin 11b) records a dispute between Rav Nachman and Rav Sheishet about whether the vertical poles of a *tzurat hapetach* must extend all the way to the horizontal pole. The Halachah follows the opinion of Rav Nachman, that if the vertical poles are ten *tefachim* (approximately forty inches) high and are positioned precisely beneath the horizontal pole, the *tzurat hapetach* is acceptable. The horizontal pole need not touch the vertical poles and may be well above them (*Shulchan Aruch*, O.C. 362:11). The *Mishnah Berurah* (362:62) explains that the basis for this ruling is the principle of *gud asik* (literally, "the wall goes up"), which states that the Halachah views the vertical poles as extending upward to the horizontal pole.

Gud Asik: Eyesight or Plumb Line?

Although vertical poles of a *tzurat hapetach* need not touch the horizontal pole (or wire), they must be positioned directly underneath it. The poles cannot even be off by the slightest amount (see *Mishnah Berurah* 362:63). Halachic authorities debate how to determine the proper positioning.[2] Rav Yosef Dov Soloveitchik (as

[2] Measurements for some areas of Halachah are estimated based on what appears correct to people, while other areas require precise measurements. For example, *terumah* (the fiftieth of grain which is given to *kohanim*) must be an estimate and may not be measured to

reported by Rav Yosef Adler) and Rav Moshe Feinstein (reported by Rav Elazar Meyer Teitz, from his uncle, Rav Pesach Rayman) both felt that it is sufficient to estimate the poles' positioning with one's eyes. Rav Zalman Nechemia Goldberg (personal communication) also permits using eyesight, although he requires building very wide vertical beams to allow for a wide margin of error in their positioning.

However, Rav Yitzchak Liebes, Rav J. David Bleich, Rav Hershel Schachter, Rav Feivel Cohen,[3] and Rav Mordechai Willig (all through personal communication) rule that a plumb line (or another device for measuring verticality) is necessary to ensure that everything lines up appropriately. The Gemara (Eruvin 94b) requires constructing "halachic walls" (and presumably *tzurot hapetach* as well) in the same manner that people usually build walls (*kede'avdei inshei*).[4] Builders and carpenters have used plumb lines for thousands of years; they appear in Amos (7:7-8) and the Mishnah (for example, *Kil'ayim* 6:9 and *Keilim* 29:3). Accordingly, a plumb line must be used in constructing a *tzurat hapetach*. Rav Shlomo Zalman Auerbach told this author that, while it is best to use a plumb line, one may rely on eyesight alone if it is "impossible" to

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precisely equal one-fiftieth (Terumot 1:7). On the other hand, *techum Shabbat* (the area that one may not leave on Shabbat) must be measured precisely (Eruvin 57b, 58b). In many areas, it is unclear whether an estimate or precise measurement is required. For example, the *Chazon Ish* (*Hil. Tumat Tzaraat* 8:1) writes that measurements for the spreading of a spot of leprosy are done by estimation. He bases himself on a passage in the Ramban's commentary to the Torah (*Vayikra* 13:5). However, the *Chazon Ish* does not mention that the Rosh (*Tosafot Harosh*, Mo'eid Katan 7a, cited in the *Tur*'s long commentary to *Vayikra* 13:5) requires the use of measuring implements to determine the leprosy spot's growth.

[3] Rav Cohen believes that two sets of vertical poles must be constructed, one set that appears to be under the horizontal pole and one set that has been measured to be precisely under the horizontal pole (if the position determined by sight differs from the position determined by the plumb line). It is not clear, however, that Rav Moshe and Rav Soloveitchik invalidate an *eruv* that was measured by a plumb line. It may be that they also recognize such an *eruv* but add that measuring by eyesight is **also** acceptable. Rav Shlomo Miller (in his letter of approbation for *The Contemporary Eruv*) presents an argument for why constructing an *eruv* with plumb line measurements suffices according to all authorities. See, however, *Teshuvot Avnei Yashfeh* (2; O.C. 43:6) which argues that if a plumb line yields a result that differs from eyesight, than the *tzurat hapetach* is invalid since this is the normal manner in which a door frame is built. The author cites what appears to be Rav Yosef Shalom Eliashiv who endorses this ruling. This approach appears difficult since builders typically use a plumb line when building a door frame. Interestingly, Rav Schachter (personal communication and stated in the 5779 *Hilchot Eruvin* lecture to Yeshiva University rabbinical students) believes that while *gud asik* should be measured using a plumb line, there is merit to the view that believes that an eyesight measurement suffices. However, he invalidates an *eruv* where some of the *lechis* are measured by plumbline but other *lechis* are measured by eyesight. Rav Mordechai Willig (personal communication) does not believe that this renders an *eruv* invalid.

[4] The significance of *kede'avdei inshei* is particularly emphasized by Rav Shlomo Kluger (*Teshuvot Ha'elef Lecha Shlomo* 156, 157, 161, 170, 173, 174).

construct the *eruv* otherwise.[5] When determining whether the *lechi* is positioned directly under the wire, one should be very careful to measure straight up perpendicular to the ground and not in line with the *lechi*. (See the *Chazon Ish* 71:6; this is a common problem.)

Rav David Lifshitz (Rav of Suwalk immediately before World War II) told this author that a plumb line was used when constructing *tzurot hapetach* in Suwalk. Rav Ephraim Oshry (Rav of the Kovno Ghetto) told this author that in Kovno they relied on eyesight alone. Rav Yosef Singer (Rav of Pilzno prior to World War II) also reported that he believes the rabbis he knew in Europe relied on eyesight alone. Accordingly, this debate has raged for at least 80 years. Rav Meir Goldwicht informed this author in 1990 that Israeli communities also have divergent practices regarding this issue. In order to avoid this problem, most North American communities erect vertical poles that reach the horizontal wire or pole. This method avoids the need to estimate from afar if the pole is directly under the wire.

The Tapered Pole - The Chazon Ish

Telephone and utility poles frequently have wires attached to their sides, rather than on top. It is thus important to determine whether one may use such a wire and pole as a *tzurat hapetach* without affixing additional materials to the telephone pole. One could argue that this would be acceptable, because telephone poles are often thicker on the bottom than they are on top. Therefore, a wire attached to the side of the pole on top passes directly over the extra thickness of the lower part of the pole. Perhaps this thickness constitutes a "vertical pole" of the *tzurat hapetach*. One must check, of course, that the extra thickness at the bottom sticks out under this wire for ten *tefachim* of the pole's height, for every vertical pole in a *tzurat hapetach* must be at least ten *tefachim* high.

Despite the above resolution, the *Chazon Ish* (O.C. 71:12) invalidates a wire on the side of a tapered pole. He adds that if there is an indentation cut in the pole, perhaps this pole and wire may then be used for a *tzurat hapetach*. The indentation must be ten *tefachim* above the ground. The accepted practice is to follow the *Chazon Ish*'s stringency.

Placing a Tzurat Hapetach in a Reshut Hayachid

Another important issue in *eruv* construction is whether a component of a *tzurat hapetach* may be located within a *reshut hayachid*. The *Mishnah Berurah* (363:113) cites the *Mekor Chaim*, who

[5] Of course, the definition of "impossible" is debatable. Rav Hershel Schachter (in response to what this author quoted from Rav Shlomo Zalman) insisted that it is never impossible to measure precisely, especially with the invention of devices such as laser pointers. Similar to Rav Shlomo Zalman's ruling, the Rama (O.C. 456:3) permits estimating the measurement for separating *challah* when measuring precisely is not feasible (although he addresses a halachic impediment, rather than practical difficulty).

invalidates such a *tzurat hapetach*, and the *Mishnah Berurah* accepts his ruling.

The *Mekor Chaim* offers two possible reasons for this strict ruling. One might argue that the *tzurat hapetach* is not noticeable (*nikar*) if it is situated within a *reshut hayachid* (such as a private yard). Alternatively, one might claim that the walls or fences that encompass a *reshut hayachid* are viewed halachically as extending "all the way to the heavens" (see Shabbat 7a), so the airspace above a *reshut hayachid* is halachically impenetrable. For example, a horizontal wire passing through a backyard enclosed by a fence would be invalid according to this opinion, as it is halachically blocked by the "upward extension" of the fence. Rav Hershel Schachter instructs *eruv* planners to be strict on this matter.[6]

Other Acharonim disagree with the *Mekor Chaim*'s stringency.[7] The *Chavatzelet Hasharon* (1:20) writes that the custom is to be lenient in this issue. He adds that his father, who was exceedingly strict concerning most halachic matters, ruled leniently concerning this issue. Rav Hershel Schachter (in a lecture given to Yeshiva University rabbinical students in both 5749 and 5779) relates that Rav Mendel Zaks told him that the custom in Europe was indeed to be lenient. However, Rav Schachter strongly urges communities to be strict in this matter. This issue has not yet been resolved, and practices vary from community to community.[8] See our chapter on *The Lechi Under the Cabin Eaves at Camp Ramah Darom* for further discussion of this issue.

Flimsy and Zigzagging Wires

The *Shulchan Aruch* (O.C. 362:11) codifies the Talmud's (Eruvin 11b) requirement that the vertical poles be sufficiently strong that they could theoretically support a door made of straw.[9] The *Shulchan Aruch* adds that the horizontal wire connecting the vertical poles does not have to be as strong and can even be made from a very light material, such as reed-grass (*gemi*).

Nonetheless, some suggest that the string may not be so flimsy that it sways in the wind. The *Mishnah Berurah* (362:66) presents two opinions regarding this issue. One focus of the argument is whether the horizontal wire has to be sufficiently sturdy that it can withstand "conventional" winds (*omeid beruach metzuyah*). He quotes the well-known rule that for a halachic wall (*mechitzah*) to be valid, it must be sturdy enough to withstand ordinary winds. This

[6] Rav Schachter discusses this issue in *Be'ikvei Hatzon* (ch. 13).

[7] The *Aruch Hashulchan* does not mention this stringency. *Teshuvot Chatam Sofer* O.C. 91 and 96 and *Teshuvot Maharsham* 1:207 rule leniently regarding this issue in certain circumstances.

[8] Rav Mordechai Willig once commented to this author that, in reality, all communities are lenient on this issue, because cars are considered *reshuyot hayachid*. Virtually every community *eruv* today uses *tzurot hapetach* that pass over cars, and the cars' walls should halachically block them, according to the stringent view. This point is also mentioned in *The Contemporary Eruv* (p. 79).

[9] The thin strips of wire molding used in many *eruvin* today meet this requirement according to most authorities by virtue of the fact that they are attached to the utility pole, which is sufficiently strong (see *Sha'ar Hatziyun* 363:22). For further discussion of this issue see our later chapter, *Lechi Strength*.

rule undoubtedly applies to the vertical poles of a *tzurat hapetach*, but the *Mishnah Berurah* cites the opinion of the *Machatzit Hashekel* who claims that it does not apply to the horizontal strings (or poles). Another objection to flimsy wires is that normal door frames are not constructed in such a manner (see Eruvin 94b). The *Aruch Hashulchan* (362:37) rules leniently regarding this concern, while the *Chazon Ish* (O.C. 71:10) rules strictly.[10]

In a true doorframe, the horizontal beam goes straight from one vertical beam to the other. When constructing a *tzurat hapetach*, it happens sometimes that the wire will wrap around things, such as trees or poles, which it does not pass over. Consequently, the wire, which should parallel the top beam of a doorway, will zigzag between the vertical poles rather than going straight from one of them to the other. One could argue that the status of such a wire depends upon the same dispute as the status of a wire which is blown from side to side in the wind, for both wires move horizontally from being directly between the vertical poles. In defense of the lenient position, Rav Mordechai Willig claims that a minor zigzag is permissible, because the Gemara (Eruvin 11a) describes *eruvin* made of grapevines, which are not completely straight. Nonetheless, a curve of greater than twenty-two degrees would seem to invalidate the *tzurat hapetach*. Rav Yosef Adler reports that Rav Yosef Dov Soloveitchik espouses this position. Rav Meir Arik (*Teshuvot Imrei Yosher* 2:133) claims that the wire is only valid even in case of great need if it does not sway or veer more than three *tefachim* in any direction.[11]

Rav Schachter also does not permit any significant deviation in the wire. Rav Micha Shotkin reports that Rav Shlomo Miller tolerates no deviation in the straightness of the wire. He even uses a plumb line to make sure the line is perfectly straight. Rav Schachter, though, makes no such requirement. We should note, though, that experience teaches that one cannot properly perceive a deviation in the wire at the point of deflection – one needs to take a step back to properly assess the situation.

Rav Moshe Heinemann (as presented in the Star-K's *eruv* webinar) in theory agrees with the view that the wire should be straight but in practice he says he views a wire "with an *ayin tov*" (a generous eye) and avoids going out of his way to make sure the wire is absolutely straight. For further discussion of this issue, see Rav Mordechai Willig's discussion in *Beit Yitzchak* (25:99).

Sagging Wires

A related issue is whether the horizontal wire may sag. The *Mishkenot Yaakov* (111, cited by *Sha'ar Hatziyun* 362:56) and the *Chazon Ish* (O.C. 71:10) rule that a sagging wire disqualifies a *tzurat hapetach*. If the

[10] The *Chazon Ish* invalidates the wire as long as the wind can move part of it outside a straight line between the two vertical poles. Rav Nota Greenblatt told this author in 1992 that he constructed the Memphis, Tennessee *eruv* with unusually wide vertical poles in order that the wires do not sway beyond the width of the vertical poles.

[11] For a criticism of this position, see *The Contemporary Eruv* (pp. 74-75).

wire sags, it probably sways in the wind, which is problematic according to some authorities (mentioned above). Furthermore, a *tzurat hapetach* must be constructed in a manner that replicates the way people construct door frames, and people do not manufacture door frames that sag on top. Interestingly, Rav Yosef Dov Soloveitchik (cited in *Nefesh Harav* p. 170) recalled from his childhood that he visited his grandfather, Rav Chaim Soloveitchik, in Brisk and went with Rav Simcha Zelig Riger, the famous *dayan* (rabbinic judge) of Brisk, to check the community *eruv*. During that trip, the *dayan* tightened all the horizontal wires so that they would not sag, apparently following the *Mishkenot Yaakov*'s opinion.

Despite these rulings, Rav Tzvi Pesach Frank (*Teshuvot Har Tzvi* 2:18:8) permits sagging, as long as a significant part of the wire (about ten inches) does not come within ten *tefachim* of the ground. In addition, the *Aruch Hashulchan* does not cite the strict ruling of the *Mishkenot Yaakov*. Rav Hershel Schachter told me that he heard that the practice of most communities in pre-war Europe was to follow the lenient opinion and accept sagging wires.

Communal practices today still differ in this area. Some communities follow a compromise approach that the horizontal wire may sag up to three *tefachim* (approximately 9-12 inches),[12] based on the concept of *lavud*, that a gap of less than three *tefachim* is considered closed.[13]

This issue is discussed at further length in our later chapter, *Sagging Wire in the Yeshiva University Eruv*.

Slanted Wires

Because a *tzurat hapetach* should be built like a true doorway, a potential problem arises when one pole is taller than the other, putting the horizontal wire on a slant (even though it is taut). One could claim that this should be invalid, as most doorways are built with the horizontal beam perpendicular to the vertical beams. Indeed, Rav Hershel Schachter regards slanted wires as problematic since doorways are not typically constructed in this manner. Moreover, Rav Schachter (in an essay printed in *Sefer Kevod Harav* p. 281) even raises a problem with the floor of a *tzurat hapetach* not being flat since door frames are made only where the floor is flat. However, Rav Schachter acknowledges that many Acharonim (such as *Teshuvot Ha'elef Lecha Shlomo* O.C. 154 and *Teshuvot Melamed Leho'il* O.C 67, based on *Teshuvot Sho'el Umeishiv*) disagree. In practice, this is a very difficult requirement to satisfy.

Nonetheless, the *Mishnah Berurah* (362:60) rules that even if the horizontal wire is slanted, the *tzurat hapetach* is acceptable. He cites (*Sha'ar Hatziyun* 362:46) the

[12] See Rav Shimon Eider's *Halachos of the Eruv* (p. 24).

[13] Another common example of *lavud* is a chain link fence, which serves as a solid wall if the gaps between the links are less than three *tefachim* wide.

opinion of Rav Akiva Eiger, however, that an exceedingly slanted wire might disqualify the *tzurat hapetach*.

Rav Aharon Kotler (cited in Rav Shimon Eider's *Halachos of the Eruv*, p. 23) rules that a slant of less than forty-five degrees is acceptable even according to Rav Akiva Eiger. Rav Moshe Heinemann (as presented in the Star-K *eruv* webinar) and Rav Mordechai Willig (*Beit Yitzchak* 5753, p. 97) accept Rav Kotler's ruling. In practice, many communities rely on slanted wires in accordance with Rav Kotler's view. In many situations it would be difficult to make the *eruv* without relying on this view (very often tension wires are slanted).

Rav Heinemann similarly cites Rav Aharon Kotler as permitting a *lechi* to slant as long as it is more vertical than horizontal. It is often essential to rely on this view as often the utility wires upon which the *eruv* relies, run a bit off the pole and the *lechi* must be bent in order to reach these wires.

Rav Yosef Shlomo Eliashiv is cited (*The Laws of Eruv*, p. 90) as requiring that the components of a *tzurat hapetach* be straight. Rav Zalman Nechemia Goldberg, though, is cited (ibid.) as disagreeing, noting that for hundreds of years slanted wires and *eruv* poles have been accepted as valid.

One should pay particular attention to not exceed a forty-five degree slant when building a *tzurat hapetach* on a steep hill. The *Netivot Shabbat* (19:27, n. 60) claims that a slant of more than twenty-two degrees is problematic. He also expresses Halachic concerns with building *tzurot hapetach* on a steep hill due to its being a viable Halachic *mechitzah*.

Conclusion

We have reviewed some of the major issues concerning how to build a *tzurat hapetach*. While the laws of *eruvin* are complex, it is an area where laymen can make a major contribution. Vigilant laymen who know the locations of their community's *tzurot hapetach* can help ensure its validity by notifying their rabbi whenever they notice downed or sagging wires. Similarly, people can help by noticing when telephone and utility workers make changes in the structure of poles and wires.[14]

[14] See further in our chapter, *Guidelines for Eruvin Maintenance.*