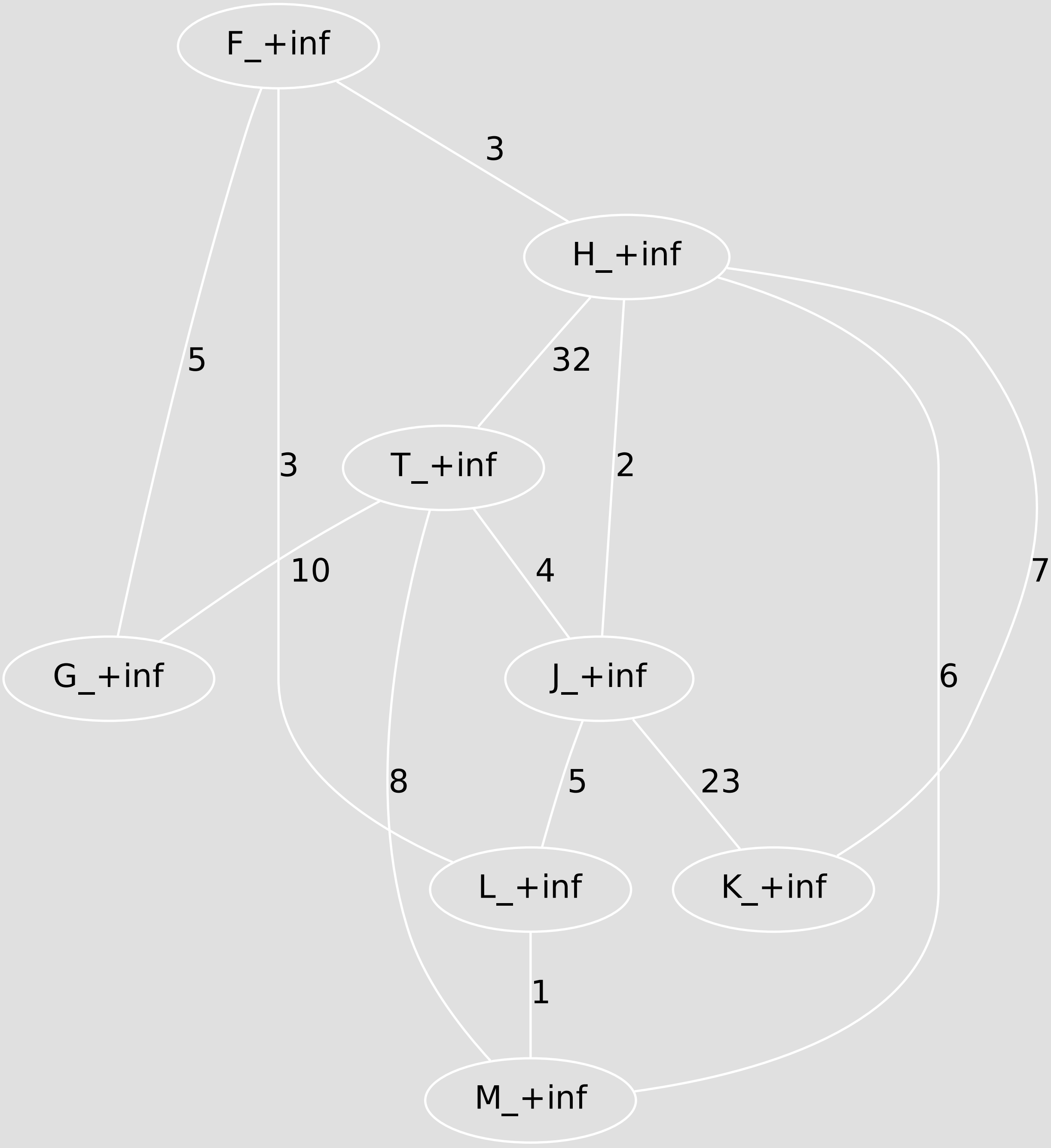
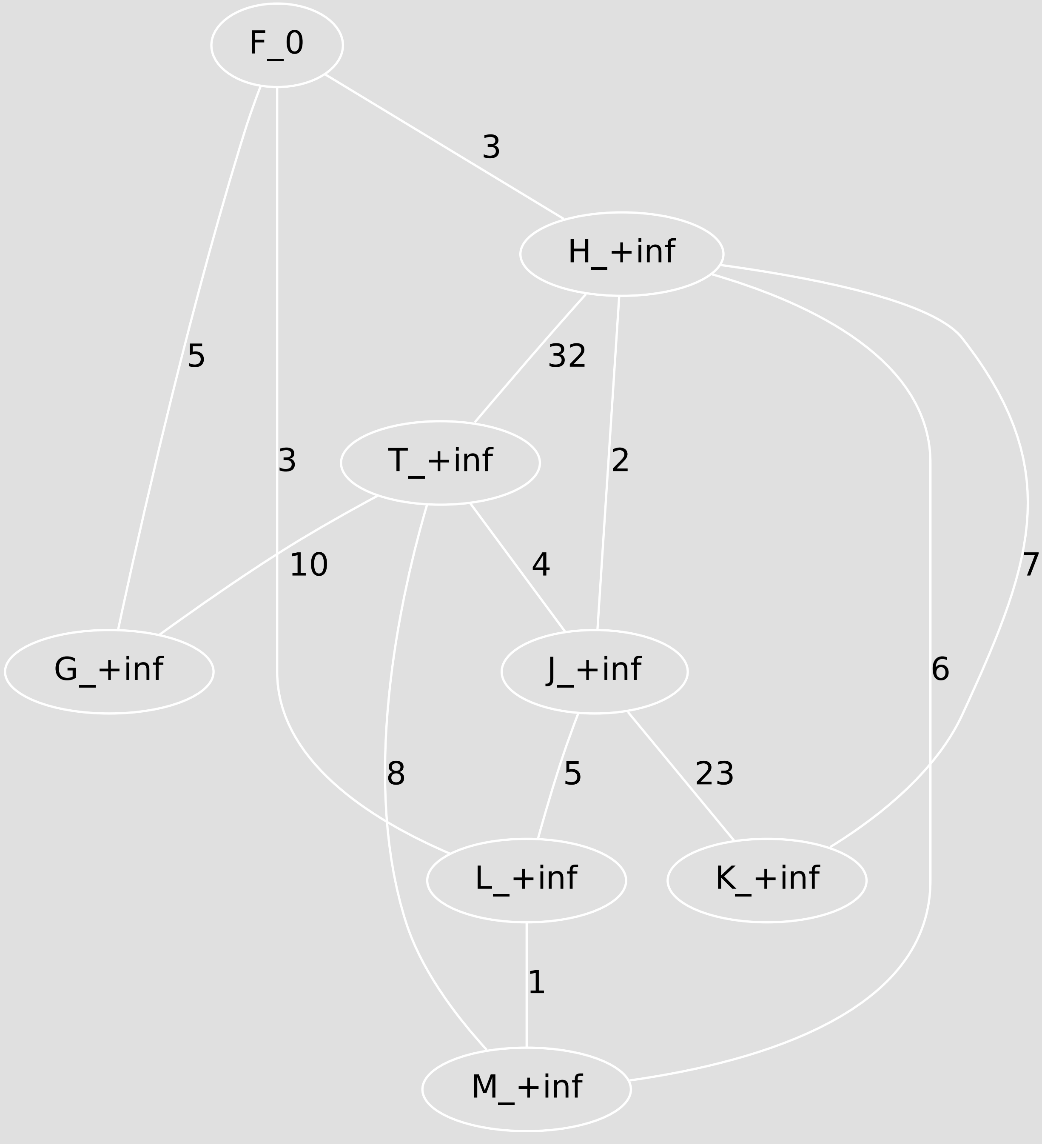
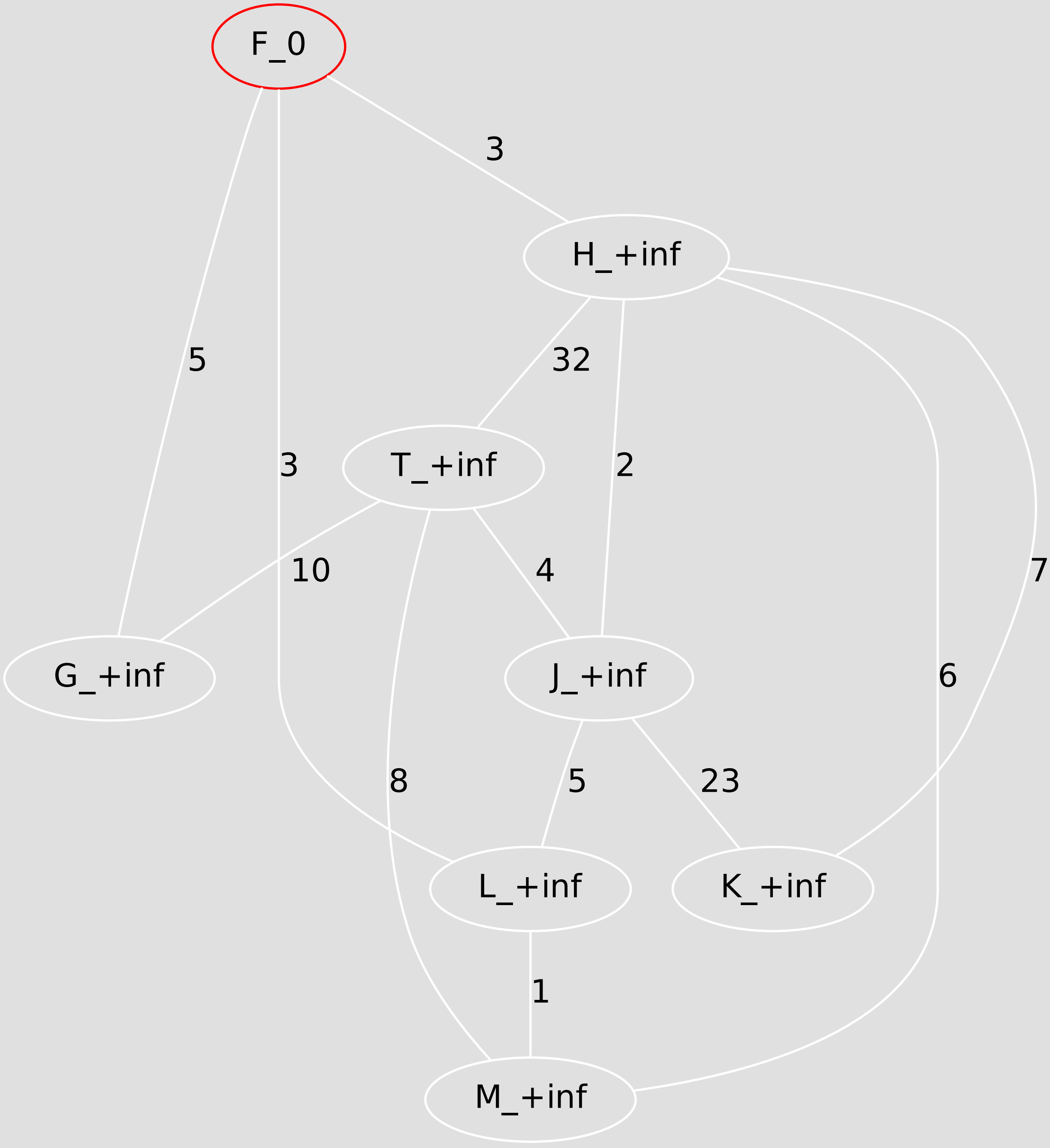
Prim MST: initialized the graph.
Priority queue = [L_+inf, H_+inf, F_+inf, T_+inf, J_+inf, G_+inf, M_+inf, K_+inf]
Weight of red edges = = 0



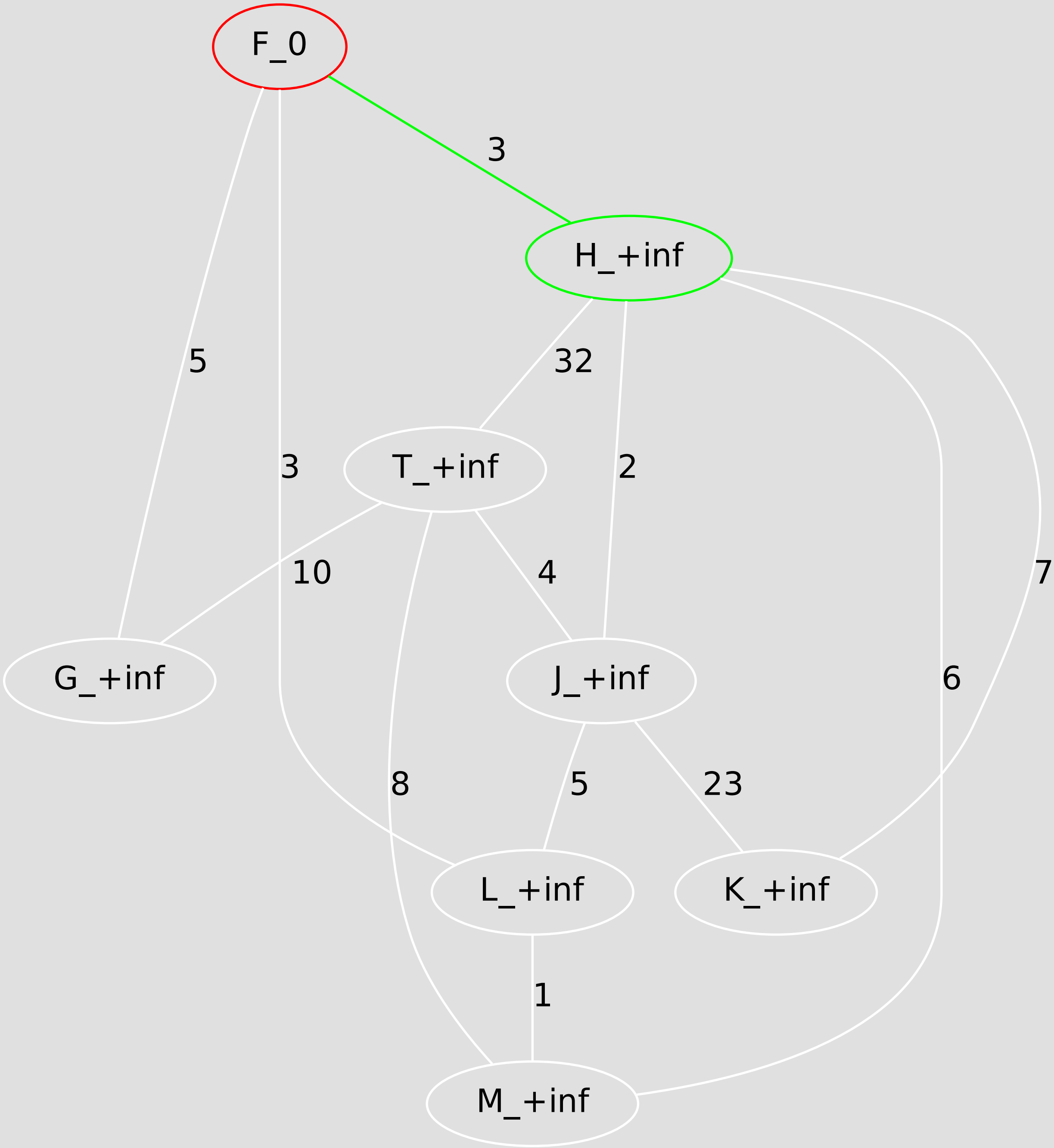
Marked the source node F.
Priority queue = [F_0, L_+inf, H_+inf, T_+inf, J_+inf, G_+inf, M_+inf, K_+inf]
Weight of red edges = = 0



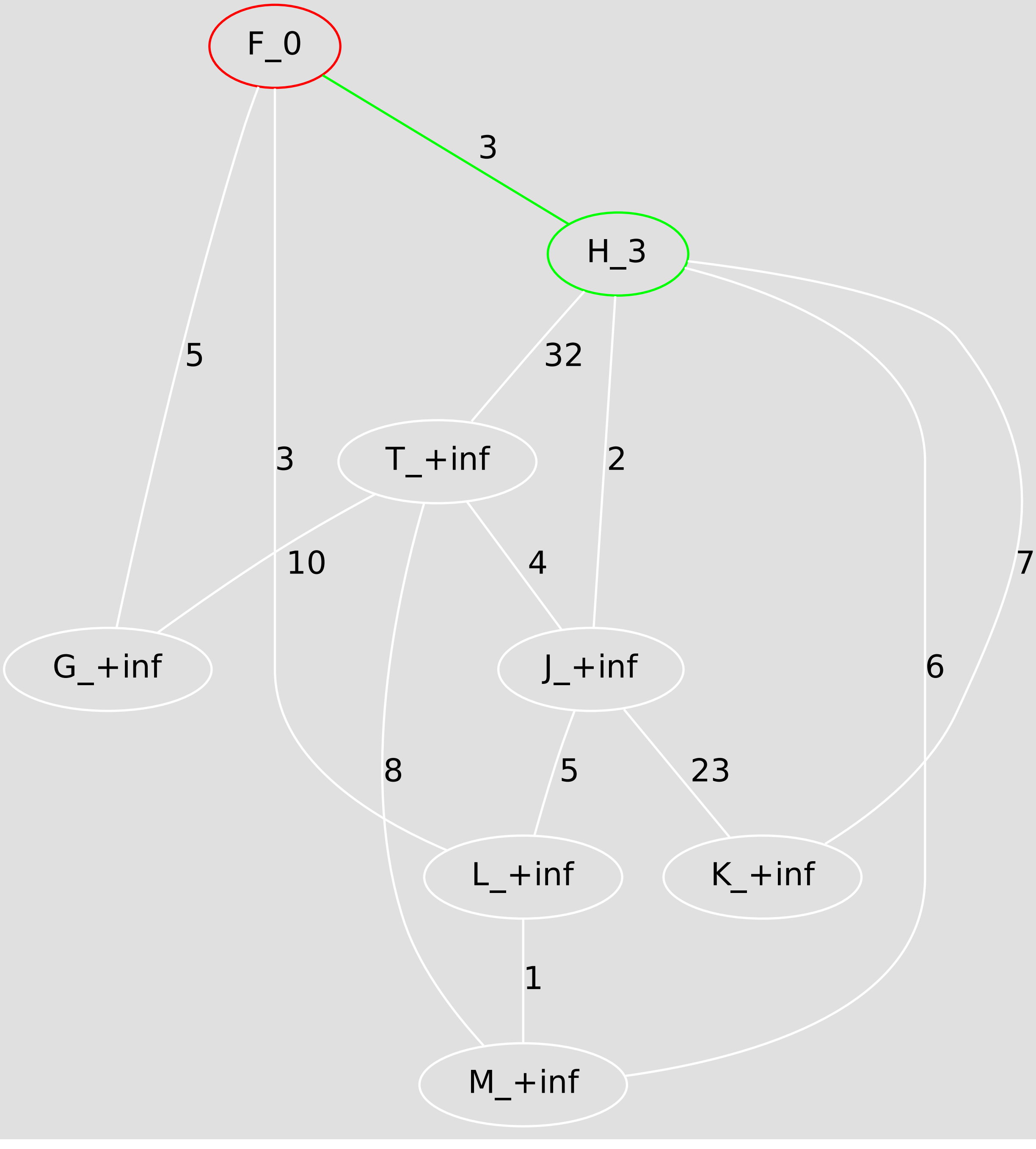
Extracted F and added it to the MST-so-far. Let's adjust its adjacent vertices (H, L, G).
Priority queue = [L_+inf, H_+inf, T_+inf, J_+inf, G_+inf, M_+inf, K_+inf]
Weight of red edges = = 0



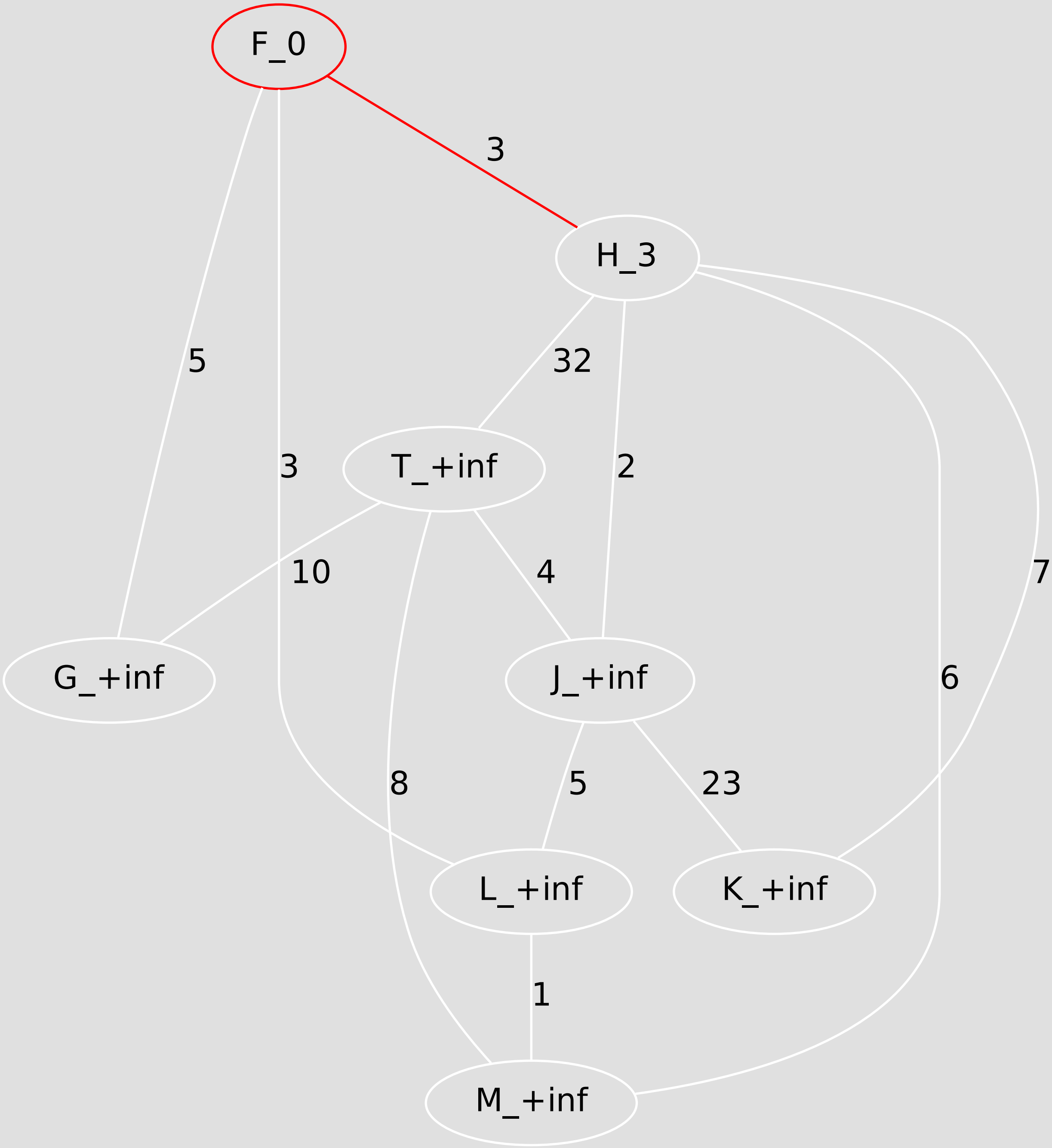
Adjusting the vertices adjacent to F. Considering edge (F, H), leading to H.
Priority queue = [L_+inf, H_+inf, T_+inf, J_+inf, G_+inf, M_+inf, K_+inf]
Weight of red edges = = 0



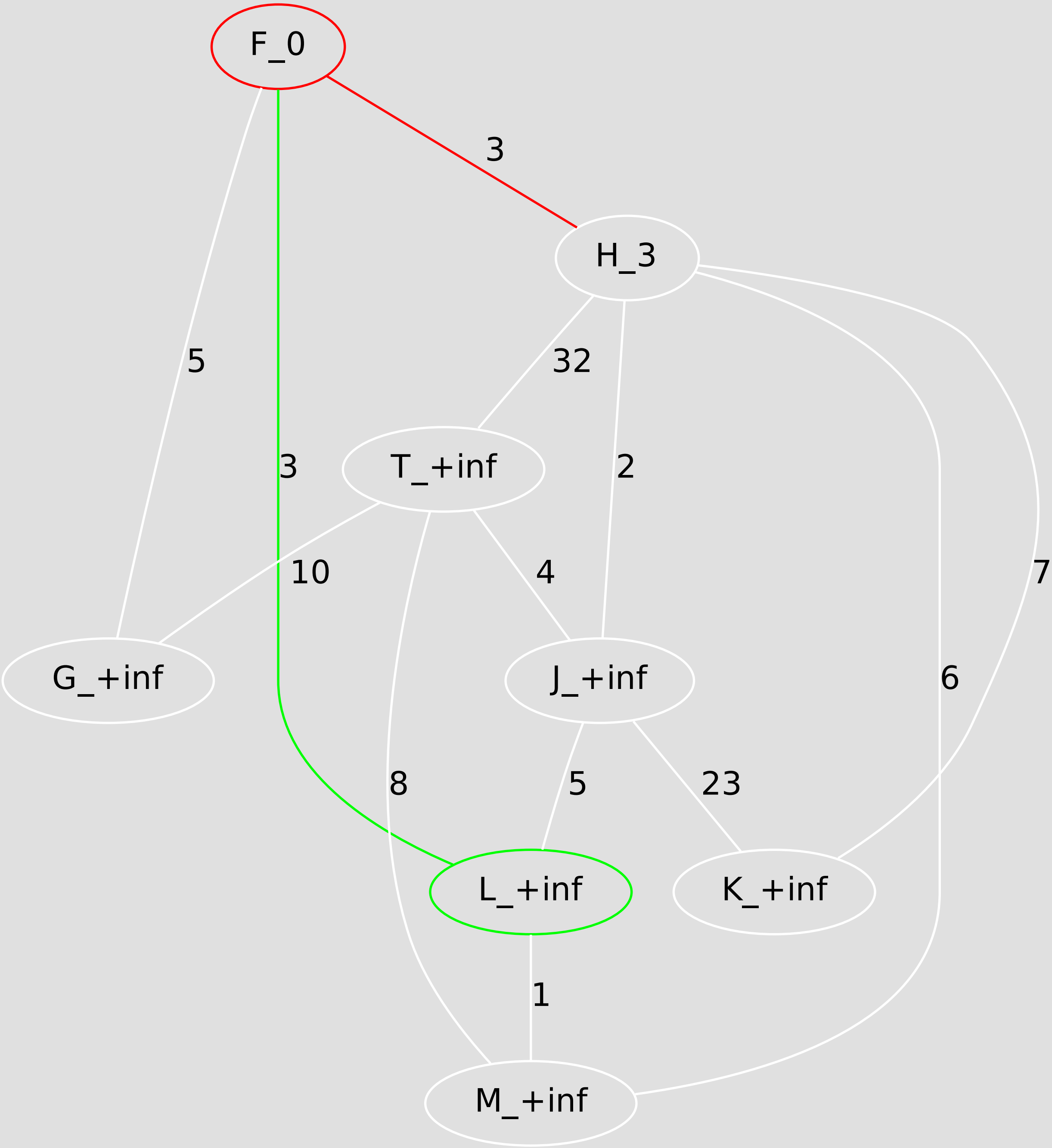
Using edge (F, H), vertex H can be reached in 3 from the MST-so-far (better than +inf).
Priority queue = [H_3, L_+inf, T_+inf, J_+inf, G_+inf, M_+inf, K_+inf]
Weight of red edges = = 0



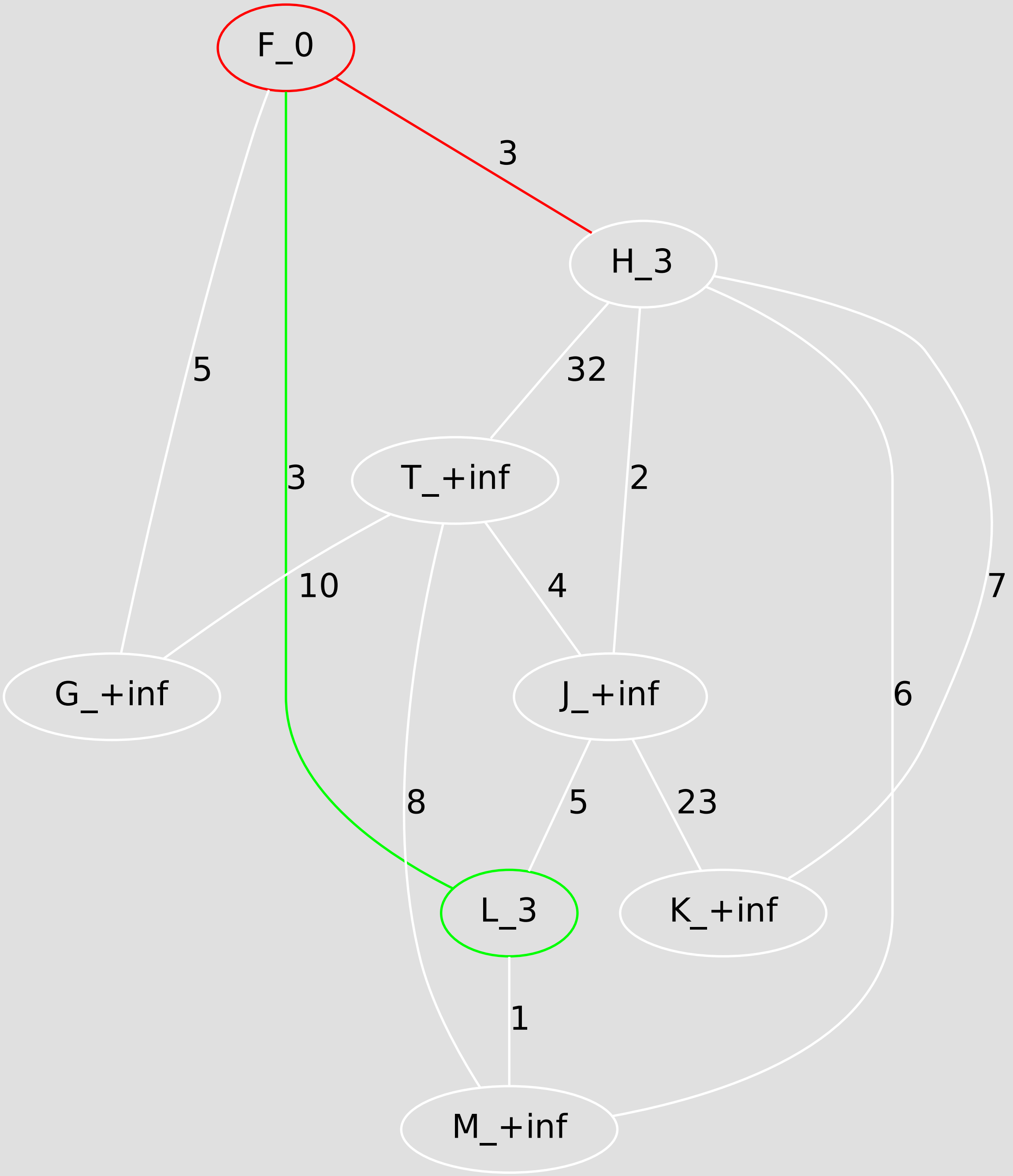
So let's add edge (F, H) to the MST.
Priority queue = [H_3, L_+inf, T_+inf, J_+inf, G_+inf, M_+inf, K_+inf]
Weight of red edges = 3 = 3



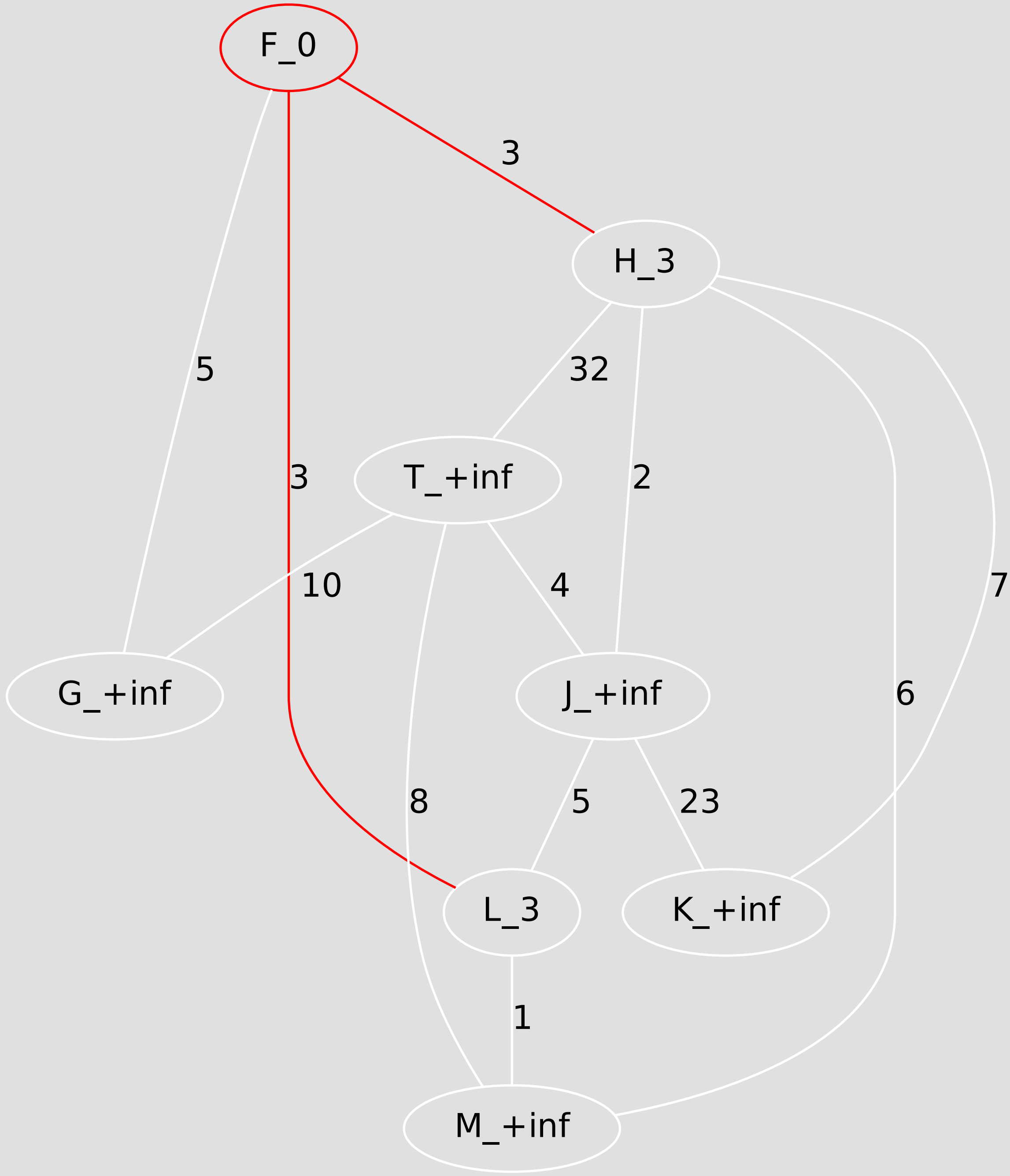
Adjusting the vertices adjacent to F. Considering edge (F, L), leading to L.
Priority queue = [H_3, L_+inf, T_+inf, J_+inf, G_+inf, M_+inf, K_+inf]
Weight of red edges = 3 = 3



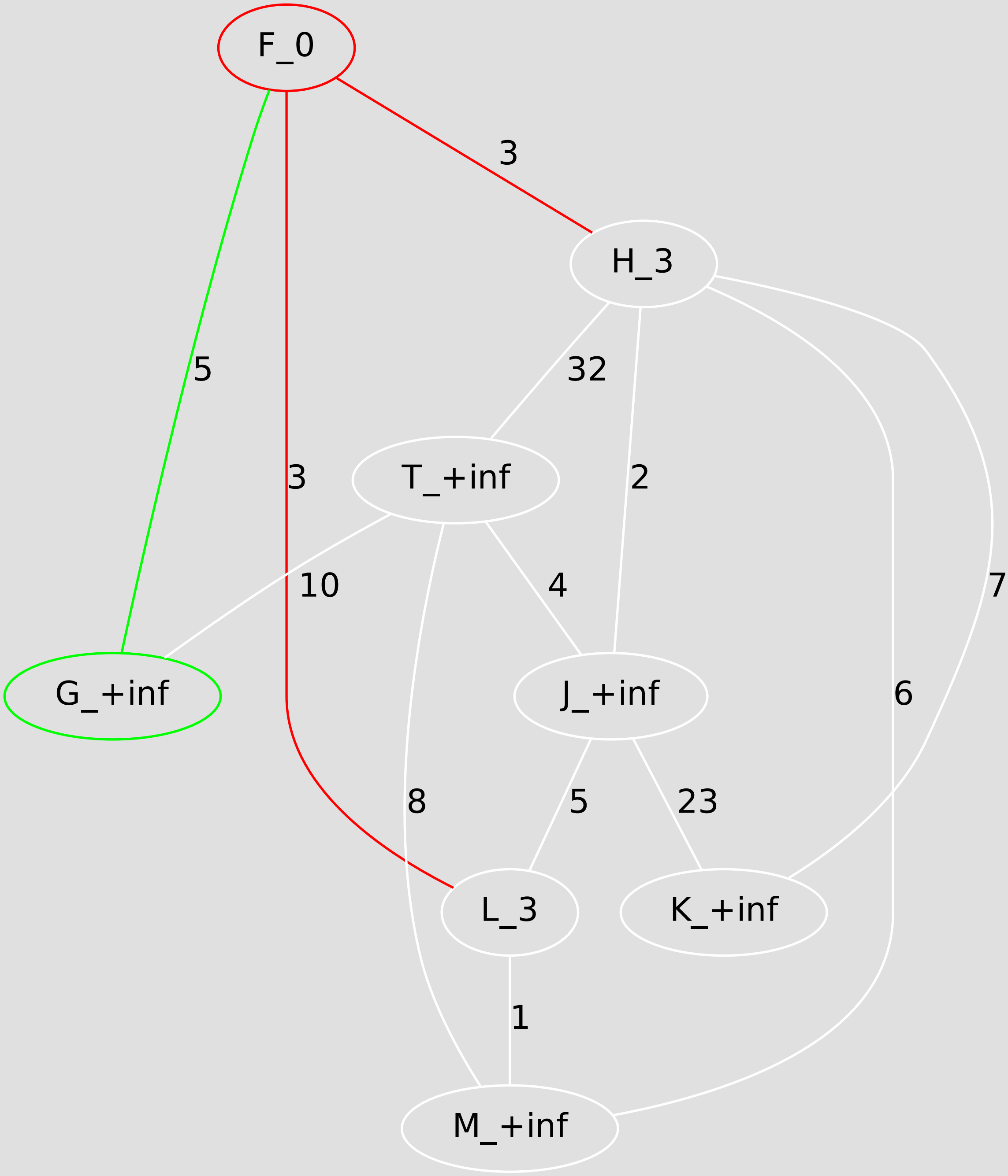
Using edge (F, L), vertex L can be reached in 3 from the MST-so-far (better than +inf).
Priority queue = [H_3, L_3, T_+inf, J_+inf, G_+inf, M_+inf, K_+inf]
Weight of red edges = 3 = 3



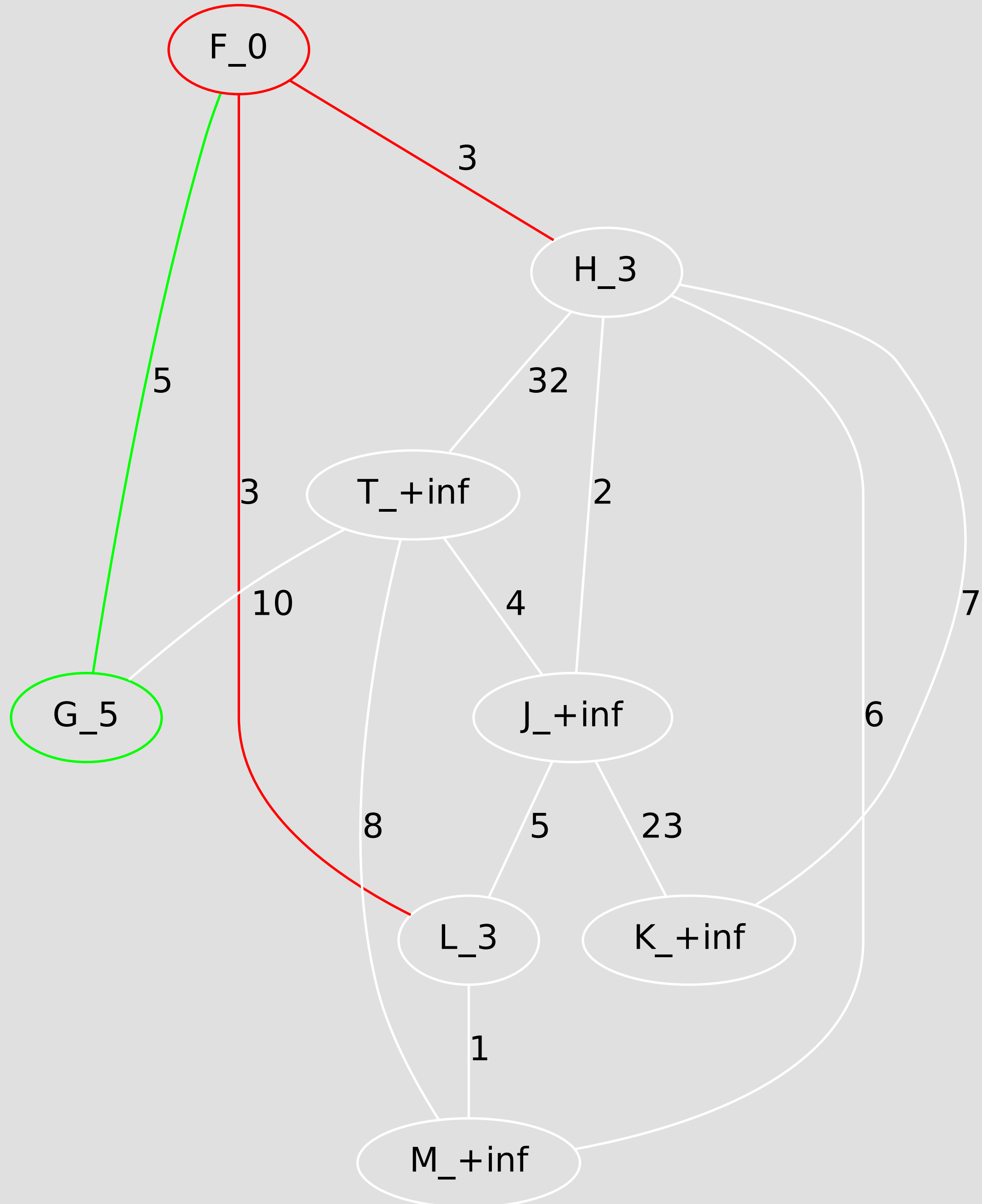
So let's add edge (F, L) to the MST.
Priority queue = [H_3, L_3, T_+inf, J_+inf, G_+inf, M_+inf, K_+inf]
Weight of red edges = 3 + 3 = 6



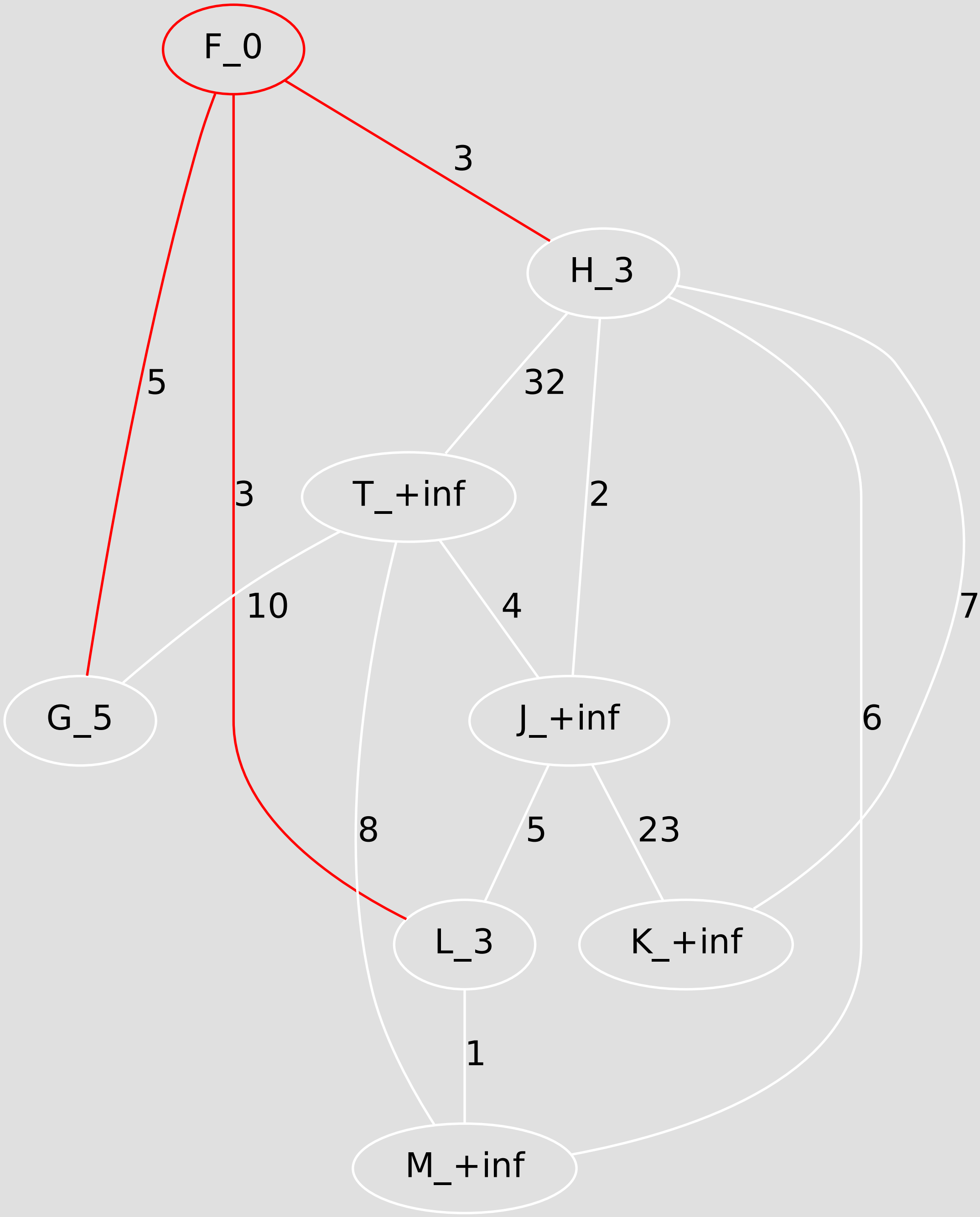
Adjusting the vertices adjacent to F. Considering edge (F, G), leading to G.
Priority queue = [H_3, L_3, T_+inf, J_+inf, G_+inf, M_+inf, K_+inf]
Weight of red edges = 3 + 3 = 6



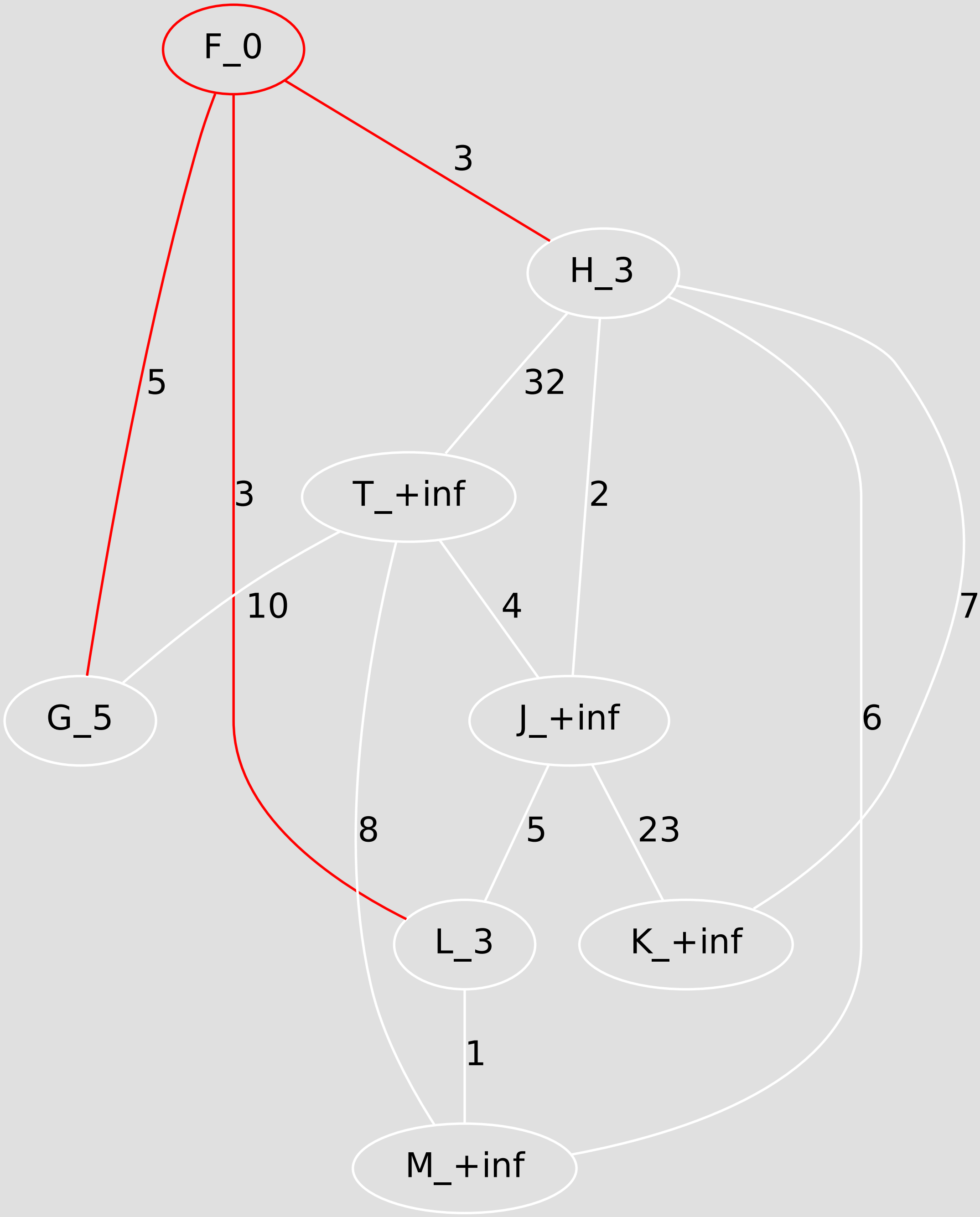
Using edge (F, G), vertex G can be reached in 5 from the MST-so-far (better than +inf).
Priority queue = [H_3, L_3, G_5, T_+inf, J_+inf, M_+inf, K_+inf]
Weight of red edges = 3 + 3 = 6



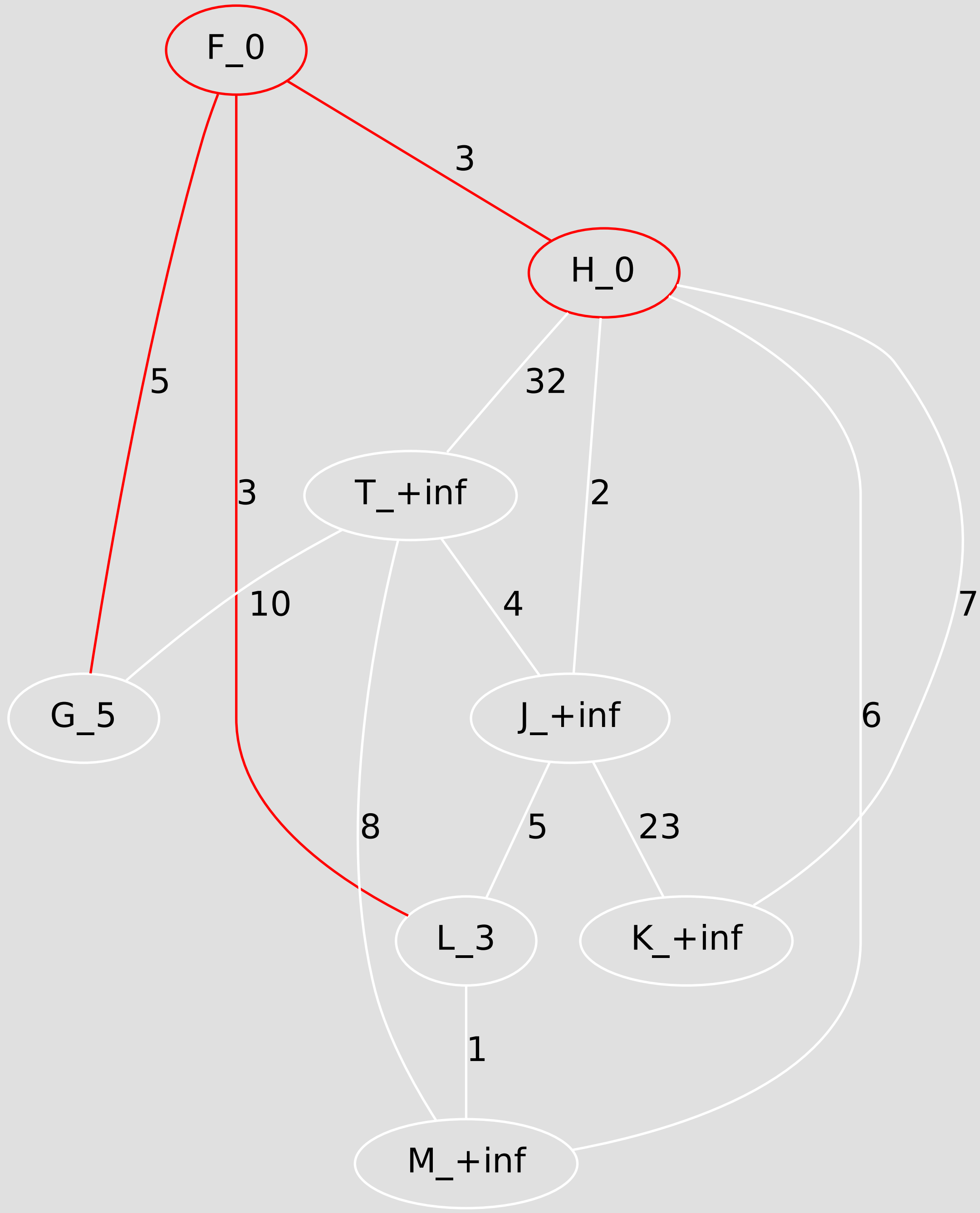
So let's add edge (F, G) to the MST.
Priority queue = [H_3, L_3, G_5, T_+inf, J_+inf, M_+inf, K_+inf]
Weight of red edges = 3 + 3 + 5 = 11

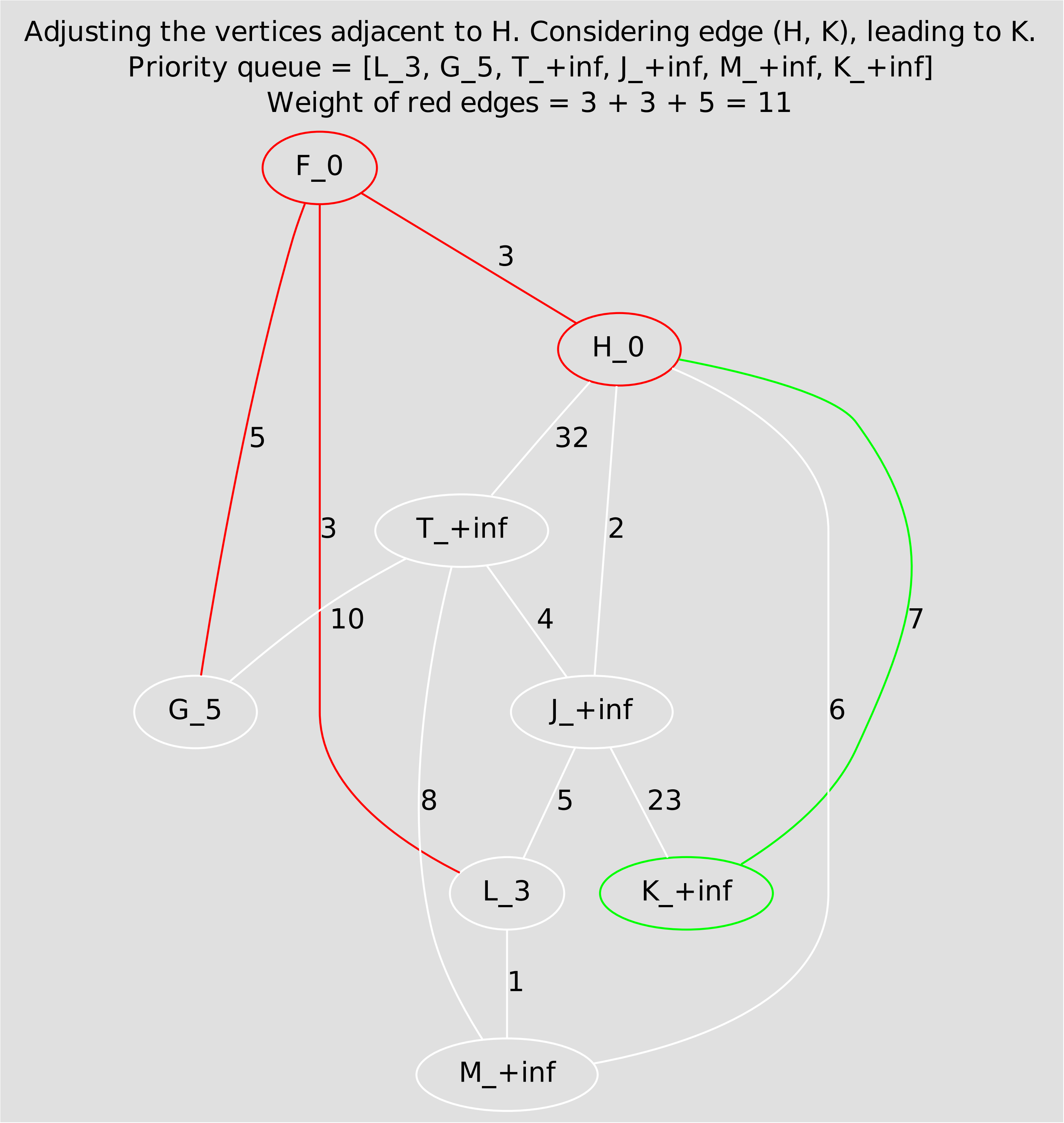


Finished with the adjacents of F.
Priority queue = [H_3, L_3, G_5, T_+inf, J_+inf, M_+inf, K_+inf]
Weight of red edges = 3 + 3 + 5 = 11



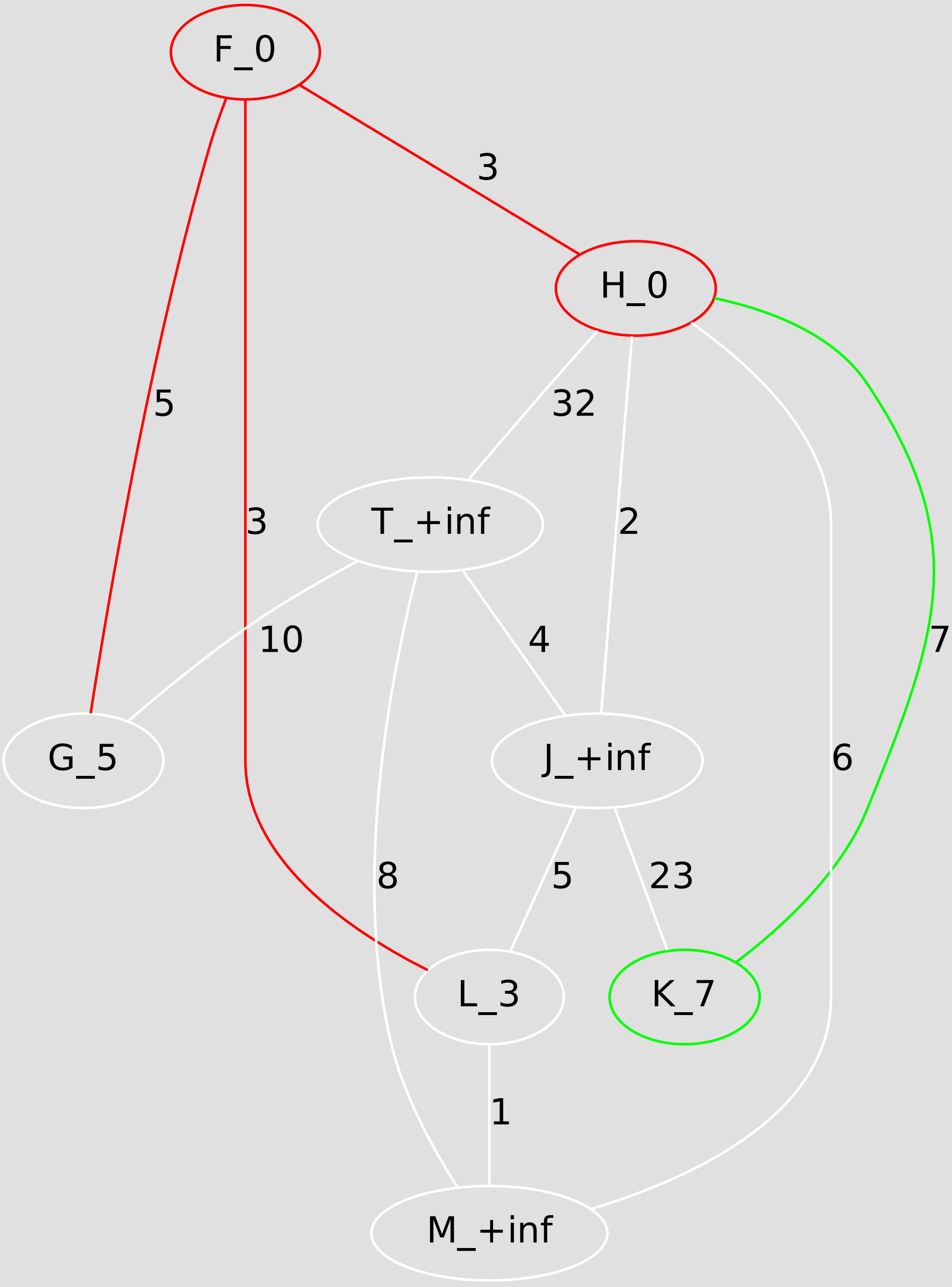
Extracted H and added it to the MST-so-far. Let's adjust its adjacent vertices (K, J, T, F, M).
Priority queue = [L_3, G_5, T_+inf, J_+inf, M_+inf, K_+inf]
Weight of red edges = 3 + 3 + 5 = 11



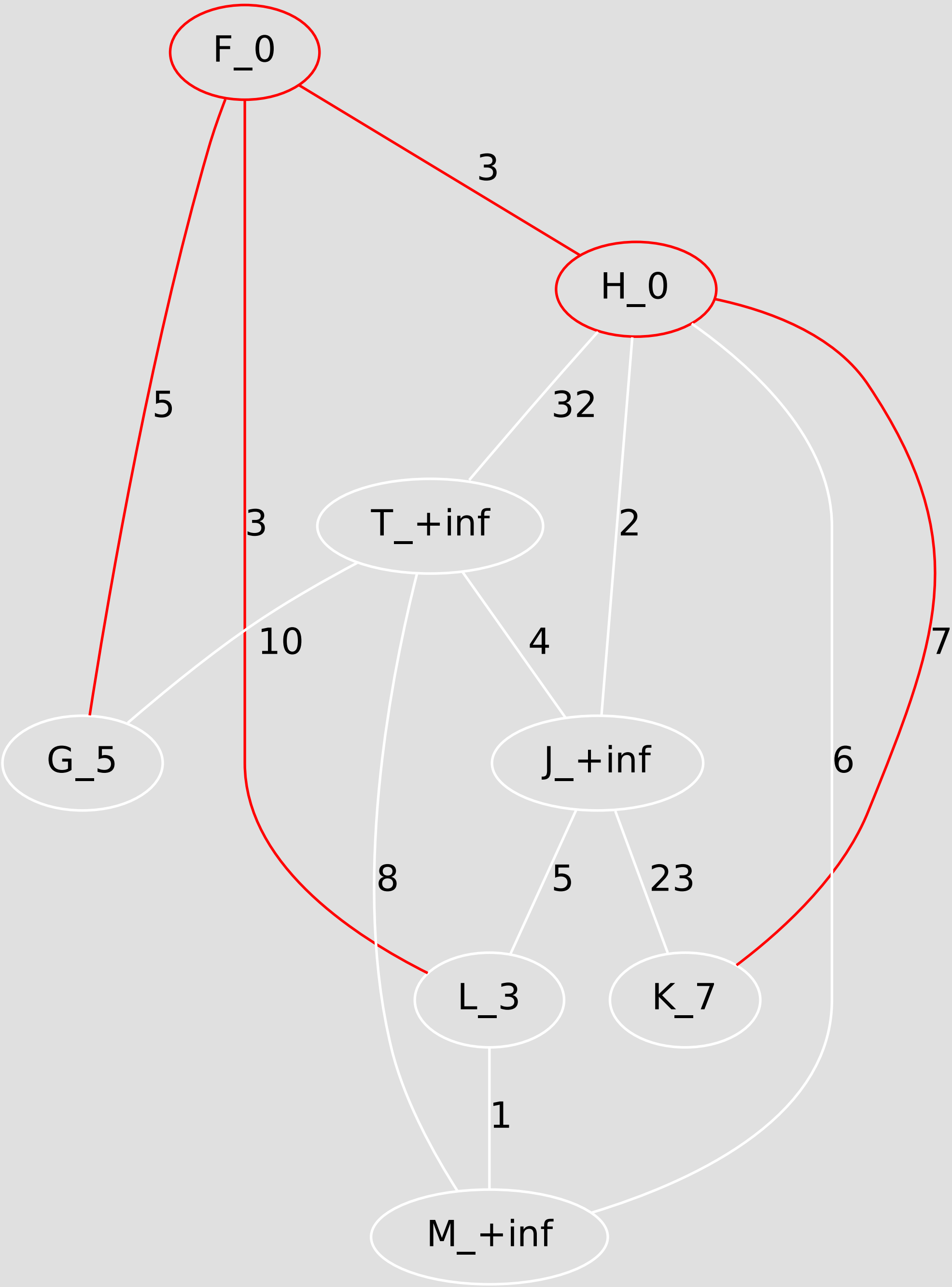


Adjusting the vertices adjacent to H. Considering edge (H, K), leading to K.
Priority queue = [L_3, G_5, T_+inf, J_+inf, M_+inf, K_+inf]
Weight of red edges = 3 + 3 + 5 = 11

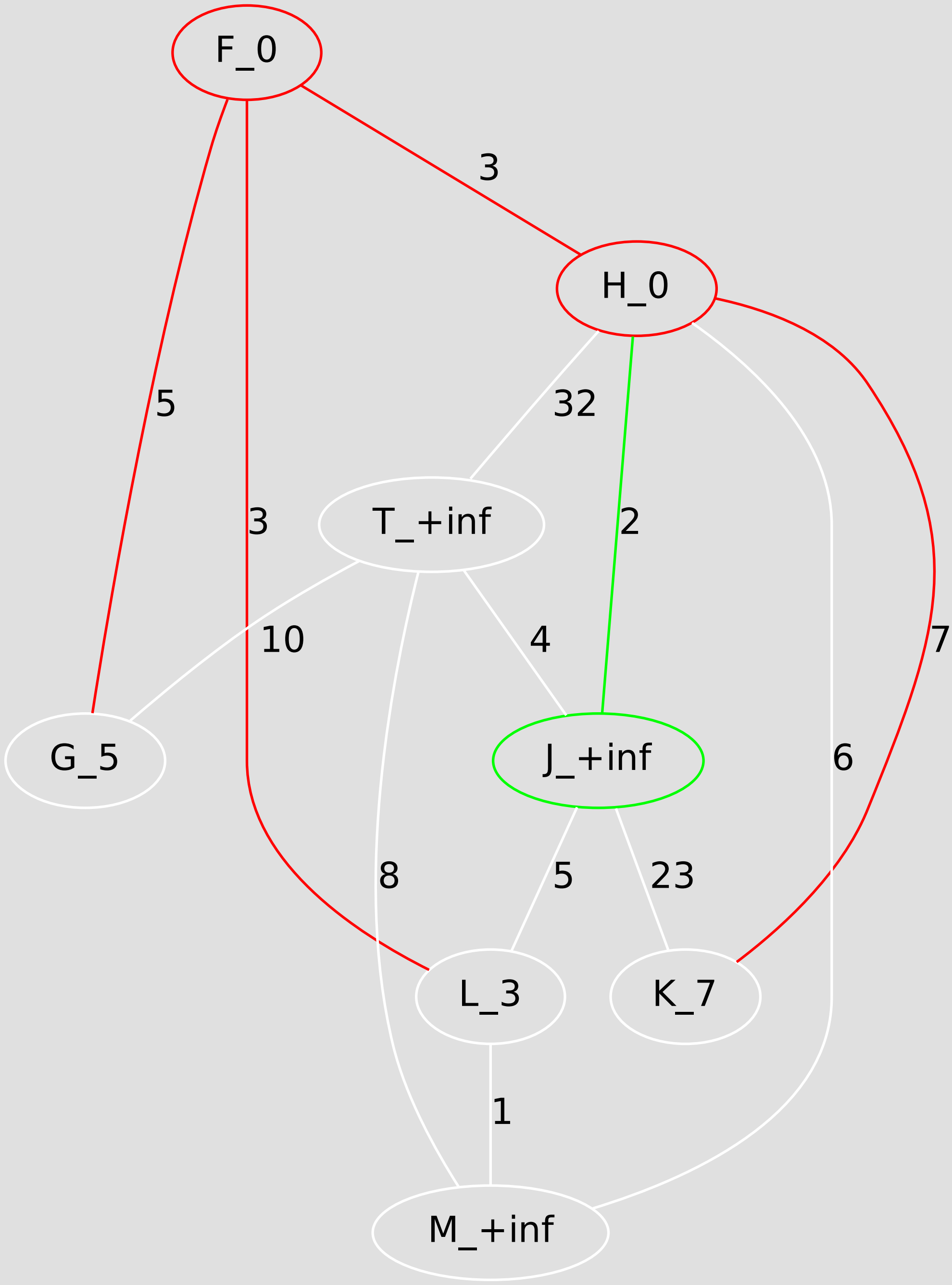
Using edge (H, K), vertex K can be reached in 7 from the MST-so-far (better than +inf).
Priority queue = [L_3, G_5, K_7, T_+inf, J_+inf, M_+inf]
Weight of red edges = 3 + 3 + 5 = 11



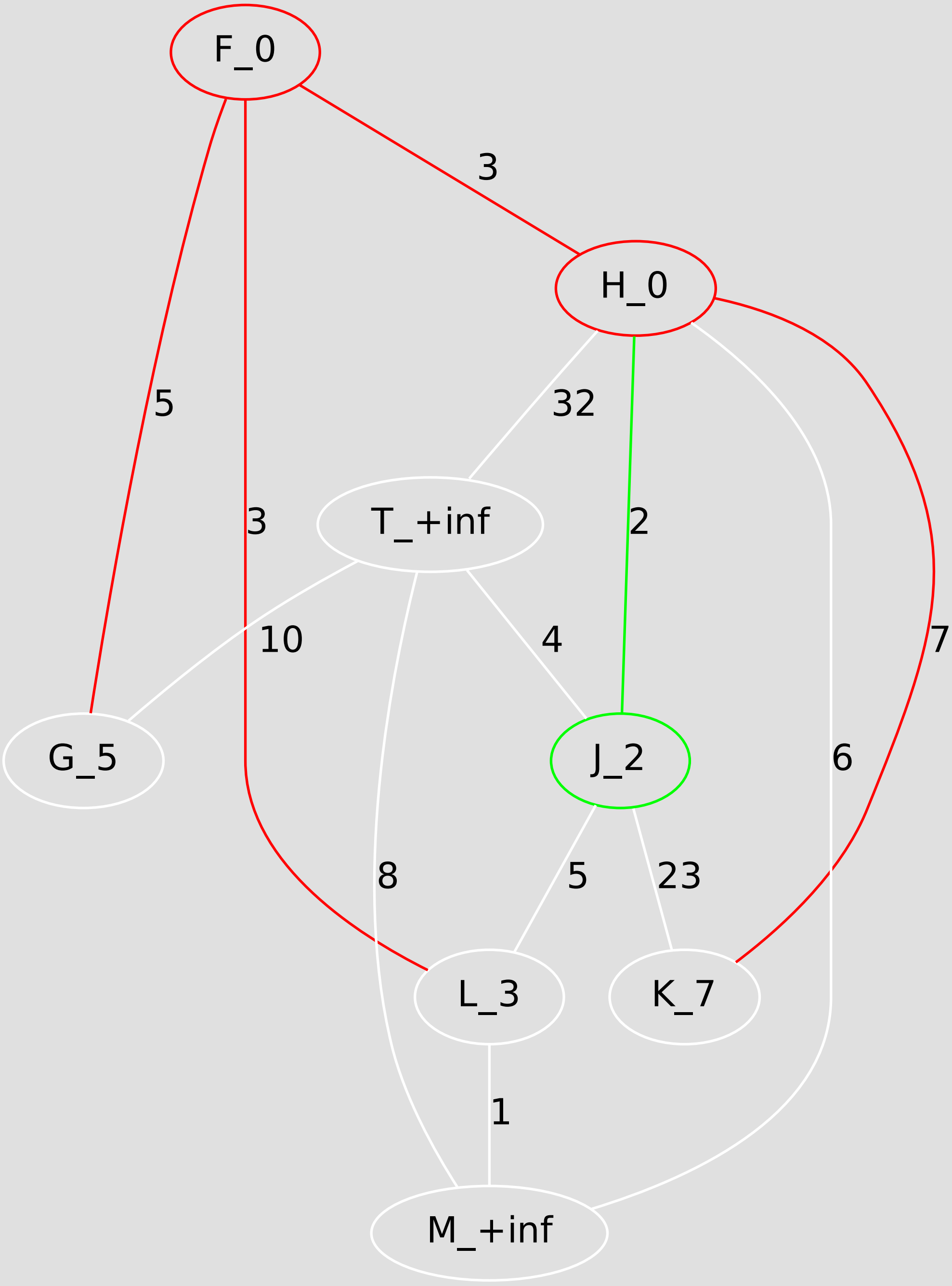
So let's add edge (H, K) to the MST.
Priority queue = [L_3, G_5, K_7, T_+inf, J_+inf, M_+inf]
Weight of red edges = 3 + 3 + 5 + 7 = 18



Adjusting the vertices adjacent to H. Considering edge (H, J), leading to J.
Priority queue = [L_3, G_5, K_7, T_+inf, J_+inf, M_+inf]
Weight of red edges = 3 + 3 + 5 + 7 = 18



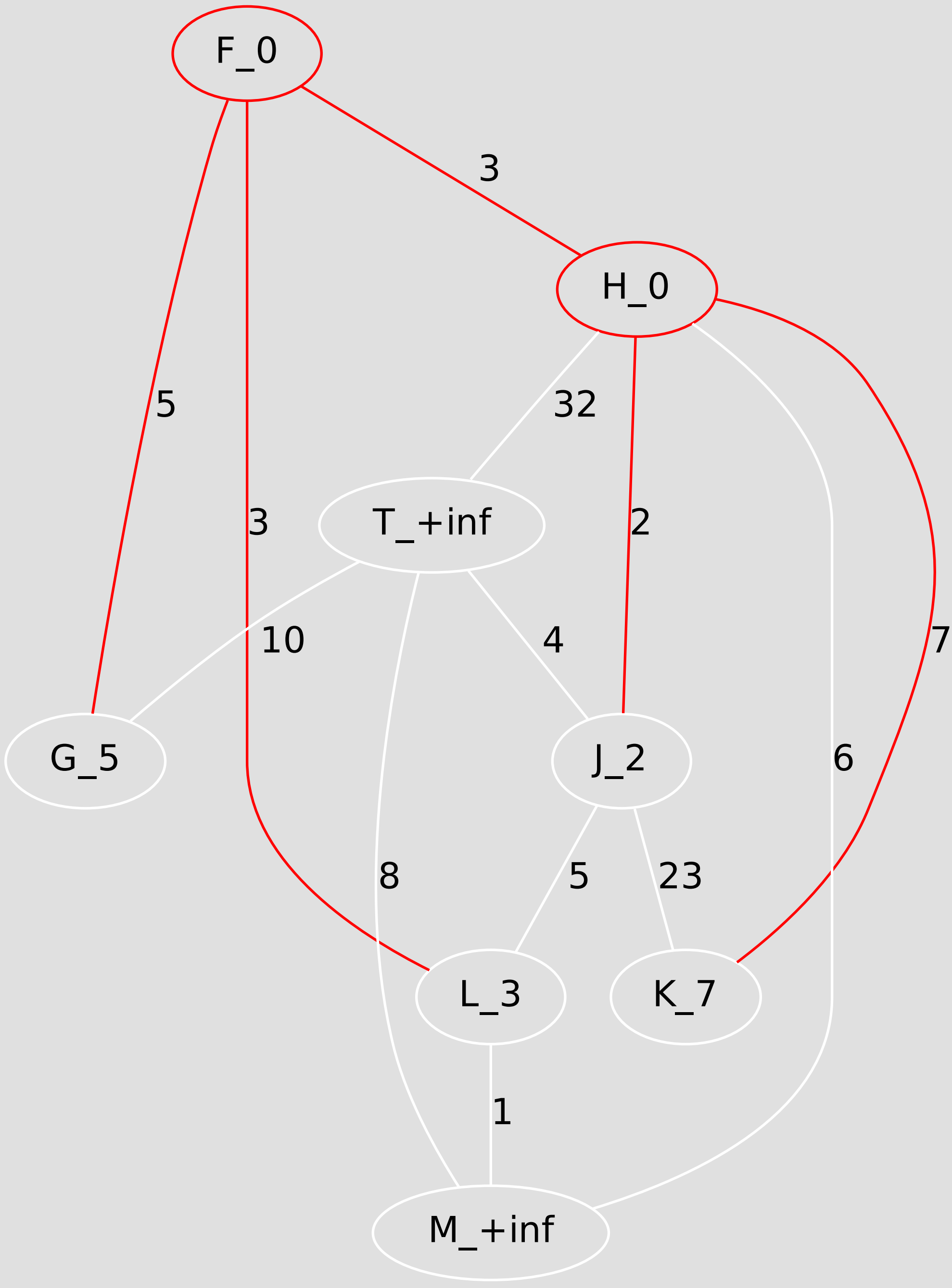
Using edge (H, J), vertex J can be reached in 2 from the MST-so-far (better than +inf).
Priority queue = [J_2, L_3, G_5, K_7, T_+inf, M_+inf]
Weight of red edges = 3 + 3 + 5 + 7 = 18



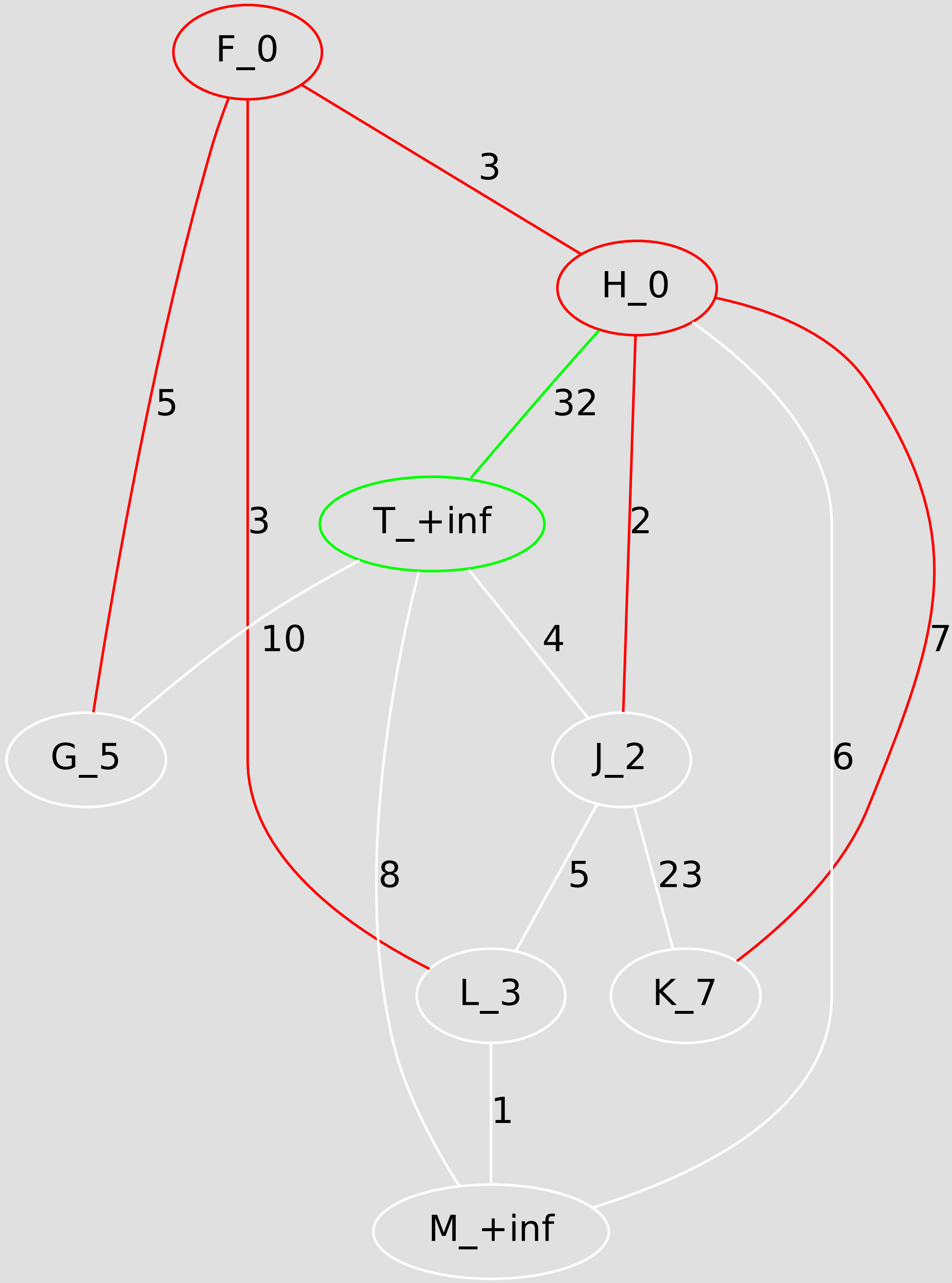
So let's add edge (H, J) to the MST.

Priority queue = [J_2, L_3, G_5, K_7, T_+inf, M_+inf]

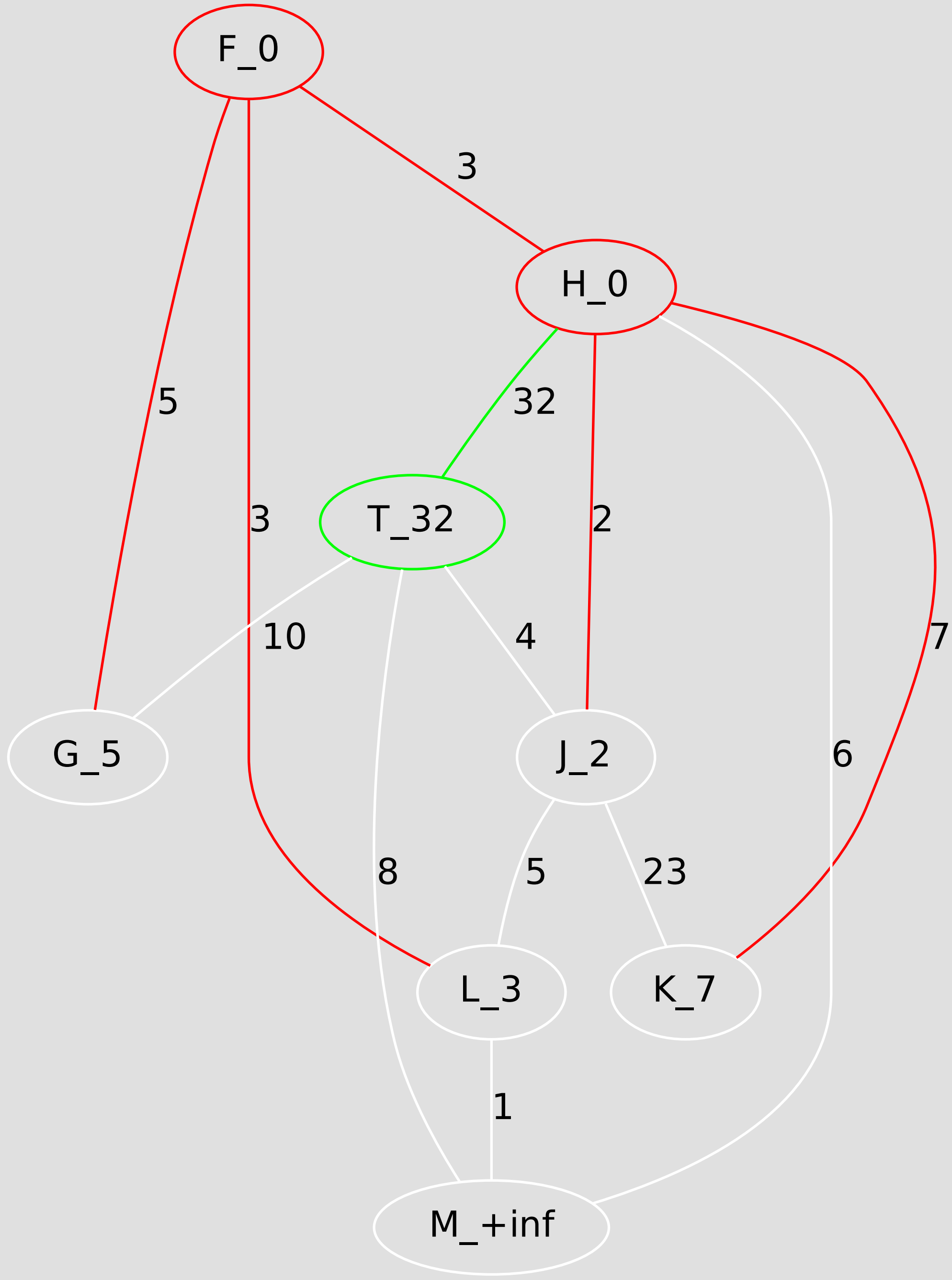
Weight of red edges = 3 + 3 + 5 + 7 + 2 = 20



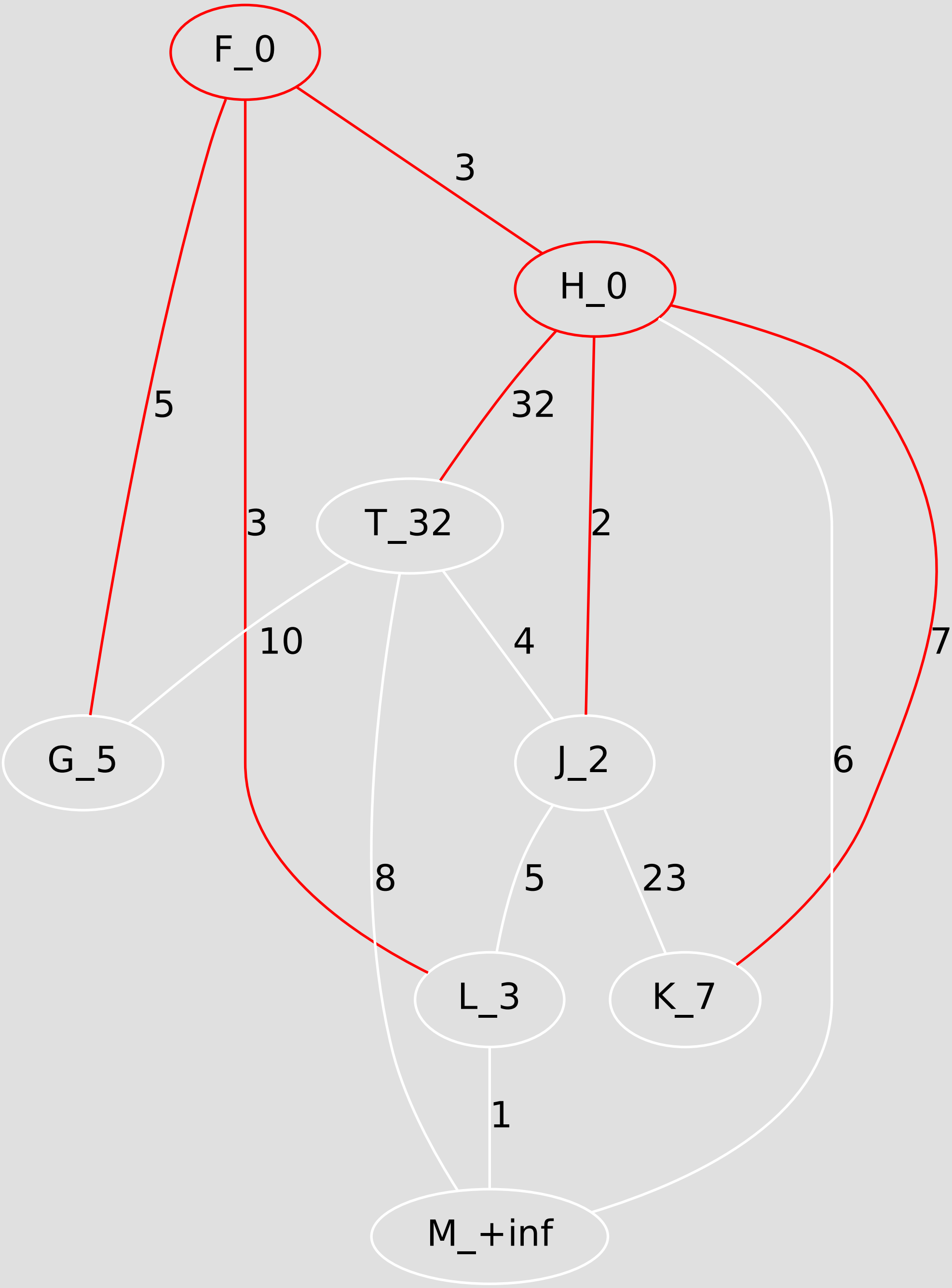
Adjusting the vertices adjacent to H. Considering edge (H, T), leading to T.
Priority queue = [J_2, L_3, G_5, K_7, T_+inf, M_+inf]
Weight of red edges = 3 + 3 + 5 + 7 + 2 = 20



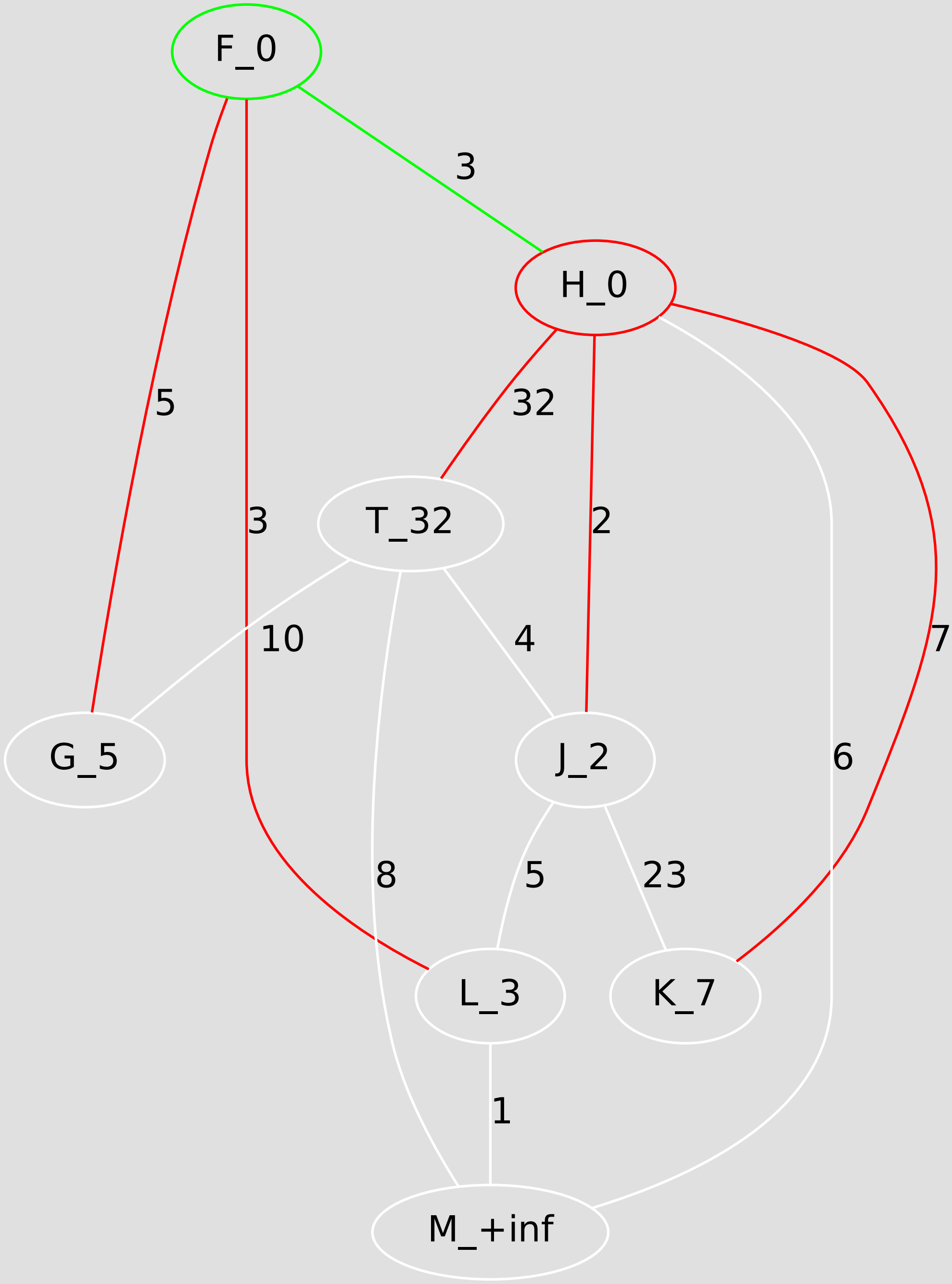
Using edge (H, T), vertex T can be reached in 32 from the MST-so-far (better than +inf).
Priority queue = [J_2, L_3, G_5, K_7, T_32, M_+inf]
Weight of red edges = 3 + 3 + 5 + 7 + 2 = 20



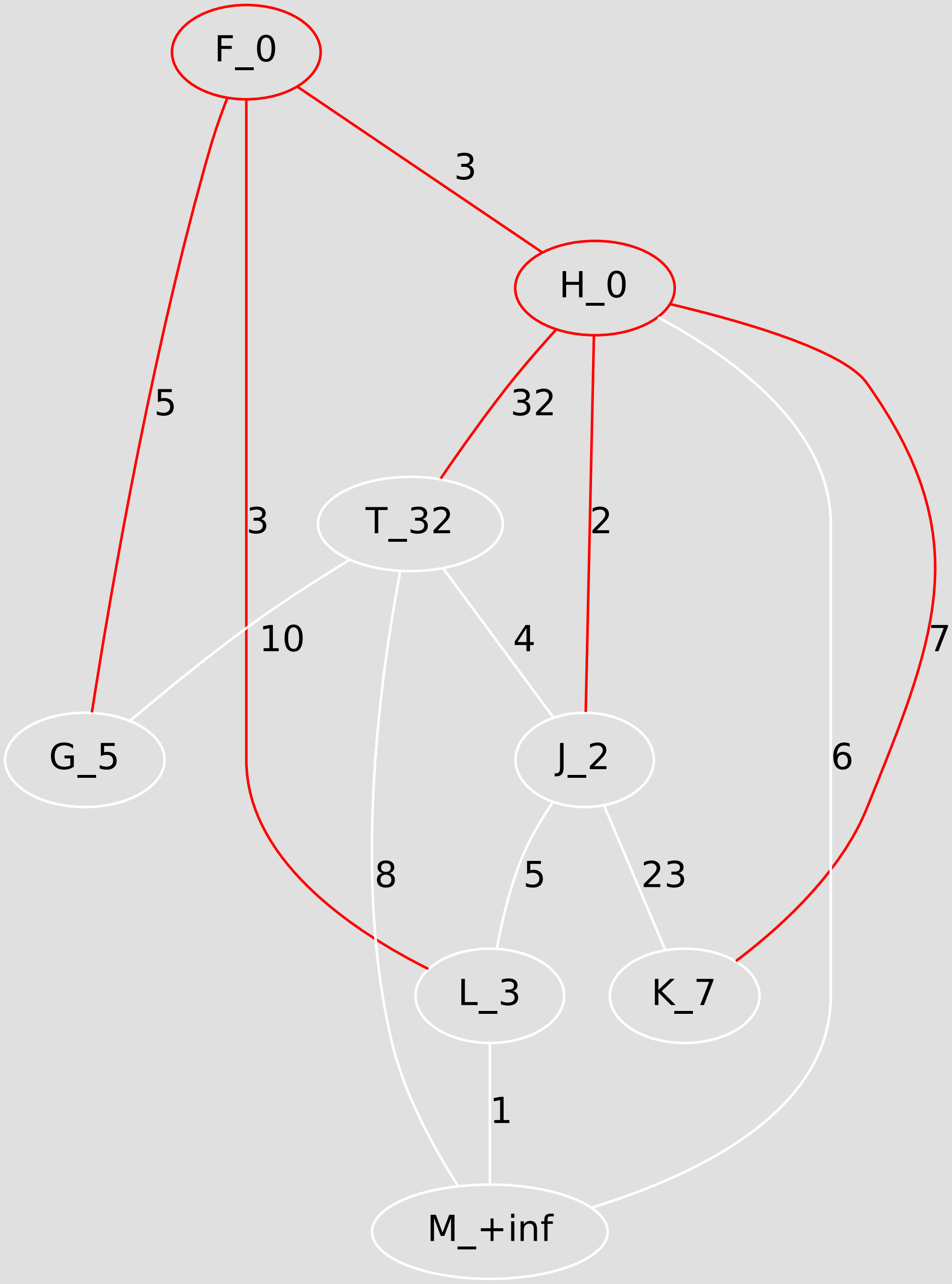
So let's add edge (H, T) to the MST.
Priority queue = [J_2, L_3, G_5, K_7, T_32, M_+inf]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 32 = 52



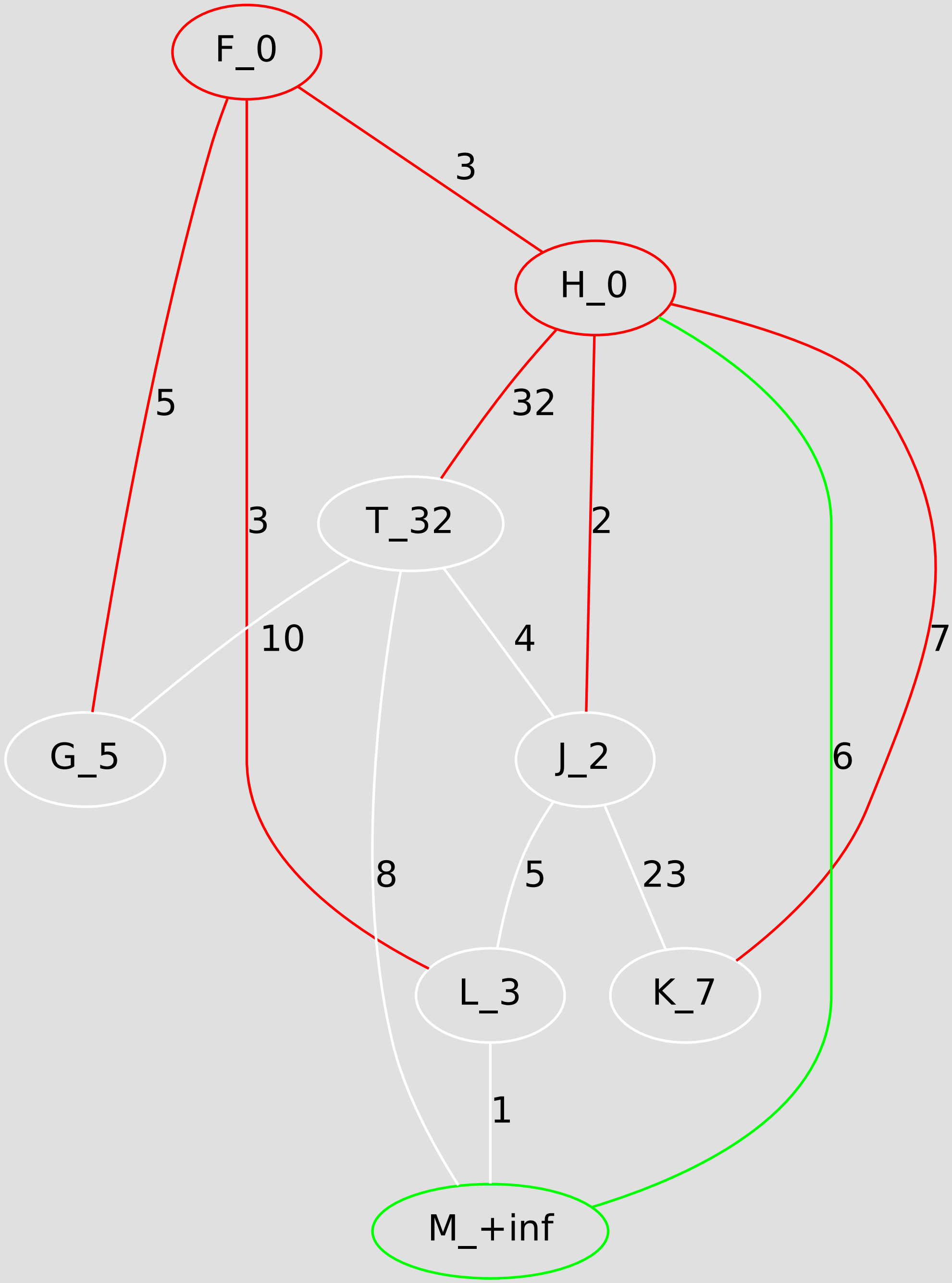
Adjusting the vertices adjacent to H. Considering edge (F, H), leading to F.
Priority queue = [J_2, L_3, G_5, K_7, T_32, M_+inf]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 32 = 52



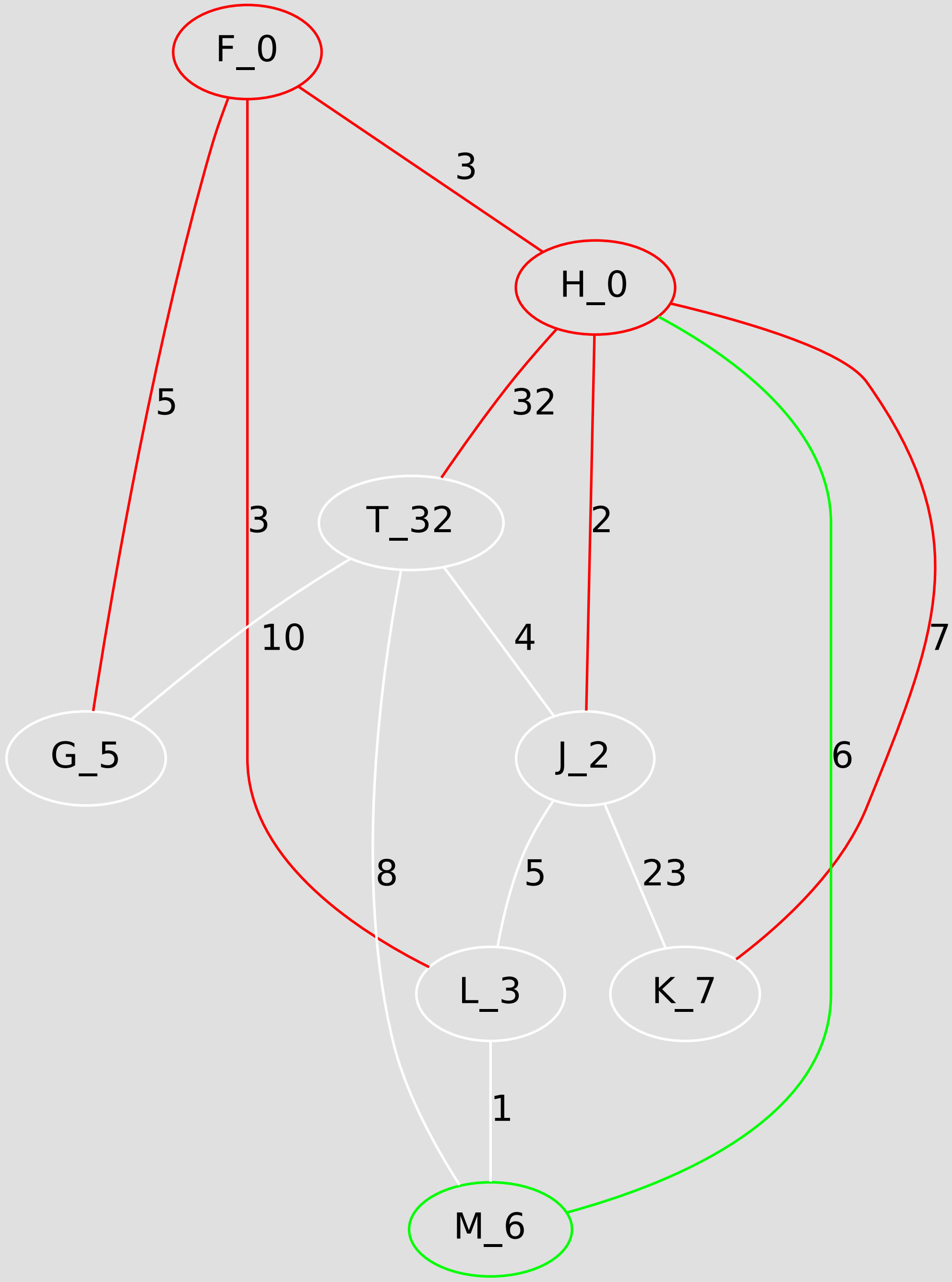
Using edge (F, H), vertex F can be reached in 3 from the MST-so-far (not better than 0).
Let's not use that edge.
Priority queue = [J_2, L_3, G_5, K_7, T_32, M_+inf]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 32 = 52



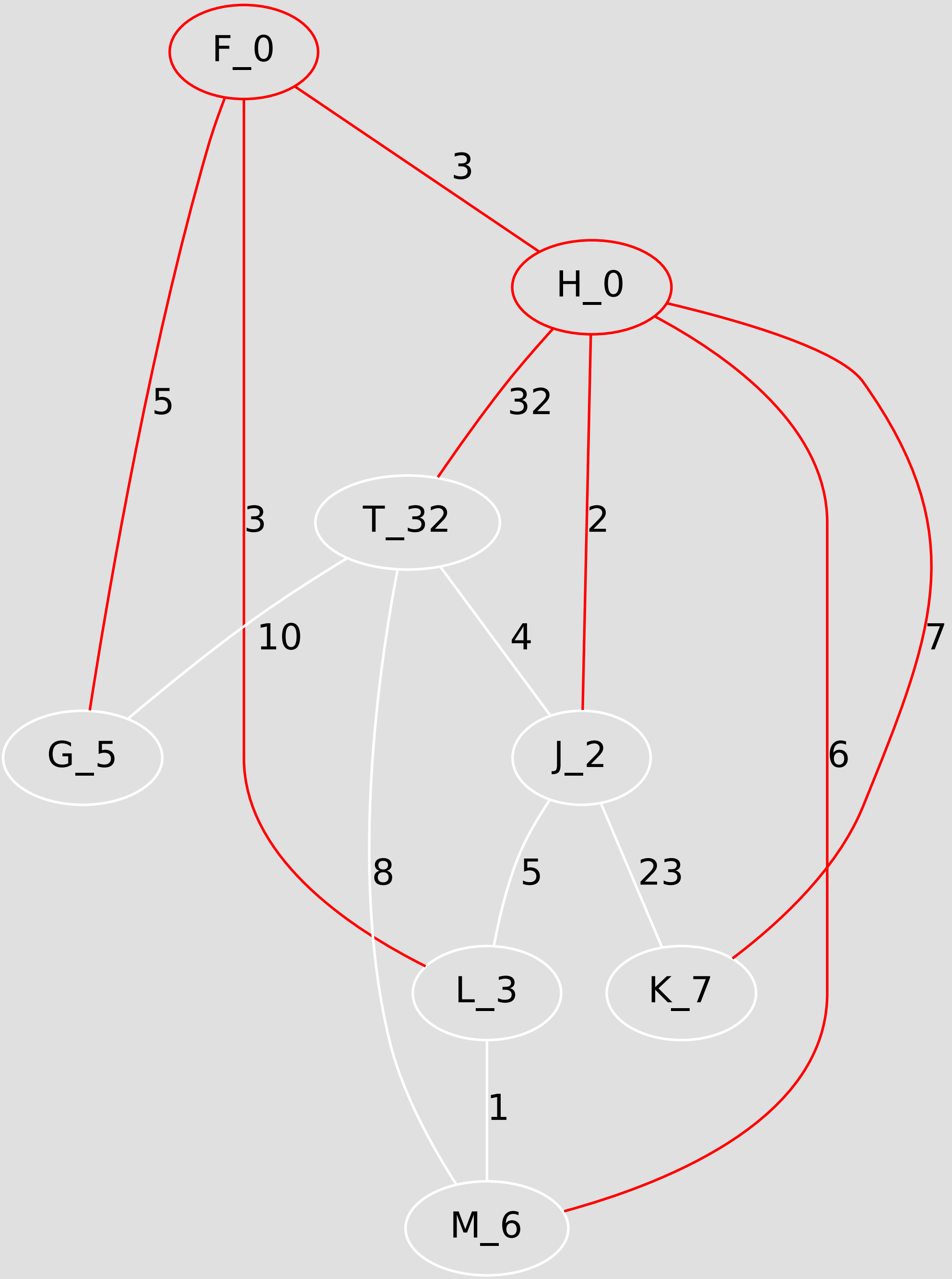
Adjusting the vertices adjacent to H. Considering edge (M, H), leading to M.
Priority queue = [J_2, L_3, G_5, K_7, T_32, M_+inf]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 32 = 52



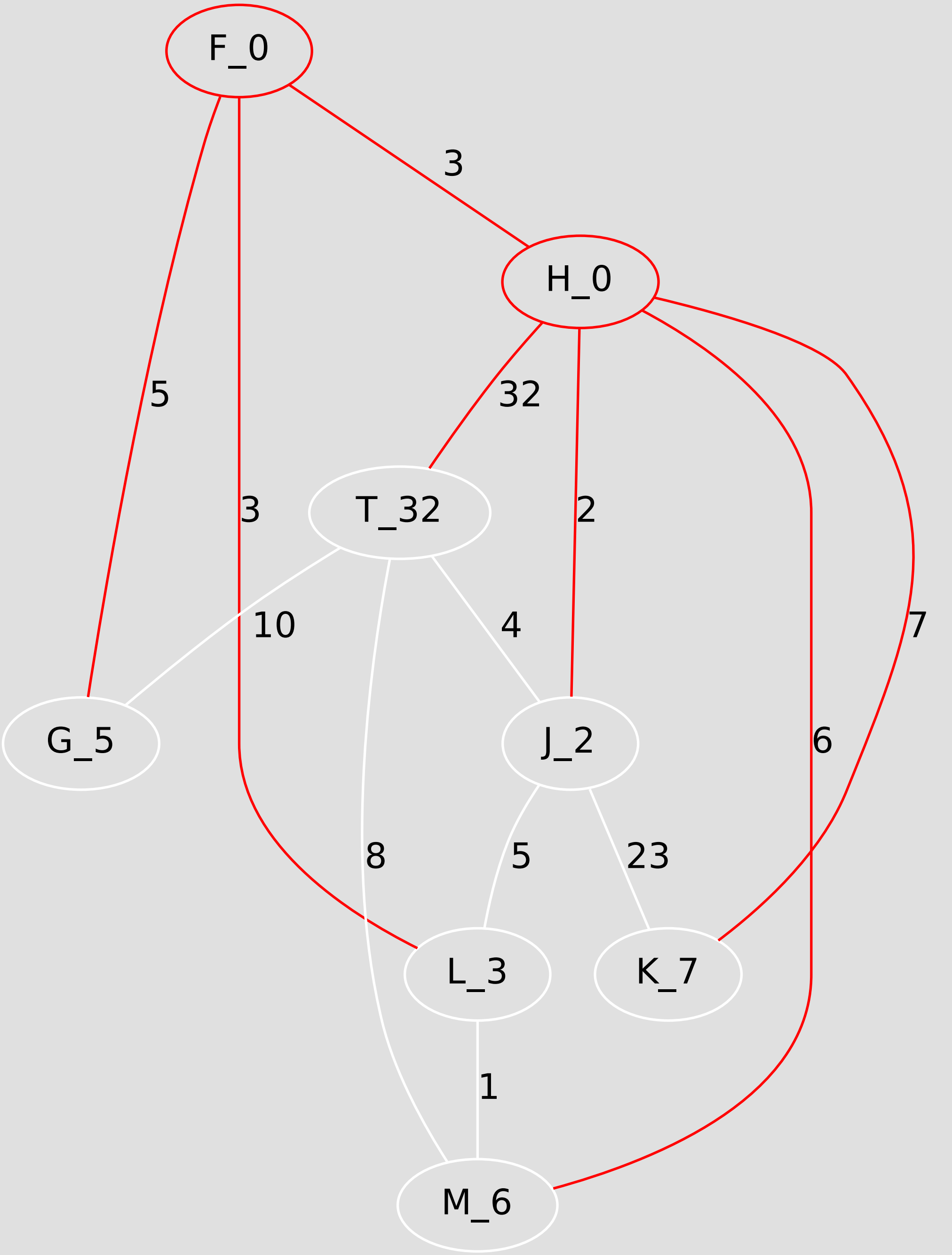
Using edge (M, H), vertex M can be reached in 6 from the MST-so-far (better than +inf).
Priority queue = [J_2, L_3, G_5, M_6, K_7, T_32]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 32 = 52



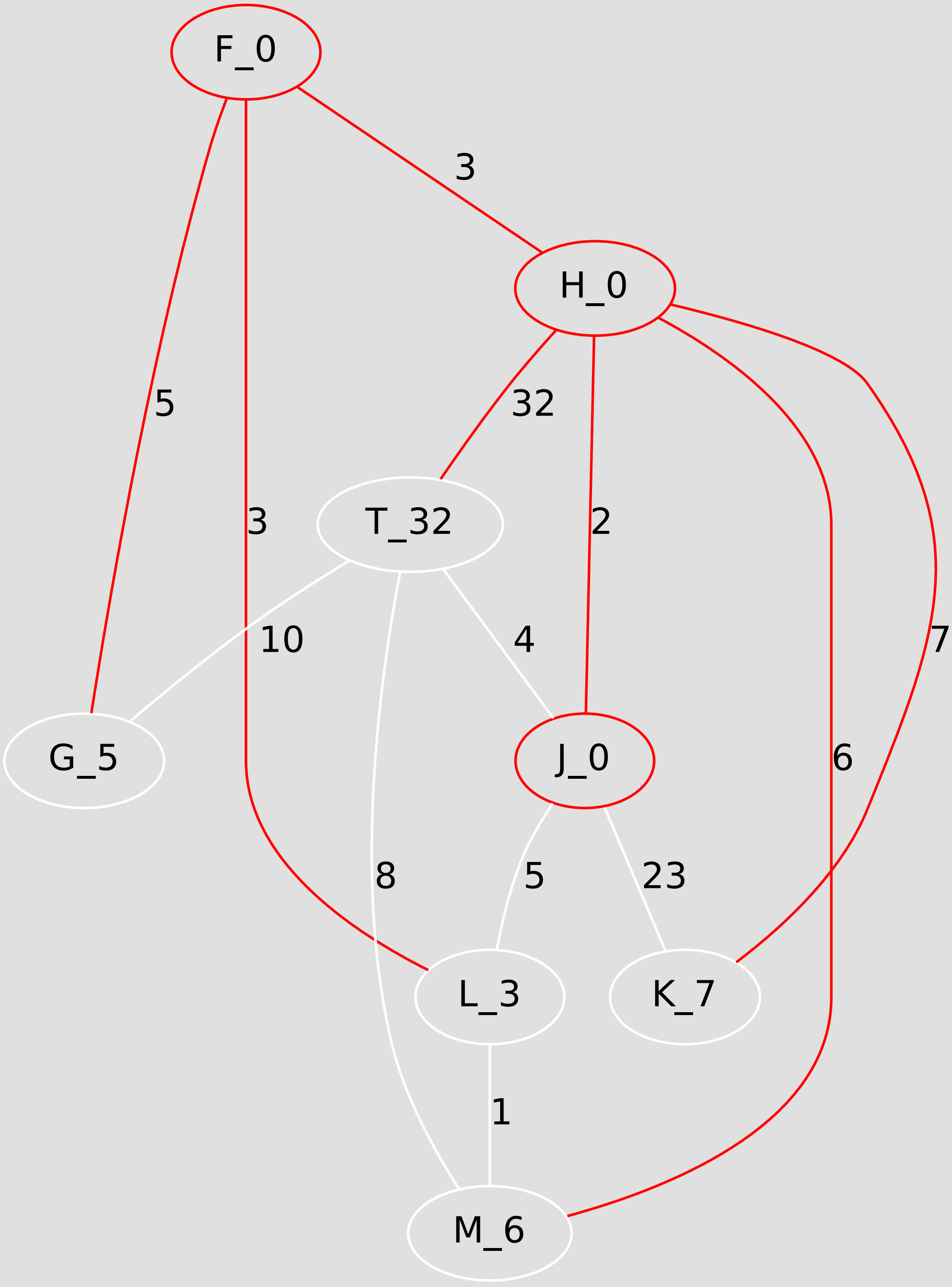
So let's add edge (M, H) to the MST.
Priority queue = [J_2, L_3, G_5, M_6, K_7, T_32]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 32 + 6 = 58



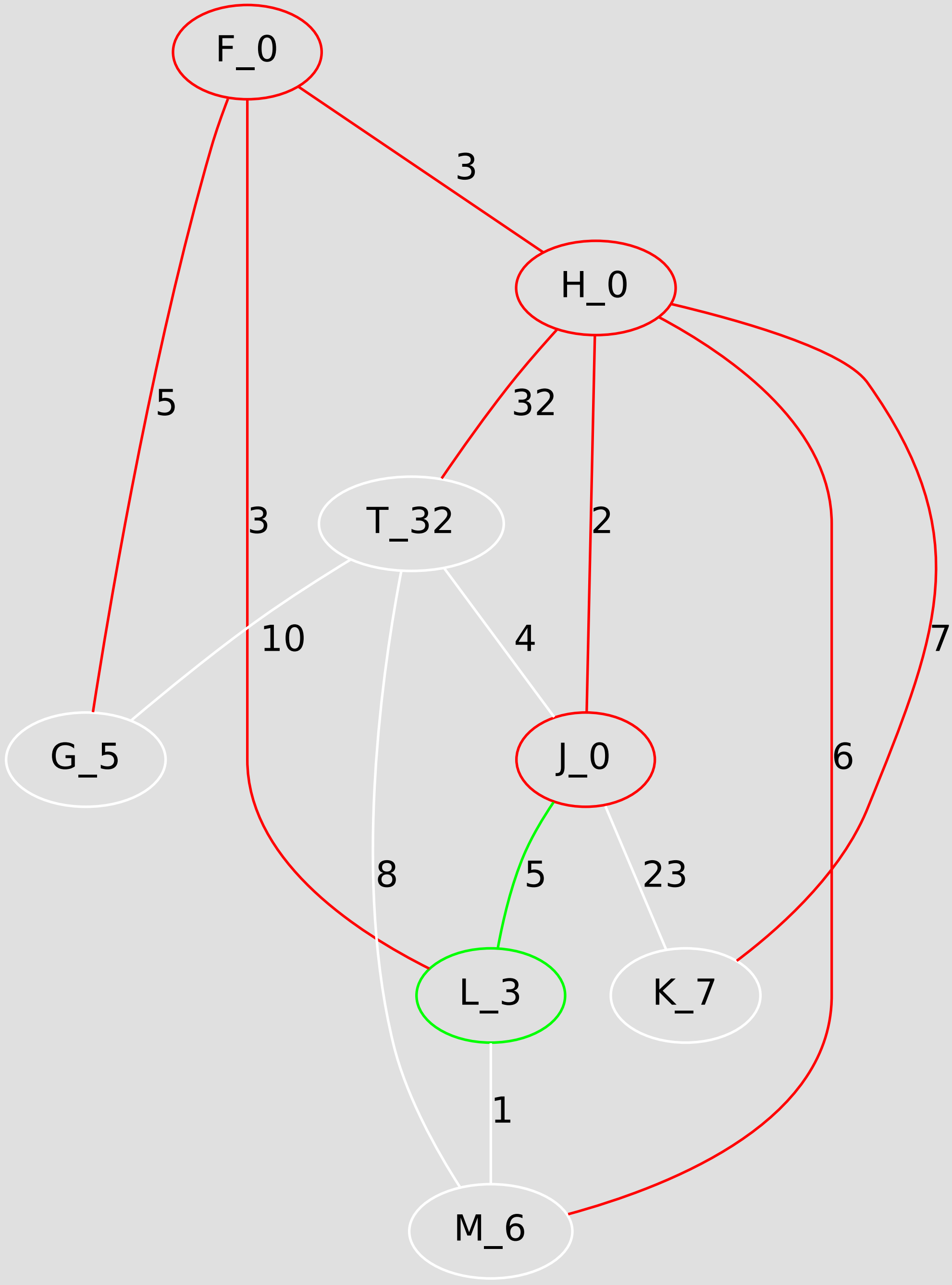
Finished with the adjacents of H.
Priority queue = [J_2, L_3, G_5, M_6, K_7, T_32]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 32 + 6 = 58



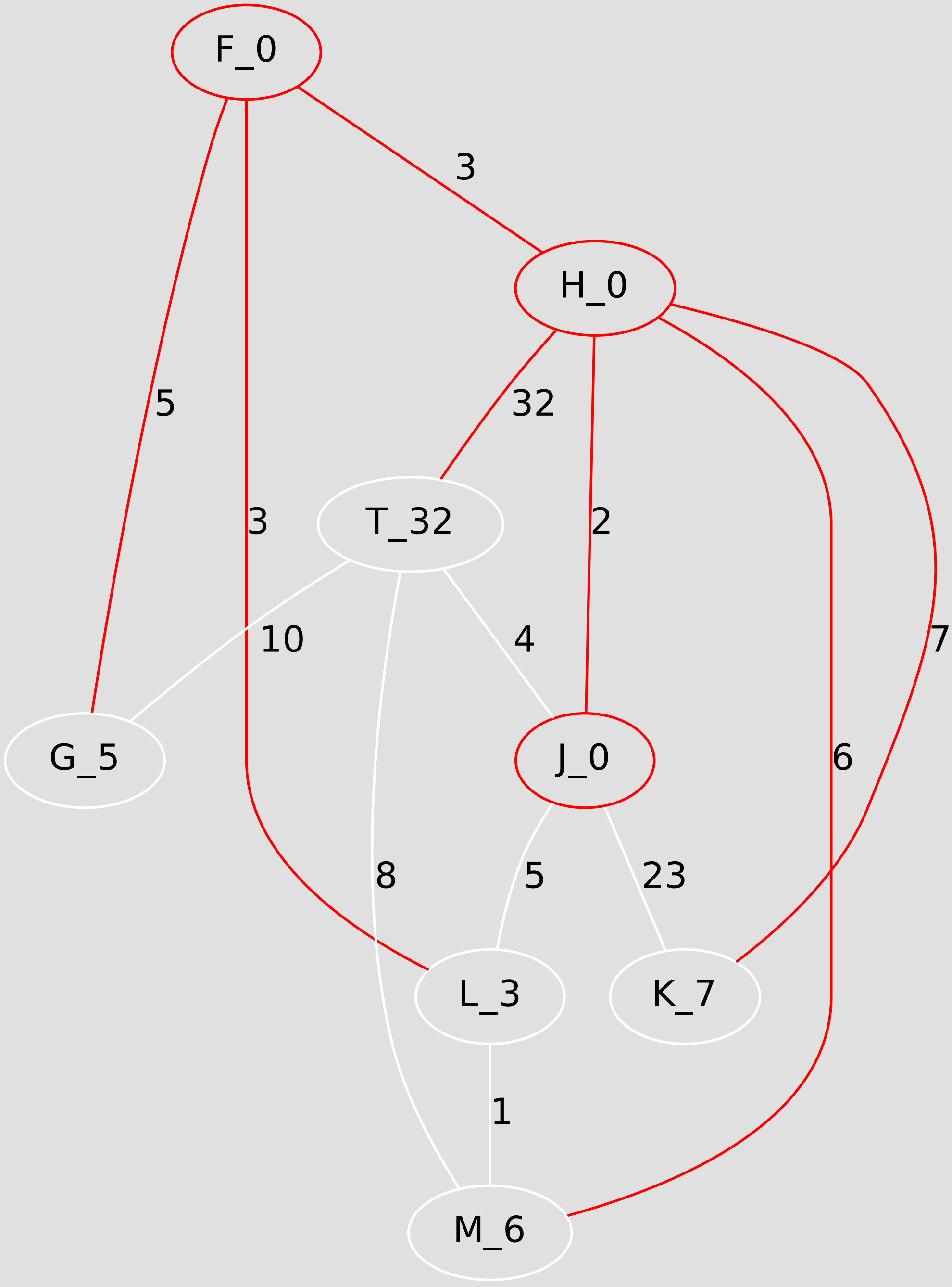
Extracted J and added it to the MST-so-far. Let's adjust its adjacent vertices (L, K, H, T).
Priority queue = [L_3, G_5, M_6, K_7, T_32]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 32 + 6 = 58



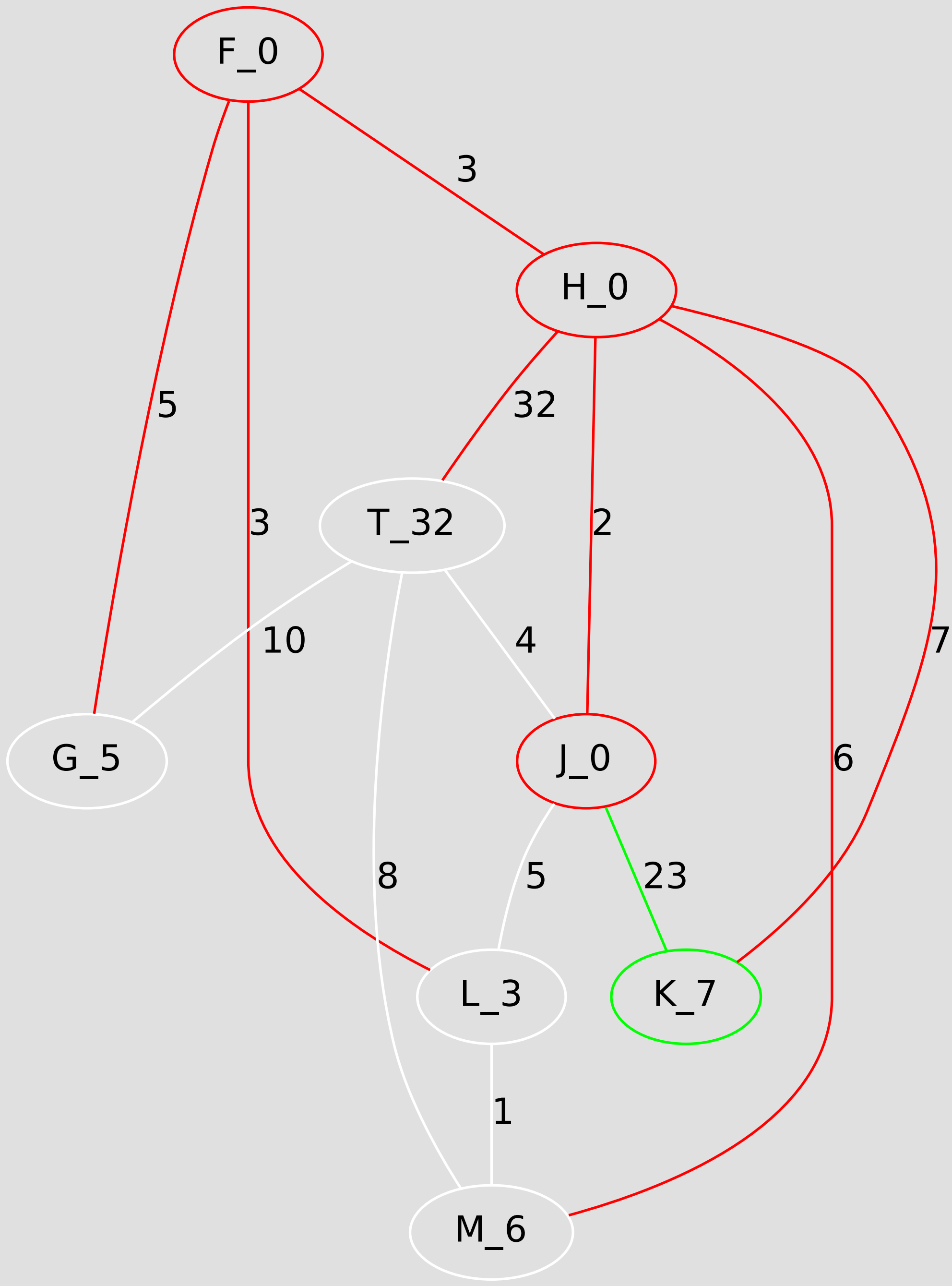
Adjusting the vertices adjacent to J. Considering edge (J, L), leading to L.
Priority queue = [L_3, G_5, M_6, K_7, T_32]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 32 + 6 = 58



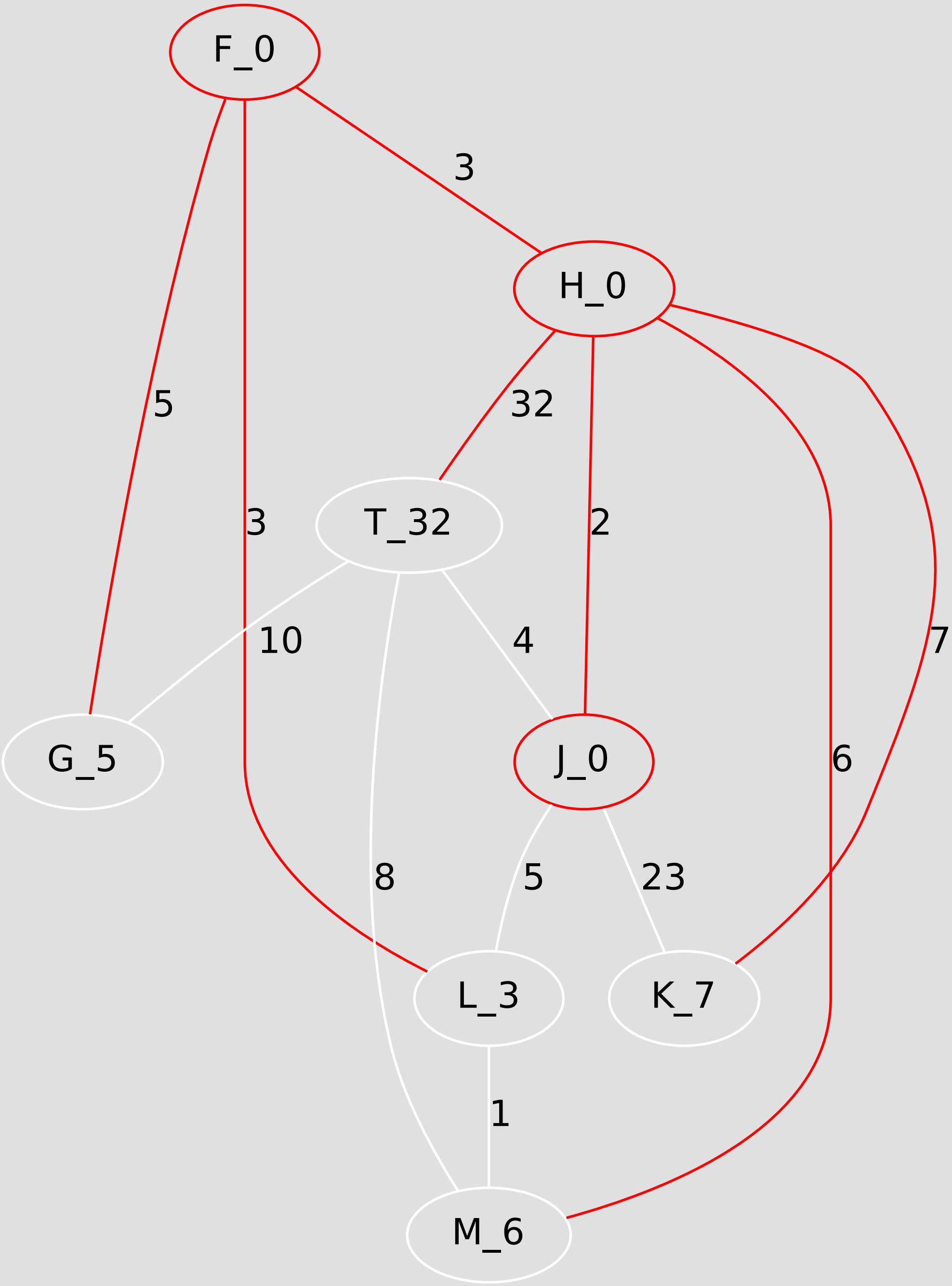
Using edge (J, L), vertex L can be reached in 5 from the MST-so-far (not better than 3).
Let's not use that edge.
Priority queue = [L_3, G_5, M_6, K_7, T_32]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 32 + 6 = 58



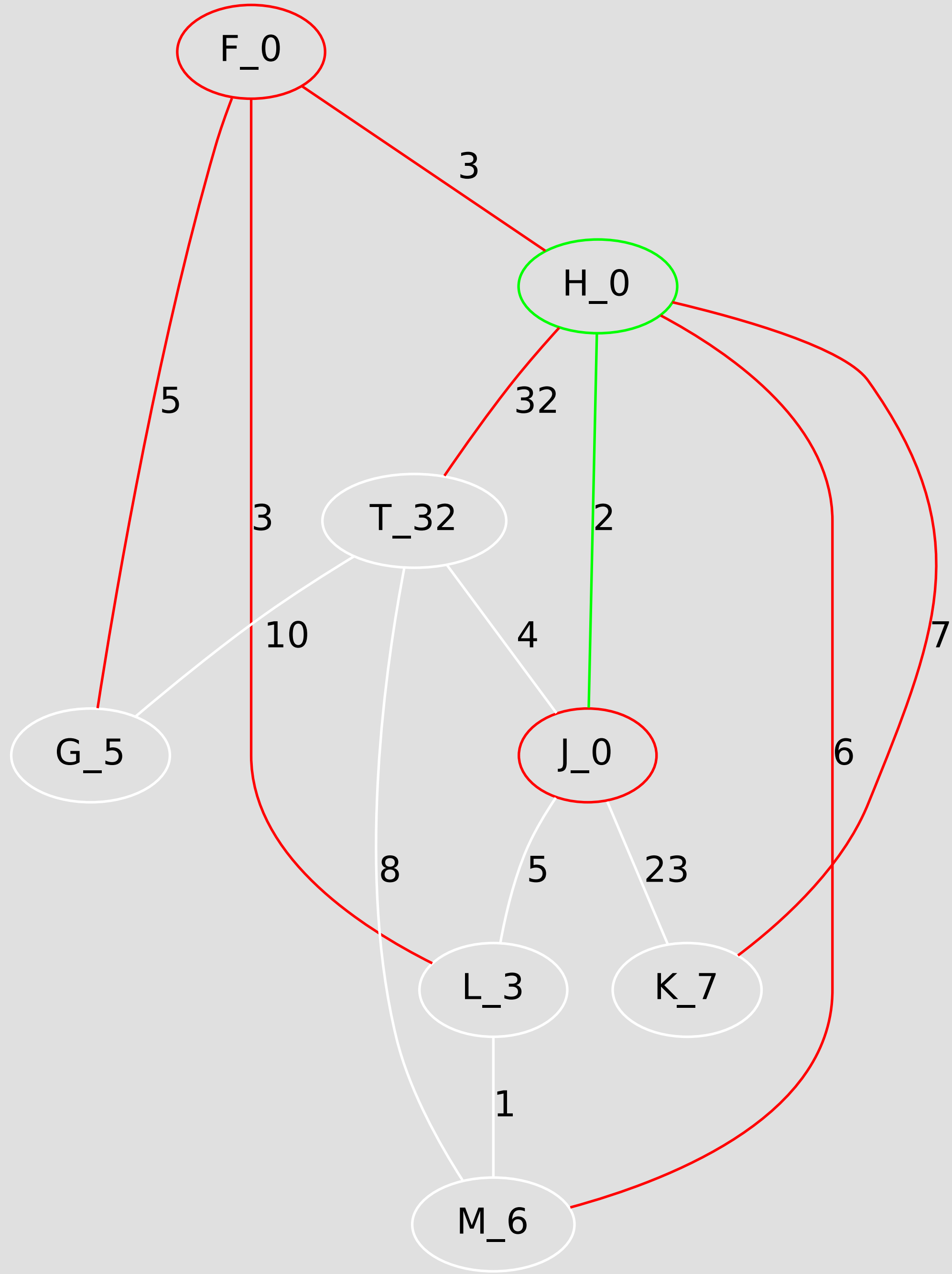
Adjusting the vertices adjacent to J. Considering edge (J, K), leading to K.
Priority queue = [L_3, G_5, M_6, K_7, T_32]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 32 + 6 = 58



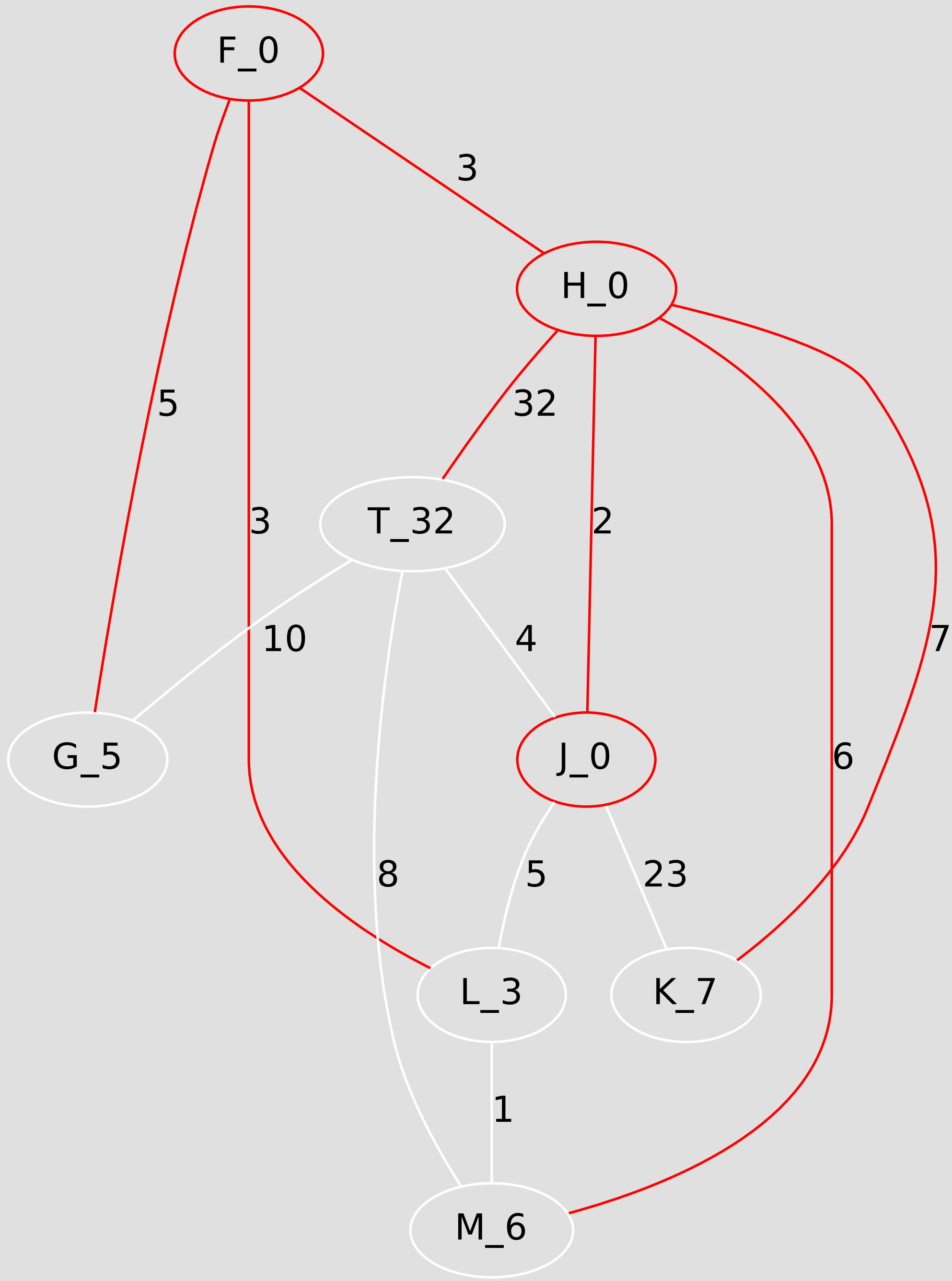
Using edge (J, K), vertex K can be reached in 23 from the MST-so-far (not better than 7).
Let's not use that edge.
Priority queue = [L_3, G_5, M_6, K_7, T_32]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 32 + 6 = 58



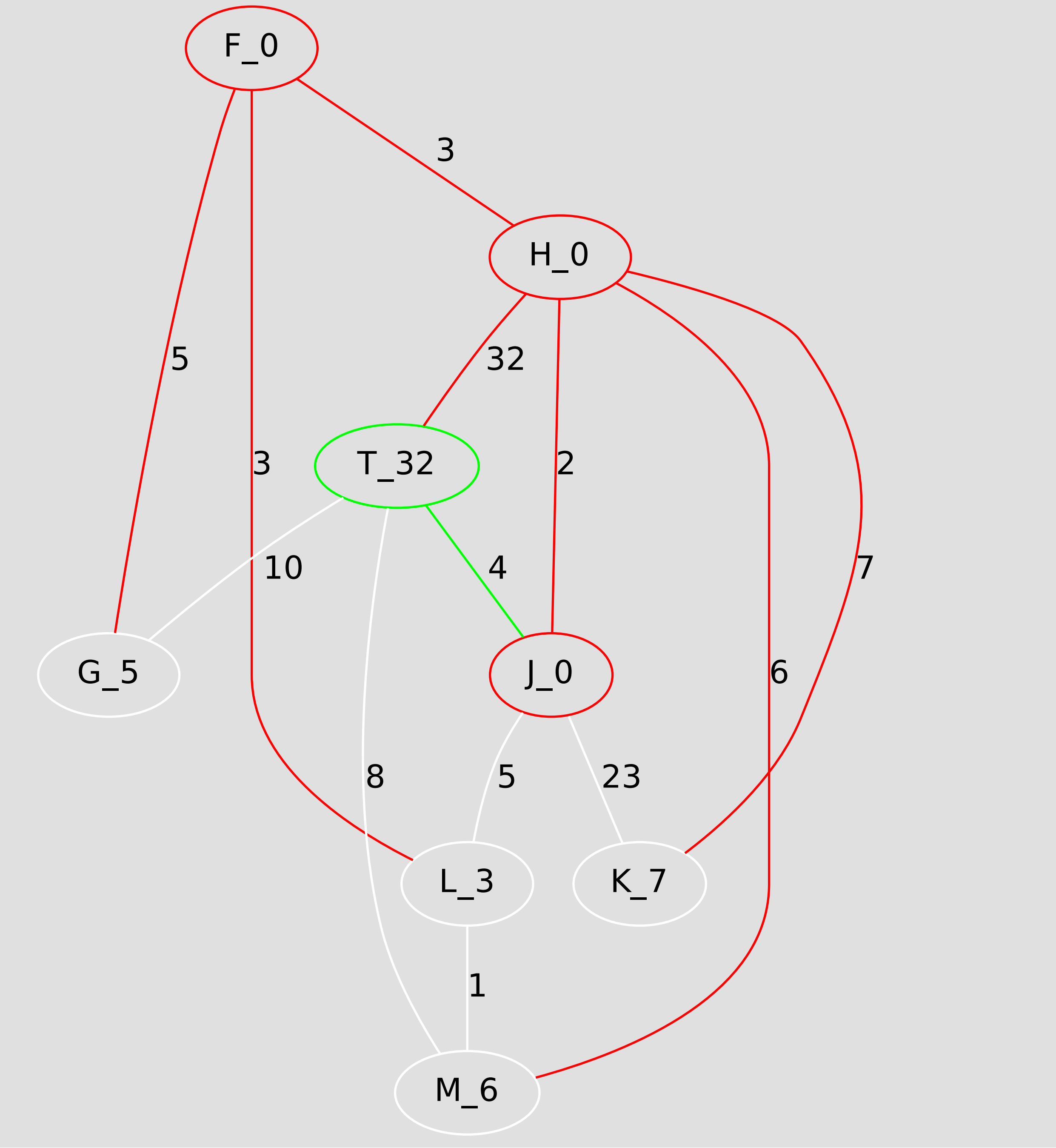
Adjusting the vertices adjacent to J. Considering edge (H, J), leading to H.
Priority queue = [L_3, G_5, M_6, K_7, T_32]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 32 + 6 = 58



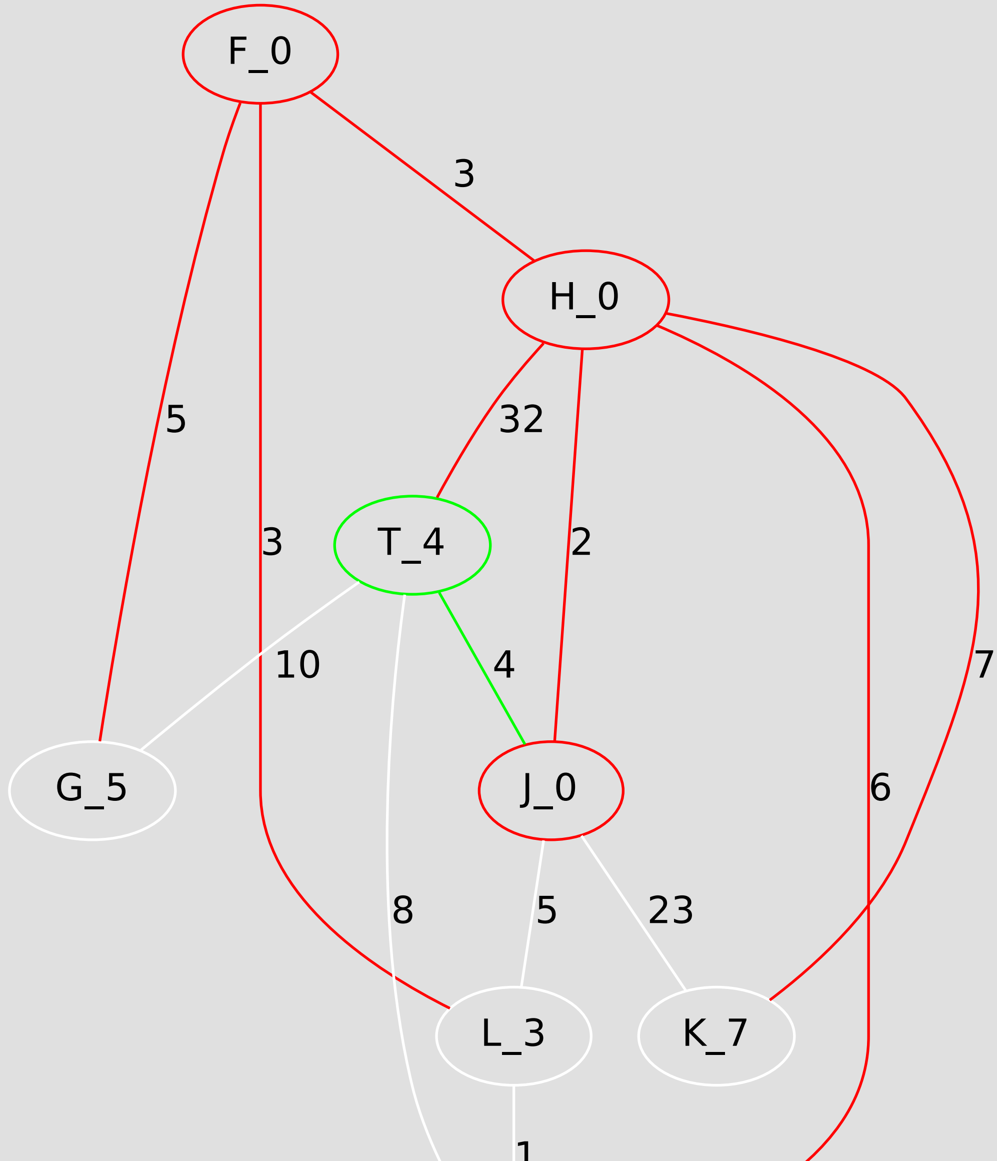
Using edge (H, J), vertex H can be reached in 2 from the MST-so-far (not better than 0).
Let's not use that edge.
Priority queue = [L_3, G_5, M_6, K_7, T_32]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 32 + 6 = 58



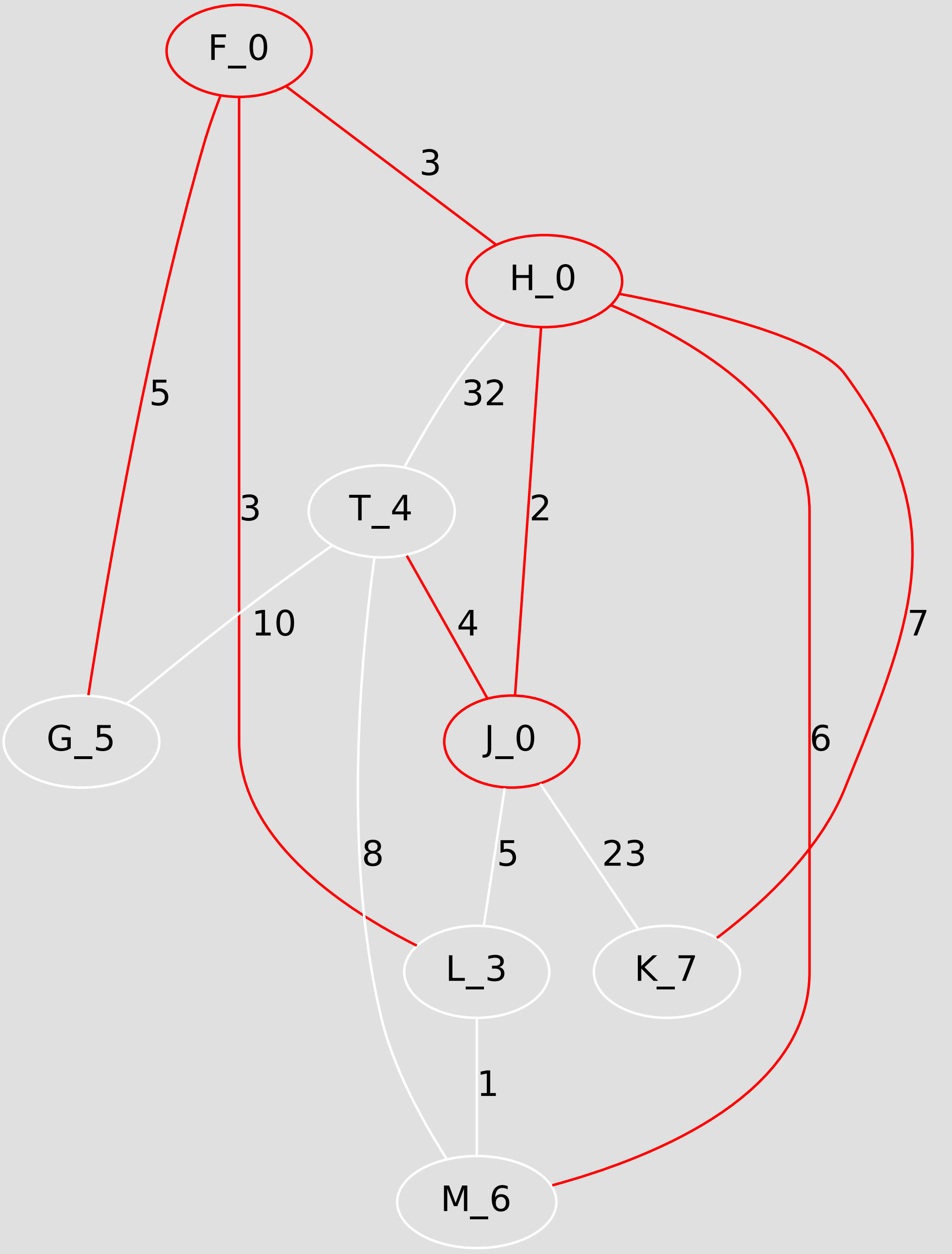
Adjusting the vertices adjacent to J. Considering edge (T, J), leading to T.
Priority queue = [L_3, G_5, M_6, K_7, T_32]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 32 + 6 = 58



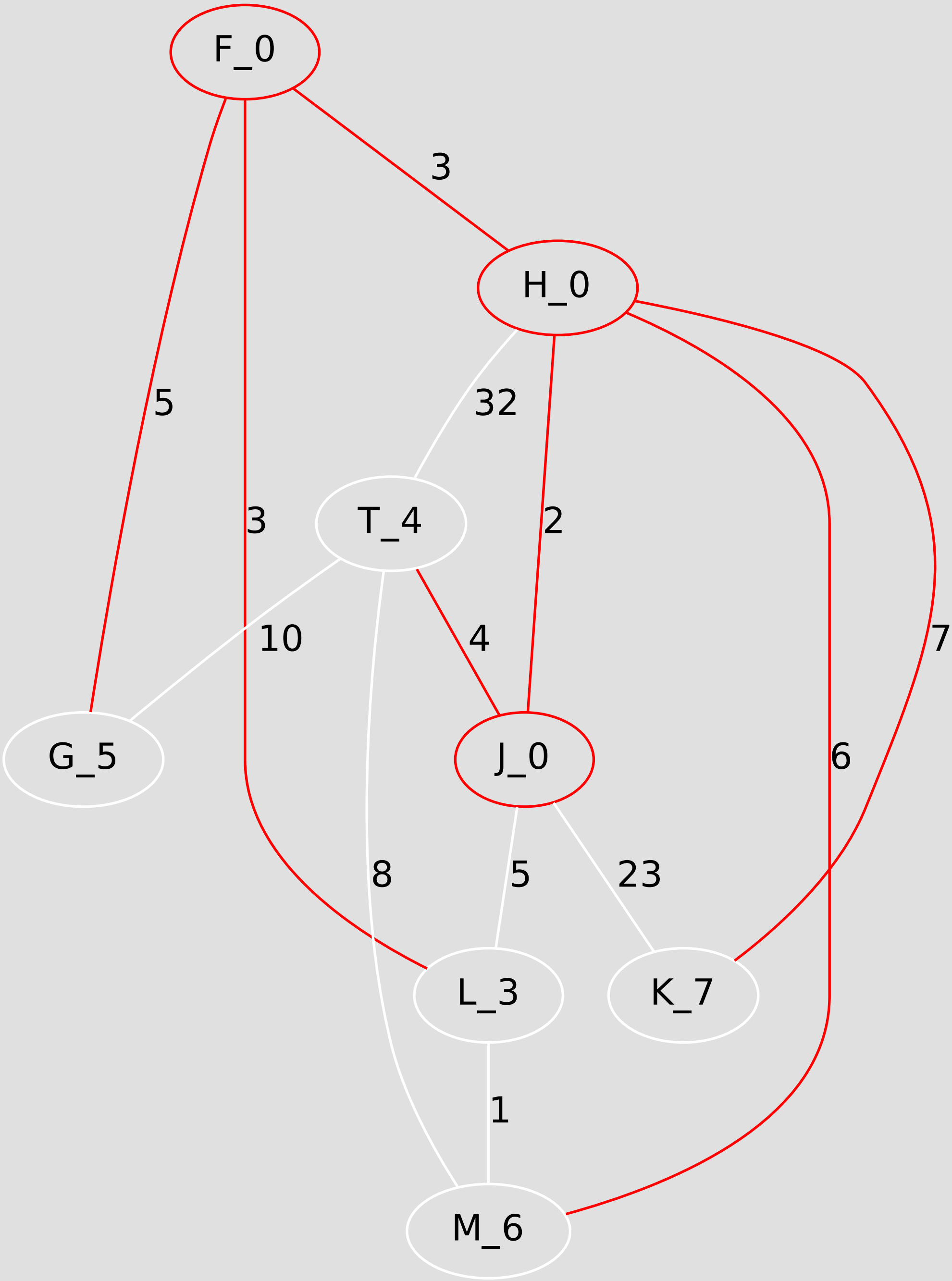
Using edge (T, J), vertex T can be reached in 4 from the MST-so-far (better than 32).
Priority queue = [L_3, T_4, G_5, M_6, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 32 + 6 = 58



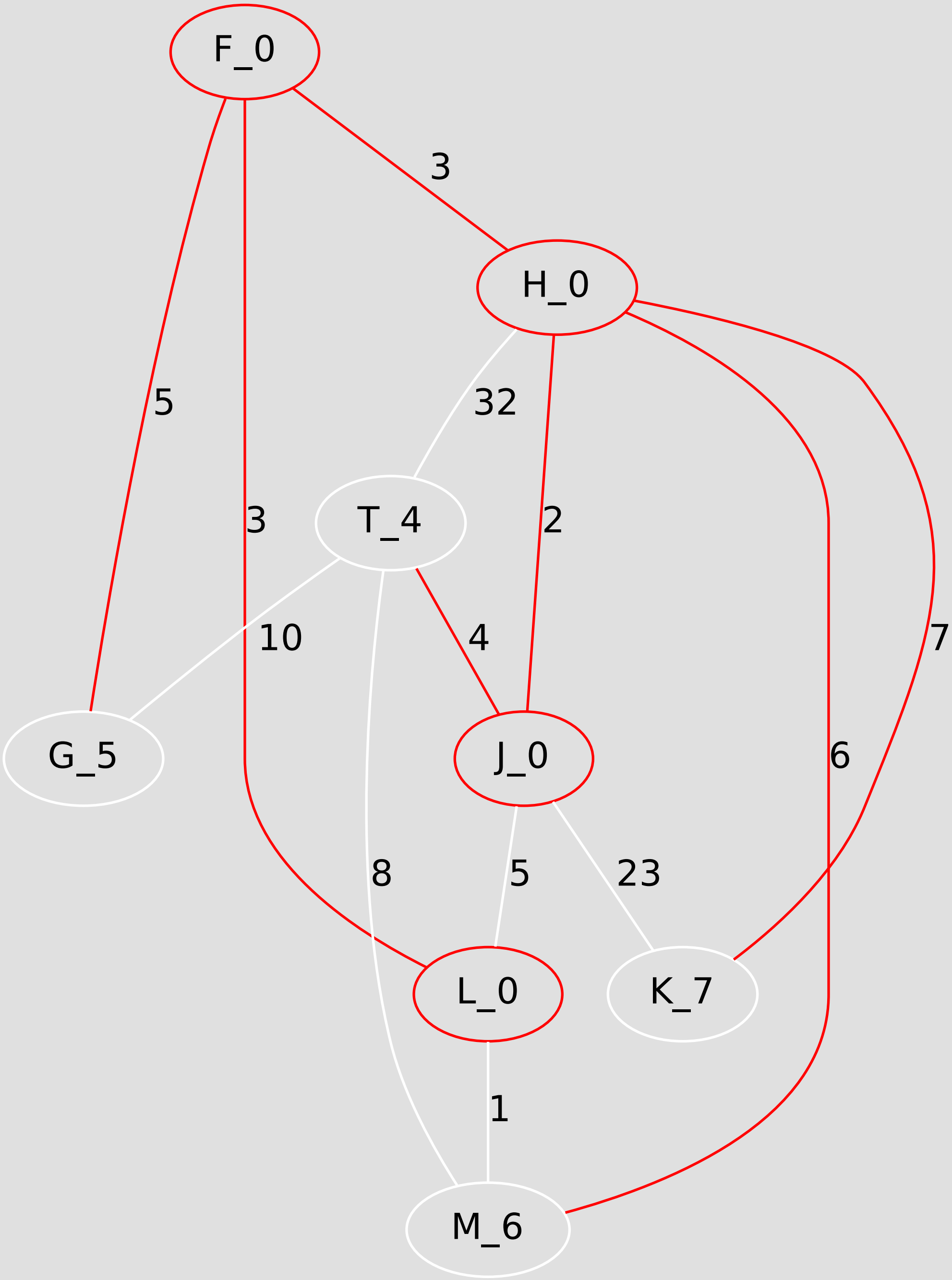
So let's add edge (T, J) to the MST, replacing (H, T).
Priority queue = [L_3, T_4, G_5, M_6, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 6 + 4 = 30



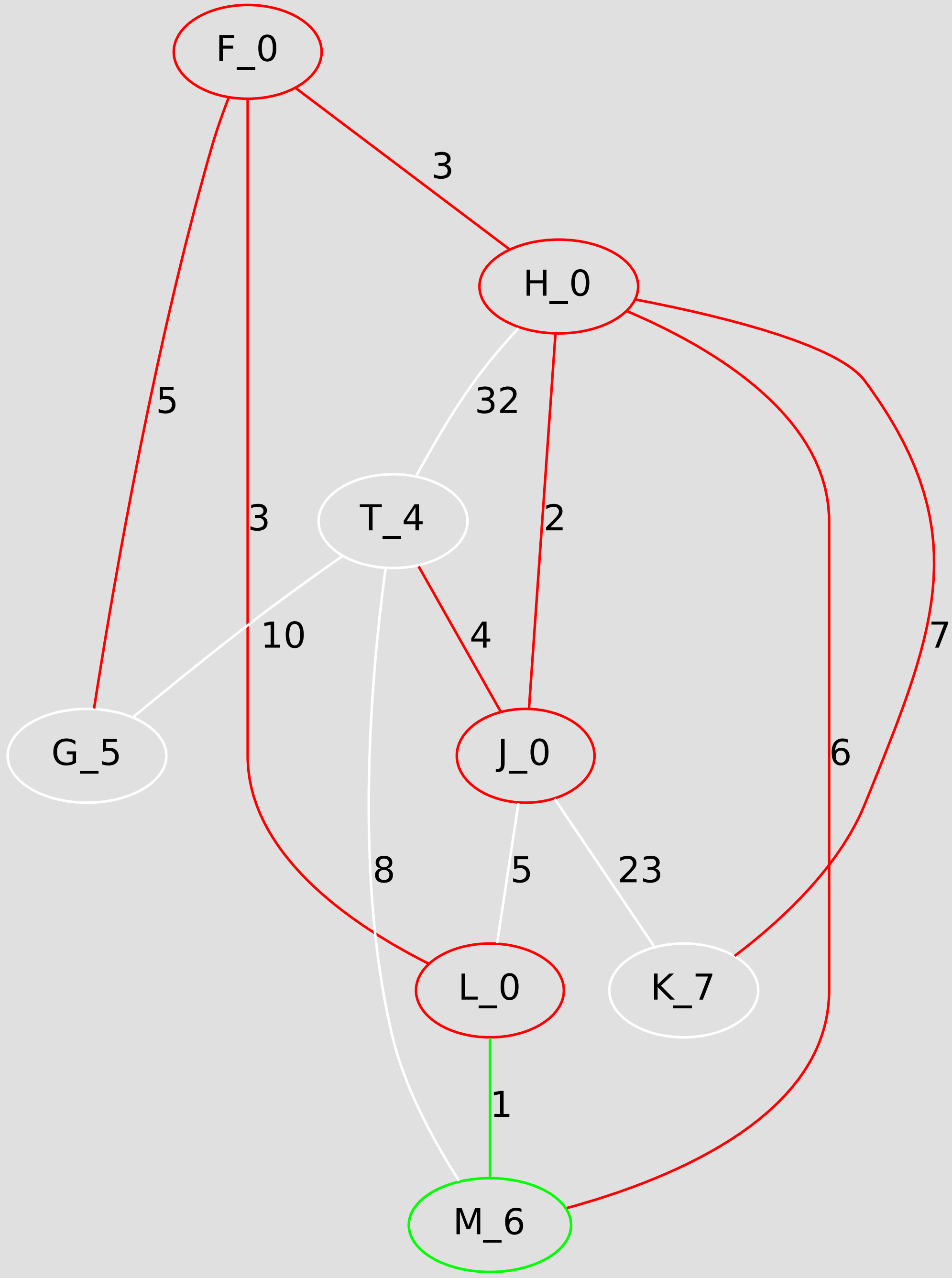
Finished with the adjacents of J.
Priority queue = [L_3, T_4, G_5, M_6, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 6 + 4 = 30



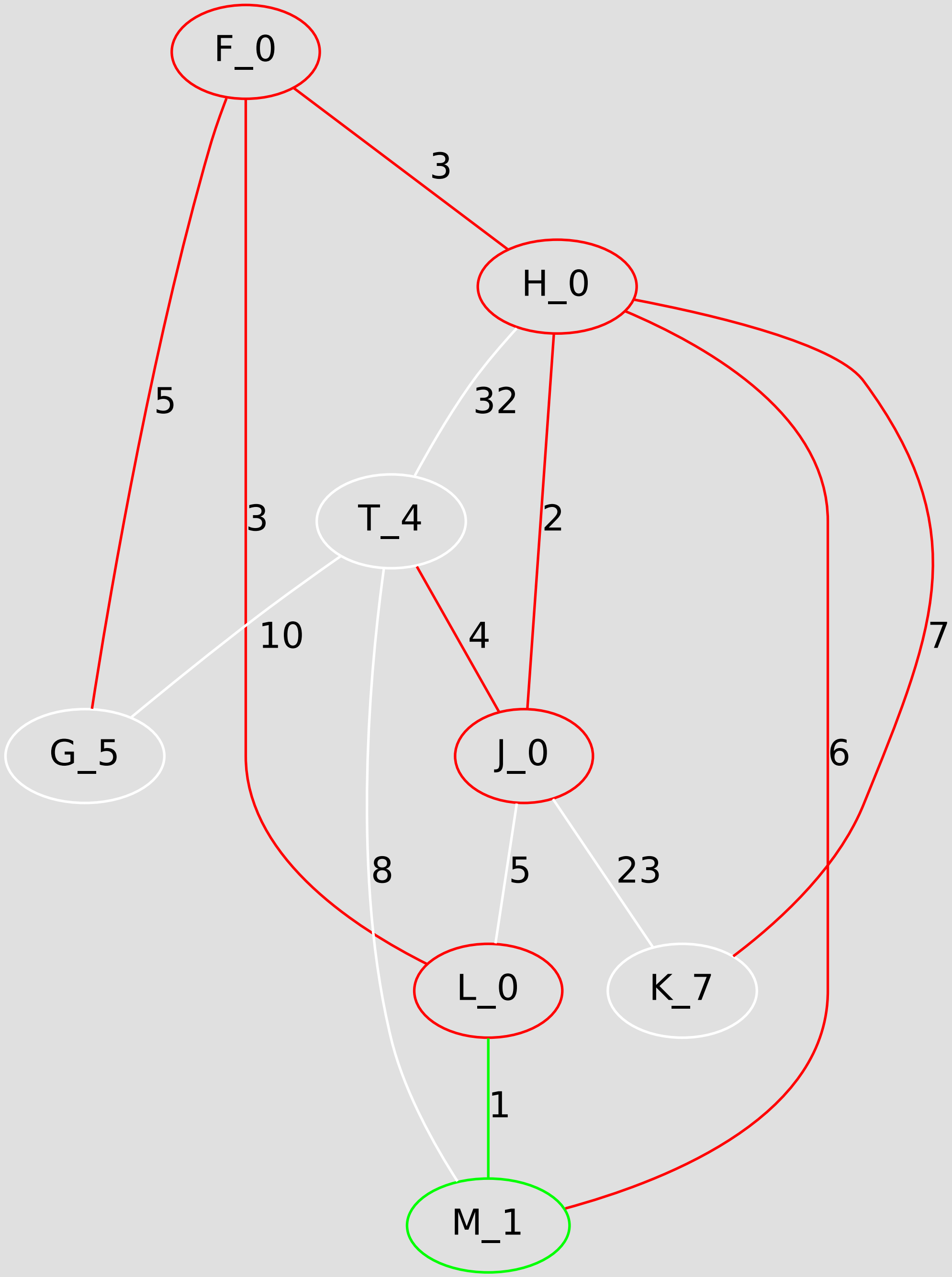
Extracted L and added it to the MST-so-far. Let's adjust its adjacent vertices (M, J, F).
Priority queue = [T_4, G_5, M_6, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 6 + 4 = 30



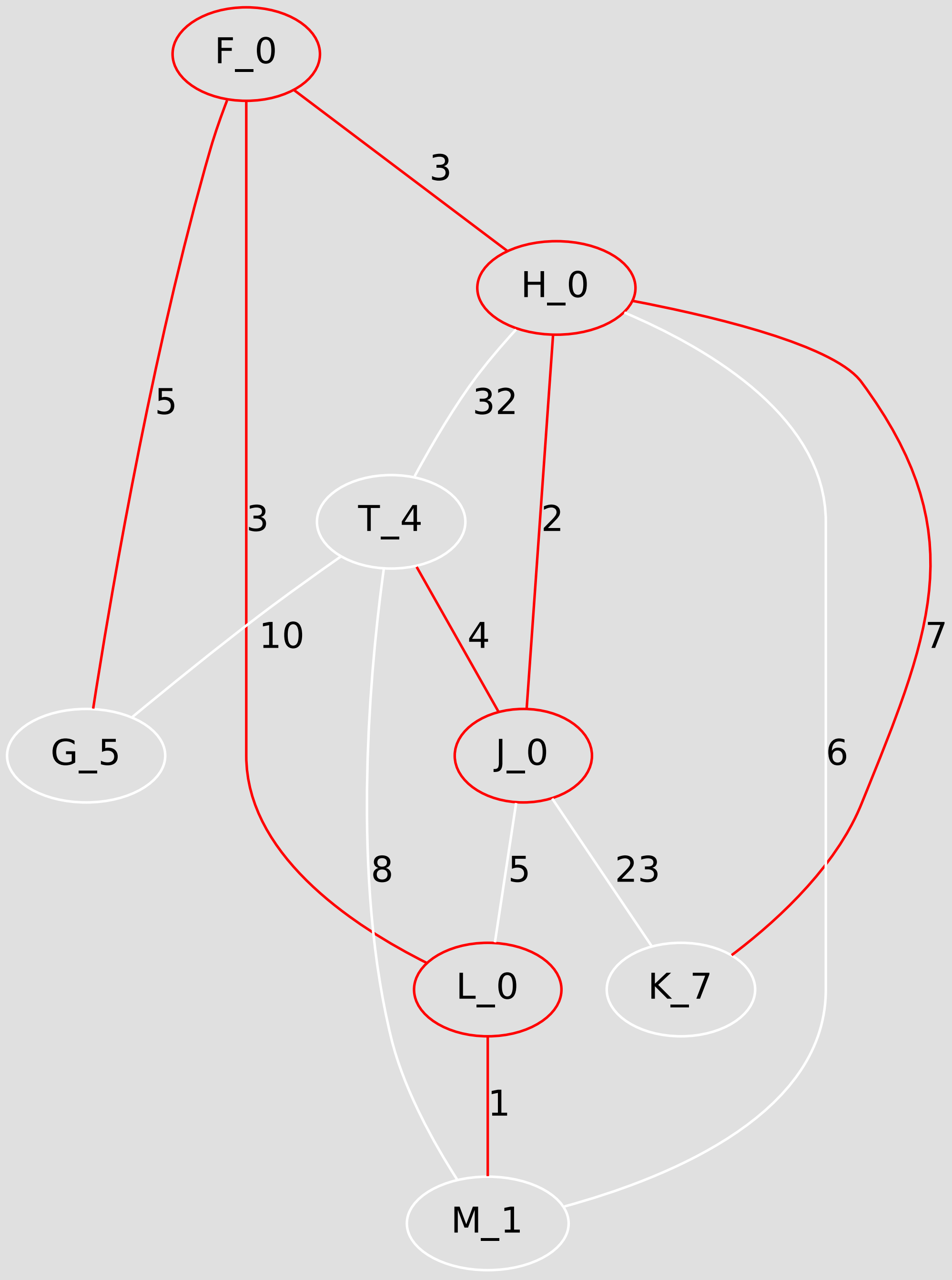
Adjusting the vertices adjacent to L. Considering edge (L, M), leading to M.
Priority queue = [T_4, G_5, M_6, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 6 + 4 = 30



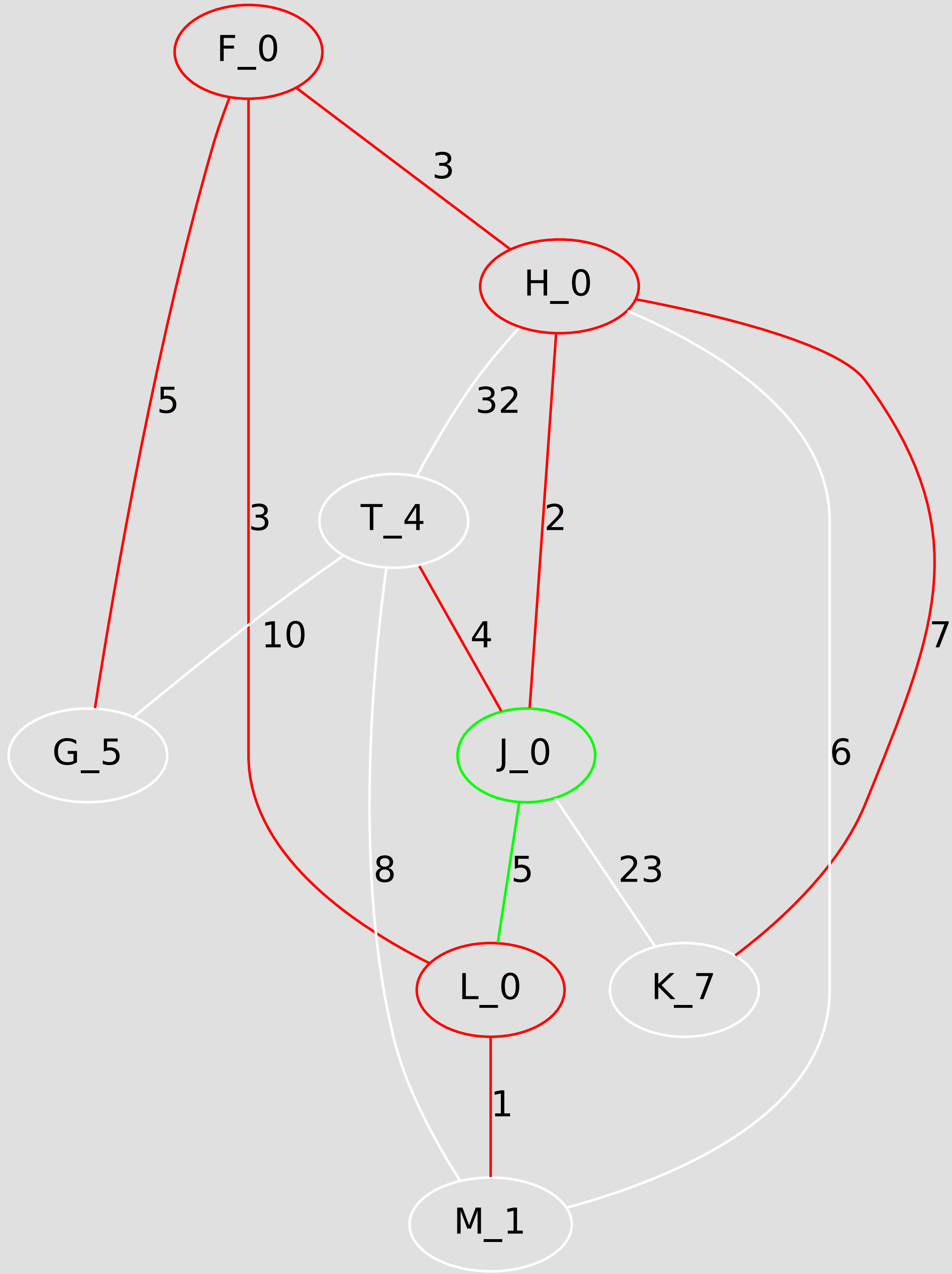
Using edge (L, M), vertex M can be reached in 1 from the MST-so-far (better than 6).
Priority queue = [M_1, T_4, G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 6 + 4 = 30



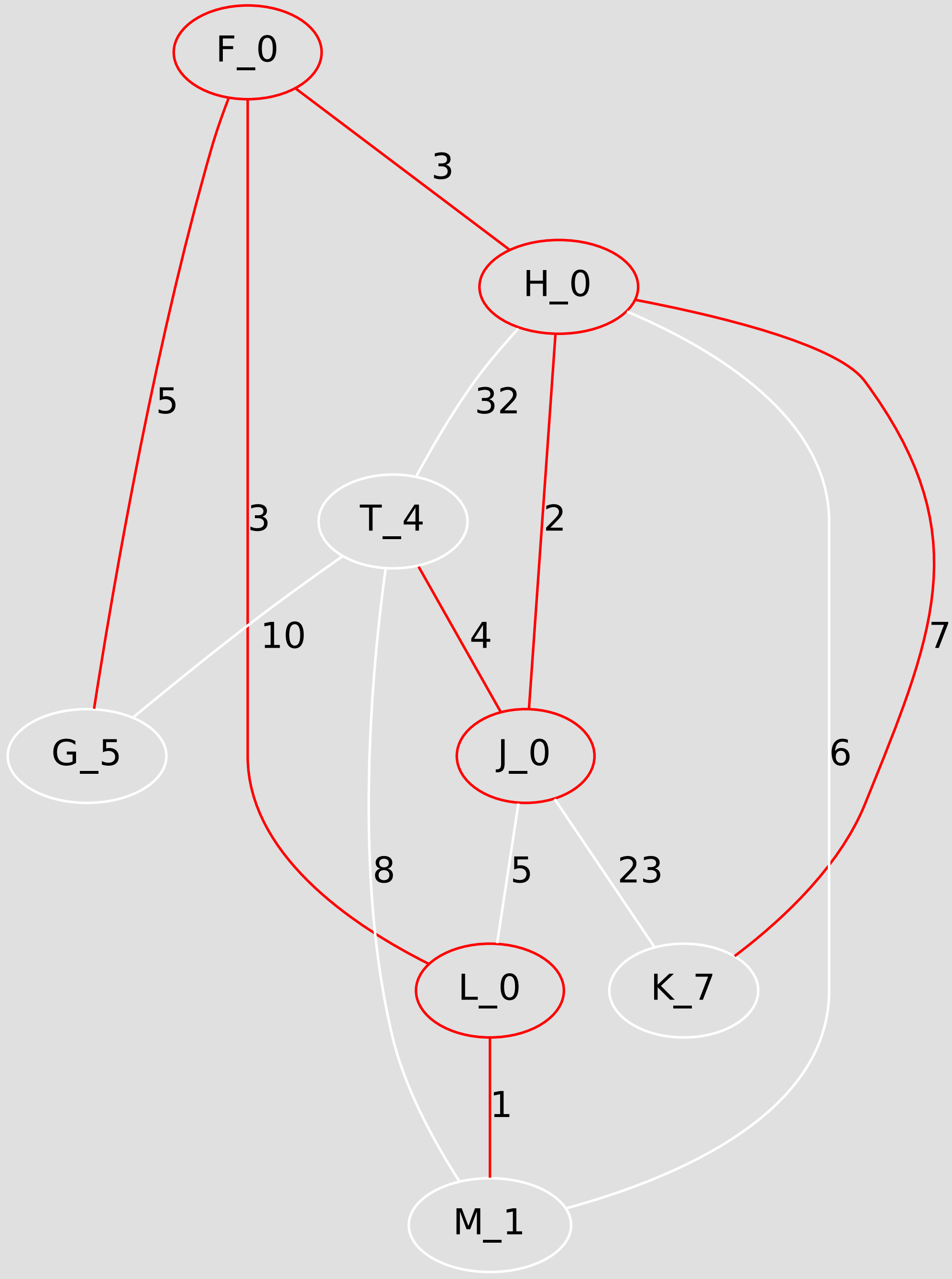
So let's add edge (L, M) to the MST, replacing (M, H).
Priority queue = [M_1, T_4, G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



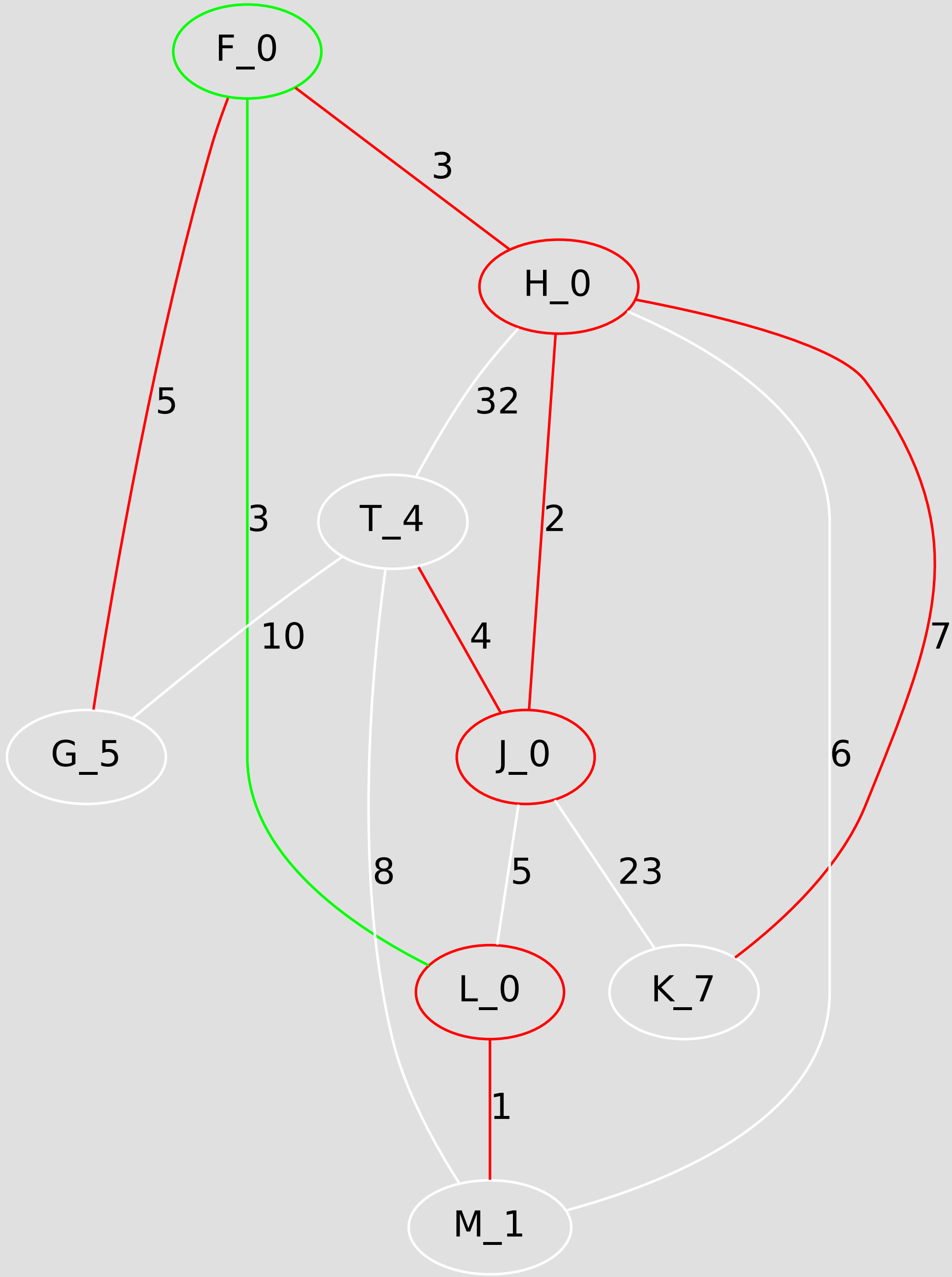
Adjusting the vertices adjacent to L. Considering edge (J, L), leading to J.
Priority queue = [M_1, T_4, G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



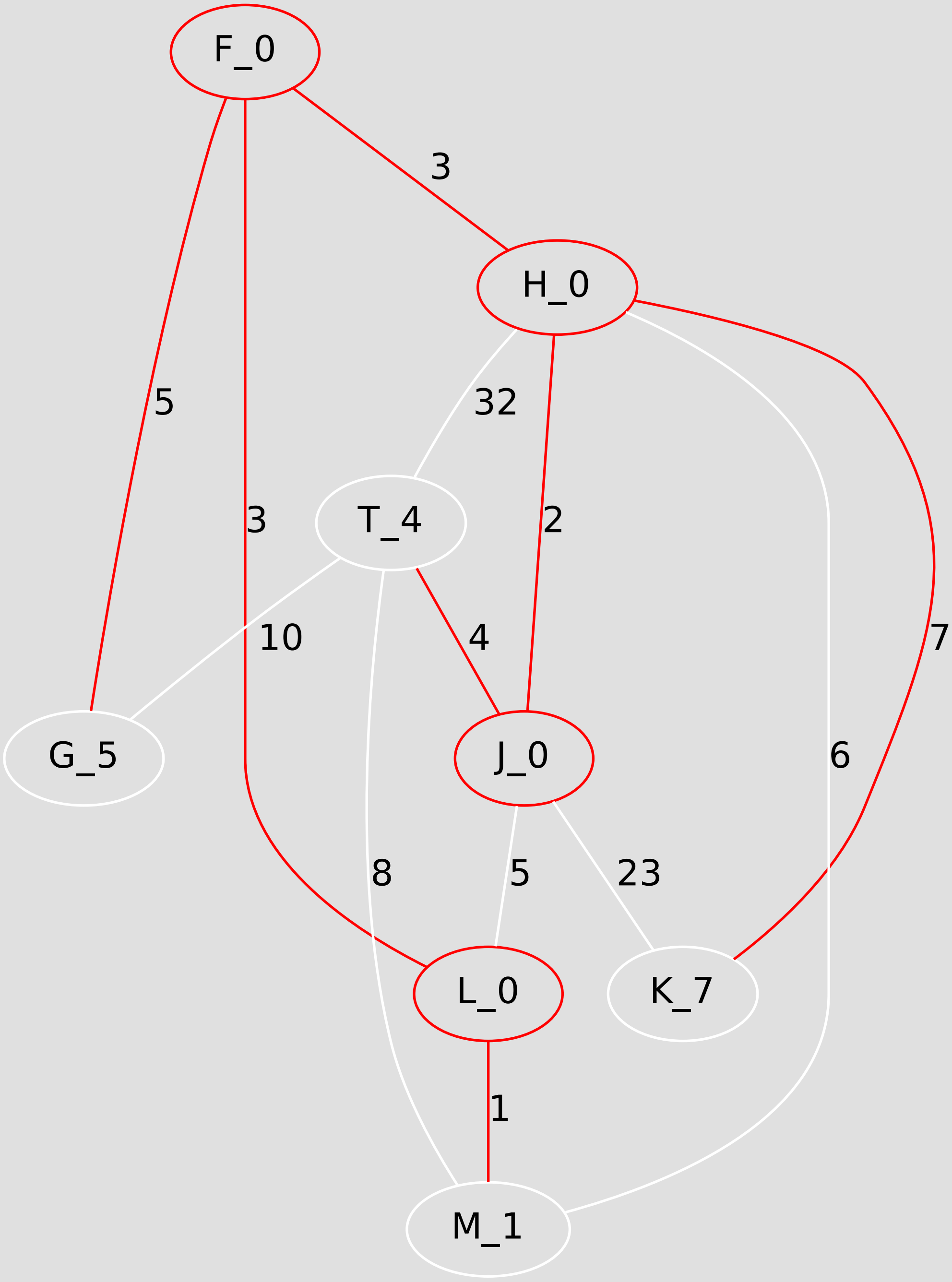
Using edge (J, L), vertex J can be reached in 5 from the MST-so-far (not better than 0).
Let's not use that edge.
Priority queue = [M_1, T_4, G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



Adjusting the vertices adjacent to L. Considering edge (F, L), leading to F.
Priority queue = [M_1, T_4, G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



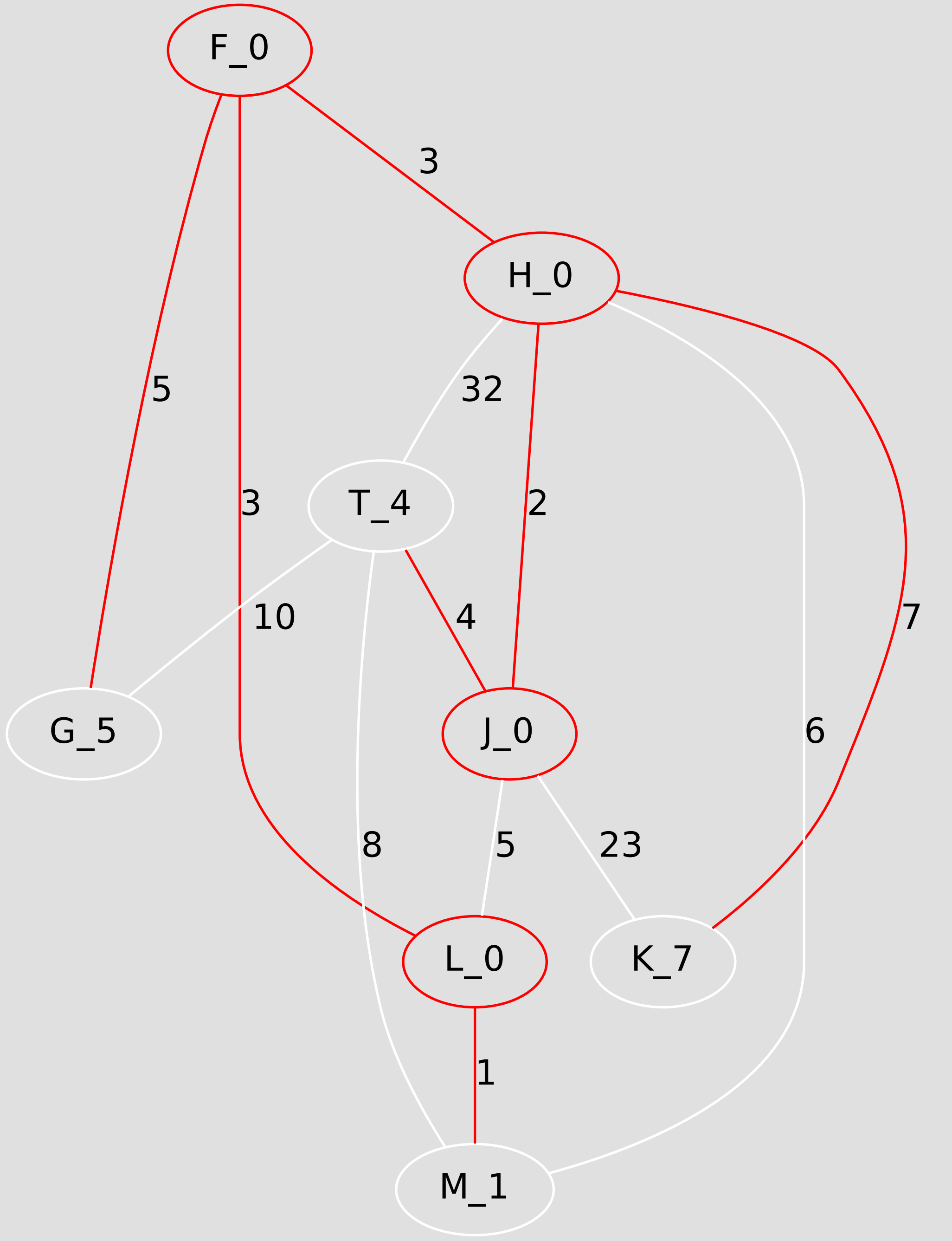
Using edge (F, L), vertex F can be reached in 3 from the MST-so-far (not better than 0).
Let's not use that edge.
Priority queue = [M_1, T_4, G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



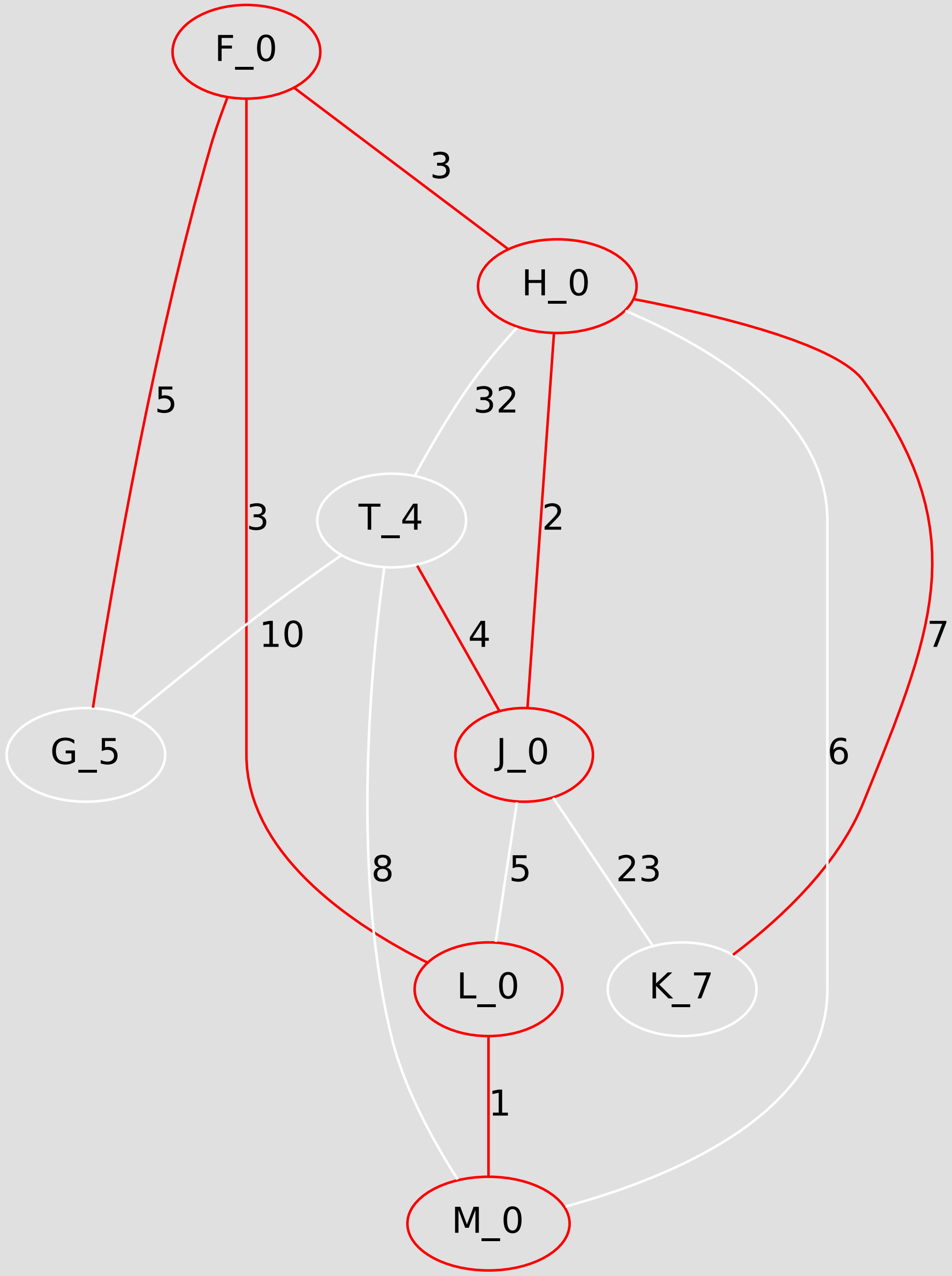
Finished with the adjacents of L.

Priority queue = [M_1, T_4, G_5, K_7]

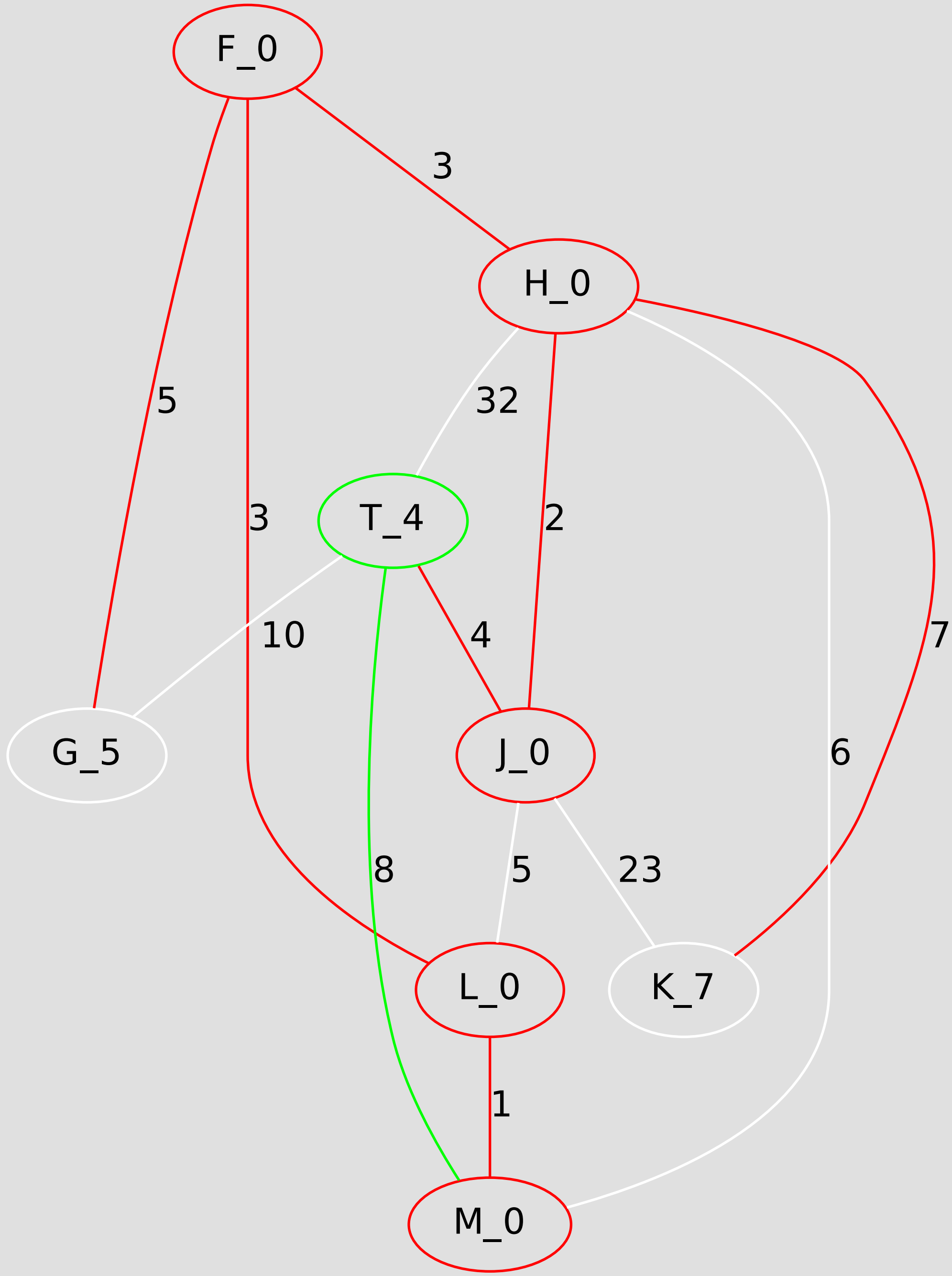
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



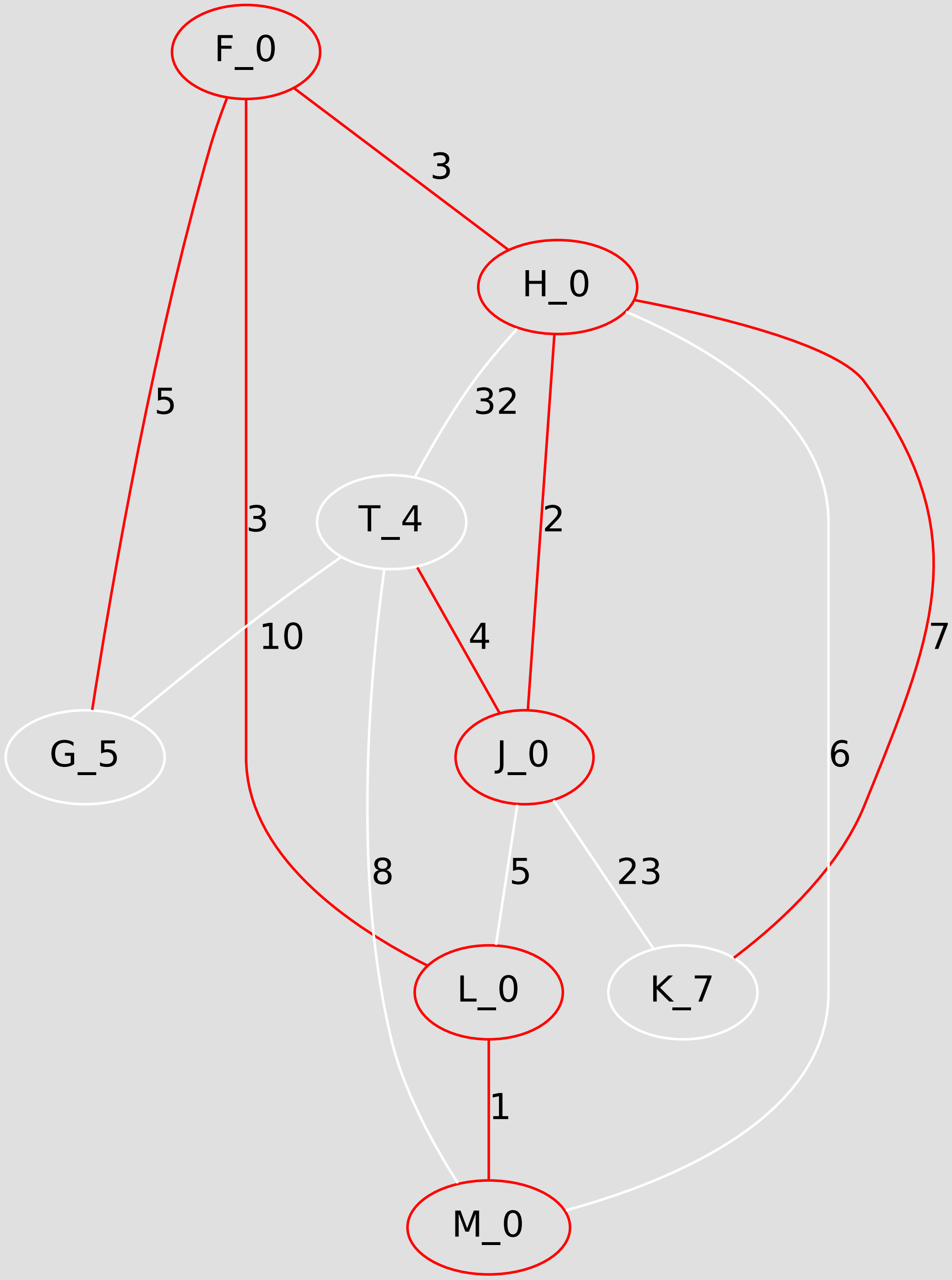
Extracted M and added it to the MST-so-far. Let's adjust its adjacent vertices (T, H, L).
Priority queue = [T_4, G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



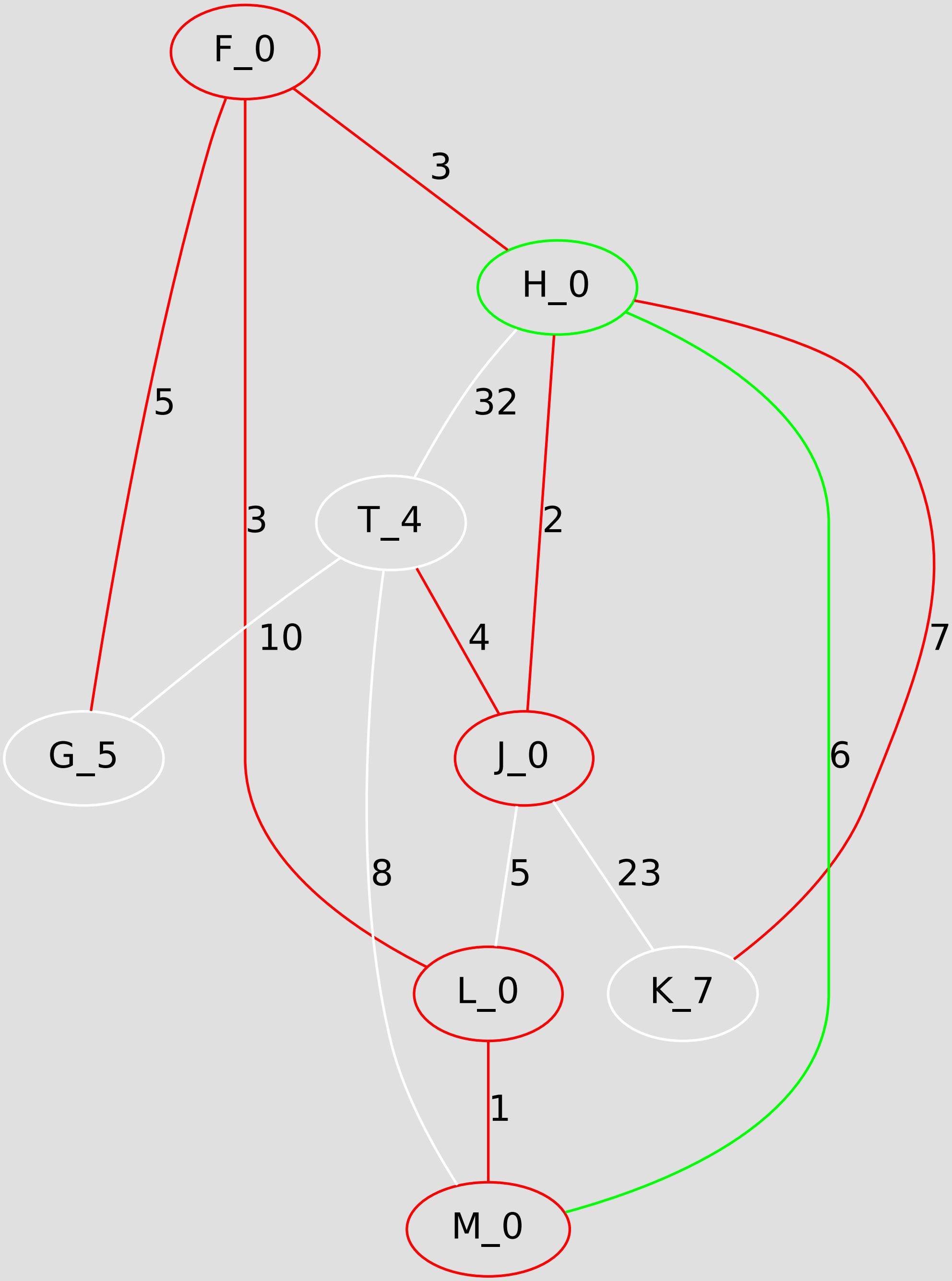
Adjusting the vertices adjacent to M. Considering edge (M, T), leading to T.
Priority queue = [T_4, G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



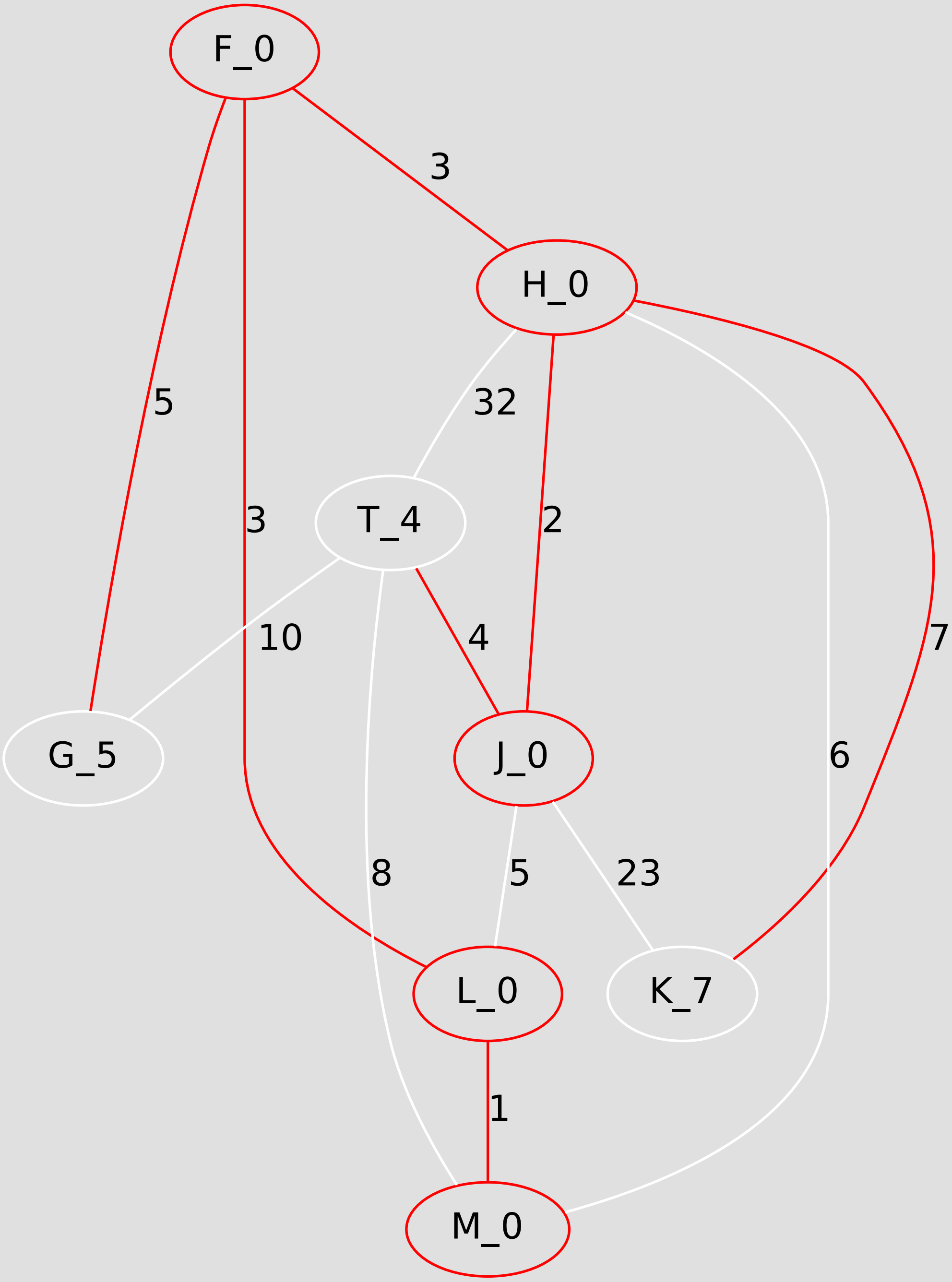
Using edge (M, T), vertex T can be reached in 8 from the MST-so-far (not better than 4).
Let's not use that edge.
Priority queue = [T_4, G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



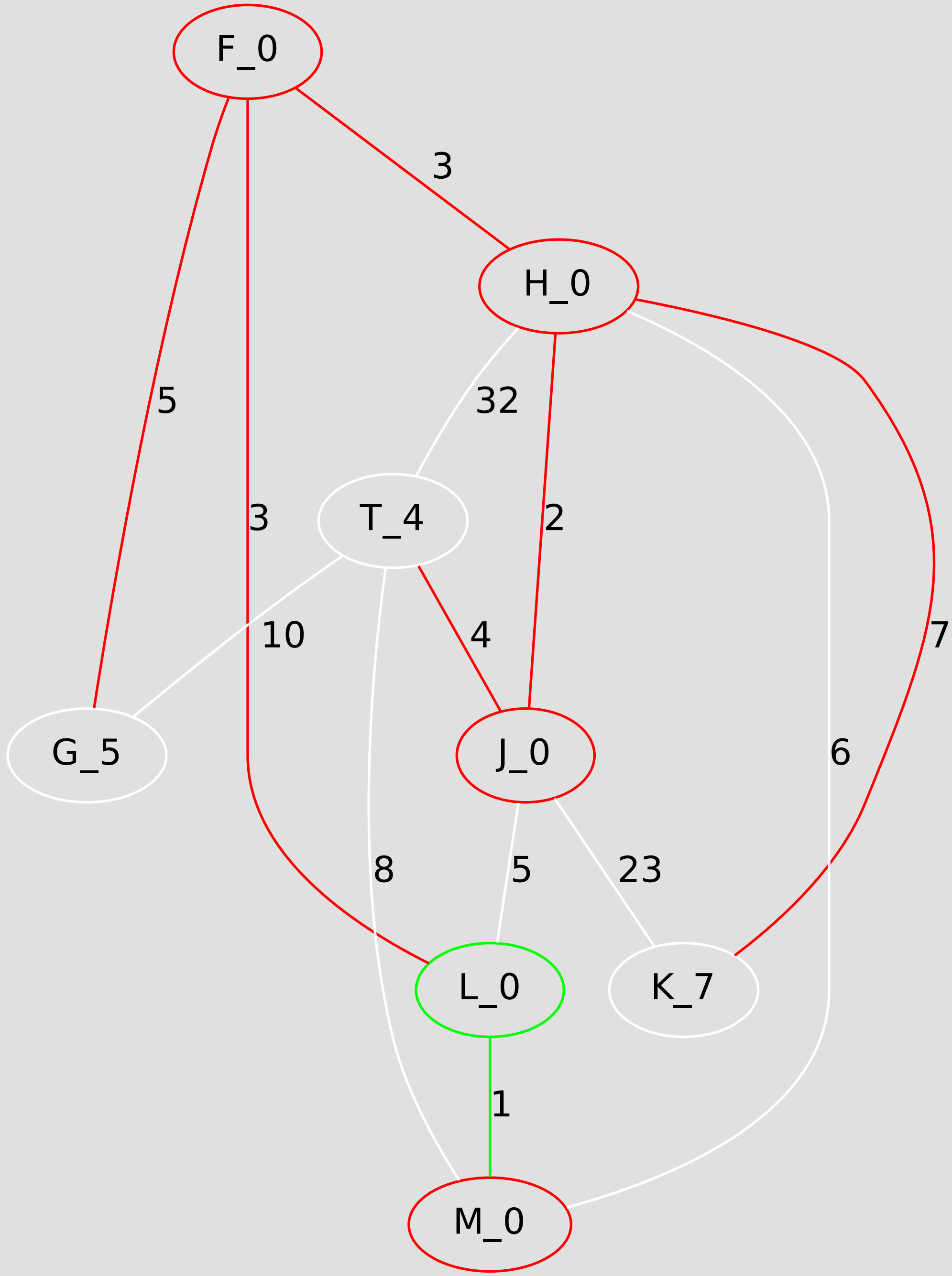
Adjusting the vertices adjacent to M. Considering edge (M, H), leading to H.
Priority queue = [T_4, G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



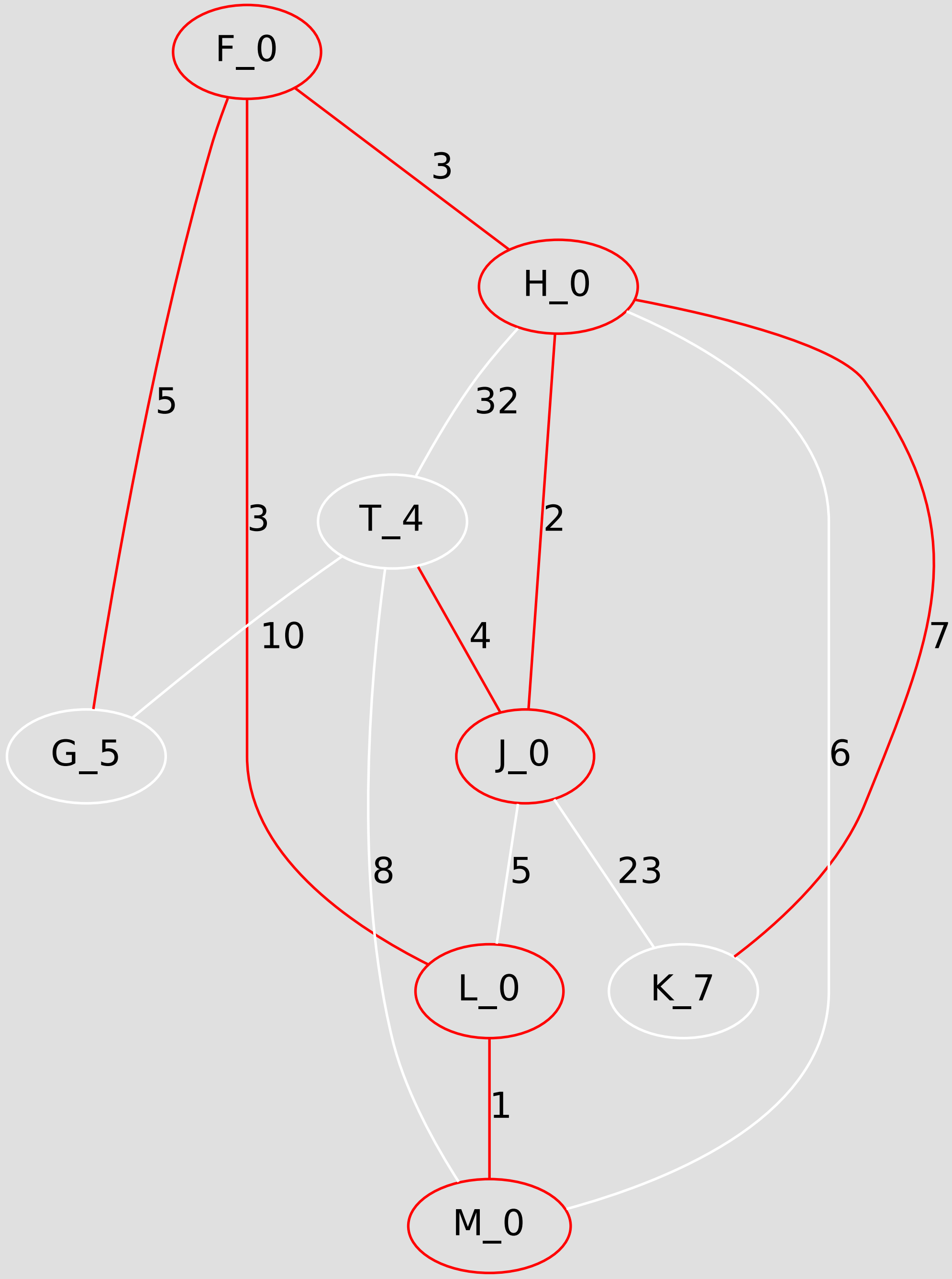
Using edge (M, H), vertex H can be reached in 6 from the MST-so-far (not better than 0).
Let's not use that edge.
Priority queue = [T_4, G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



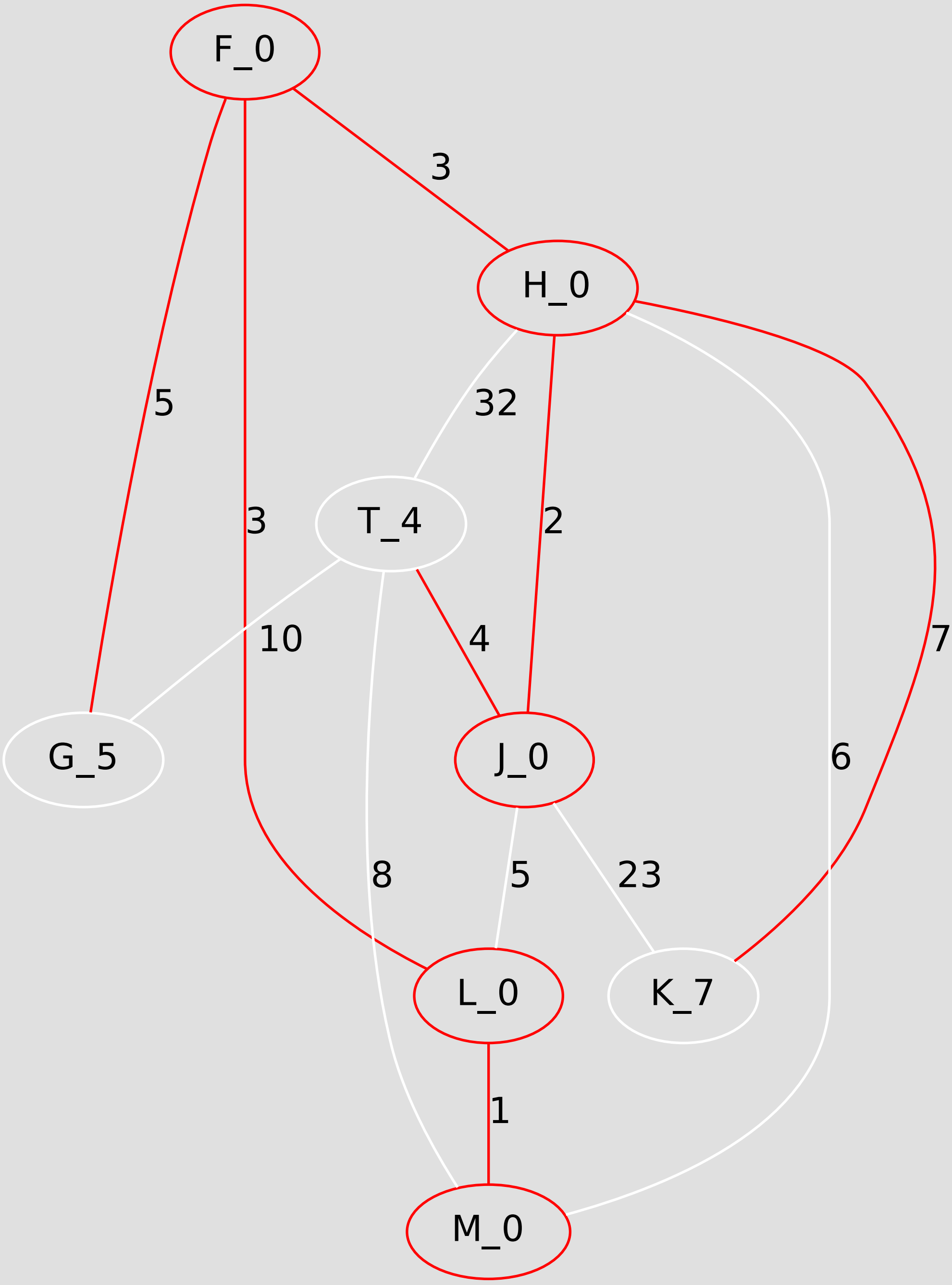
Adjusting the vertices adjacent to M. Considering edge (L, M), leading to L.
Priority queue = [T_4, G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



Using edge (L, M), vertex L can be reached in 1 from the MST-so-far (not better than 0).
Let's not use that edge.
Priority queue = [T_4, G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



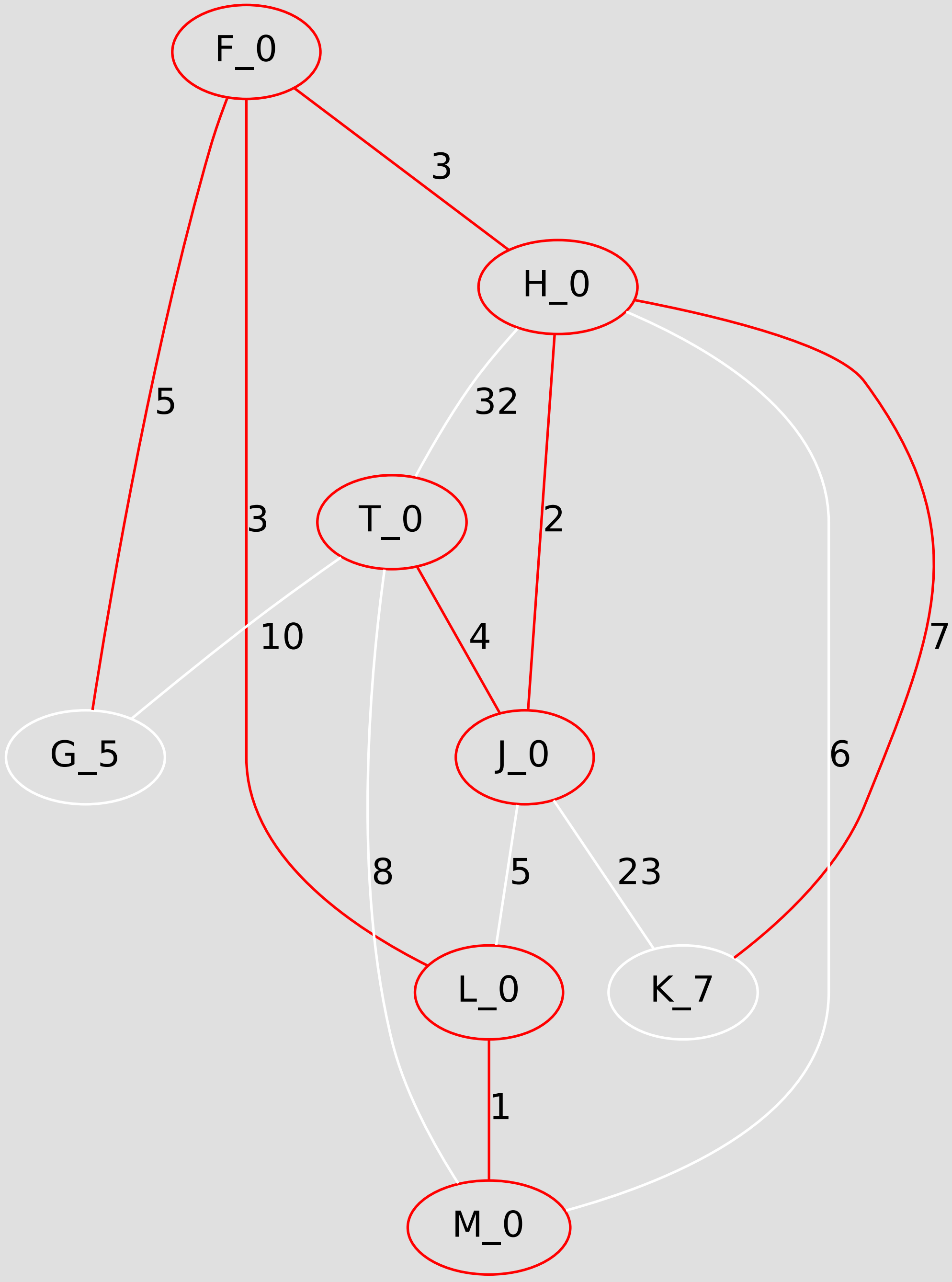
Finished with the adjacents of M.
Priority queue = [T_4, G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



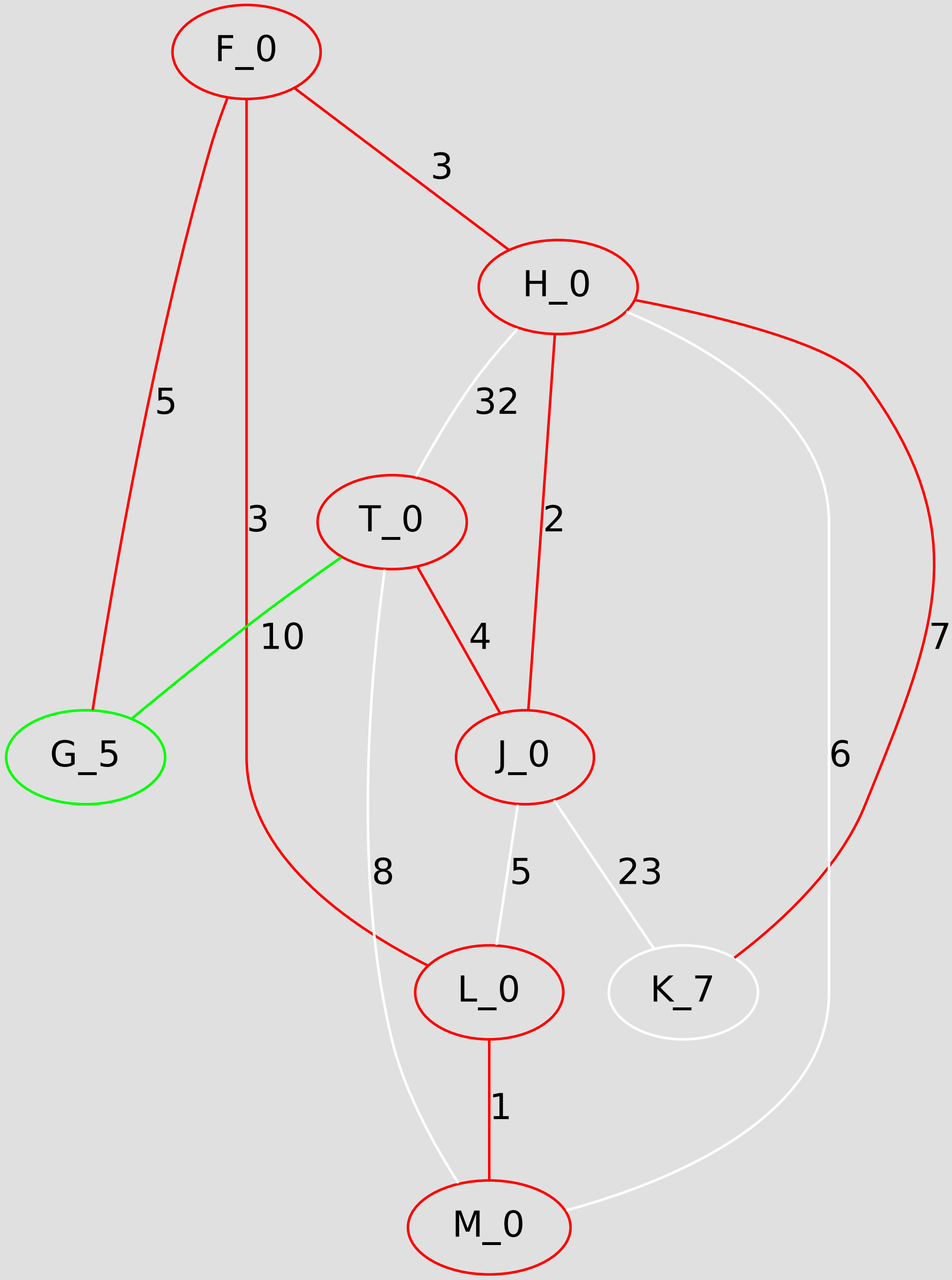
Extracted T and added it to the MST-so-far. Let's adjust its adjacent vertices (G, J, M, H).

Priority queue = [G_5, K_7]

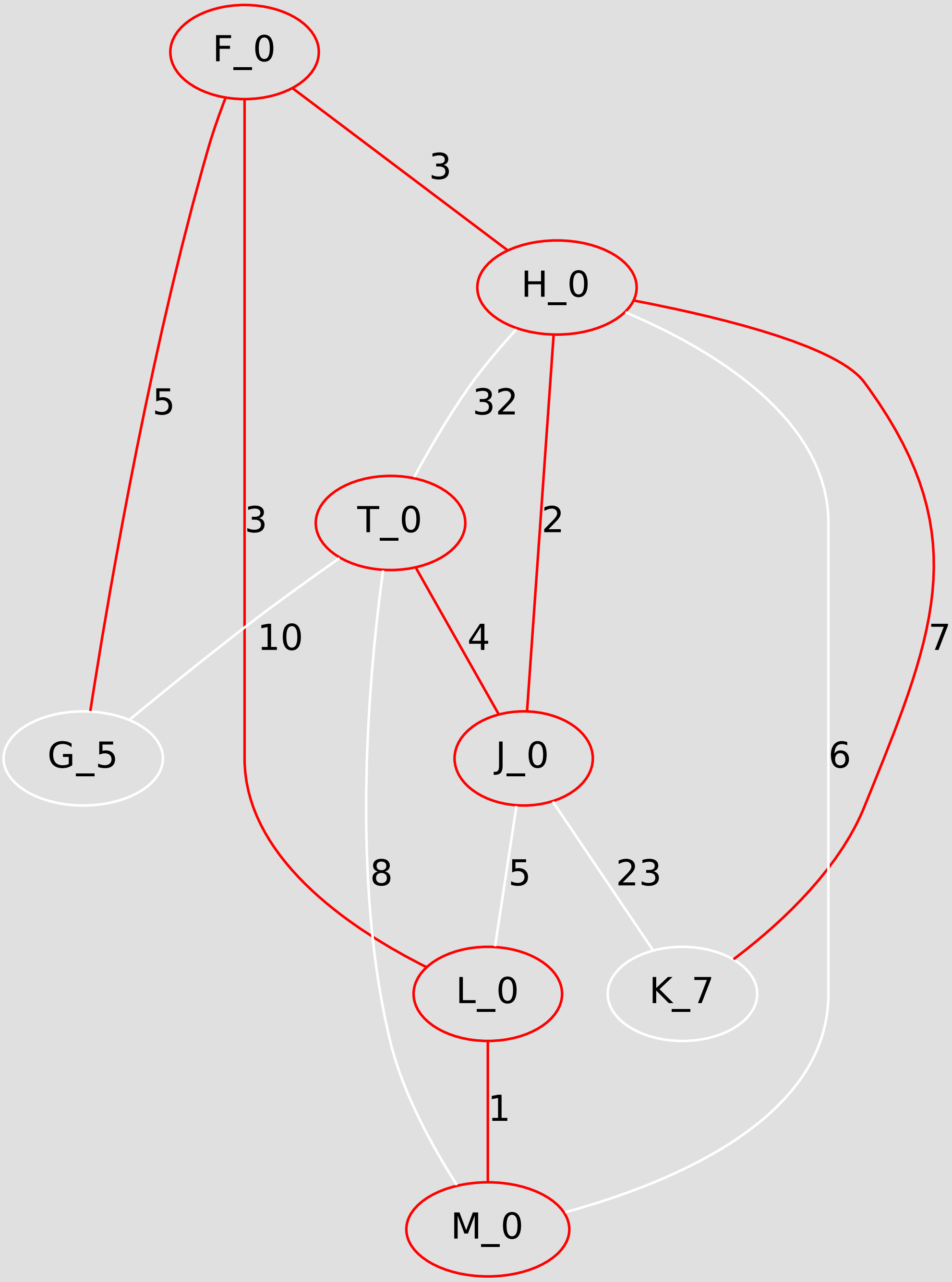
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



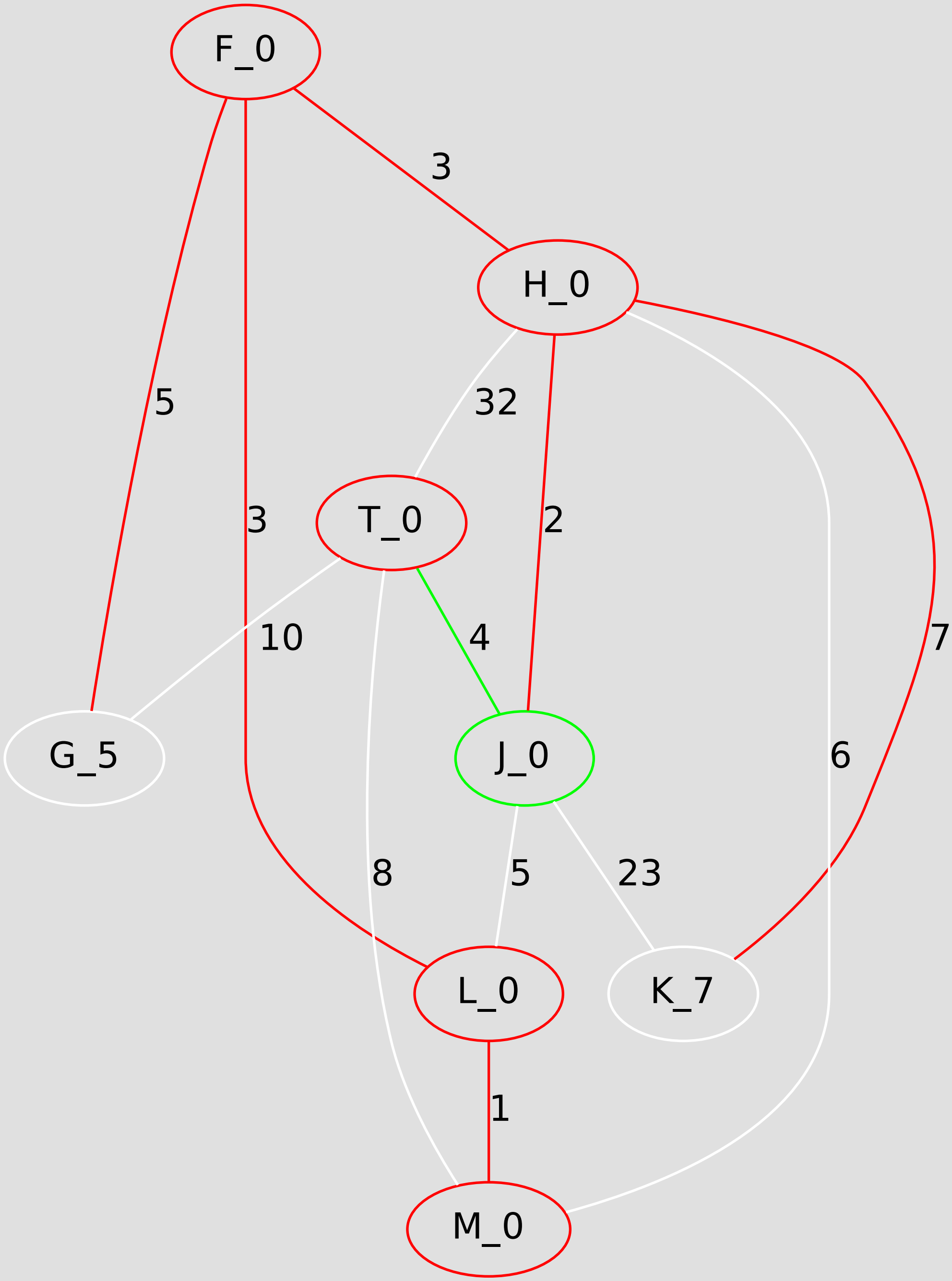
Adjusting the vertices adjacent to T. Considering edge (T, G), leading to G.
Priority queue = [G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



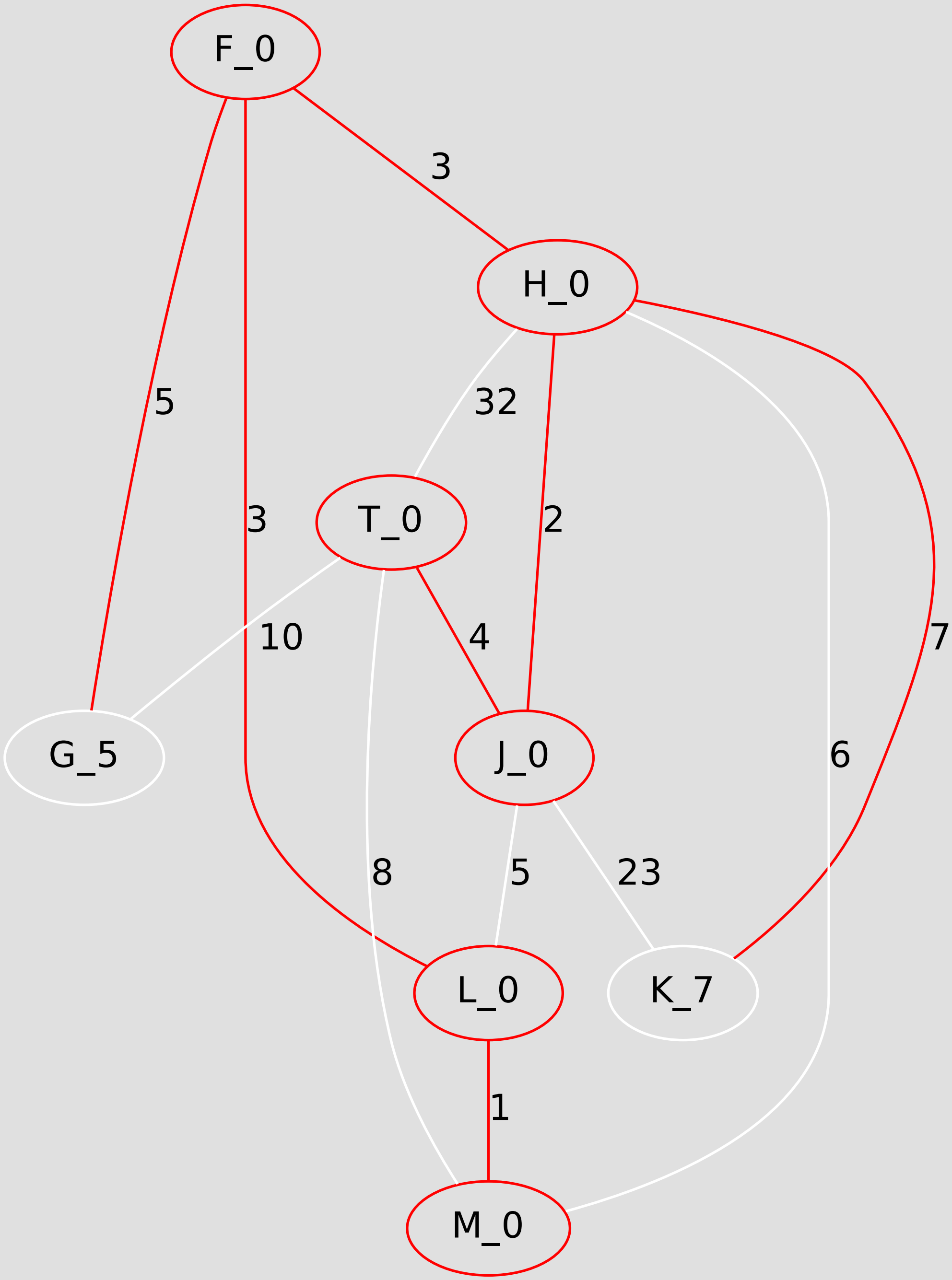
Using edge (T, G), vertex G can be reached in 10 from the MST-so-far (not better than 5).
Let's not use that edge.
Priority queue = [G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25

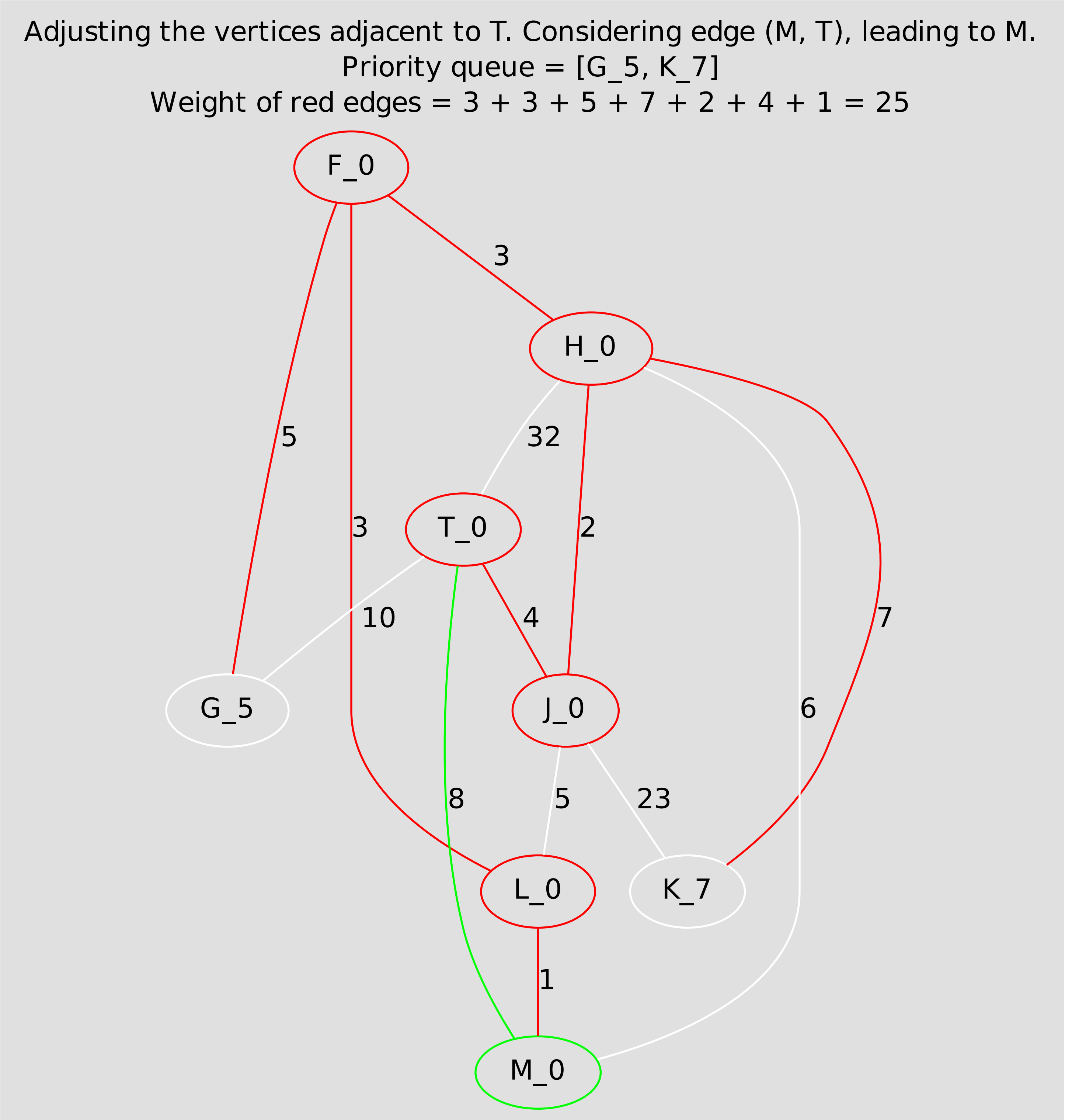


Adjusting the vertices adjacent to T. Considering edge (T, J), leading to J.
Priority queue = [G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



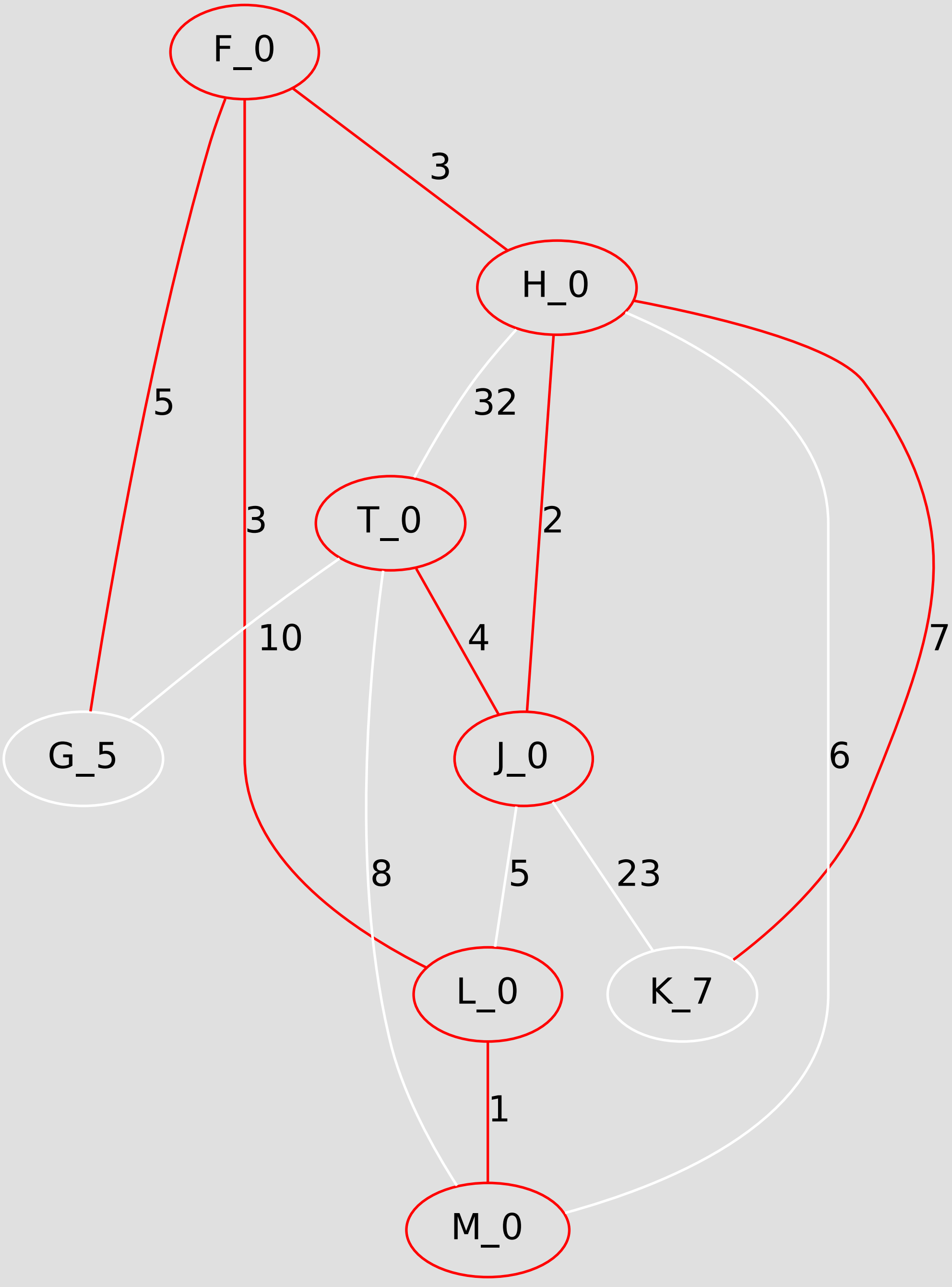
Using edge (T, J), vertex J can be reached in 4 from the MST-so-far (not better than 0).
Let's not use that edge.
Priority queue = [G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25

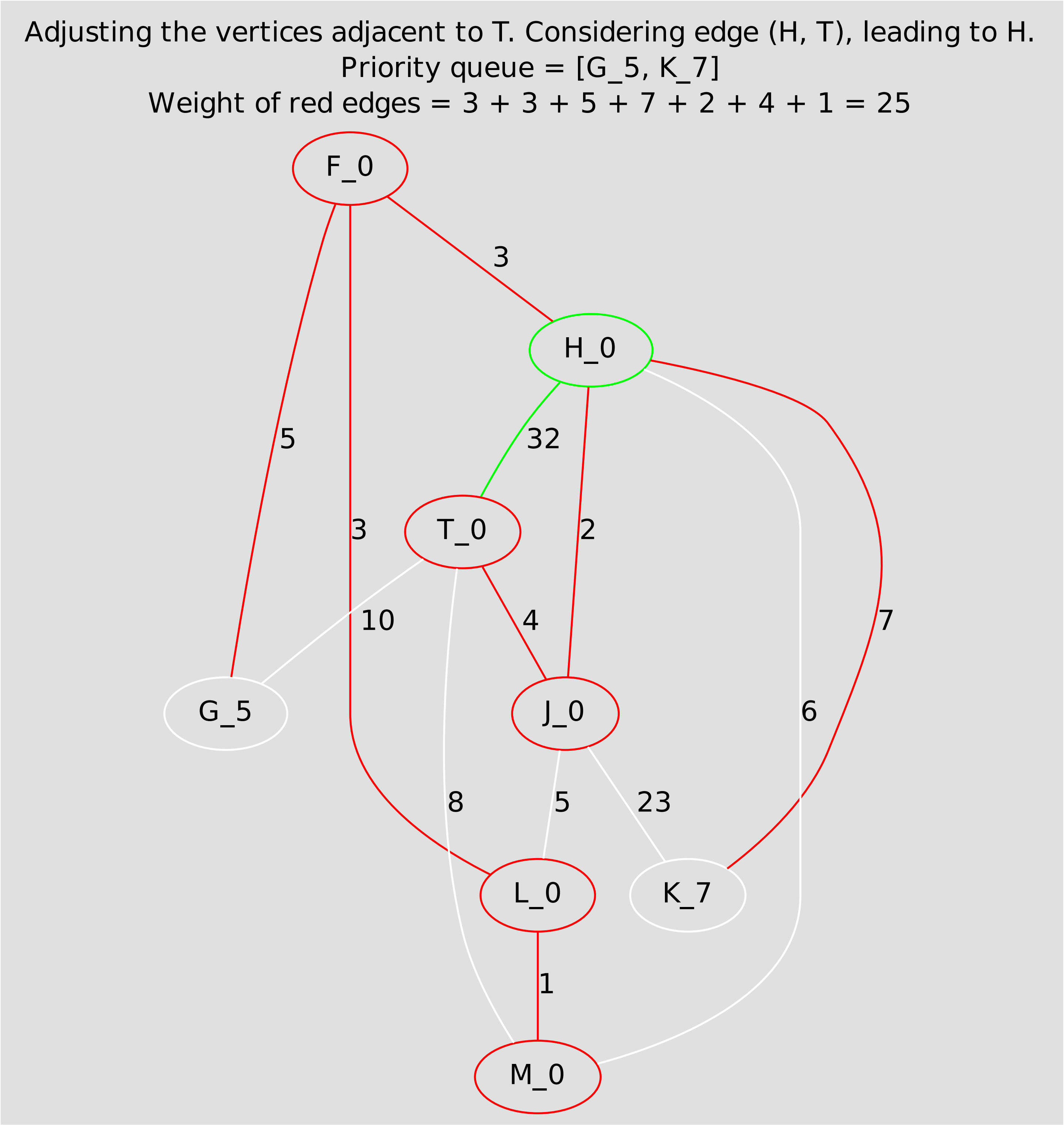




Adjusting the vertices adjacent to T. Considering edge (M, T), leading to M.
Priority queue = [G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25

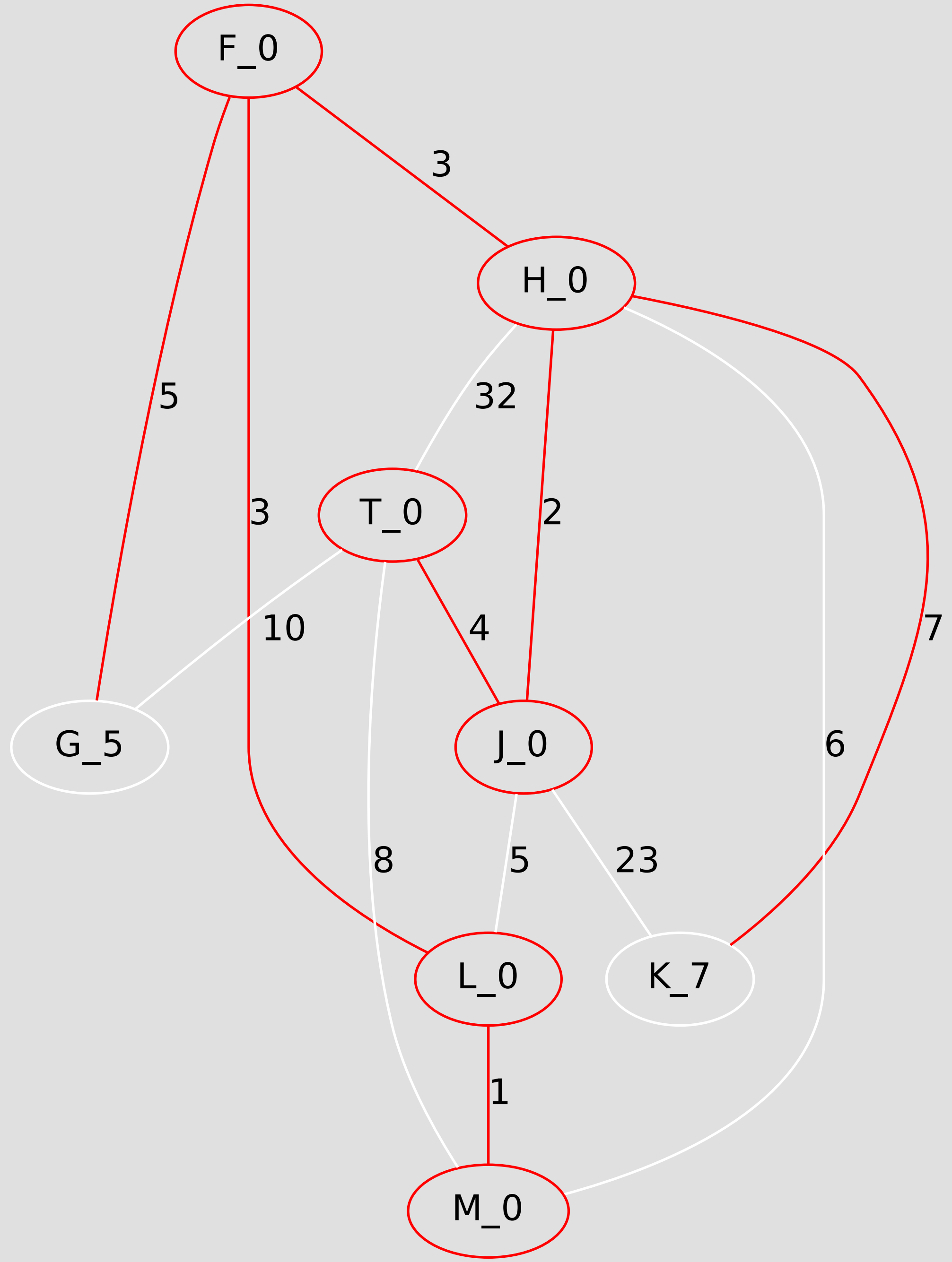
Using edge (M, T), vertex M can be reached in 8 from the MST-so-far (not better than 0).
Let's not use that edge.
Priority queue = [G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



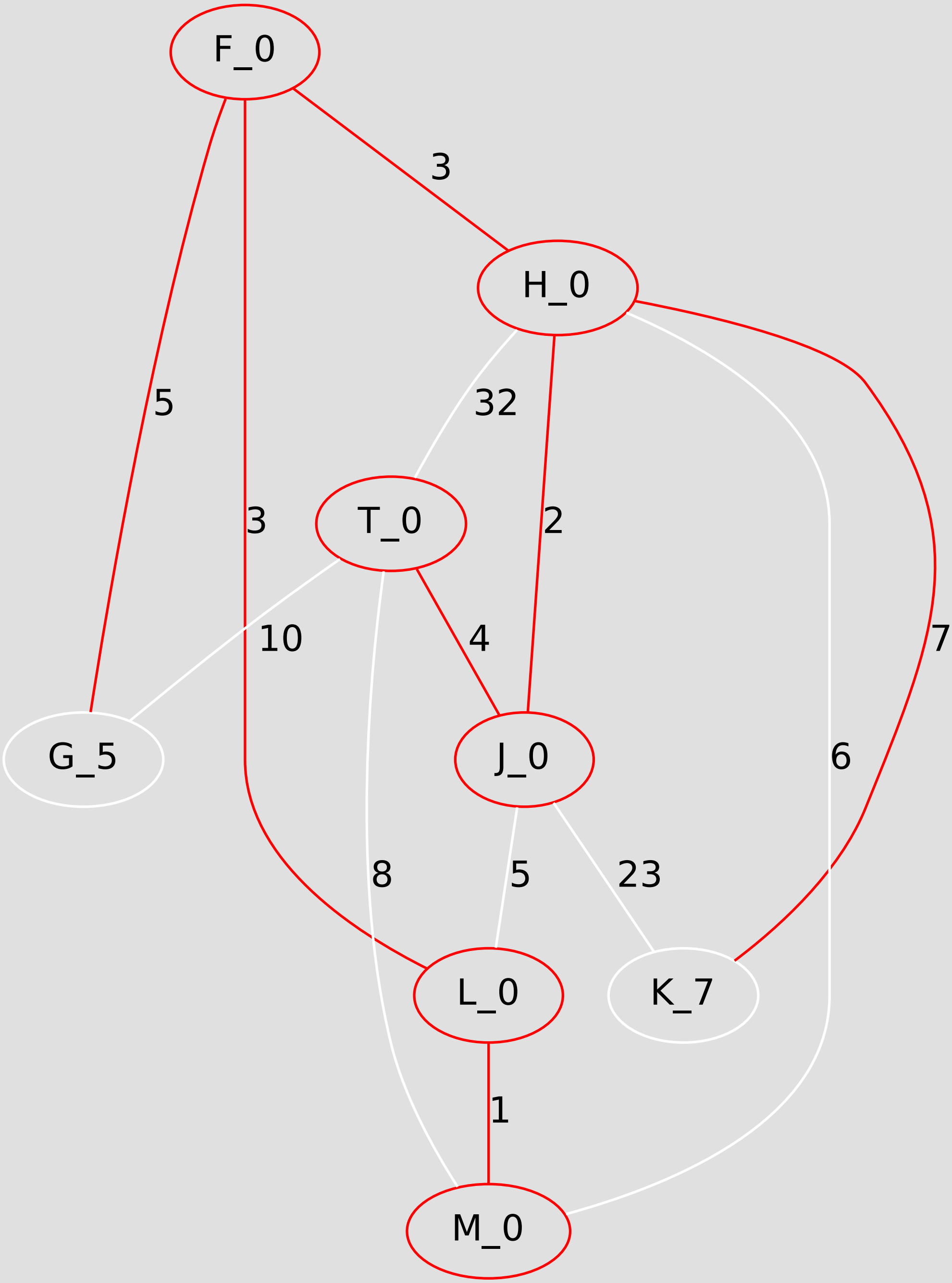


Adjusting the vertices adjacent to T. Considering edge (H, T), leading to H.
Priority queue = [G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25

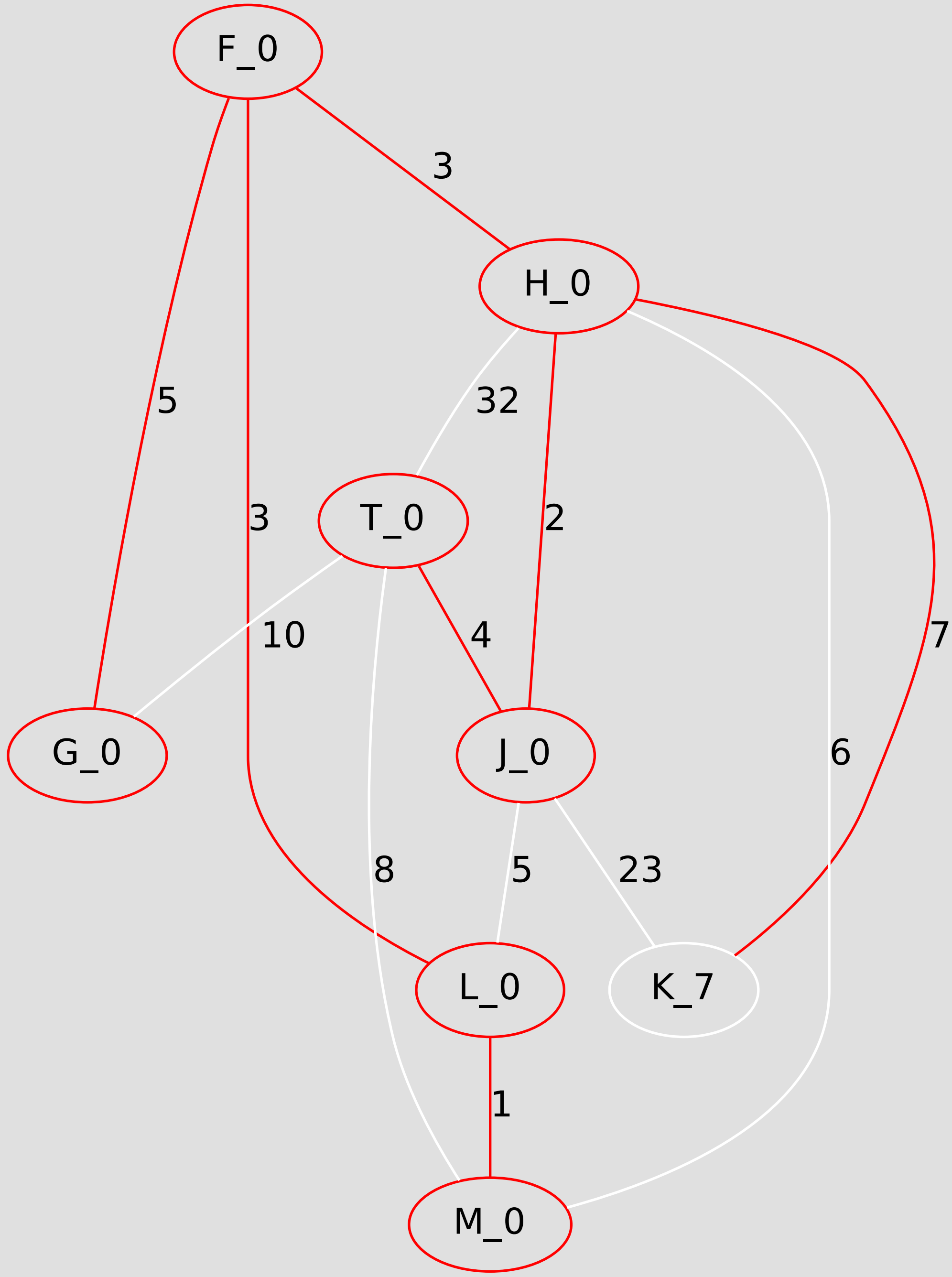
Using edge (H, T), vertex H can be reached in 32 from the MST-so-far (not better than 0).
Let's not use that edge.
Priority queue = [G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



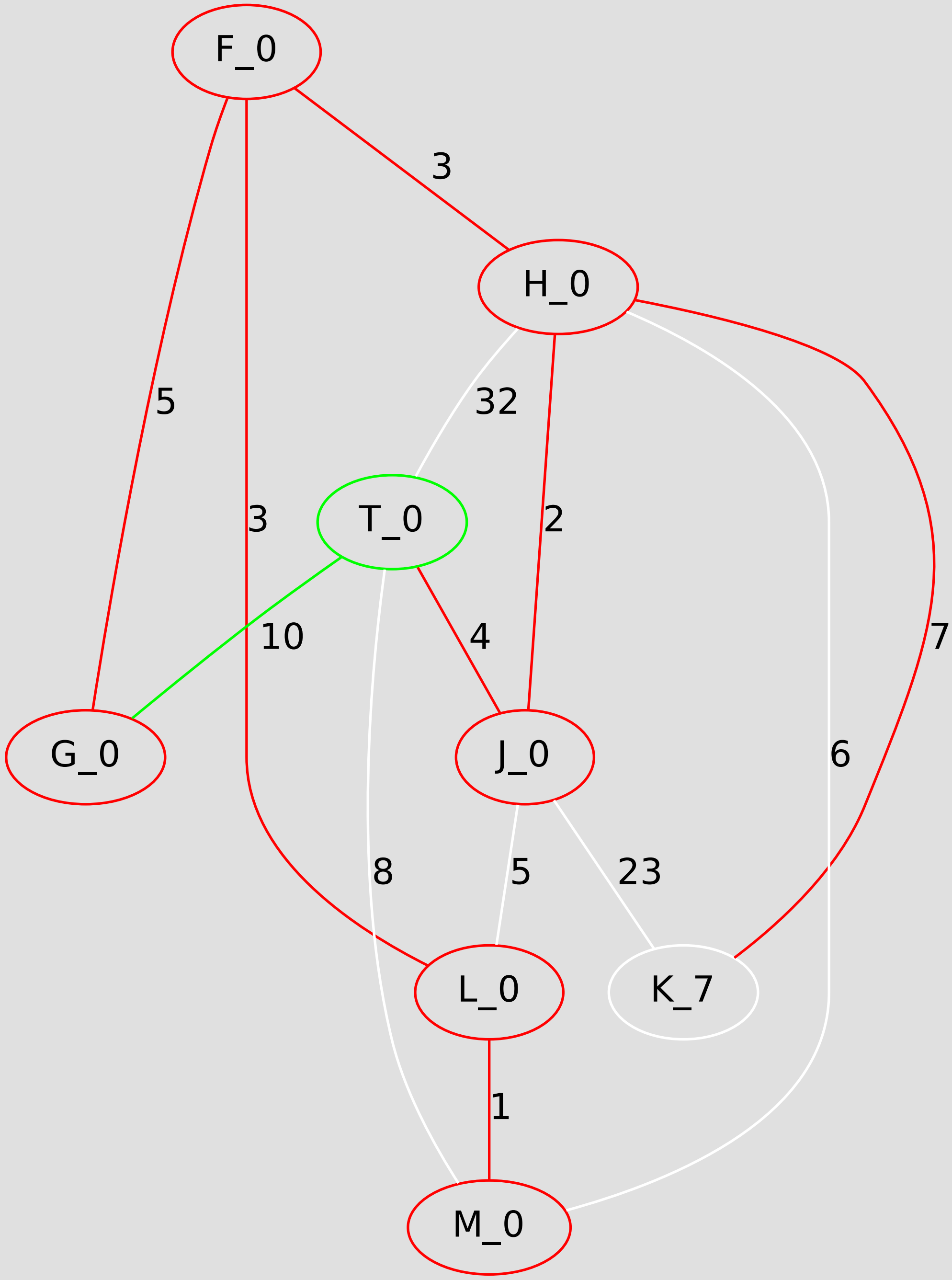
Finished with the adjacents of T.
Priority queue = [G_5, K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



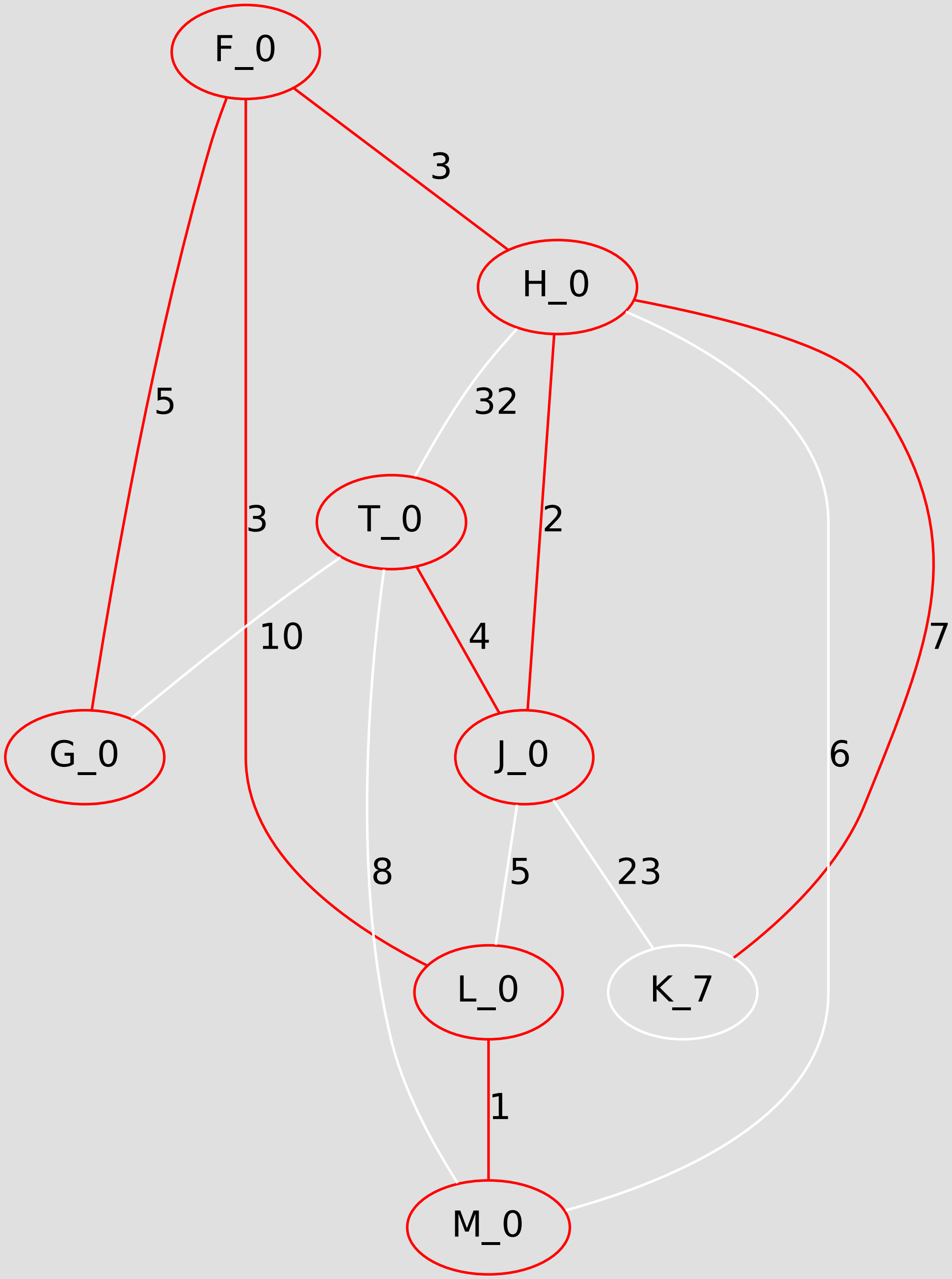
Extracted G and added it to the MST-so-far. Let's adjust its adjacent vertices (T, F).
Priority queue = [K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



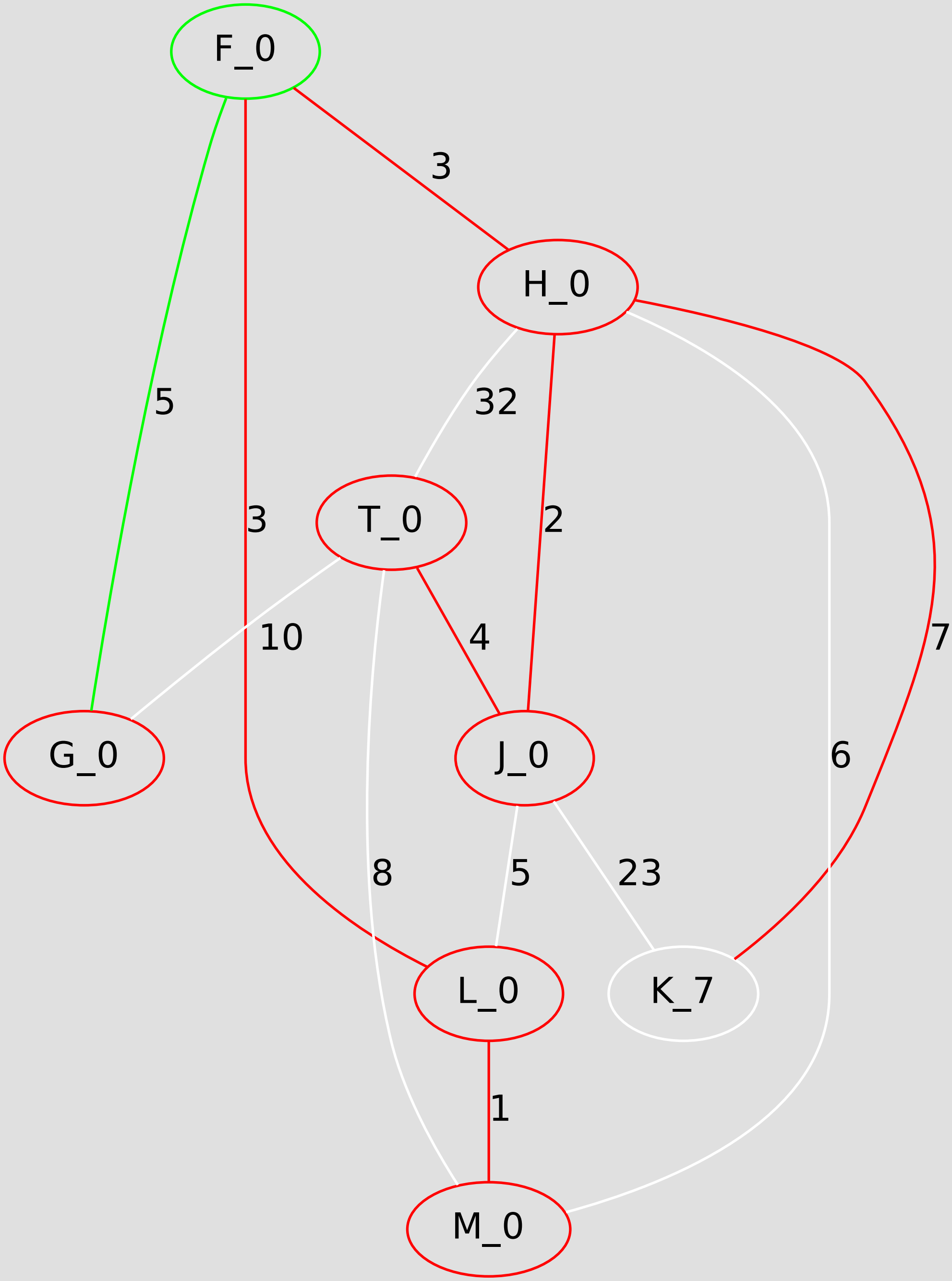
Adjusting the vertices adjacent to G. Considering edge (T, G), leading to T.
Priority queue = [K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



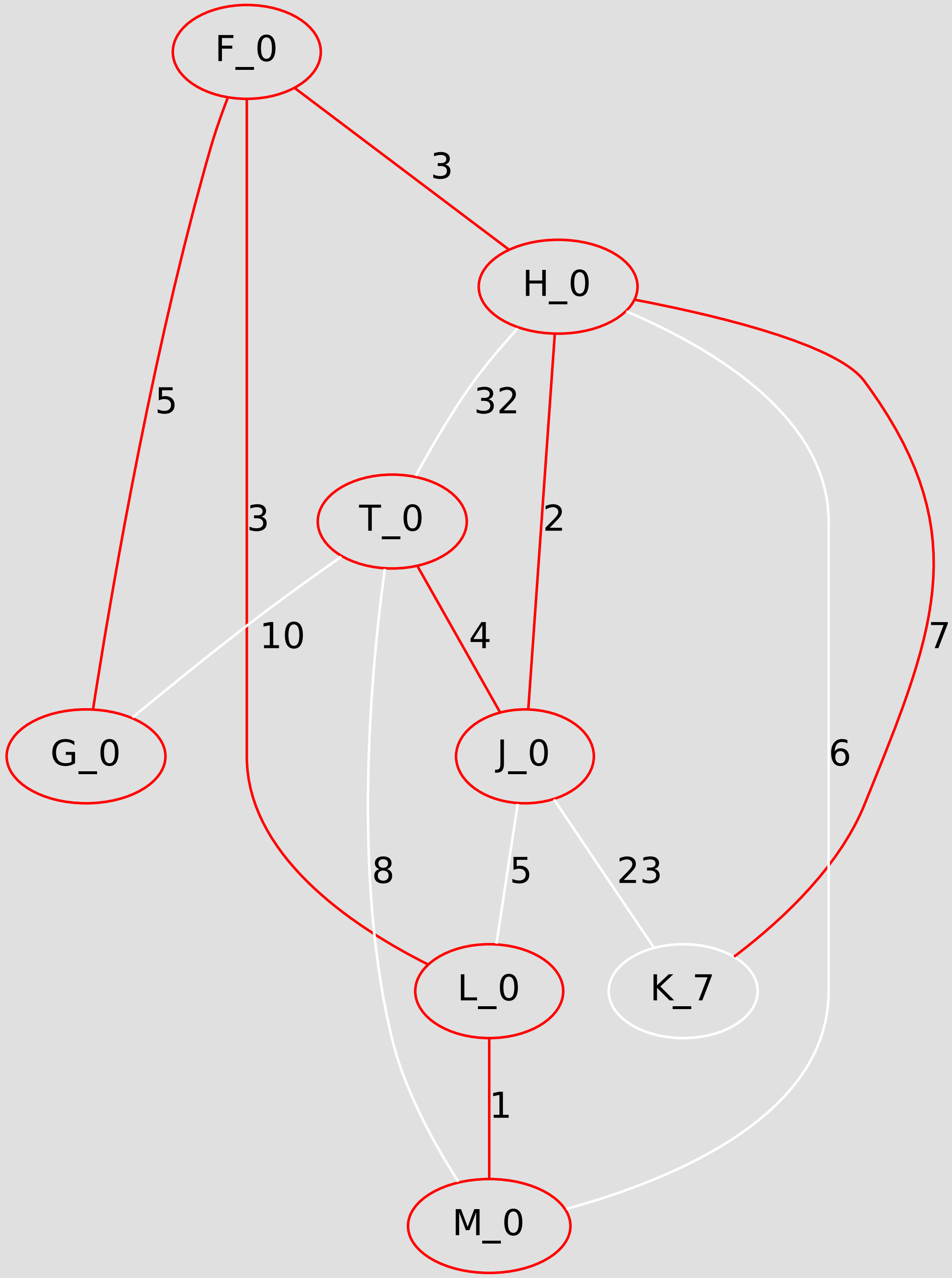
Using edge (T, G), vertex T can be reached in 10 from the MST-so-far (not better than 0).
Let's not use that edge.
Priority queue = [K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



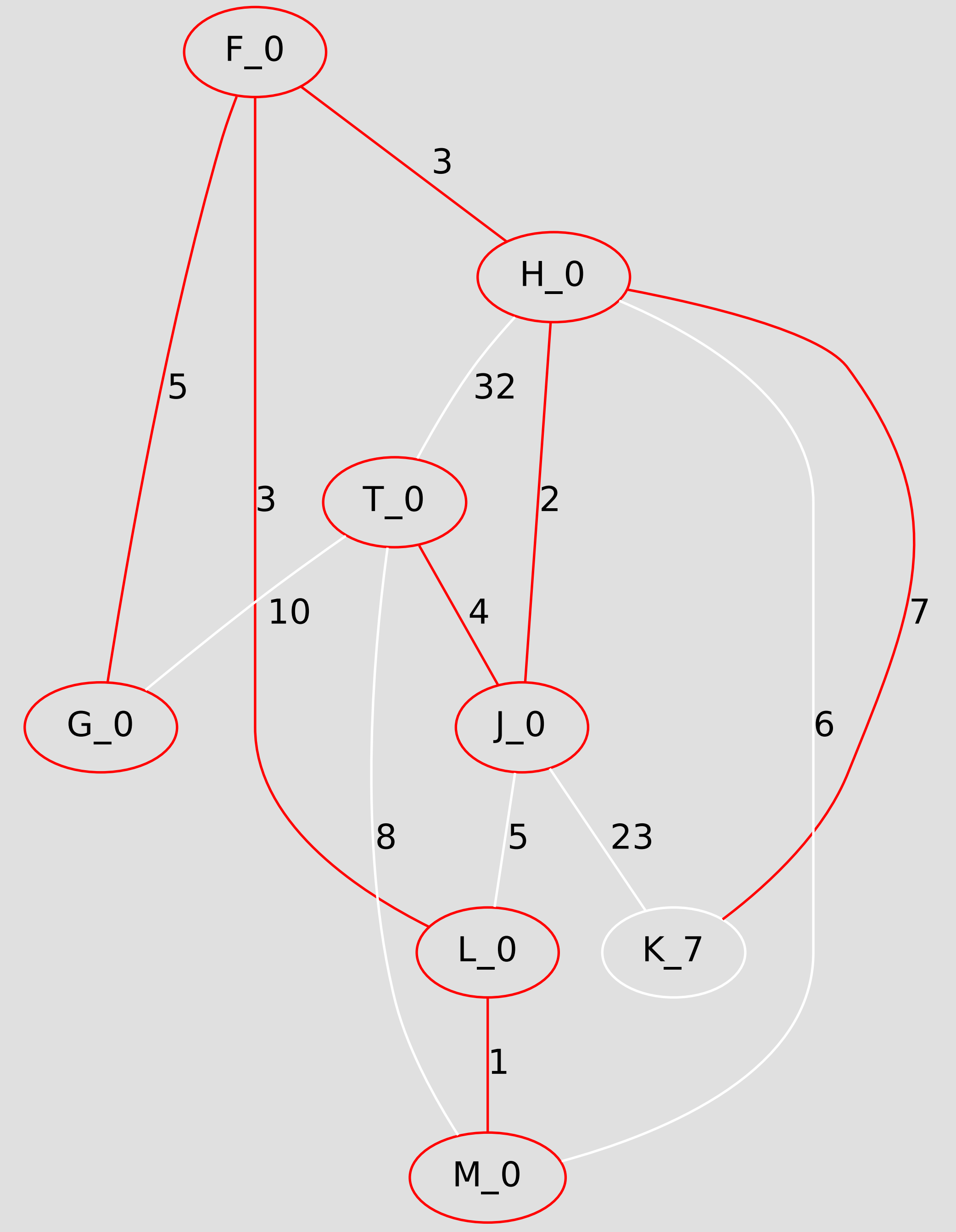
Adjusting the vertices adjacent to G. Considering edge (F, G), leading to F.
Priority queue = [K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



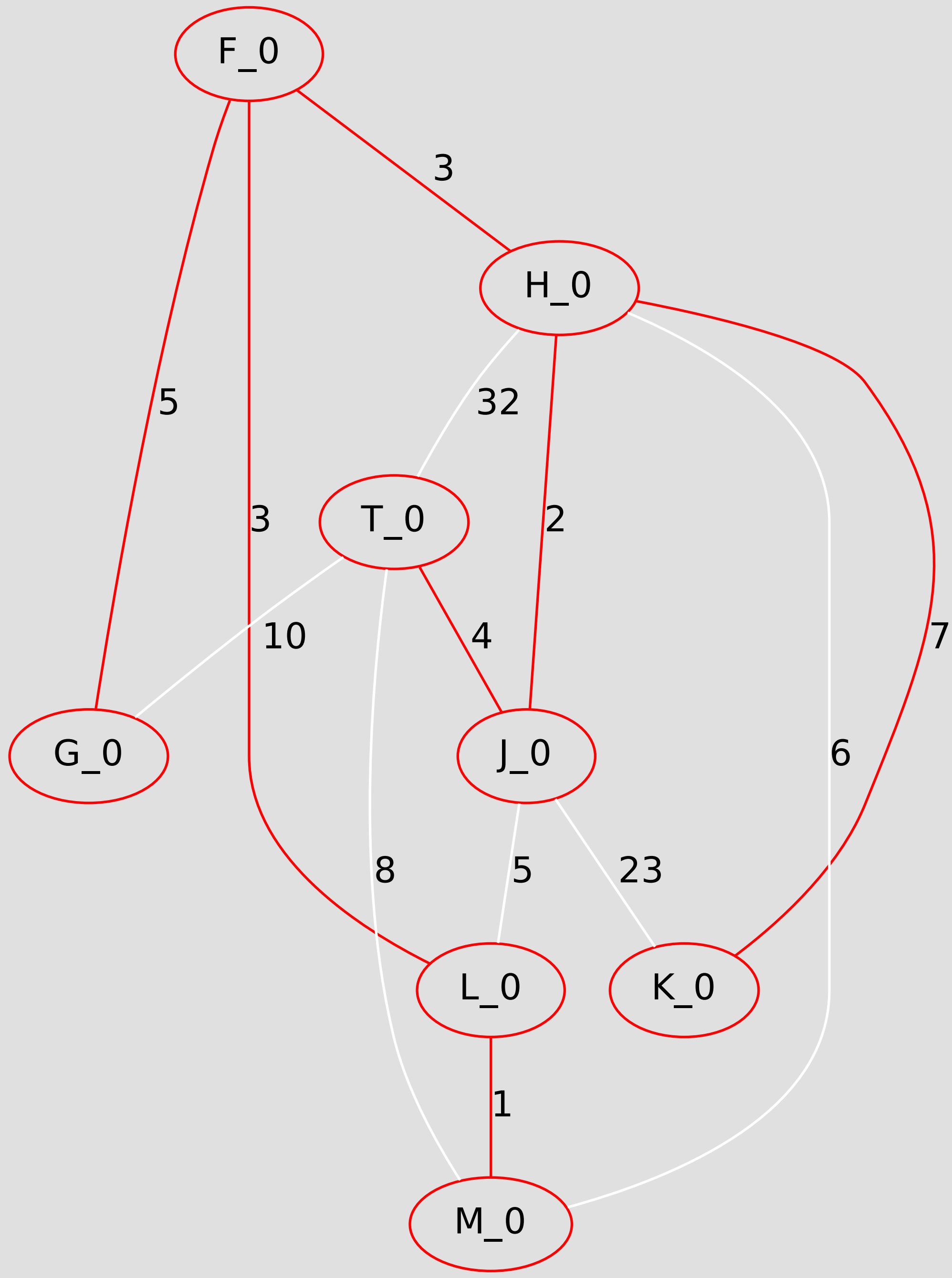
Using edge (F, G), vertex F can be reached in 5 from the MST-so-far (not better than 0).
Let's not use that edge.
Priority queue = [K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



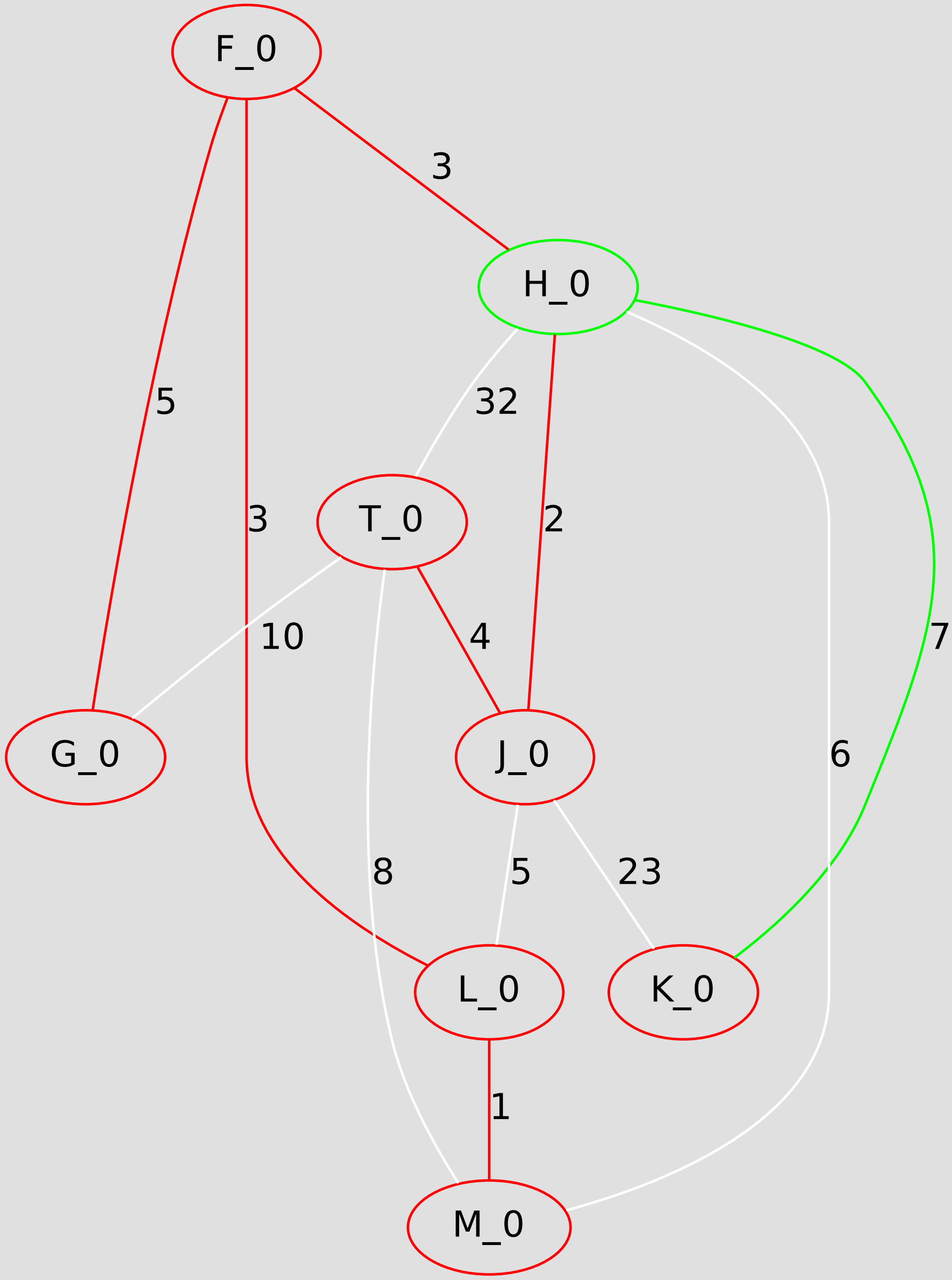
Finished with the adjacents of G.
Priority queue = [K_7]
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



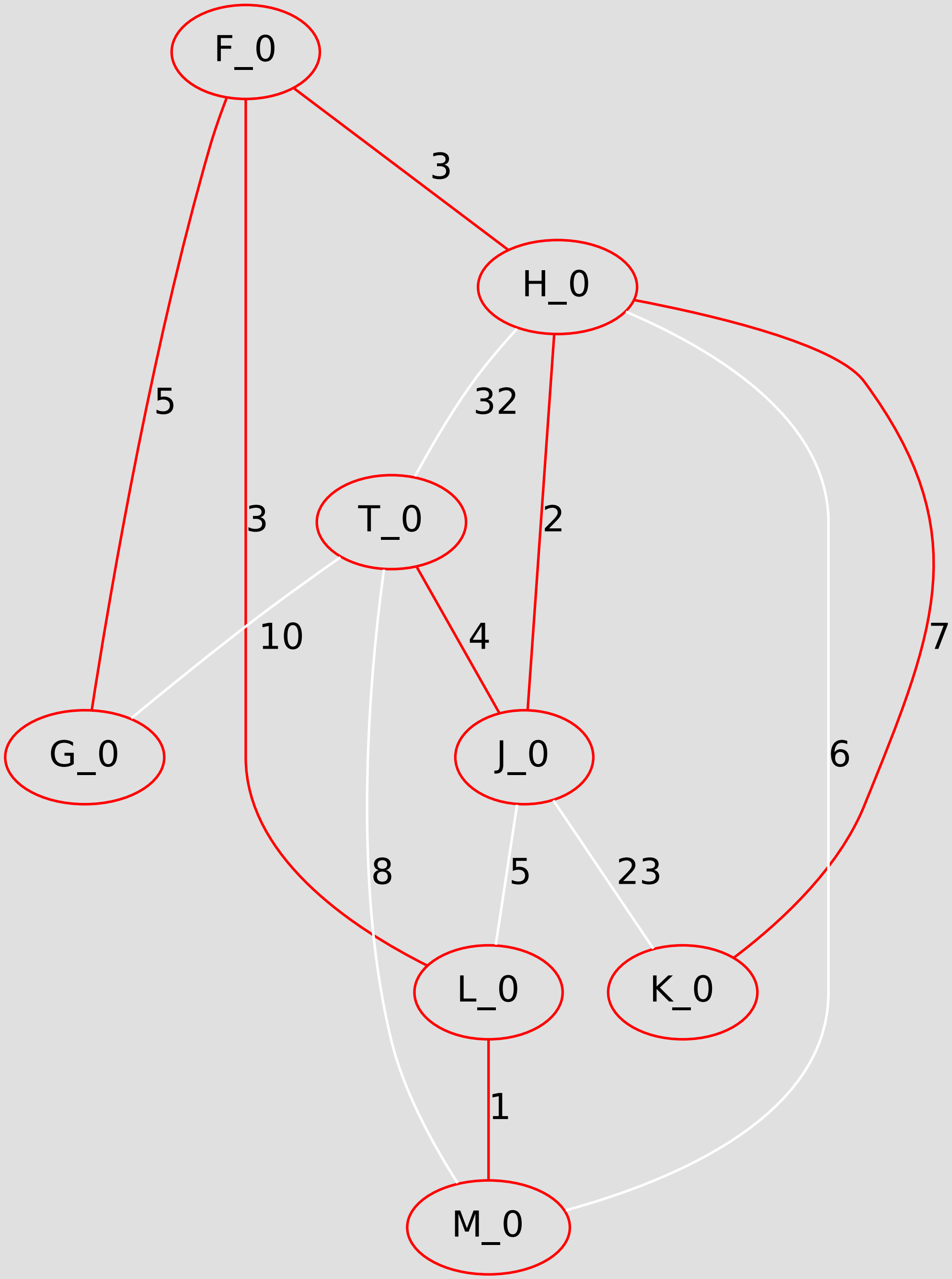
Extracted K and added it to the MST-so-far. Let's adjust its adjacent vertices (H, J).
Priority queue = []
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



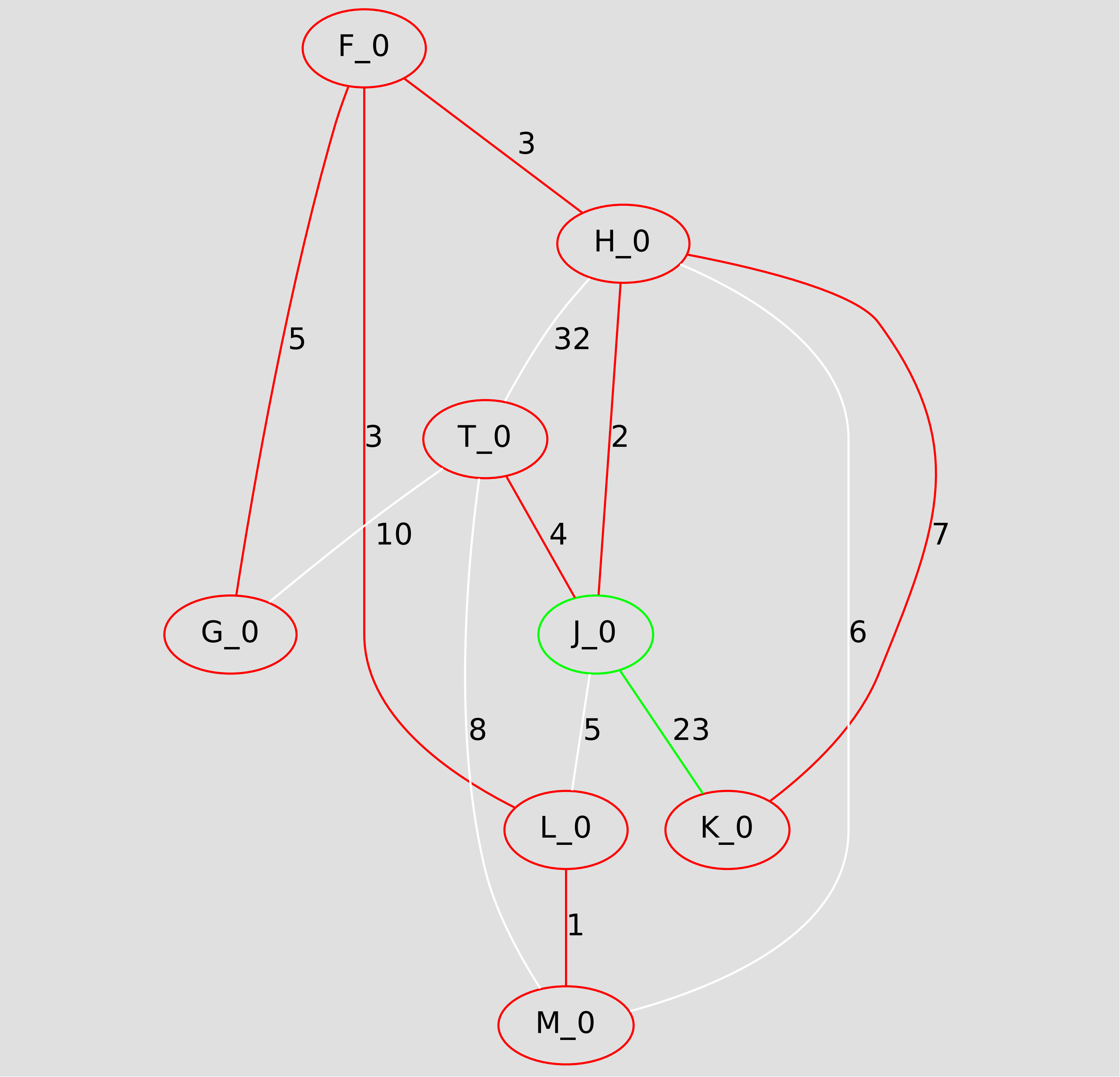
Adjusting the vertices adjacent to K. Considering edge (H, K), leading to H.
Priority queue = []
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



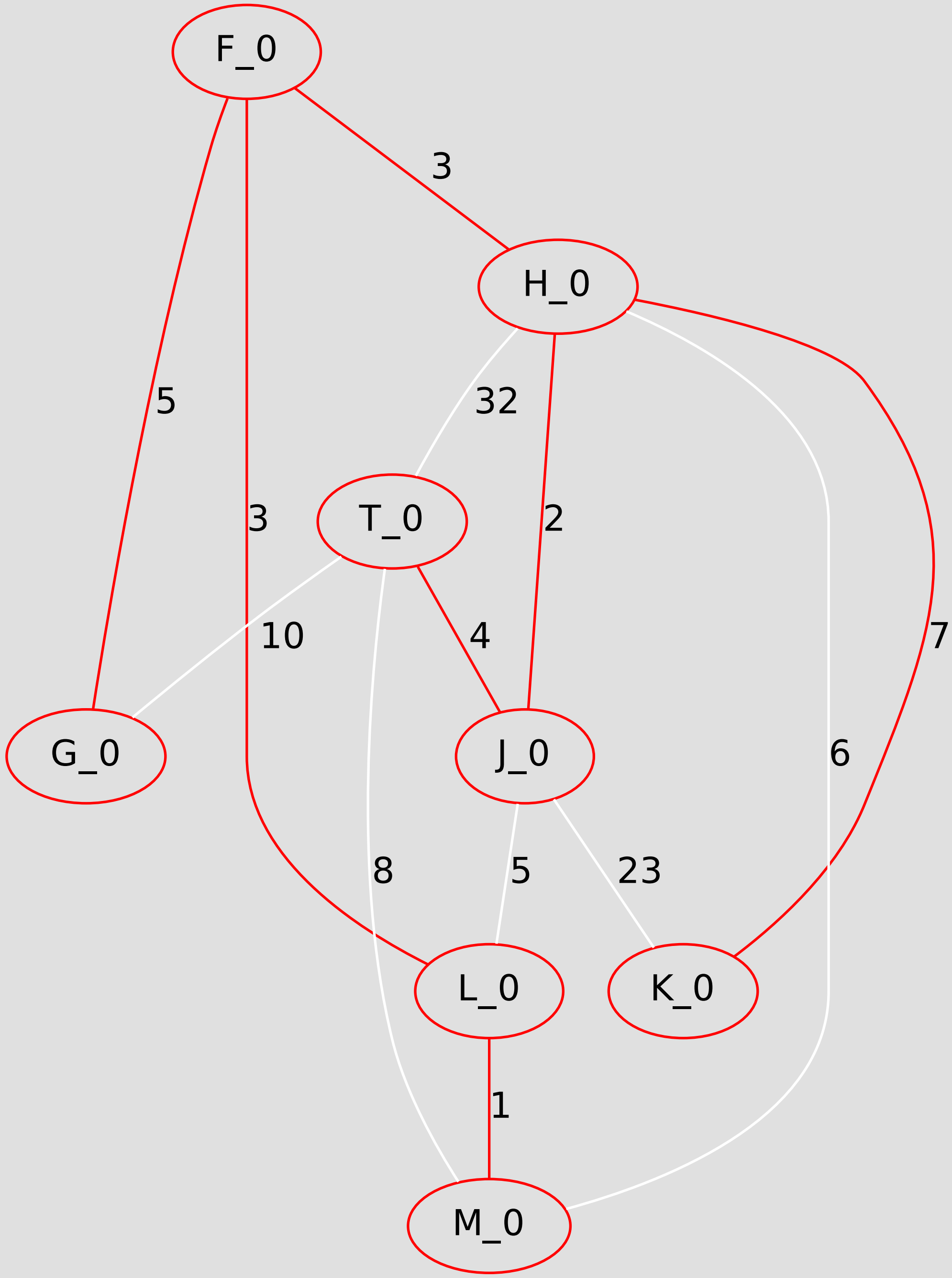
Using edge (H, K), vertex H can be reached in 7 from the MST-so-far (not better than 0).
Let's not use that edge.
Priority queue = []
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25

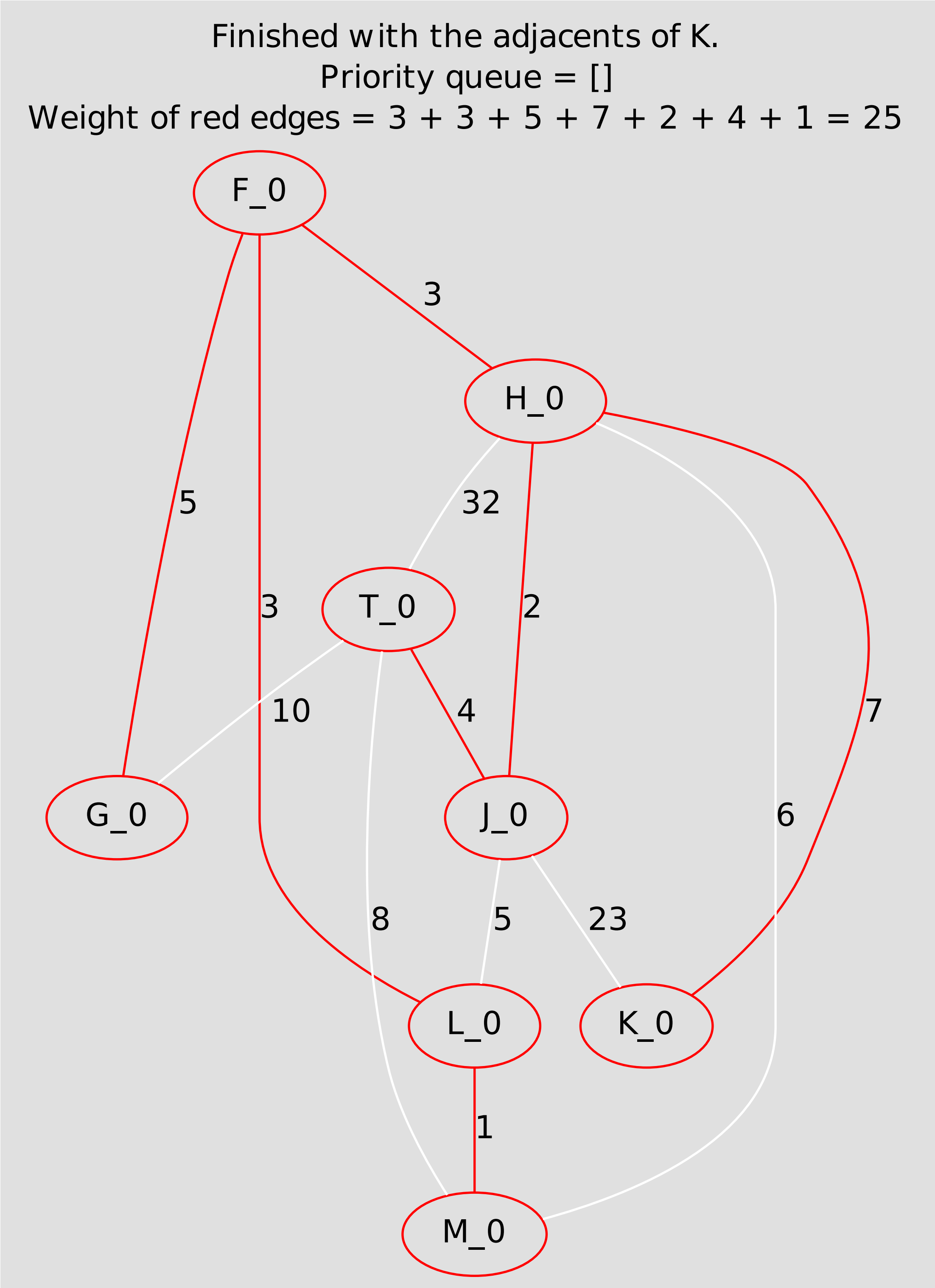


Adjusting the vertices adjacent to K. Considering edge (J, K), leading to J.
Priority queue = []
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



Using edge (J, K), vertex J can be reached in 23 from the MST-so-far (not better than 0).
Let's not use that edge.
Priority queue = []
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



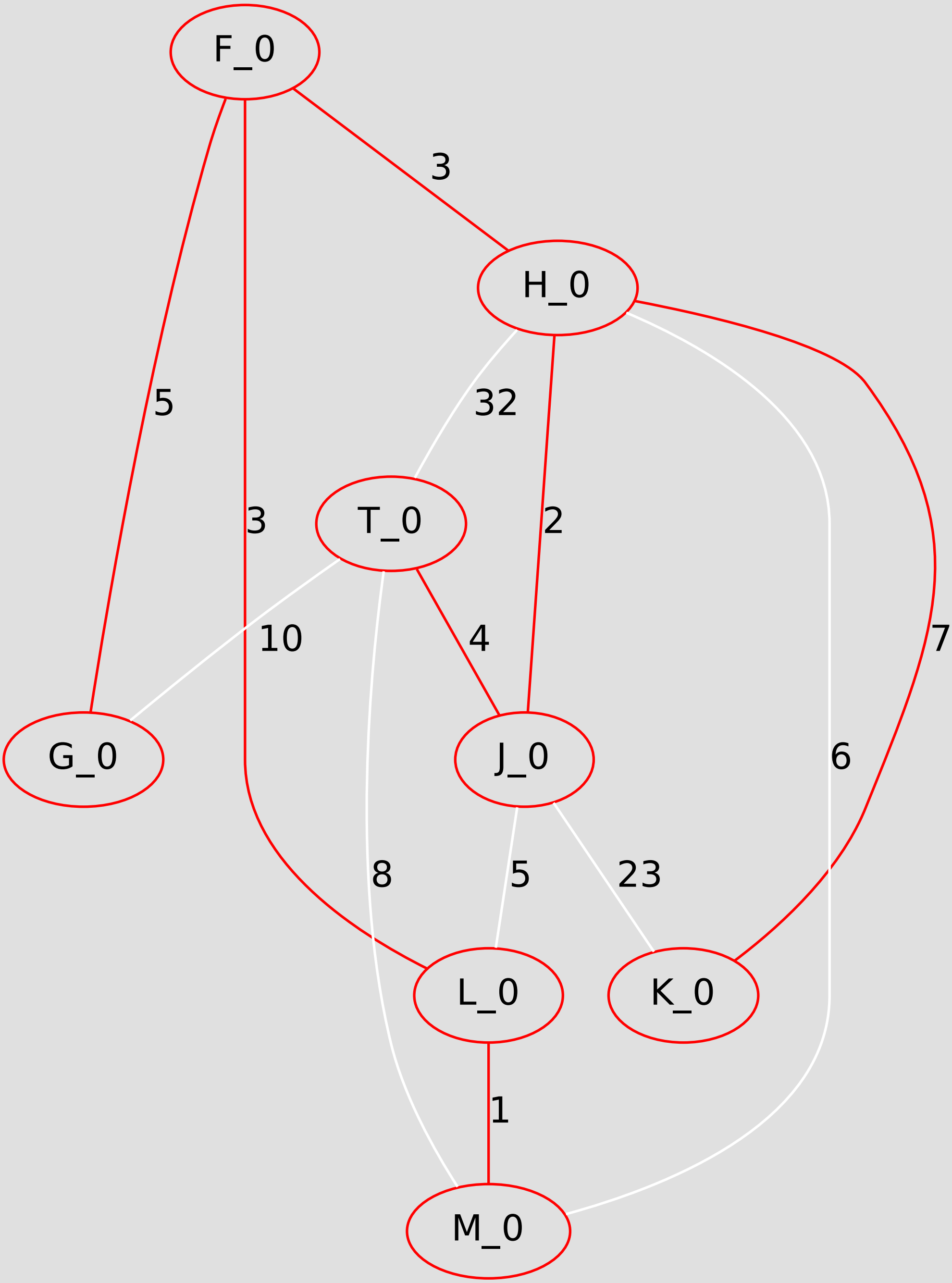


Finished with the adjacents of K.

Priority queue = []

Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25

MST now complete.
Priority queue = []
Weight of red edges = 3 + 3 + 5 + 7 + 2 + 4 + 1 = 25



Prim minimum spanning tree

Generated by $Id: prim.py 87 2010-11-15 23:48:22Z fms27 $

University of Cambridge Computer Laboratory